

**CiA 408**



*Device profile for fluid power technology proportional valves and hydrostatic transmissions*

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## History

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2002-08-21	1.0	Released as work draft
2002-11-08	1.0.1	changed values in table physical units from 70 <sub>h</sub> .. 81 <sub>h</sub> to A0 <sub>h</sub> .. B1 <sub>h</sub>
2003-04-30	1.5.1	Publication as Draft Standard Proposal
2005-01-01	1.5.2	Publication as Draft Standard <ul style="list-style-type: none"><li>- Editorial changes in chapter "references" and "abbreviations"</li><li>- Layout reviewed</li></ul>

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## 1 Scope

This profile describes the functionality of interconnectable proportional valves, hydrostatic pumps and hydrostatic transmissions. The document is based on the profile “Fluid Power Technology”, version 1.5 released by VDMA Verband Deutscher Maschinen- und Anlagenbau e.V. Frankfurt/Main, Germany /VDMAPROP/. The device profile has been defined for hydraulic proportional valves, hydrostatic pumps and hydrostatic transmissions. It can as well be applied on pneumatic devices.

### 1.1 System environment hydrostatic transmissions

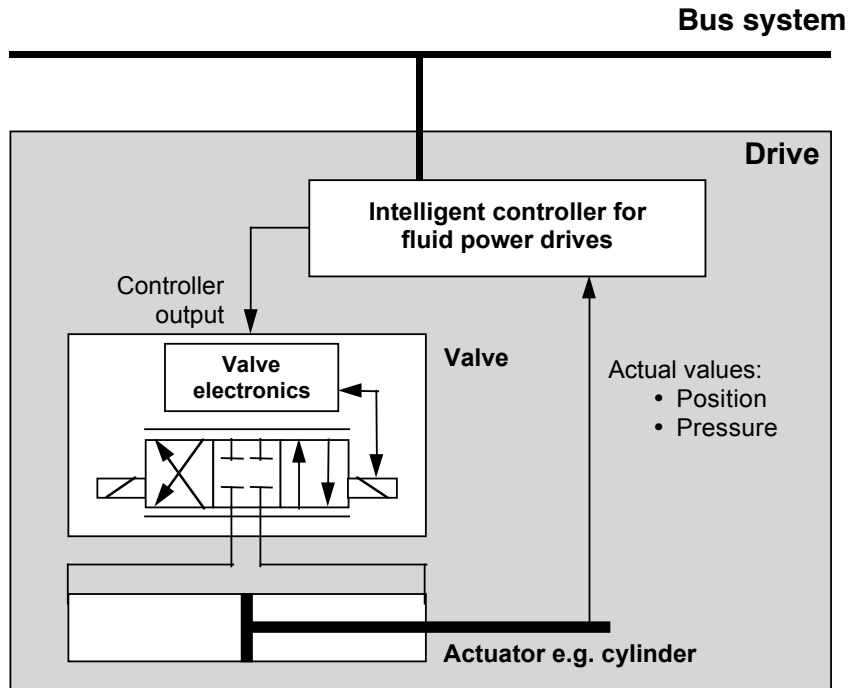


Figure 1: System environment hydrostatic transmissions

### 1.2 System environment valves

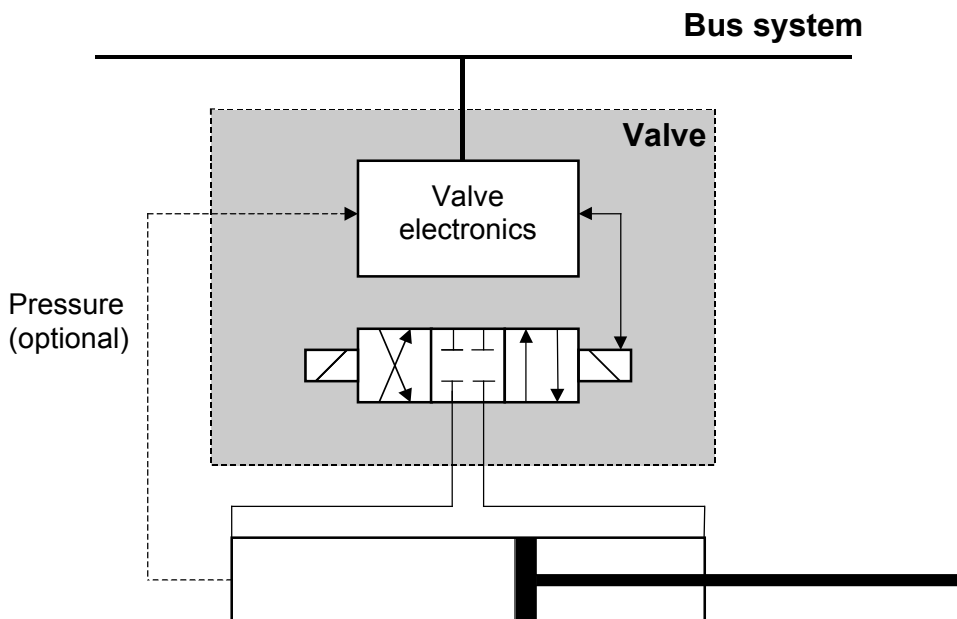
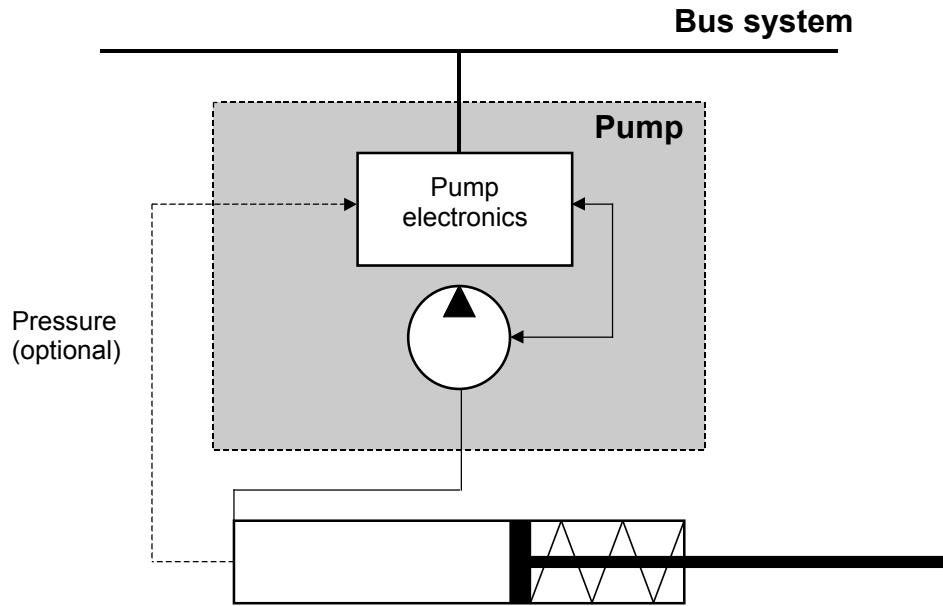


Figure 2: System environment valves

### 1.3 System environment hydrostatic pumps



**Figure 3:** System environment hydrostatic pumps

All the above devices use communication techniques which conform to those described in the /CiA301/. This document should be consulted in parallel to this profile.

## 2 References

### 2.1 Normative references

- /VDMAPROP/ Profile Fluid Power Technology. Proportional Valves and Hydrostatic Transmissions:2001
- /CiA301/ CiA DS 301, CANopen application layer and communication profile
- /CiA303-2/ CiA DR 303-2, Representation of SI Units Draft Recommendation



### 3 Abbreviations and definitions

#### 3.1 Abbreviations

CAN	Controller area network.
COB	Communication object
COB-ID	COB-identifier
NMT	Network management
PDO	Process data object
SDO	Service data object
M	Mandatory
C	Conditional
O	Optional
rw	read/write
ro	read only
ir	internal resolution
dvc	Device
vlv	Valve
drv	Drive
vpoc	Valve position control
vprc	Valve pressure control
vpqc	Valve pQ control
dcol	Drive control open loop
dsp	Drive speed control
dfpc	Drive force pressure control
dpc	Drive position control

#### 3.2 Definitions

The definitions given in /CiA301/ apply for this framework, too.

## 4 Operating principles

### 4.1 General definitions

For detailed information, please refer to /VDMAPROP/.

#### 4.1.1 Internal resolution

The internal resolution is 16384 (4000<sub>h</sub>) for 100% and -16384 (C000<sub>h</sub>) for -100% of the range.

#### 4.1.2 Direction of data

- Input data are transmitted from the transmission or the valve to the bus.
- Output data are transmitted from the bus to the transmission or the valve.

#### 4.1.3 Direction of flow

A positive set point causes a flow from P to A.

### 4.2 Description of parameters

The description of parameters consists of the describing elements value, unit, and prefix. These describing elements are defined in /VDMAPROP/ by the attributes name, data type, substitute value, default value, value range, access rights, and object class. For each parameter attributes have been established, device mode specific or vendor specific.

*NOTE: The profile does not describe when a change of a parameter is possible and/ or becomes valid. This is defined vendorspecifically.*

#### 4.2.1 Definition of SI unit and prefix

All objects with SI units and prefixes have to use the coding specified in /CiA303-2/. If SI unit and prefix are configurable, the associated sub-components have rw access, otherwise ro. For entry category and default values for SI unit and prefix see /VDMAPROP/.

SI units and prefixes have been specified together with the parameter definition following the format below:

#### VALUE DESCRIPTION

For definitions of SI units see /CiA303-2/. In addition, profile specific units have been defined (see 4.2.2).

For definitions of prefixes see /CiA303-2/.

#### OBJECT DESCRIPTION

INDEX	Profile index number
Name	Name of parameter
Object code	RECORD
Date type	(parameter data type record)
Category	(parameter category)

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of elements
Entry category	Mandatory
Access	ro
PDO mapping	No
Value range	1 to 3
Default value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	(Parameter access rights)
PDO mapping	(Parameter PDO mapping)
Value range	(Parameter value range)
Default value	(Parameter default value)

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	Parameter depending
PDO mapping	no
Value range	UNSIGNED8
Default value	Parameter depending

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	Parameter depending
PDO mapping	no
Value range	INTEGER8
Default value	Parameter depending

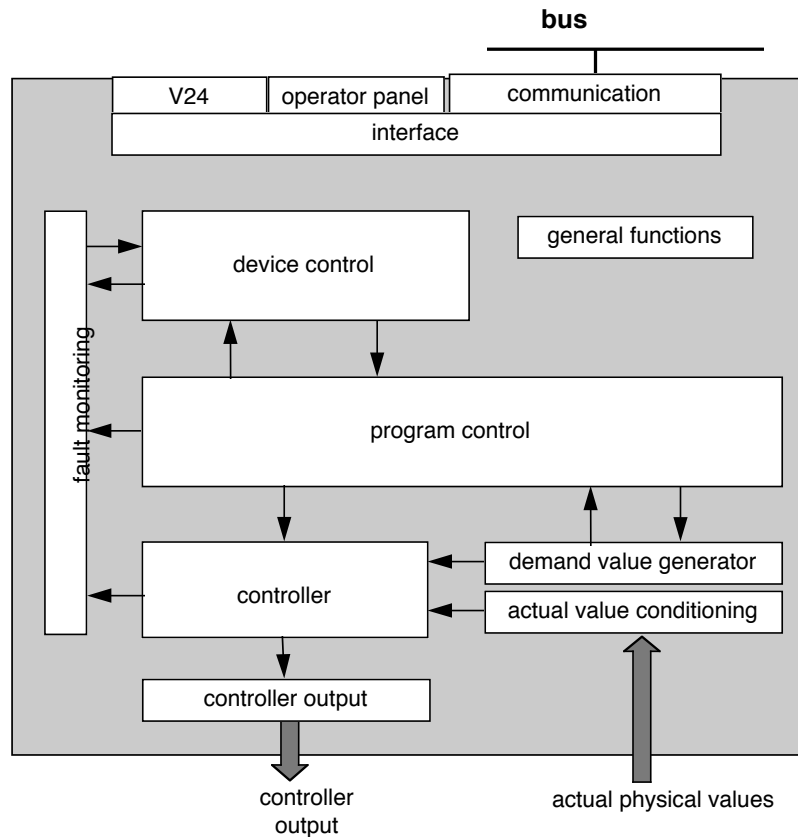
#### 4.2.2 Profile-specific units

The following profile-specific units have been defined:

Code	Meaning
A0 <sub>h</sub>	m/s
A1 <sub>h</sub>	m/min
A2 <sub>h</sub>	V/bar
A3 <sub>h</sub>	V/m
A4 <sub>h</sub>	m/(min * mm)
A5 <sub>h</sub>	V/(m/s)
A6 <sub>h</sub>	V/(m/s <sup>2</sup> )
A7 <sub>h</sub>	m <sup>2</sup>
A8 <sub>h</sub>	m/(s <sup>2</sup> )
A9 <sub>h</sub>	l/min

### 4.3 Device architecture

This following device architecture has been chosen in order to describe simple valves as well as complex hydrostatic transmissions (drives).



**Figure 4: Device architecture**

Remark:

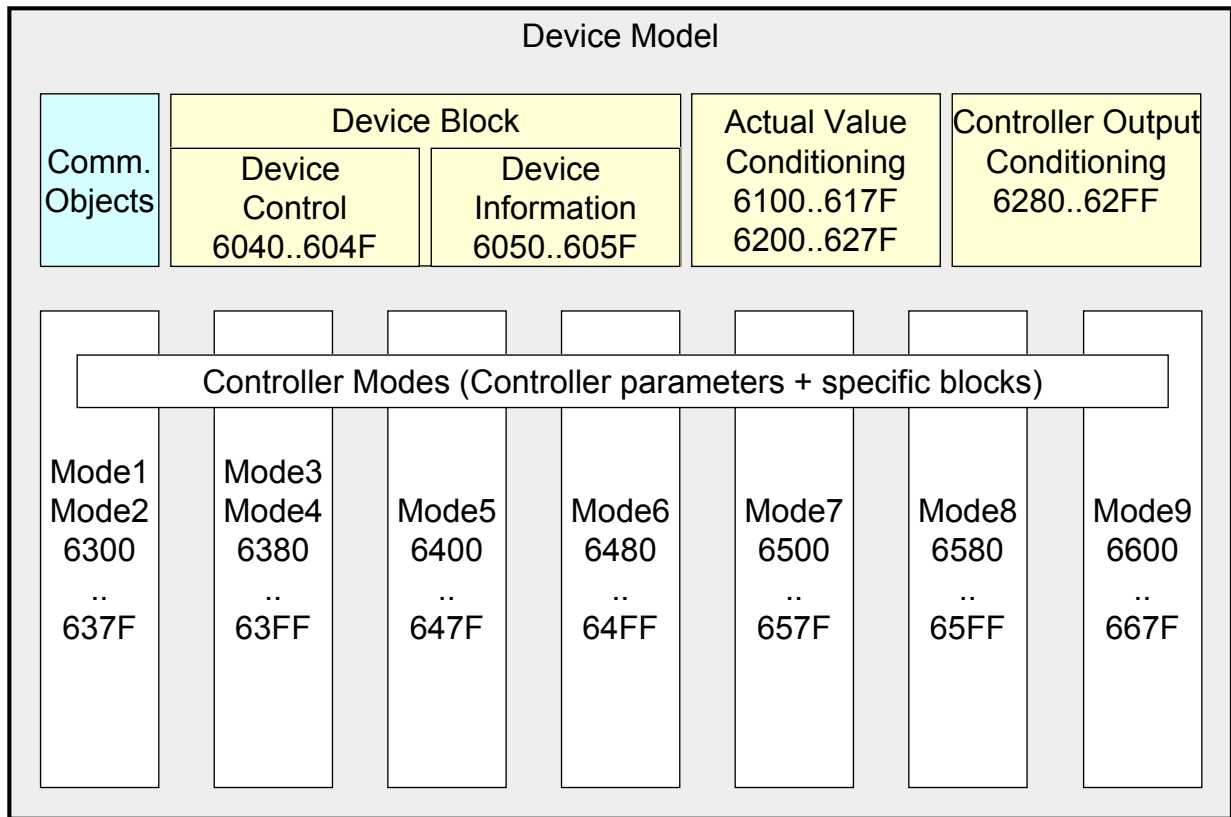
When several valves are driven by one electronic circuit (modular device), multiple architectures are used except for the interface.

#### 4.3.1 Mapping of the device architecture to CANopen profile objects

The blocks of the device architecture can be distinguished between controller-mode independent (device-global) blocks and controller-mode depending blocks. While device-global blocks have exactly one instance in a device, controller-mode dependent blocks may have multiple instances (one instance per controller mode).

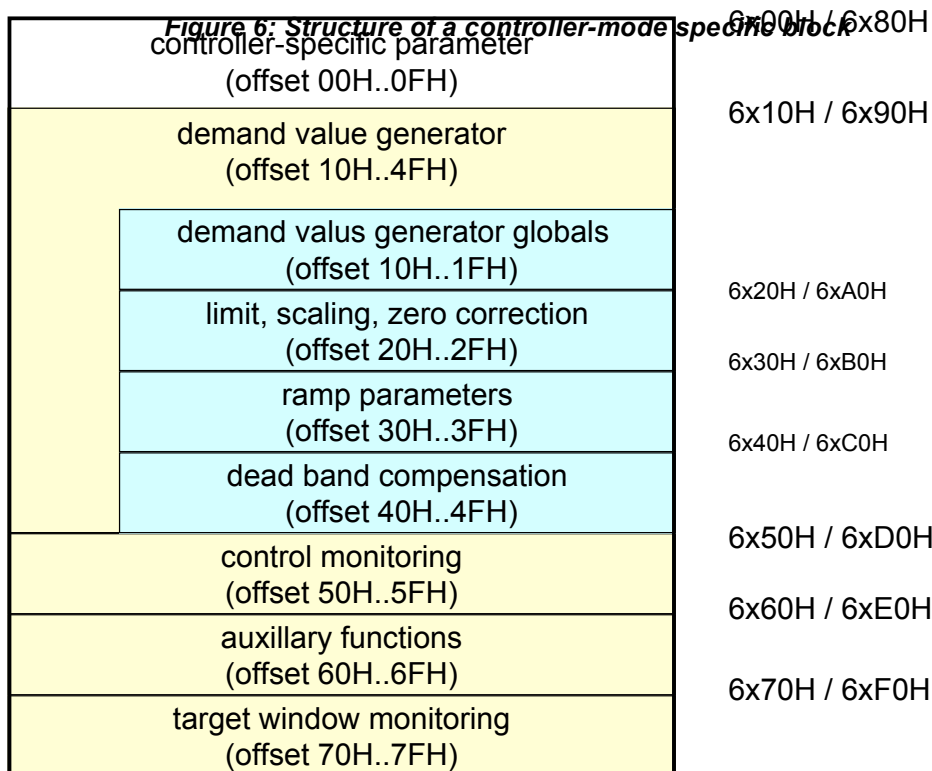
The controller-mode specific blocks have similar internal structure with functionally equivalent sub-blocks. For example, in *control mode* “valve position control” a controller block, a demand value generator (with optional sub-blocks like ramp, offset, or dead band compensation), a control monitoring block, an auxiliary function (dither) and a target monitoring block may be installed. The same block classes, but other instances are used for example in *control mode* “drive speed control” (for a detailed description of the blocks refer to /VDMAPROP/).

In order to have a unique description model, the parameters of the block instances are accessible by CANopen objects following a general device model. This device model is shown in Figure 5.

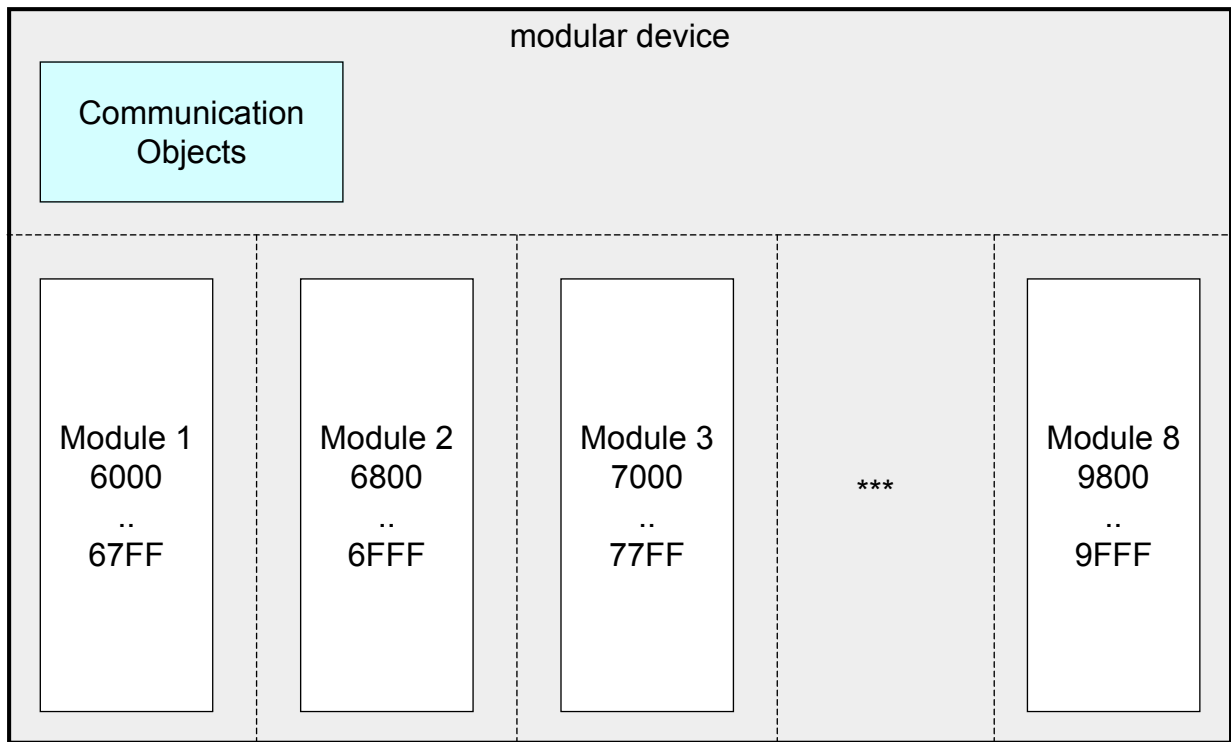


**Figure 5: Device model for CANopen mapping**

The controller-mode specific block is organised as shown in Figure 6. The offsets of the sub-blocks and objects are the same for all controller-mode specific blocks.



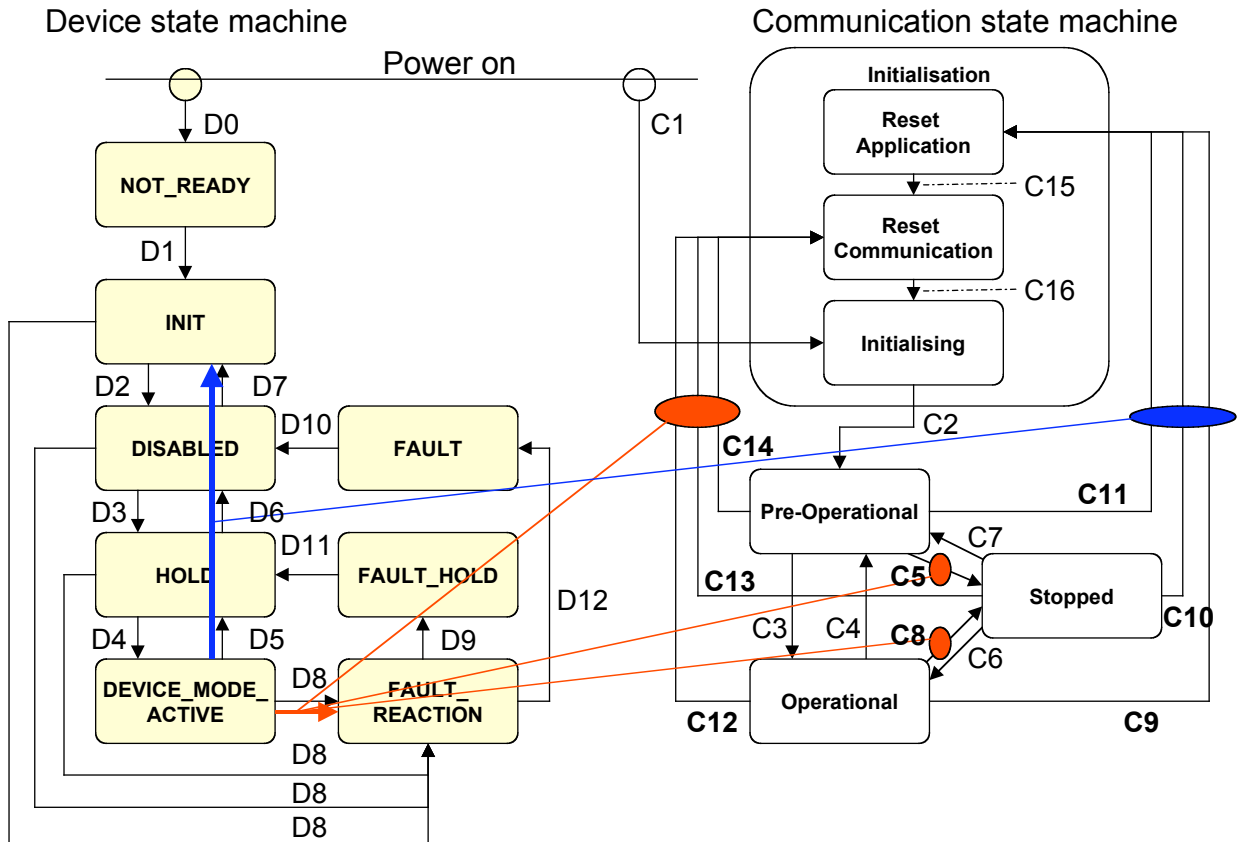
If a device is modular (multiple drives or valves driven by one electronic circuit), up to 8 instances (modules) can be implemented with an offset of 0800<sub>h</sub>.



**Figure 7: Structure of a modular device**

### 4.3.2 Relation between statemachines

The device state machine defined in /VDMAPROP/, chapter 5.2 has relations to the CANopen communication state machine defined in /CiA301/, chapter 9.4. These relations are shown in Figure 8.



**Figure 8: Relations between the state machines**

If the device state machine is in mode `DEVICE_MODE_ACTIVE`, transitions in the communication state machine force the following reactions:

- The transitions C5 and C8 in the communication state machine (Pre-operational -> Stopped, Operational -> Stopped) force the transition D8 in the device state machine (`DEVICE_MODE_ACTIVE` -> `FAULT_REACTION`).
- The transitions C12, C13 and C14 in the communication state machine (Operational -> Reset Communication, Stopped -> Reset Communication and Pre-operational -> Reset Communication) force the transition D8 in the device state machine (`DEVICE_MODE_ACTIVE` -> `FAULT_REACTION`).
- The transitions C9, C10 and C11 in the communication state machine (Operational -> Reset Application, Stopped -> Reset Application and Pre-operational -> Reset Application) force a transition in the device state machine from `DEVICE_MODE_ACTIVE` to `INIT` (reset of the application).

## 5 Emergency messages

### 5.1 Principle

Emergency messages are triggered by the occurrence of a device internal malfunction and are transmitted from the concerned application device to other devices. This makes them suitable for interrupt type error alerts.

### 5.2 Error code meaning

In addition to the error codes specified in /CiA301/ the following error codes may be used for fluid power systems:

Error code	Description
2110 <sub>h</sub>	Input Current too high
2211 <sub>h</sub>	Internal current #1
2212 <sub>h</sub>	Internal current #2
3110 <sub>h</sub>	Input voltage out of range
3210 <sub>h</sub>	Internal voltage too high
3220 <sub>h</sub>	Internal voltage too low
3400 <sub>h</sub>	Input voltage
3410 <sub>h</sub>	Power supply voltage
3411 <sub>h</sub>	Power supply voltage too high
3412 <sub>h</sub>	Power supply voltage too low
3420 <sub>h</sub>	Control voltage
3421 <sub>h</sub>	Control voltage too high
3422 <sub>h</sub>	Control voltage too low
4110 <sub>h</sub>	Ambient temperature too high
4120 <sub>h</sub>	Ambient temperature too low
4210 <sub>h</sub>	Temperature of electronic components
4211 <sub>h</sub>	Temperature of electronic components too high
4212 <sub>h</sub>	Temperature of electronic components too low
4220 <sub>h</sub>	Temperature of hydraulic components
4221 <sub>h</sub>	Temperature of hydraulic components too high
4222 <sub>h</sub>	Temperature of hydraulic components too low
5100 <sub>h</sub>	Hardware power supply
5110 <sub>h</sub>	Internal power supply error
5200 <sub>h</sub>	Device control
5210 <sub>h</sub>	Measurement circuits
5220 <sub>h</sub>	Microprocessor core
5230 <sub>h</sub>	Sensors
5231 <sub>h</sub>	Sensor #1
5232 <sub>h</sub>	Sensor #2
5233 <sub>h</sub>	Sensor #3
5234 <sub>h</sub>	Sensor #4



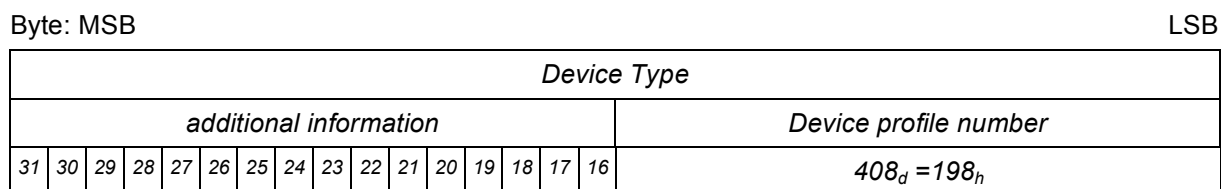
<b>Error code</b>	<b>Description</b>
5235 <sub>h</sub>	Sensor #5
5236 <sub>h</sub>	Sensor #6
5237 <sub>h</sub>	Sensor #7
5238 <sub>h</sub>	Sensor #8
5300 <sub>h</sub>	Local input device
5400 <sub>h</sub>	Power electronics
5410 <sub>h</sub>	dDriver
5500 <sub>h</sub>	Data memory
5510 <sub>h</sub>	RAM
5520 <sub>h</sub>	EPROM
5530 <sub>h</sub>	EEPROM
6010 <sub>h</sub>	Software reset (Watchdog)
6310 <sub>h</sub>	Parameter loss
6320 <sub>h</sub>	Parameter error
7300 <sub>h</sub>	Sensor
7310 <sub>h</sub>	Pressure sensor
8300 <sub>h</sub>	Closed loop control monitoring
8301 <sub>h</sub>	Position control monitoring
8302 <sub>h</sub>	Pressure control monitoring

## 6 Communication objects

### 6.1 Object descriptions

#### 6.1.1 Object 1000<sub>h</sub>: Device type

Contains information about the device type. The object at index 1000<sub>h</sub> describes the type of device and its functionality. It is composed of a 16 bit field which describes the device profile that is used (device profile number 408<sub>d</sub> = 198<sub>h</sub>). The other 16 bit field contains additional information.



Bit 16 to 30: reserved

Bit 31 = 1: modular device; capabilities of the single instances (modules) can be read in object *device capability* (offset 5F<sub>h</sub>) of each instance

### 6.2 Default PDO mapping

The PDO mapping depends on the *device control mode* (6043<sub>h</sub>, see 7.2.2.1.4) and is different for drives and valves.

If the device is a modular device, the PDO mapping has to be defined manufacturer specific.

#### 6.2.1 Transmit PDO mapping

The assignment of the mappings to corresponding TPDO objects can be defined manufacturer specific. If the mappings are supported, the mapping parameters defined below have to be used.

- Mapping 1 is valid for drives and valves.
- Mapping 2 is valid only for valves supporting *control mode valve position control closed loop* (device control mode = 2 – see *IVDMAPROP*/, chapter 6.2).
- Mapping 3 is valid only for valves supporting *control mode valve pressure control closed loop* (device control mode = 4 – see *IVDMAPROP*/, chapter 6.2).
- Mapping 4 is valid only for valves supporting *control mode valve p/Q control* (device control mode = 5 – see *IVDMAPROP*/, chapter 6.2).
- Mapping 5 is valid only for drives supporting *control mode drive speed control* (device control mode = 7 – see *IVDMAPROP*/, chapter 6.2).
- Mapping 6 is valid only for drives supporting *control mode drive force/pressure control* (device control mode = 8 – see *IVDMAPROP*/, chapter 6.2).
- Mapping 7 is valid only for drives supporting *control modes drive position control closed loop and positional dependent deceleration* (device control mode = 9 or device control mode = 10 – see *IVDMAPROP*/, chapter 6.2).

	Object 1	Object 2	Object 3	Transmission type
Mapping 1	6041 <sub>h</sub> / 00 <sub>h</sub>	-	-	255
Mapping 2	6041 <sub>h</sub> / 00 <sub>h</sub>	6301 <sub>h</sub> / 01 <sub>h</sub>	-	255
Mapping 3	6041 <sub>h</sub> / 00 <sub>h</sub>	6381 <sub>h</sub> / 01 <sub>h</sub>	-	255
Mapping 4	6041 <sub>h</sub> / 00 <sub>h</sub>	6301 <sub>h</sub> / 01 <sub>h</sub>	6381 <sub>h</sub> / 01 <sub>h</sub>	255
Mapping 5	6041 <sub>h</sub> / 00 <sub>h</sub>	6501 <sub>h</sub> / 01 <sub>h</sub>	-	255
Mapping 6	6041 <sub>h</sub> / 00 <sub>h</sub>	6581 <sub>h</sub> / 01 <sub>h</sub>	-	255
Mapping 7	6041 <sub>h</sub> / 00 <sub>h</sub>	6601 <sub>h</sub> / 01 <sub>h</sub>	-	255

A TPDO with transmission type 255 shall be transmitted immediately after receiving the corresponding RPDO. This ensures, that an application will receive actual values and status information every time after a set point and a control word has been sent to the device.

**6.2.1.1 Mapping parameter of mapping 1****OBJECT DESCRIPTION**

Index	1A0x <sub>h</sub>
Name	TPDO(x+1)
Object code	RECORD
Data type	PDO mapping parameter

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of mapped application objects
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	0 to 64, 255
Default value	1

Sub-index	01 <sub>h</sub>
Description	1st application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6041 00 10 <sub>h</sub>

**6.2.1.2 Mapping parameter of mapping 2****OBJECT DESCRIPTION**

Index	1A0x <sub>h</sub>
Name	TPDO(x+1)
Object code	RECORD
Data type	PDO mapping parameter

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of mapped application objects
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	0 to 64, 255
Default value	2

Sub-index	01 <sub>h</sub>
Description	1st application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6041 00 10 <sub>h</sub>

Sub-index	02 <sub>h</sub>
Description	2nd application object
Entry category	Madatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6301 01 10 <sub>h</sub>

### 6.2.1.3 Mapping parameter of mapping 3

#### OBJECT DESCRIPTION

Index	1A0x <sub>h</sub>
Name	TPDO(x+1)
Object code	RECORD
Data type	PDO mapping parameter

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of mapped application objects
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	0 to 64, 255
Default value	2

Sub-index	01 <sub>h</sub>
Description	1st application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6041 00 10 <sub>h</sub>

Sub-index	02 <sub>h</sub>
Description	2nd application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6381 01 10 <sub>h</sub>

#### 6.2.1.4 Mapping parameter of mapping 4

##### OBJECT DESCRIPTION

Index	1A0x <sub>h</sub>
Name	TPDO(x+1)
Object code	RECORD
Data type	PDO mapping parameter

##### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of mapped application objects
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	0 to 64, 255
Default value	3

Sub-index	01 <sub>h</sub>
Description	1st application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6041 00 10 <sub>h</sub>

Sub-index	02 <sub>h</sub>
Description	2nd application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6301 01 10 <sub>h</sub>

Sub-index	03 <sub>h</sub>
Description	3rd application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6381 01 10 <sub>h</sub>

### 6.2.1.5 Mapping parameter of mapping 5

#### OBJECT DESCRIPTION

Index	1A0x <sub>h</sub>
Name	TPDO(x+1)
Object code	RECORD
Data type	PDO mapping parameter

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of mapped application objects
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	0 to 64, 255
Default value	2

Sub-index	01 <sub>h</sub>
Description	1st application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6041 00 10 <sub>h</sub>

Sub-index	02 <sub>h</sub>
Description	2nd application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6501 01 20 <sub>h</sub>

**6.2.1.6 Mapping parameter of mapping 6****OBJECT DESCRIPTION**

Index	1A0x <sub>h</sub>
Name	TPDO(x+1)
Object code	RECORD
Data type	PDO mapping parameter

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of mapped application objects
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	0 to 64, 255
Default value	2

Sub-index	01 <sub>h</sub>
Description	1st application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6041 00 10 <sub>h</sub>

Sub-index	02 <sub>h</sub>
Description	2nd application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6581 01 20 <sub>h</sub>

**6.2.1.7 Mapping parameter of mapping 7****OBJECT DESCRIPTION**

Index	1A0x <sub>h</sub>
Name	TPDO(x+1)
Object code	RECORD
Data type	PDO mapping parameter

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of mapped application objects
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	0 to 64, 255
Default value	2

Sub-index	01 <sub>h</sub>
Description	1st application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6041 00 10 <sub>h</sub>

Sub-index	02 <sub>h</sub>
Description	2nd application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6601 01 20 <sub>h</sub>

**6.2.2 Receive PDO mapping**

The assignment of the mappings to corresponding RPDO objects can be defined manufacturer specific. If the mappings are supported, the mapping parameters defined below should be used.

- Mapping 1 is valid for drives and valves.
- Mapping 2 is valid only for valves supporting *control mode valve position control open loop* and *valve position control closed loop* (device control mode = 1 or device control mode = 2 – see /VDMAPROP/, chapter 6.2).
- Mapping 3 is valid only for valves supporting *control mode valve pressure control open loop* and *valve pressure control closed loop* (device control mode = 3 or device control mode = 4 – see /VDMAPROP/, chapter 6.2).
- Mapping 4 is valid only for valves supporting *control mode valve p/Q control* (device control mode = 5 – see /VDMAPROP/, chapter 6.2).
- Mapping 5 is valid only for drives supporting *control mode drive open loop movement* (device control mode = 6 – see /VDMAPROP/, chapter 6.2).
- Mapping 6 is valid only for drives supporting *control mode drive speed control* (device control mode = 7 – see /VDMAPROP/, chapter 6.2).
- Mapping 7 is valid only for drives supporting *control mode drive force/pressure control* (device control mode = 8 – see /VDMAPROP/, chapter 6.2).



- Mapping 8 is valid only for drives supporting *control mode drive position control closed loop* and *positional dependent deceleration* (device control mode = 9 or device control mode = 10 – see /VDMAPROP/, chapter 6.2).

	Object 1	Object 2	Object 3	Transmission type
Mapping 1	6040 <sub>h</sub> / 00 <sub>h</sub>	-	-	255
Mapping 2	6040 <sub>h</sub> / 00 <sub>h</sub>	6300 <sub>h</sub> / 01 <sub>h</sub>	-	255
Mapping 3	6040 <sub>h</sub> / 00 <sub>h</sub>	6380 <sub>h</sub> / 01 <sub>h</sub>	-	255
Mapping 4	6040 <sub>h</sub> / 00 <sub>h</sub>	6300 <sub>h</sub> / 01 <sub>h</sub>	6380 <sub>h</sub> / 01 <sub>h</sub>	255
Mapping 5	6040 <sub>h</sub> / 00 <sub>h</sub>	6480 <sub>h</sub> / 01 <sub>h</sub>	-	255
Mapping 6	6040 <sub>h</sub> / 00 <sub>h</sub>	6500 <sub>h</sub> / 01 <sub>h</sub>	-	255
Mapping 7	6040 <sub>h</sub> / 00 <sub>h</sub>	6580 <sub>h</sub> / 01 <sub>h</sub>	-	255
Mapping 8	6040 <sub>h</sub> / 00 <sub>h</sub>	6600 <sub>h</sub> / 01 <sub>h</sub>	-	255

### 6.2.2.1 Mapping parameter of mapping 1

#### OBJECT DESCRIPTION

Index	160x <sub>h</sub>
Name	RPDO(x+1)
Object code	RECORD
Data type	PDO mapping parameter

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of mapped application objects
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	0 to 64, 255
Default value	1

Sub-index	01 <sub>h</sub>
Description	1st application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6040 00 10 <sub>h</sub>

**6.2.2.2 Mapping parameter of mapping 2****OBJECT DESCRIPTION**

Index	160x <sub>h</sub>
Name	RPDO(x+1)
Object code	RECORD
Data type	PDO mapping parameter

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of mapped application objects
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	0 to 64, 255
Default value	2

Sub-index	01 <sub>h</sub>
Description	1st application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6040 00 10 <sub>h</sub>

Sub-index	02 <sub>h</sub>
Description	2nd application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6300 01 10 <sub>h</sub>

**6.2.2.3 Mapping parameter of mapping 3****OBJECT DESCRIPTION**

Index	160x <sub>h</sub>
Name	RPDO(x+1)
Object code	RECORD
Data type	PDO mapping parameter

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of mapped application objects
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	0 to 64, 255
Default value	2

Sub-index	01 <sub>h</sub>
Description	1st application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6040 00 10 <sub>h</sub>

Sub-index	02 <sub>h</sub>
Description	2nd application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6380 01 10 <sub>h</sub>

**6.2.2.4 Mapping parameter of mapping 4****OBJECT DESCRIPTION**

Index	160x <sub>h</sub>
Name	RPDO(x+1)6
Object code	RECORD
Data type	PDO mapping parameter

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of mapped application objects
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	0 to 64, 255
Default value	3

Sub-index	01 <sub>h</sub>
Description	1st application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default vValue	6040 00 10 <sub>h</sub>

Sub-index	02 <sub>h</sub>
Description	2nd application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6300 01 10 <sub>h</sub>

Sub-index	03 <sub>h</sub>
Description	3rd application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6380 01 10 <sub>h</sub>

### 6.2.2.5 Mapping parameter of mapping 5

#### OBJECT DESCRIPTION

Index	160x <sub>h</sub>
Name	RPDO(x+1)
Object code	RECORD
Data type	PDO mapping parameter

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of mapped application objects
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	0 to 64, 255
Default value	2

Sub-index	01 <sub>h</sub>
Description	1st application object
Entry Category	Mandatory
Access	rw
PDO Mapping	No
Value Range	UNSIGNED32
Default Value	6040 00 10 <sub>h</sub>

Sub-index	02 <sub>h</sub>
Description	2nd application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6480 01 20 <sub>h</sub>

#### 6.2.2.6 Mapping parameter of mapping 6

##### OBJECT DESCRIPTION

Index	160x <sub>h</sub>
Name	RPDO(x+1)
Object code	RECORD
Data type	PDO mapping parameter

##### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of mapped application objects
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	0 to 64, 255
Default value	2

Sub-index	01 <sub>h</sub>
Description	1st application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6040 00 10 <sub>h</sub>

Sub-index	02 <sub>h</sub>
Description	2nd application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6500 01 20 <sub>h</sub>

### 6.2.2.7 Mapping parameter of mapping 7

#### OBJECT DESCRIPTION

Index	160x <sub>h</sub>
Name	RPDO(x+1)
Object code	RECORD
Data type	PDO mapping parameter

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of mapped application objects
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	0 to 64, 255
Default value	2

Sub-index	01 <sub>h</sub>
Description	1st application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6040 00 10 <sub>h</sub>

Sub-index	02 <sub>h</sub>
Description	2nd application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6580 01 20 <sub>h</sub>

**6.2.2.8 Mapping parameter of mapping 8****OBJECT DESCRIPTION**

Index	160x <sub>h</sub>
Name	RPDO(x+1)
Object code	RECORD
Data type	PDO mapping parameter

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of mapped application objects
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	0 to 64, 255
Default value	2

Sub-index	01 <sub>h</sub>
Description	1st application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6040 00 10 <sub>h</sub>

Sub-index	02 <sub>h</sub>
Description	2nd application object
Entry category	Mandatory
Access	rw
PDO mapping	No
Value range	UNSIGNED32
Default value	6600 01 20 <sub>h</sub>

## 7 Object dictionary

### 7.1 Data types and encoding rules

#### 7.1.1 Complex data type definitions

##### 7.1.1.1 Value parameter record Unsigned8 (0080<sub>h</sub>)

**Table 1: Value parameter record Unsigned8**

Index	Sub-index	Description	Data type
0080 <sub>h</sub>	00 <sub>h</sub>	Number of entries	Unsigned8
	01 <sub>h</sub>	Value	Unsigned8
	02 <sub>h</sub>	SI unit	Unsigned8
	03 <sub>h</sub>	Prefix	Integer8

##### 7.1.1.2 Value parameter record Unsigned16 (0081<sub>h</sub>)

**Table 2: Value parameter record Unsigned16**

Index	Sub-index	Description	Data type
0081 <sub>h</sub>	00 <sub>h</sub>	Number of entries	Unsigned8
	01 <sub>h</sub>	Value	Unsigned16
	02 <sub>h</sub>	SI unit	Unsigned8
	03 <sub>h</sub>	Prefix	Integer8

##### 7.1.1.3 Value parameter record Unsigned32 (0082<sub>h</sub>)

**Table 3: Value parameter record Unsigned32**

Index	Sub-index	Description	Data type
0082 <sub>h</sub>	00 <sub>h</sub>	Number of entries	Unsigned8
	01 <sub>h</sub>	Value	Unsigned32
	02 <sub>h</sub>	SI unit	Unsigned8
	03 <sub>h</sub>	Prefix	Integer8

##### 7.1.1.4 Value parameter record Integer8 (0083<sub>h</sub>)

**Table 4: Value parameter record Integer8**

Index	Sub-index	Description	Data type
0083 <sub>h</sub>	00 <sub>h</sub>	Number of entries	Unsigned8
	01 <sub>h</sub>	Value	Integer8
	02 <sub>h</sub>	SI unit	Unsigned8
	03 <sub>h</sub>	Prefix	Integer8



**7.1.1.5 Value parameter record Integer16 (0084<sub>h</sub>)****Table 5: Value parameter record Integer16**

Index	Sub-index	Description	Data type
0084 <sub>h</sub>	00 <sub>h</sub>	Number of entries	Unsigned8
	01 <sub>h</sub>	Value	Integer16
	02 <sub>h</sub>	SI unit	Unsigned8
	03 <sub>h</sub>	Prefix	Integer8

**7.1.1.6 Value parameter record Integer32 (0085<sub>h</sub>)****Table 6: Value parameter record Integer32**

Index	Sub-index	Description	Data type
0085 <sub>h</sub>	00 <sub>h</sub>	Number of entries	Unsigned8
	01 <sub>h</sub>	Value	Integer32
	02 <sub>h</sub>	SI unit	Unsigned8
	03 <sub>h</sub>	Prefix	Integer8

**7.1.1.7 Value parameter record Float32 (0086<sub>h</sub>)****Table 7: Value parameter record Unsigned8**

Index	Sub-index	Description	Data type
0086 <sub>h</sub>	00 <sub>h</sub>	Number of entries	Unsigned8
	01 <sub>h</sub>	Value	Float32
	02 <sub>h</sub>	SI unit	Unsigned8
	03 <sub>h</sub>	Prefix	Integer8

**7.1.1.8 Value parameter record Float64 (0087<sub>h</sub>)****Table 8: Value parameter record Unsigned8**

Index	Sub-index	Description	Data type
0087 <sub>h</sub>	00 <sub>h</sub>	Number of entries	Unsigned8
	01 <sub>h</sub>	Value	Float64
	02 <sub>h</sub>	SI unit	Unsigned8
	03 <sub>h</sub>	Prefix	Integer8

**7.2 Application object definitions****7.2.1 Overview**

Index	Object	Name	Data type	Acc.	M/O/C
6040 <sub>h</sub>	VAR	Device control word	Unsigned16	rw	M
6041 <sub>h</sub>	VAR	Device status word	Unsigned16	ro	M
6042 <sub>h</sub>	VAR	Device mode	Integer8	rw	O
6043 <sub>h</sub>	VAR	Device control mode	Integer8	rw	O
604E <sub>h</sub>	VAR	Device error code	Unsigned16	ro	O
604F <sub>h</sub>	VAR	Device local	Integer8	rw	O
6050 <sub>h</sub>	VAR	Device version	Visible string	ro	O
6051 <sub>h</sub>	VAR	Device code number	Unsigned16	rw	O

Index	Object	Name	Data type	Acc.	M/O/C
6052 <sub>h</sub>	VAR	Device serial number	Visible string	ro	O
6053 <sub>h</sub>	VAR	Device description	Visible string	rw	O
6054 <sub>h</sub>	VAR	Device model description	Visible string	ro	O
6055 <sub>h</sub>	VAR	Device model URL	Visible string	ro	O
6056 <sub>h</sub>	VAR	Device parameter set code	Unsigned8	rw	O
6057 <sub>h</sub>	VAR	Device vendor name	Visible string	ro	O
605F <sub>h</sub>	VAR	Device capability	Unsigned32	ro	M
6100 <sub>h</sub>	VAR	vlv actual value conditioning max interface number	Unsigned8	ro	C
6101 <sub>h</sub>	VAR	vlv actual value conditioning interface number	Unsigned8	rw	C
6102 <sub>h</sub>	VAR	vlv actual value conditioning type	Integer8	rw	C
6103 <sub>h</sub>	VAR	vlv actual value conditioning sign	Integer8	rw	O
6104 <sub>h</sub>	RECORD	vlv actual value conditioning actual value	value record integer16	ro	O
6110 <sub>h</sub>	RECORD	vlv actual value conditioning actual value 1	value record integer16	ro	O
6111 <sub>h</sub>	RECORD	vlv actual value conditioning actual value 2	value record integer16	ro	O
6112 <sub>h</sub>	RECORD	vlv actual value conditioning actual value 3	value record integer16	ro	O
6113 <sub>h</sub>	RECORD	vlv actual value conditioning actual value 4	value record integer16	ro	O
6114 <sub>h</sub>	RECORD	vlv actual value conditioning actual value 5	value record integer16	ro	O
6115 <sub>h</sub>	RECORD	vlv actual value conditioning actual value 6	value record integer16	ro	O
6116 <sub>h</sub>	RECORD	vlv actual value conditioning actual value 7	value record integer16	ro	O
6117 <sub>h</sub>	RECORD	vlv actual value conditioning actual value 8	value record integer16	ro	O
6120 <sub>h</sub>	RECORD	vlv actual value conditioning min pressure	value record integer16	rw	C
6121 <sub>h</sub>	RECORD	vlv actual value conditioning max pressure	value record integer16	rw	C
6122 <sub>h</sub>	RECORD	vlv actual value conditioning area	value record integer16	rw	C
6123 <sub>h</sub>	RECORD	vlv actual value conditioning pressure offset	value record integer16	rw	C
6124 <sub>h</sub>	RECORD	vlv actual value conditioning min transducer signal	value record integer16	rw	C
6125 <sub>h</sub>	RECORD	vlv actual value conditioning max transducer signal	value record integer16	rw	C
6130 <sub>h</sub>	RECORD	vlv actual value conditioning min reference	value record integer16	rw	C
6131 <sub>h</sub>	RECORD	vlv actual value conditioning max reference	value record integer16	rw	C

Index	Object	Name	Data type	Acc.	M/O/C
6132 <sub>h</sub>	RECORD	vlv actual value conditioning T1	value record unsigned32	rw	C
6133 <sub>h</sub>	RECORD	vlv actual value conditioning min interface	value record integer16	rw	C
6134 <sub>h</sub>	RECORD	vlv actual value conditioning max interface	value record integer16	rw	C
6140 <sub>h</sub>	RECORD	vlv actual value conditioning resolution	value record integer16	rw	C
6141 <sub>h</sub>	RECORD	vlv actual value conditioning position offset	value record integer16	rw	C
6142 <sub>h</sub>	RECORD	vlv actual value conditioning zero shift	value record integer16	rw	C
6143 <sub>h</sub>	VAR	vlv actual value conditioning bit size	Unsigned8	rw	O
6144 <sub>h</sub>	RECORD	vlv actual value conditioning C	value record integer16	rw	C
6145 <sub>h</sub>	VAR	vlv actual value conditioning start stop type	Integer8	rw	C
6200 <sub>h</sub>	VAR	drv actual value conditioning max interface number	Unsigned8	ro	C
6201 <sub>h</sub>	VAR	drv actual value conditioning interface number	Unsigned8	rw	C
6202 <sub>h</sub>	VAR	drv actual value conditioning type	Integer8	rw	C
6203 <sub>h</sub>	VAR	drv actual value conditioning sign	Integer8	rw	O
6204 <sub>h</sub>	RECORD	drv actual value conditioning actual value	value record integer32	ro	O
6210 <sub>h</sub>	RECORD	drv actual value conditioning actual value 1	value record integer32	ro	O
6211 <sub>h</sub>	RECORD	drv actual value conditioning actual value 2	value record integer32	ro	O
6212 <sub>h</sub>	RECORD	drv actual value conditioning actual value 3	value record integer132	ro	O
6213 <sub>h</sub>	RECORD	drv actual value conditioning actual value 4	value record integer32	ro	O
6214 <sub>h</sub>	RECORD	drv actual value conditioning actual value 5	value record integer32	ro	O
6215 <sub>h</sub>	RECORD	drv actual value conditioning actual value 6	value record integer32	ro	O
6216 <sub>h</sub>	RECORD	drv actual value conditioning actual value 7	value record integer32	ro	O
6217 <sub>h</sub>	RECORD	drv actual value conditioning actual value 8	value record integer32	ro	O
6220 <sub>h</sub>	RECORD	drv actual value conditioning min pressure	value record integer32	rw	C
6221 <sub>h</sub>	RECORD	drv actual value conditioning max pressure	value record integer32	rw	C
6222 <sub>h</sub>	RECORD	drv actual value conditioning area	value record integer32	rw	C
6223 <sub>h</sub>	RECORD	drv actual value conditioning pressure offset	value record integer32	rw	C

Index	Object	Name	Data type	Acc.	M/O/C
6224 <sub>h</sub>	RECORD	drv actual value conditioning min transducer signal	value record integer32	rw	C
6225 <sub>h</sub>	RECORD	drv actual value conditioning max transducer signal	value record integer32	rw	C
6230 <sub>h</sub>	RECORD	drv actual value conditioning min reference	value record integer32	rw	C
6231 <sub>h</sub>	RECORD	drv actual value conditioning max reference	value record integer32	rw	C
6232 <sub>h</sub>	RECORD	drv actual value conditioning T1	value record unsigned32	rw	C
6233 <sub>h</sub>	RECORD	drv actual value conditioning min interface	value record integer32	rw	C
6234 <sub>h</sub>	RECORD	drv actual value conditioning max interface	value record integer32	rw	C
6240 <sub>h</sub>	RECORD	drv actual value conditioning resolution	value record integer32	rw	C
6241 <sub>h</sub>	RECORD	drv actual value conditioning position offset	value record integer32	rw	C
6242 <sub>h</sub>	RECORD	drv actual value conditioning zero shift	value record integer32	rw	C
6243 <sub>h</sub>	VAR	drv actual value conditioning bit size	Unsigned8	rw	O
6244 <sub>h</sub>	RECORD	drv actual value conditioning C	value record integer32	rw	C
6245 <sub>h</sub>	VAR	drv actual value conditioning start stop type	Integer8	rw	C
6280 <sub>h</sub>	RECORD	drv controller output	value record integer32	ro	O
6281 <sub>h</sub>	RECORD	drv controller output interface min	value record integer32	rw	C
6282 <sub>h</sub>	RECORD	drv controller output interface max	value record integer32	rw	C
6290 <sub>h</sub>	VAR	drv controller output filter type	Integer8	rw	C
6291 <sub>h</sub>	RECORD	drv controller output filter T1	value record unsigned32	rw	C
6292 <sub>h</sub>	RECORD	drv controller output filter D	value record integer32	rw	C
6293 <sub>h</sub>	RECORD	drv controller output filter f0	value record unsigned32	rw	C
62A0 <sub>h</sub>	VAR	drv controller output directional dependent gain type	Integer8	rw	C
62A1 <sub>h</sub>	VAR	drv controller output directional dependent gain factor	Unsigned32	rw	C
62A2 <sub>h</sub>	VAR	drv controller output characteristic compensation type	Integer8	rw	C
62B0 <sub>h</sub>	VAR	drv controller output dead band compensation type	Integer8	rw	C
62B1 <sub>h</sub>	RECORD	drv controller output ded ban compensation A side	value record integer32	rw	C

Index	Object	Name	Data type	Acc.	M/O/C
62B2 <sub>h</sub>	RECORD	drv controller output dead band compensation B side	value record integer32	rw	C
62B3 <sub>h</sub>	RECORD	drv controller output dead band compensation threshold	value record integer32	rw	C
62C0 <sub>h</sub>	RECORD	drv controller output zero correction offset	value record integer32	rw	C
62D0 <sub>h</sub>	VAR	drv controller output dither type	Integer8	rw	C
62D1 <sub>h</sub>	RECORD	drv controller output dither amplitude	value record integer32	rw	C
62D2 <sub>h</sub>	RECORD	drv controller output dither frequency	value record unsigned32	rw	C
62E0 <sub>h</sub>	RECORD	drv controller output upper limit	value record integer32	rw	C
62E1 <sub>h</sub>	RECORD	drv controller output lower limit	value record integer32	rw	C
62F0 <sub>h</sub>	VAR	drv controller output inverting sign	Integer8	rw	O
6300 <sub>h</sub>	RECORD	vpoc set point	value record integer16	rw	C
6301 <sub>h</sub>	RECORD	vpoc actual value	value record integer16	ro	C
6302 <sub>h</sub>	VAR	vpoc interface reference	Unsigned8	rw	O
6310 <sub>h</sub>	RECORD	vpoc demand value generator demand value	value record integer16	ro	O
6311 <sub>h</sub>	RECORD	vpoc demand value generator reference value	value record integer16	rw	O
6314 <sub>h</sub>	RECORD	vpoc demand value generator hold set point	value record integer16	rw	O
6320 <sub>h</sub>	RECORD	vpoc demand value generator upper limit	value record integer16	rw	C
6321 <sub>h</sub>	RECORD	vpoc demand value generator lower limit	value record integer16	rw	C
6322 <sub>h</sub>	VAR	vpoc demand value generator scaling factor	Unsigned32	rw	C
6323 <sub>h</sub>	RECORD	vpoc demand value generator scaling offset	value record integer16	rw	C
6324 <sub>h</sub>	RECORD	vpoc demand value generator zero correction offset	value record integer16	rw	C
6330 <sub>h</sub>	VAR	vpoc demand value generator ramp type	Integer8	rw	C
6331 <sub>h</sub>	RECORD	vpoc demand value generator ramp acceleration time	value record unsigned16	rw	C
6332 <sub>h</sub>	RECORD	vpoc demand value generator ramp acceleration time positive	value record unsigned16	rw	C
6333 <sub>h</sub>	RECORD	vpoc demand value generator ramp acceleration time negative	value record unsigned16	rw	C
6334 <sub>h</sub>	RECORD	vpoc demand value generator ramp deceleration time	value record unsigned16	rw	C
6335 <sub>h</sub>	RECORD	vpoc demand value generator ramp deceleration	value record	rw	C

Index	Object	Name	Data type	Acc.	M/O/C
		time positive	unsigned16		
6336 <sub>h</sub>	RECORD	vpoc demand value generator ramp deceleration time negative	value record unsigned16	rw	C
6340 <sub>h</sub>	VAR	vpoc demand value generator directional dependent gain type	Integer8	rw	C
6341 <sub>h</sub>	VAR	vpoc demand value generator directional dependent gain factor	Unsigned32	rw	C
6342 <sub>h</sub>	VAR	vpoc demand value generator dead band compensation type	Integer8	rw	C
6343 <sub>h</sub>	RECORD	poc demand value generator dead band compensation A side	value record integer16	rw	C
6344 <sub>h</sub>	RECORD	vpoc demand vale generator dead band compensation B side	value record integer16	rw	C
6345 <sub>h</sub>	RECORD	vpoc demand value generator dead band compensation threshold	value record integer16	rw	C
6346 <sub>h</sub>	VAR	vpoc demand value generator characteristic compensation type	Integer8	rw	C
6350 <sub>h</sub>	RECORD	vpoc control deviation	value record integer16	ro	O
6351 <sub>h</sub>	VAR	vpoc control monitoring type	Integer8	rw	C
6352 <sub>h</sub>	RECORD	vpoc control monitoring delay time	value record unsigned16	rw	O
6353 <sub>h</sub>	RECORD	vpoc control monitoring threshold	value record integer16	rw	C
6354 <sub>h</sub>	RECORD	vpoc control monitoring upper threshold	value record integer16	rw	C
6355 <sub>h</sub>	RECORD	vpoc control monitoring lower threshold	value record integer16	rw	C
6360 <sub>h</sub>	VAR	vpoc dither type	Integer8	rw	C
6361 <sub>h</sub>	RECORD	vpoc dither amplitude	value record unsigned16	rw	C
6362 <sub>h</sub>	RECORD	vpoc dither frequency	value record unsigned16	rw	C
6370 <sub>h</sub>	VAR	vpoc target window monitoring type	Integer8	rw	C
6371 <sub>h</sub>	RECORD	vpoc traget window monitoring switch on time	value record unsigned16	rw	O
6372 <sub>h</sub>	RECORD	vpoc target window monitoring switch off time	value record unsigned16	rw	O
6373 <sub>h</sub>	RECORD	vpoc target window monitoring threshold	value record integer16	rw	C
6374 <sub>h</sub>	RECORD	vpoc target window monitoring upper threshold	value record integer16	rw	C
6375 <sub>h</sub>	RECORD	vpoc target window monitoring lower threshold	value record integer16	rw	C
6380 <sub>h</sub>	RECORD	vpoc set point	value record integer16	rw	C

Index	Object	Name	Data type	Acc.	M/O/C
6381 <sub>h</sub>	RECORD	vprc actual value	value record integer16	ro	C
6382 <sub>h</sub>	VAR	vprc interface reference	Unsigned8	rw	O
6390 <sub>h</sub>	RECORD	vprc demand value generator demand value	value record integer16	ro	O
6391 <sub>h</sub>	RECORD	vprc demand value generator reference value	value record integer16	rw	O
6394 <sub>h</sub>	RECORD	vprc demand value generator hold set point	value record integer16	rw	O
63A0 <sub>h</sub>	RECORD	vprc demand value generator upper limit	value record integer16	rw	C
63A1 <sub>h</sub>	RECORD	vprc demand value generator lower limit	value record integer16	rw	C
63A2 <sub>h</sub>	VAR	vprc demand value generator scaling factor	Unsigned32	rw	C
63A3 <sub>h</sub>	RECORD	vprc demand value generator scaling offset	value record integer16	rw	C
63A4 <sub>h</sub>	RECORD	vprc demand value generator zero correction offset	value record integer16	rw	C
63B0 <sub>h</sub>	VAR	vprc demand value generator ramp type	Integer8	rw	C
63B1 <sub>h</sub>	RECORD	vprc demand value generator ramp acceleration time	value record unsigned16	rw	C
63B2 <sub>h</sub>	RECORD	vprc demand value generator ramp acceleration time positive	value record unsigned16	rw	C
63B3 <sub>h</sub>	RECORD	vprc demand value generator ramp acceleration time negative	value record unsigned16	rw	C
63B4 <sub>h</sub>	RECORD	vprc demand value generator ramp deceleration time	value record unsigned16	rw	C
63B5 <sub>h</sub>	RECORD	vprc demand value generator ramp deceleration time positive	value record unsigned16	rw	C
63B6 <sub>h</sub>	RECORD	vprc demand value generator ramp deceleration time negative	value record unsigned16	rw	C
63C0 <sub>h</sub>	VAR	vprc demand value generator dirrectional dependent gain type	Integer8	rw	C
63C1 <sub>h</sub>	VAR	vprc demand value generator directional dependent gain factor	Unsigned32	rw	C
63C2 <sub>h</sub>	VAR	vprc demand value generator dead band compensation type	Integer8	rw	C
63C3 <sub>h</sub>	RECORD	vprc demand value generator dead band compensation A side	value record integer16	rw	C
63C4 <sub>h</sub>	RECORD	vprc demand value generator dead band compensation B side	value record integer16	rw	C
63C5 <sub>h</sub>	RECORD	vprc demand value generator dead band compensation threshold	value record integer16	rw	C
63C6 <sub>h</sub>	VAR	vprc demand value generator characteristic compensation type	Integer8	rw	C
63D0 <sub>h</sub>	RECORD	vprc control deviation	value record	ro	O

Index	Object	Name	Data type	Acc.	M/O/C
			integer16		
63D1 <sub>h</sub>	VAR	vprc control monitoring type	Integer8	rw	C
63D2 <sub>h</sub>	RECORD	vprc control monitoring delay time	value record unsigned16	rw	O
63D3 <sub>h</sub>	RECORD	vprc control monitoring threshold	value record integer16	rw	C
63D4 <sub>h</sub>	RECORD	vprc control monitoring upper threshold	value record integer16	rw	C
63D5 <sub>h</sub>	RECORD	vprc control monitoring lower threshold	value record integer16	rw	C
63E0 <sub>h</sub>	VAR	vprc dither type	Integer8	rw	C
63E1 <sub>h</sub>	RECORD	vprc dither amplitude	value record unsigned16	rw	C
63E2 <sub>h</sub>	RECORD	vprc dither frequency	value record unsigned16	rw	C
63F0 <sub>h</sub>	VAR	vprc target window monitoring type	Integer8	rw	C
63F1 <sub>h</sub>	RECORD	vprc target window monitoring switch on time	value record unsigned16	rw	O
63F2 <sub>h</sub>	RECORD	vprc target window monitoring switch off time	value record unsigned16	rw	O
63F3 <sub>h</sub>	RECORD	vprc target window monitoring threshold	value record integer16	rw	C
63F4 <sub>h</sub>	RECORD	vprc target window monitoring upper threshold	value record integer16	rw	C
63F5 <sub>h</sub>	RECORD	vprc target window monitoring lower threshold	value record integer16	rw	C
640D <sub>h</sub>	VAR	vpqc power limit factor	Unsigned32	rw	C
640E <sub>h</sub>	RECORD	vpqc hydrostatic actual power	value record integer16	ro	C
6460 <sub>h</sub>	VAR	vpqc dither type	Integer8	rw	C
6461 <sub>h</sub>	RECORD	vpqc dither amplitude	value record unsigned16	rw	C
6462 <sub>h</sub>	RECORD	vpqc dither frequency	value record unsigned16	rw	C
6470 <sub>h</sub>	VAR	vpqc target window monitoring type	Integer8	rw	C
6471 <sub>h</sub>	RECORD	vpqc target window monitoring switch on time	value record unsigned16	rw	O
6472 <sub>h</sub>	RECORD	vpqc target window monitoring switch off time	value record unsigned16	rw	O
6473 <sub>h</sub>	RECORD	vpqc target window monitoring threshold	value record integer16	rw	C
6474 <sub>h</sub>	RECORD	vpqc target window monitoring upper threshold	value record integer16	rw	C
6475 <sub>h</sub>	RECORD	vpqc target window monitoring lower threshold	value record integer16	rw	C
6480 <sub>h</sub>	RECORD	dcpl set point	value record	rw	C



Index	Object	Name	Data type	Acc.	M/O/C
			integer32		
6490 <sub>h</sub>	RECORD	dcol demand value generator demand value	value record integer32	ro	O
6492 <sub>h</sub>	RECORD	dcol demand value generator reference A value	value record integer32	rw	O
6493 <sub>h</sub>	RECORD	dcol demand value generator reference B value	value record integer32	rw	O
6494 <sub>h</sub>	RECORD	dcol demand value generator hold set point	value record integer32	rw	O
64A0 <sub>h</sub>	RECORD	dcol demand value generator upper limit	value record integer32	rw	C
64A1 <sub>h</sub>	RECORD	dcol demand value generator lower limit	value record integer32	rw	C
64B0 <sub>h</sub>	VAR	dcol demand value generator ramp type	Integer8	rw	C
64B1 <sub>h</sub>	RECORD	dcol demand value generator ramp acceleration time	value record unsigned32	rw	C
64B2 <sub>h</sub>	RECORD	dcol demand value generator ramp acceleration time positive	value record unsigned32	rw	C
64B3 <sub>h</sub>	RECORD	dcol demand value generator ramp acceleration time negative	value record unsigned32	rw	C
64B4 <sub>h</sub>	RECORD	dcol demand value generator ramp deceleration time	value record unsigned32	rw	C
64B5 <sub>h</sub>	RECORD	dcol demand value generator ramp deceleration time positive	value record unsigned32	rw	C
64B6 <sub>h</sub>	RECORD	dcol demand value generator ramp deceleration time negative	value record unsigned32	rw	C
6500 <sub>h</sub>	RECORD	dsc set point	value record integer32	rw	C
6501 <sub>h</sub>	RECORD	dsc actual value	value record integer32	ro	C
6502 <sub>h</sub>	VAR	dsc interface reference	Unsigned8	rw	O
6503 <sub>h</sub>	RECORD	dsc Kp	value record unsigned32	rw	C
6504 <sub>h</sub>	RECORD	dsc Ti	value record unsigned32	rw	C
6510 <sub>h</sub>	RECORD	dsc demand value generator demand value	value record integer32	ro	O
6512 <sub>h</sub>	RECORD	dsc demand value generator reference A value	value record integer32	rw	O
6513 <sub>h</sub>	RECORD	dsc demand value generator reference B value	value record integer32	rw	O
6514 <sub>h</sub>	RECORD	dsc demand value generator hold set point	value record integer32	rw	O
6520 <sub>h</sub>	RECORD	dsc demand value generator upper limit	value record integer32	rw	C
6521 <sub>h</sub>	RECORD	dsc demand value generator lower limit	value record integer32	rw	C

Index	Object	Name	Data type	Acc.	M/O/C
6530 <sub>h</sub>	VAR	dsc demand value generator ramp type	Integer8	rw	C
6531 <sub>h</sub>	RECORD	dsc demand value generator ramp acceleration time	value record unsigned32	rw	C
6532 <sub>h</sub>	RECORD	dsc demand value generator ramp acceleration time positive	value record unsigned32	rw	C
6533 <sub>h</sub>	RECORD	dsc demand value generator ramp acceleration time negative	value record unsigned32	rw	C
6534 <sub>h</sub>	RECORD	dsc demand value generator ramp deceleration time	value record unsigned32	rw	C
6535 <sub>h</sub>	RECORD	dsc demand value generator ramp deceleration time positive	value record unsigned32	rw	C
6536 <sub>h</sub>	RECORD	dsc demand value generator ramp deceleration time negative	value record unsigned32	rw	C
6550 <sub>h</sub>	RECORD	dsc control deviation	value record integer32	ro	O
6551 <sub>h</sub>	VAR	dsc control monitoring type	Integer8	rw	C
6552 <sub>h</sub>	RECORD	dsc control monitoring delay time	value record unsigned32	rw	O
6553 <sub>h</sub>	RECORD	dsc control monitoring threshold	value record integer32	rw	C
6554 <sub>h</sub>	RECORD	dsc control monitoring upper threshold	value record integer32	rw	C
6555 <sub>h</sub>	RECORD	dsc control monitoring lower threshold	value record integer32	rw	C
6556 <sub>h</sub>	RECORD	dsc control monitoring threshold Vmax	value record integer32	rw	C
6557 <sub>h</sub>	RECORD	dsc control monitoring upper threshold Vmax positive	value record integer32	rw	C
6558 <sub>h</sub>	RECORD	dsc control monitoring lower threshold Vmax negative	value record integer32	rw	C
6570 <sub>h</sub>	VAR	dsc target window monitoring type	Integer8	rw	C
6571 <sub>h</sub>	RECORD	dsc target window monitoring switch on time	value record unsigned32	rw	O
6572 <sub>h</sub>	RECORD	dsc target window monitoring switch off time	value record unsigned32	rw	O
6573 <sub>h</sub>	RECORD	dsc target window monitoring threshold	value record integer32	rw	C
6574 <sub>h</sub>	RECORD	dsc target window monitoring upper threshold	value record integer32	rw	C
6575 <sub>h</sub>	RECORD	dsc target window monitoring lower threshold	value record integer32	rw	C
6580 <sub>h</sub>	RECORD	dfpc set point	value record integer32	rw	C
6581 <sub>h</sub>	RECORD	dfpc actual value	value record integer32	ro	C
6582 <sub>h</sub>	VAR	dfpc interface reference	Unsigned8	rw	O

Index	Object	Name	Data type	Acc.	M/O/C
6583 <sub>h</sub>	RECORD	dfpc Kp	value record unsigned32	rw	C
6584 <sub>h</sub>	RECORD	dfpc Td	value record unsigned32	rw	C
6585 <sub>h</sub>	RECORD	dfpc T1	value record unsigned32	rw	C
6586 <sub>h</sub>	RECORD	dfpc Ti	value record unsigned32	rw	C
6587 <sub>h</sub>	RECORD	dfpc pressure sample time	value record unsigned32	rw	C
6590 <sub>h</sub>	RECORD	dfpc demand value generator demand value	value record integer32	ro	O
6592 <sub>h</sub>	RECORD	dfpc demand value generator reference A value	value record integer32	rw	O
6593 <sub>h</sub>	RECORD	dfpc demand value generator referenece B value	value record integer32	rw	O
6594 <sub>h</sub>	RECORD	dfpc demand value generator hold set point	value record integer32	rw	O
65A0 <sub>h</sub>	RECORD	dfpc demand value generator upper limit	value record integer32	rw	C
65A1 <sub>h</sub>	RECORD	dfpc demand value generator lower limit	value record integer32	rw	C
65B0 <sub>h</sub>	VAR	dfpc demand value generator ramp type	Integer8	rw	C
65B1 <sub>h</sub>	RECORD	dfpc demand value generator ramp acceleration time	value record unsigned32	rw	C
65B2 <sub>h</sub>	RECORD	dfpc demand value generator ramp acceleration time positive	value record unsigned32	rw	C
65B3 <sub>h</sub>	RECORD	dfpc demand value generator ramp acceleration time negative	value record unsigned32	rw	C
65B4 <sub>h</sub>	RECORD	dfpc demand value generator ramp deceleration time	value record unsigned32	rw	C
65B5 <sub>h</sub>	RECORD	dfpc demand value generator ramp deceleration time positive	value record unsigned32	rw	C
65B6 <sub>h</sub>	RECORD	dfpc demand value generator ramp deceleration time negative	value record unsigned32	rw	C
65D0 <sub>h</sub>	RECORD	dfpc control deviation	value record integer32	ro	O
65D1 <sub>h</sub>	VAR	dfpc control monitoring type	Integer8	rw	C
65D2 <sub>h</sub>	RECORD	dfpc control monitoring delay time	value record unsigned32	rw	O
65D3 <sub>h</sub>	RECORD	dfpc control monitoring threshold	value record integer32	rw	C
65D4 <sub>h</sub>	RECORD	dfpc control monitoring upper threshold	value record integer32	rw	C
65D5 <sub>h</sub>	RECORD	dfpc control monitoring lower threshold	value record integer32	rw	C

Index	Object	Name	Data type	Acc.	M/O/C
65D6 <sub>h</sub>	RECORD	dfpc control monitoring threshold Vmax	value record integer32	rw	C
65D7 <sub>h</sub>	RECORD	dfpc control monitoring upper threshold Vmax positive	value record integer32	rw	C
65D8 <sub>h</sub>	RECORD	dfpc control monitoring lower threshold Vmax negative	value record integer32	rw	C
65F0 <sub>h</sub>	VAR	dfpc target window monitoring type	Integer8	rw	C
65F1 <sub>h</sub>	RECORD	dfpc target window monitoring switch on time	value record unsigned32	rw	O
65F2 <sub>h</sub>	RECORD	dfpc target window monitoring switch off time	value record unsigned32	rw	O
65F3 <sub>h</sub>	RECORD	dfpc target window monitoring threshold	value record integer32	rw	C
65F4 <sub>h</sub>	RECORD	dfpc target window monitoring upper threshold	value record integer32	rw	C
65F5 <sub>h</sub>	RECORD	dfpc target window monitoring lower threshold	value record integer32	rw	C
6600 <sub>h</sub>	RECORD	dpc set point	value record integer32	rw	C
6601 <sub>h</sub>	RECORD	dpc actual value	value record integer32	ro	C
6602 <sub>h</sub>	VAR	dpc interface reference	Unsigned8	rw	O
6603 <sub>h</sub>	RECORD	dpc Kp	value record unsigned32	rw	C
6604 <sub>h</sub>	RECORD	dpc Td	value record unsigned32	rw	C
6605 <sub>h</sub>	RECORD	dpc T1	value record unsigned32	rw	C
6608 <sub>h</sub>	VAR	dpc switched integrator type	Integer8	rw	C
6609 <sub>h</sub>	RECORD	dpc switched integrator Ti	value record unsigned32	rw	C
660A <sub>h</sub>	RECORD	dpc switched integrator dX	value record unsigned32	rw	C
660C <sub>h</sub>	RECORD	dpc condition feedback Kv	value record unsigned32	rw	C
660D <sub>h</sub>	RECORD	dpc condition feedback Ka	value record unsigned32	rw	C
660E <sub>h</sub>	RECORD	dpc condition feedback Kpp	value record unsigned32	rw	C
660F <sub>h</sub>	RECORD	dpc condition feedback T1pp	value record unsigned32	rw	C
6610 <sub>h</sub>	RECORD	dpc demand value generator demand value	value record integer32	ro	O
6612 <sub>h</sub>	RECORD	dpc demand value generator reference A value	value record integer32	rw	O
6613 <sub>h</sub>	RECORD	dpc demand value generator reference B value	value record	rw	O

Index	Object	Name	Data type	Acc.	M/O/C
			integer32		
6614 <sub>h</sub>	RECORD	dpc demand value generator hold set point	value record integer32	rw	O
6620 <sub>h</sub>	RECORD	dpc demand value generator upper limit	value record integer32	rw	C
6621 <sub>h</sub>	RECORD	dpc demand value generator lower limit	value record integer32	rw	C
6630 <sub>h</sub>	VAR	dpc demand value generator ramp type	Integer8	rw	C
6631 <sub>h</sub>	RECORD	dpc demand value generator ramp acceleration time	value record unsigned32	rw	C
6632 <sub>h</sub>	RECORD	dpc demand value generator ramp acceleration time positive	value record unsigned32	rw	C
6633 <sub>h</sub>	RECORD	dpc demand value generator ramp acceleration time negative	value record unsigned32	rw	C
6634 <sub>h</sub>	RECORD	dpc demand value generator ramp deceleration time	value record unsigned32	rw	C
6635 <sub>h</sub>	RECORD	dpc demand value generator ramp deceleration time positive	value record unsigned32	rw	C
6636 <sub>h</sub>	RECORD	dpc demand value generator ramp deceleration time negative	value record unsigned32	rw	C
6637 <sub>h</sub>	RECORD	dpc demand value generator ramp velocity	value record integer32	rw	C
6638 <sub>h</sub>	RECORD	dpc demand value generator ramp acceleration	value record unsigned32	rw	C
6639 <sub>h</sub>	RECORD	dpc demand value generator ramp deceleration	value record unsigned32	rw	C
6650 <sub>h</sub>	RECORD	dpc control deviation	value record integer32	ro	O
6651 <sub>h</sub>	VAR	dpc control monitoring type	Integer8	rw	C
6652 <sub>h</sub>	RECORD	dpc control monitoring delay time	value record unsigned32	rw	O
6653 <sub>h</sub>	RECORD	dpc control monitoring threshold	value record integer32	rw	C
6654 <sub>h</sub>	RECORD	dpc control monitoring upper threshold	value record integer32	rw	C
6655 <sub>h</sub>	RECORD	dpc control monitoring lower threshold	value record integer32	rw	C
6656 <sub>h</sub>	RECORD	dpc control monitoring threshold Vmax	value record integer32	rw	C
6657 <sub>h</sub>	RECORD	dpc control monitoring threshold Vmax positive	value record integer32	rw	C
6658 <sub>h</sub>	RECORD	dpc control monitoring threshold Vmax negative	value record integer32	rw	C
6670 <sub>h</sub>	VAR	dpc target window monitoring type	Integer8	rw	C
6671 <sub>h</sub>	RECORD	dpc target window monitoring switch on time	value record unsigned32	rw	O

Index	Object	Name	Data type	Acc.	M/O/C
6672 <sub>h</sub>	RECORD	dpc target window monitoring switch off time	value record unsigned32	rw	O
6673 <sub>h</sub>	RECORD	dpc target window monitoring threshold	value record integer32	rw	C
6674 <sub>h</sub>	RECORD	dpc target window monitoring upper threshold	value record integer32	rw	C
6675 <sub>h</sub>	RECORD	dpc target window monitoring lower threshold	value record integer32	rw	C

**7.2.2 Device block**

**7.2.2.1 Device control**

These objects represent the parameters used for device control (see /VDMAPROP/, chapter 5).

**7.2.2.1.1 Object 6040<sub>h</sub>: Device control word**

The control word is transmitted via the I/O-interfaces or will be generated locally. It controls the device status (see /VDMAPROP/, chapter 5.3).

**VALUE DESCRIPTION**

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
<i>manufacturer specific</i>	<i>reserved</i>	<i>device mode specific</i>	<i>control mode specific</i>	<i>switch parameter set</i>	<i>reserved</i>	R	D	M	H	D					
-	-	(see below)	(see below)	O	-	M	M	M	M						

MSB LSB

D - Disabled	DM - Device mode (active enable)
H - Hold enable	R - Reset fault

Description	Device mode specific			Control mode specific
	Bit 11	10	9	8
<i>Control mode = 5</i> (p/Q control valve)	reserved	enable leakage compensation (optional)	master / slave mode (optional)	enable pressure controller (conditional)
<i>Device mode = 2</i> (Install mode)	reserved	install mode negative (conditional)	install mode positive (conditional)	reserved
<i>Device mode = 6</i> (Automatic single step)	reserved	reserved	single step (conditional)	reserved

**OBJECT DESCRIPTION**

Index	6040 <sub>h</sub>
Name	Device control word
Object code	VAR
Data type	UNSIGNED16
Category	Mandatory

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Default
Value range	UNSIGNED16
Default value	No

**7.2.2.1.2 Object 6041<sub>h</sub>: Device status word**

The status word is transmitted via the I/O interface and indicates the device condition (see /VDMAPROP/, chapter 5.4).

**VALUE DESCRIPTION**

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
<i>manufacturer specific</i>		<i>RT</i>		<i>control mode specific</i>		<i>reserved</i>		<i>W</i>	<i>L</i>	<i>R</i>	<i>D</i> <i>M</i>	<i>H</i>	<i>D</i>			
-		<i>O</i>		<i>(see below)</i>		-		<i>O</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>			
MSB																LSB

D - Disabled	DM - Device mode (active enable)
H - Hold enable	R - Ready
W - Warning	L - Local control
RT - Actual value reached target window	

Description	Control mode specific			
	11	10	9	8
<i>Control mode = 1 to 4 (valves)</i>	control error (conditional)	limit touched (conditional)	ramp running (conditional)	reserved
<i>Control mode = 5 (valves)</i>	control error (conditional)	limit touched (conditional)	ramp running (conditional)	pressure control enabled (conditional)
<i>Control mode = 6 to 9 (drives)</i>	control error (conditional)	limit touched (conditional)	reached end of program (conditional)	reserved

**OBJECT DESCRIPTION**

Index	6041 <sub>h</sub>
Name	Device status word
Object code	VAR
Data type	UNSIGNED16
Category	Mandatory

**ENTRY DESCRIPTION**

Access	ro
PDO mapping	Default
Value range	UNSIGNED16
Default value	No

**7.2.2.1.3 Object 6042<sub>h</sub>: Device mode**

With this parameter the device mode is indicated and can be chosen (see /VDMAPROP/, chapter 6.1). The access is rw, if switching between different device modes is supported, otherwise ro.

**VALUE DESCRIPTION**

Value	Description
0	No device mode
1	Set point input via bus
2	Set point input locally
3	Install mode (single step)
4	Reference mode
5	Automatic
6	Automatic (single step)
7 to 127	reserved
-1 to -128	manufacturer specific

**OBJECT DESCRIPTION**

Index	6042 <sub>h</sub>
Name	Device mode
Object code	VAR
Data type	INTEGER8
Category	Optional

**ENTRY DESCRIPTION**

Access	rw; ro, if only one <i>device mode</i> supported
PDO mapping	Optional
Value range	INTEGER8
Default value	1

**7.2.2.1.4 Object 6043<sub>h</sub>: Device control mode**

With this parameter the control mode of the device is indicated or switched (see /VDMAPROP/, chapter 6.2). The object is rw, if switching between different control modes is supported, otherwise ro. Supported control modes are indicated in object 1000<sub>h</sub> (device type) by associated bits enabled (1).



**VALUE DESCRIPTION**

Value	Description
0	Control mode not defined (substitute value for valves)
1	Spool position control open loop
2	Spool position control closed loop
3	Pressure control valve open loop
4	Pressure control valve closed loop
5	p/Q-control valve
6	Open loop movement (substitute value for hydrostatic axis)
7	Velocity control axis
8	Force / pressure control axis
9	Position control axis
10	Positional dependent deceleration
11 to 127	reserved
-1 to -128	manufacturer specific

**OBJECT DESCRIPTION**

Index	6043 <sub>h</sub>
Name	Device control mode
Object code	VAR
Data type	INTEGER8
Category	0

**ENTRY DESCRIPTION**

Access	rw; ro, if only one <i>control mode</i> supported
PDO mapping	optional
Value range	INTEGER8
Default value	See table

**7.2.2.1.5 Object 604E<sub>h</sub>: Device error code**

In case the device goes into warning state or the fault state, the fault occurred will be indicated in the error code parameter (see /VDMAPROP/, chapter 9.12). The value of this object is defined in chapter 5.2 (error code meaning).

**OBJECT DESCRIPTION**

Index	604E <sub>h</sub>
Name	Device error code
Object code	VAR
Data type	UNSIGNED16
Category	Optional

**ENTRY DESCRIPTION**

Access	ro
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

**7.2.2.1.6 Object 604F<sub>h</sub>: Device local**

This object specifies the source for the object control word by switching between control word via CAN and local control (see /VDMAPROP/, chapter 5.1).

If local control is activated by a hardware switch, this supersedes any value transmitted from a different I/O port (CAN, RS 232). In such a case, a write operation to the object has to be rejected.

**VALUE DESCRIPTION**

Value	Description
0	Control word via CAN
1	Control word local
2 to 127	reserved
-1 to -128	manufacturer specific

**OBJECT DESCRIPTION**

Index	604F <sub>h</sub>
Name	Device local
Object code	VAR
Data type	INTEGER8
Category	Optional

**ENTRY DESCRIPTION**

Access	rw; ro, if switching over the bus is not implemented
PDO mapping	Optional
Value range	INTEGER8
Default value	see table

**7.2.2.2 Device identification**

The objects defined in this chapter refer to general information on the device (see /VDMAPROP/, chapter 9.10). Most of the parameters described there have to be implemented using objects of the standard communication area (index 1000<sub>h</sub> and above).

**7.2.2.2.1 Object 6050<sub>h</sub>: Device version****OBJECT DESCRIPTION**

Index	6050 <sub>h</sub>
Name	Device version
Object code	VAR
Data type	VISIBLE STRING
Category	Optional

**ENTRY DESCRIPTION**

Access	ro
PDO mapping	No
Value range	No
Default value	No

**7.2.2.2 Object 6051<sub>h</sub>: Device code number****OBJECT DESCRIPTION**

Index	6051 <sub>h</sub>
Name	Device code number
Object code	VAR
Data type	UNSIGNED16
Category	Optional

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	No

**7.2.2.3 Object 6052<sub>h</sub>: Device serial number****OBJECT DESCRIPTION**

Index	6052 <sub>h</sub>
Name	Device serial number
Object code	VAR
Data type	VISIBLE STRING
Category	Optional

**ENTRY DESCRIPTION**

Access	ro
PDO mapping	Optional
Value range	No
Default value	No

**7.2.2.4 Object 6053<sub>h</sub>: Device description****OBJECT DESCRIPTION**

Index	6053 <sub>h</sub>
Name	Device description
Object code	VAR
Data type	VISIBLE STRING
Category	Optional

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	No
Value range	No
Default value	No

**7.2.2.2.5 Object 6054<sub>h</sub>: Device model description****OBJECT DESCRIPTION**

Index	6054 <sub>h</sub>
Name	Device model description
Object code	VAR
Data type	VISIBLE STRING
Category	Optional

**ENTRY DESCRIPTION**

Access	ro
PDO mapping	No
Value range	No
Default value	No

**7.2.2.2.6 Object 6055<sub>h</sub>: Device model URL****OBJECT DESCRIPTION**

Index	6055 <sub>h</sub>
Name	Device model URL
Object code	VAR
Data type	VISIBLE STRING
Category	Optional

**ENTRY DESCRIPTION**

Access	ro
PDO mapping	No
Value range	No
Default value	No

**7.2.2.2.7 Object 6056<sub>h</sub>: Device parameter set code****OBJECT DESCRIPTION**

Index	6056 <sub>h</sub>
Name	Device parameter set code
Object code	VAR
Data type	UNSIGNED8
Category	Optional

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

**7.2.2.8 Object 6057<sub>h</sub>: Device vendor name**

This object holds the name of the device vendor (see /VDMAPROP/ chapter 9.10).

**OBJECT DESCRIPTION**

Index	6057 <sub>h</sub>
Name	Device vendor name
Object code	VAR
Data type	VISIBLE STRING
Category	Optional

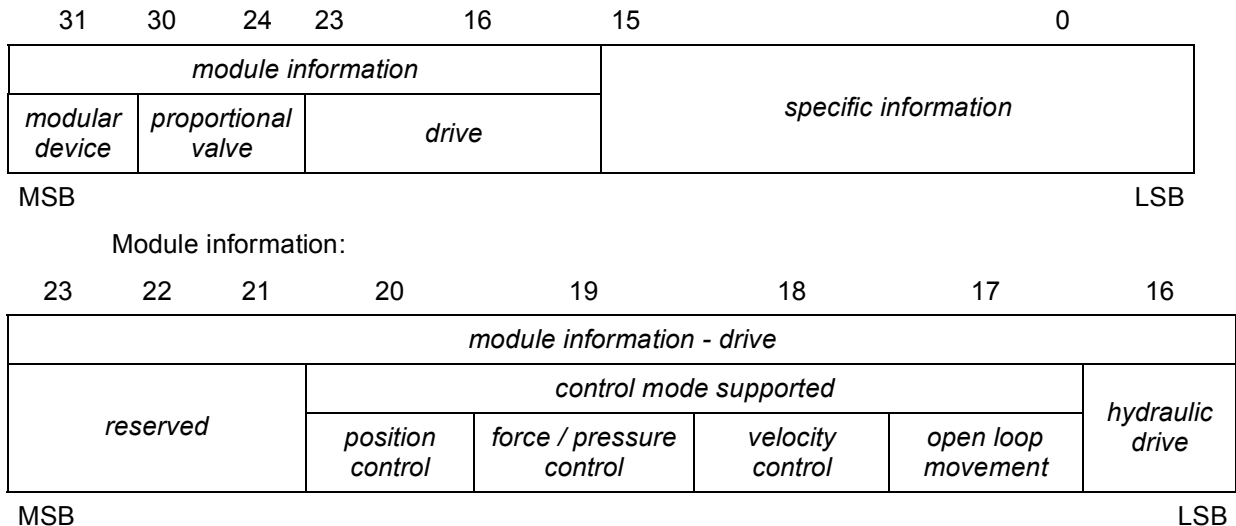
**ENTRY DESCRIPTION**

Access	ro
PDO mapping	No
Value range	No
Default value	No

**7.2.2.9 Object 605F<sub>h</sub>: Device capability**

This object contains information on the capabilities of a device. In a modular device this object exists for each module and describes capabilities of the module.

**VALUE DESCRIPTION**



30	29	28	27	26	25	24
<i>module information – proportional valve</i>						
<i>reserved</i>	<i>control mode supported</i>					<i>hydraulic proportional valve</i>
	<i>pressure flow control closed loop</i>	<i>pressure control closed loop</i>	<i>pressure control open loop</i>	<i>spool position closed loop</i>	<i>spool position open loop</i>	
MSB						LSB

0 - disabled / not supported

1 - enabled / supported

**Specific information:**

Value	Description
0000 <sub>h</sub>	n. a.
0001 <sub>h</sub> to 7FFF <sub>h</sub>	reserved
8000 <sub>h</sub> to FFFF <sub>h</sub>	manufacturer specific

**OBJECT DESCRIPTION**

Index	605F <sub>h</sub>
Name	Device capability
Object code	VAR
Data type	UNSIGNED32
Category	Mandatory

**ENTRY DESCRIPTION**

Access	ro
PDO mapping	Optional
Value range	(see value description)
Default value	No

**7.2.3 Actual value conditioning**

These objects describe the parameters used to manage the actual value conditioning (see /VDMAPROP/, chapter 9.1).

The objects for drives and valves have the same meaning, but differ in data types. Depending on the device type (valve or drive), the corresponding objects have to be considered.

**7.2.3.1 Actual value conditioning for valves****7.2.3.1.1 Object 6100<sub>h</sub>: vlv actual value conditioning max interface number**

This object defines a parameter additional to /VDMAPROP/. It indicates the number of physical sensor interfaces implemented in the device.

**OBJECT DESCRIPTION**

Index	6100 <sub>h</sub>
Name	vlv actual value conditioning max interface number
Object code	VAR
Data type	UNSIGNED8
Category	Conditional; Mandatory, if actual value processing implemented

**ENTRY DESCRIPTION**

Access	ro
PDO mapping	Optional
Value range	UNSIGNED8
Default value	1

**7.2.3.1.2 Object 6101<sub>h</sub>: vlv actual value conditioning interface number**

This object selects a single interface out of up to 8 sensor interfaces for processing actual values (see /VDMAPROP/, chapter 9.1). It acts as a pointer to the interface. Operations performed on the objects of *actual value conditioning* block always refer to the interface selected by *interface number*.

**OBJECT DESCRIPTION**

Index	6101 <sub>h</sub>
Name	vlv actual value conditioning interface number
Object code	VAR
Data type	UNSIGNED8
Category	Conditional; Mandatory, if actual value processing implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	UNSIGNED8
Default value	1

**7.2.3.1.3 Object 6102<sub>h</sub>: vlv actual value conditioning type**

This parameter defines the type of actual value interface currently selected by *interface number*.

**VALUE DESCRIPTION**

Value	Description
0	No transducer function
1	Transducer spool position
2	Pressure transducer
3 to 63	reserved
64	Position transducer incremental for drives only
65	Position transducer SSI binary for drives only
66	Position transducer SSI gray code for drives only
67	Position transducer analog for drives only
68	Position transducer start-stop interface for drives only
69	Position transducer ENDAT interface for drives only
70 to 127	reserved
-1 to -128	manufacturer specific

**OBJECT DESCRIPTION**

Index	6102 <sub>h</sub>
Name	vlv actual value conditioning type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if actual value processing implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	0

**7.2.3.1.4 Object 6103<sub>h</sub>: vlv actual value conditioning sign**

With the sign parameter the sign of the actual value interface currently selected by *interface number* can be changed.

**OBJECT DESCRIPTION**

Index	6103 <sub>h</sub>
Name	vlv actual value conditioning sign
Object code	VAR
Data type	INTEGER8
Category	Optional

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	-1 to 1
Default value	1

**7.2.3.1.5 Object 6104<sub>h</sub>: vlv actual value conditioning actual value**

This object holds the actual value of the interface currently selected by *interface number*. SI unit and prefix also refer to the currently selected interface.

**OBJECT DESCRIPTION**

Index	6104 <sub>h</sub>
Name	vlv actual value conditioning actual value
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Optional



**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.3.1.6 Object 6110<sub>h</sub>: vlv actual value conditioning actual value 1**

This object holds the actual value of interface 1.

**OBJECT DESCRIPTION**

Index	6110 <sub>h</sub>
Name	vlv actual value conditioning actual value 1
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

### 7.2.3.1.7 Object 6111<sub>h</sub>: vlv actual value conditioning actual value 2

This object holds the actual value of interface 2.

#### OBJECT DESCRIPTION

Index	6111 <sub>h</sub>
Name	vlv actual value conditioning actual value 2
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.3.1.8 Object 6112<sub>h</sub>: vlv actual value conditioning actual value 3

This object holds the actual value of interface 3.

##### OBJECT DESCRIPTION

Index	6112 <sub>h</sub>
Name	vlv actual value conditioning actual value 3
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Optional

##### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.3.1.9 Object 6113<sub>h</sub>: vlv actual value conditioning actual value 4

This object holds the actual value of interface 4.

#### OBJECT DESCRIPTION

Index	6113 <sub>h</sub>
Name	vlv actual value conditioning actual value 4
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.3.1.10 Object 6114<sub>h</sub>: vlv actual value conditioning actual value 5**

This object holds the actual value of interface 5.

**OBJECT DESCRIPTION**

Index	6114 <sub>h</sub>
Name	vlv actual value conditioning actual value 5
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

### 7.2.3.1.11 Object 6115<sub>h</sub>: vlv actual value conditioning actual value 6

This object holds the actual value of interface 6.

#### OBJECT DESCRIPTION

Index	6115 <sub>h</sub>
Name	vlv actual value conditioning actual value 6
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	0



Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.3.1.12 Object 6116<sub>h</sub>: vlv actual value conditioning actual value 7

This object holds the actual value of interface 7.

##### OBJECT DESCRIPTION

Index	6116 <sub>h</sub>
Name	vlv actual value conditioning actual value 7
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Optional

##### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.3.1.13 Object 6117<sub>h</sub>: vlv actual value conditioning actual value 8

This object holds the actual value of interface 8.

#### OBJECT DESCRIPTION

Index	6117 <sub>h</sub>
Name	vlv actual value conditioning actual value 8
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.3.1.14 Object 6120<sub>h</sub>: vlv actual value conditioning min pressure**

This object defines the lower measurement range limit of a pressure transducer with *type* = 2 (see /VDMAPROP/, chapter 9.1.2). For other transducer types the parameter is ignored.

**OBJECT DESCRIPTION**

Index	6120 <sub>h</sub>
Name	vlv actual value conditioning min pressure
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 2

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-1 (deci)

### 7.2.3.1.15 Object 6121<sub>h</sub>: vlv actual value conditioning max pressure

This object defines the upper measurement range limit (nominal pressure) of a pressure transducer with *type* = 2 (see /VDMAPROP/, chapter 9.1.2). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6121 <sub>h</sub>
Name	vlv actual value conditioning max pressure
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 2

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-1 (deci)

#### 7.2.3.1.16 Object 6122<sub>h</sub>: vlv actual value conditioning area

This object defines the cylinder area corresponding to the pressure transducer with *type* = 2 (see /VDMAPROP/, chapter 9.1.2). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6122 <sub>h</sub>
Name	vlv actual value conditioning area
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 2

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A7 <sub>h</sub> (m <sup>2</sup> )

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.3.1.17 Object 6123<sub>h</sub>: vlv actual value conditioning pressure offset

This object defines the offset parameter for pressure transducer with *type* = 2, that can be used in force / pressure control with only one pressure transducer (pressure 2 = constant). It is added to the actual value (see /VDMAPROP/, chapter 9.1.2). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6123 <sub>h</sub>
Name	vlv actual value conditioning pressure offset
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 2

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0



**7.2.3.1.18 Object 6124<sub>h</sub>: vlv actual value conditioning min transducer signal**

This object defines the transducer output at minimum pressure for transducer with *type* = 2 (see /VDMAPROP/, chapter 9.1.2). For other transducer types the parameter is ignored.

**OBJECT DESCRIPTION**

Index	6124 <sub>h</sub>
Name	vlv actual value conditioning min transducer signal
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 2

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

### 7.2.3.1.19 Object 6125<sub>h</sub>: vlv actual value conditioning max transducer signal

This object defines the transducer output at maximum pressure for transducer with *type* = 2 (see *∕VDMAPROP∕*, chapter 9.1.2). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6125 <sub>h</sub>
Name	vlv actual value conditioning max transducer signal
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 2

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	10

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.3.1.20 Object 6130<sub>h</sub>: vlv actual value conditioning min reference

This object defines the minimum reference for an analog position transducer *type* = 67 (see /VDMAPROP/, chapter 9.1.2.4). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6130 <sub>h</sub>
Name	vlv actual value conditioning min reference
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 67

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.3.1.21 Object 6131<sub>h</sub>: vlv actual value conditioning max reference

This object defines the maximum reference for an analog position transducer *type* = 67 (see /VDMAPROP/, chapter 9.1.2.4). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6131 <sub>h</sub>
Name	vlv actual value conditioning max reference
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 67

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

**7.2.3.1.22 Object 6132<sub>h</sub>: vlv actual value conditioning T1**

This object defines the time constant of the low pass filter for an analog position transducer *type* = 67 (see /VDMAPROP/, chapter 9.1.2.4). For other transducer types the parameter is ignored.

**OBJECT DESCRIPTION**

Index	6132 <sub>h</sub>
Name	vlv actual value conditioning T1
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 67

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

### 7.2.3.1.23 Object 6133<sub>h</sub>: vlv actual value conditioning min interface

This object defines the transducer output at minimum position for an analog position transducer *type* = 67 (see /VDMAPROP/, chapter 9.1.2.4). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6133 <sub>h</sub>
Name	vlv actual value conditioning min interface
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 67

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	-10

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.3.1.24 Object 6134<sub>h</sub>: vlv actual value conditioning max interface

This object defines the transducer output at maximum position for an analog position transducer *type* = 67 (see /VDMAPROP/, chapter 9.1.2.4). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6134 <sub>h</sub>
Name	vlv actual value conditioning max interface
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 67

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No



Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	10

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

### 7.2.3.1.25 Object 6140<sub>h</sub>: vlv actual value conditioning resolution

This object defines the resolution for position transducers of *type* = [64, 65, 66, 69] (see /VDMAPROP/, chapter 9.1.2.1, 9.1.2.2, 9.1.2.3, and 9.1.2.9). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6140 <sub>h</sub>
Name	vlv actual value conditioning resolution
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = [64, 65, 66, 69]

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

**7.2.3.1.26 Object 6141<sub>h</sub>: valve actual value conditioning position offset**

This object defines an offset for position transducers of *type* = [65, 66, 69] (see /VDMAPROP/, chapter 9.1.2.2, 9.1.2.3, and 9.1.2.9). For other transducer types the parameter is ignored.

**OBJECT DESCRIPTION**

Index	6141 <sub>h</sub>
Name	vlv actual value conditioning position offset
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = [65, 66, 69]

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

### 7.2.3.1.27 Object 6142<sub>h</sub>: vlv actual value conditioning zero shift

This object defines a zero shift for position transducers of *type* = 64 (see *VDMAPROP*/, chapter 9.1.2.1). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6142 <sub>h</sub>
Name	vlv actual value conditioning zero shift
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 64

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.3.1.28 Object 6143<sub>h</sub>: vlv actual value conditioning bit size

This object defines the resolution for position transducers of *type* = [65, 66] (see /VDMAPROP/, chapter 9.1.2.2, and 9.1.2.3). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6143 <sub>h</sub>
Name	vlv actual value conditioning bit size
Object code	VAR
Data type	UNSIGNED8
Category	Optional

#### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	UNSIGNED8
Default value	24

**7.2.3.1.29 Object 6144<sub>h</sub>: vlv actual value conditioning C**

This object defines the speed of sound for position transducers of *type* = 68 (see /VDMAPROP/, chapter 9.1.2.5). For other transducer types the parameter is ignored.

**OBJECT DESCRIPTION**

Index	6144 <sub>h</sub>
Name	vlv actual value conditioning C
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 68

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

### 7.2.3.1.30 Object 6145<sub>h</sub>: vlv actual value conditioning start stop type

This object defines the type of a start-stop position transducers *type* = 68 (see /VDMAPROP/, chapter 9.1.2.5). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6145 <sub>h</sub>
Name	vlv actual value conditioning start stop type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 68

#### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

### 7.2.3.2 Actual value conditioning for drives

#### 7.2.3.2.1 Object 6200<sub>h</sub>: drv actual value conditioning max interface number

This object defines a parameter additional to /VDMAPROP/. It indicates the number of physical sensor interfaces implemented in the device.

#### OBJECT DESCRIPTION

Index	6200 <sub>h</sub>
Name	drv actual value conditioning max interface number
Object code	VAR
Data type	UNSIGNED8
Category	Conditional; Mandatory, if actual value processing implemented

**ENTRY DESCRIPTION**

Access	ro
PDO mapping	Optional
Value range	UNSIGNED8
Default value	1

**7.2.3.2.2 Object 6201<sub>h</sub>: drv actual value conditioning interface number**

This object selects a single interface out of up to 8 sensor interfaces for processing actual values (see /VDMAPROP/, chapter 9.1). It acts as a pointer to the interface. Operations performed on the objects of *actual value conditioning* block always refer to the interface selected by *interface number*.

**OBJECT DESCRIPTION**

Index	6201 <sub>h</sub>
Name	drv actual value conditioning interface number
Object code	VAR
Data type	UNSIGNED8
Category	Conditional; Mandatory, if actual value processing implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	UNSIGNED8
Default value	1

**7.2.3.2.3 Object 6202<sub>h</sub>: drv actual value conditioning type**

This parameter defines the type of actual value interface currently selected by *interface number*.

**VALUE DESCRIPTION**

Value	Description
0	No transducer function
1	Transducer spool position
2	Pressure transducer
3 to 63	reserved
64	Position transducer incremental for drives only
65	Position transducer SSI binary for drives only
66	Position transducer SSI gray code for drives only
67	Position transducer analog for drives only
68	Position transducer start-stop interface for drives only
69	Position transducer ENDAT interface for drives only
70 to 127	reserved
-1 to -128	manufacturer specific



**OBJECT DESCRIPTION**

Index	6202 <sub>h</sub>
Name	drv actual value conditioning type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if actual value processing implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	0

**7.2.3.2.4 Object 6203<sub>h</sub>: drv actual value conditioning sign**

With the sign parameter the sign of the actual value interface currently selected by *interface number* can be changed.

**OBJECT DESCRIPTION**

Index	6203 <sub>h</sub>
Name	drv actual value conditioning sign
Object code	VAR
Data type	INTEGER8
Category	Optional

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	-1 to 1
Default value	1

**7.2.3.2.5 Object 6204<sub>h</sub>: drv actual value conditioning actual value**

This object holds the actual value of the interface currently selected by *interface number*. SI unit and prefix also refer to the currently selected interface.

**OBJECT DESCRIPTION**

Index	6204 <sub>h</sub>
Name	drv actual value conditioning actual value
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.3.2.6 Object 6210<sub>h</sub>: drv actual value conditioning actual value 1**

This object holds the actual value of interface 1.

**OBJECT DESCRIPTION**

Index	6210 <sub>h</sub>
Name	drv actual value conditioning actual value 1
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

### 7.2.3.2.7 Object 6211<sub>h</sub>: drv actual value conditioning actual value 2

This object holds the actual value of interface 2.

#### OBJECT DESCRIPTION

Index	6211 <sub>h</sub>
Name	drv actual value conditioning actual value 2
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.3.2.8 Object 6212<sub>h</sub>: drv actual value conditioning actual value 3

This object holds the actual value of interface 3.

#### OBJECT DESCRIPTION

Index	6212 <sub>h</sub>
Name	drv actual value conditioning actual value 3
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.3.2.9 Object 6213<sub>h</sub>: drv actual value conditioning actual value 4

This object holds the actual value of interface 4.

#### OBJECT DESCRIPTION

Index	6213 <sub>h</sub>
Name	drv actual value conditioning actual value 4
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.3.2.10 Object 6214<sub>h</sub>: drv actual value conditioning actual value 5**

This object holds the actual value of interface 5.

**OBJECT DESCRIPTION**

Index	6214 <sub>h</sub>
Name	drv actual value conditioning actual value 5
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No



Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

### 7.2.3.2.11 Object 6215<sub>h</sub>: drv actual value conditioning actual value 6

This object holds the actual value of interface 6.

#### OBJECT DESCRIPTION

Index	6215 <sub>h</sub>
Name	drv actual value conditioning actual value 6
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.3.2.12 Object 6216<sub>h</sub>: drv actual value conditioning actual value 7

This object holds the actual value of interface 7.

##### OBJECT DESCRIPTION

Index	6216 <sub>h</sub>
Name	drv actual value conditioning actual value 7
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

##### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.3.2.13 Object 6217<sub>h</sub>: drv actual value conditioning actual value 8

This object holds the actual value of interface 8.

#### OBJECT DESCRIPTION

Index	6217 <sub>h</sub>
Name	drv actual value conditioning actual value 8
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.3.2.14 Object 6220<sub>h</sub>: drv actual value conditioning min pressure**

This object defines the lower measurement range limit of a pressure transducer with *type* = 2 (see /VDMAPROP/, chapter 9.1.2). For other transducer types the parameter is ignored.

**OBJECT DESCRIPTION**

Index	6220 <sub>h</sub>
Name	drv actual value conditioning min pressure
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 2

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.3.2.15 Object 6221<sub>h</sub>: drv actual value conditioning max pressure

This object defines the upper measurement range limit (nominal pressure) of a pressure transducer with *type* = 2 (see /VDMAPROP/, chapter 9.1.2). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6221 <sub>h</sub>
Name	drv actual value conditioning max pressure
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.3.2.16 Object 6222<sub>h</sub>: drv actual value conditioning area

This object defines the cylinder area corresponding to the pressure transducer with *type* = 2 (see /VDMAPROP/, chapter 9.1.2). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6222 <sub>h</sub>
Name	drv actual value conditioning area
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 2

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A7 <sub>h</sub> (m <sup>2</sup> )

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.3.2.17 Object 6223<sub>h</sub>: drv actual value conditioning pressure offset

This object defines the offset parameter for pressure transducer with *type* = 2, that can be used in force / pressure control with only one pressure transducer (pressure 2 = constant). It is added to the actual value (see /VDMAPROP/, chapter 9.1.2). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6223 <sub>h</sub>
Name	drv actual value conditioning pressure offset
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 2



**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

**7.2.3.2.18 Object 6224<sub>h</sub>: drv actual value conditioning min transducer signal**

This object defines the transducer output at minimum pressure for transducer with *type* = 2 (see /VDMAPROP/, chapter 9.1.2). For other transducer types the parameter is ignored.

**OBJECT DESCRIPTION**

Index	6224 <sub>h</sub>
Name	drv actual value conditioning min transducer signal
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 2

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

### 7.2.3.2.19 Object 6225<sub>h</sub>: drv actual value conditioning max transducer signal

This object defines the transducer output at maximum pressure for transducer with *type* = 2 (see *∕VDMAPROP∕*, chapter 9.1.2). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6225 <sub>h</sub>
Name	drv actual value conditioning max transducer signal
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 2

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	10

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.3.2.20 Object 6230<sub>h</sub>: drv actual value conditioning min reference

This object defines the minimum reference for an analog position transducer *type* = 67 (see /VDMAPROP/, chapter 9.1.2.4). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6230 <sub>h</sub>
Name	drv actual value conditioning min reference
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 67

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.3.2.21 Object 6231<sub>h</sub>: drv actual value conditioning max reference

This object defines the maximum reference for an analog position transducer *type* = 67 (see /VDMAPROP/, chapter 9.1.2.4). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6231 <sub>h</sub>
Name	drv actual value conditioning max reference
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 67

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

**7.2.3.2.22 Object 6232<sub>h</sub>: drv actual value conditioning T1**

This object defines the time constant of the low pass filter for an analog position transducer *type* = 67 (see /VDMAPROP/, chapter 9.1.2.4). For other transducer types the parameter is ignored.

**OBJECT DESCRIPTION**

Index	6232 <sub>h</sub>
Name	drv actual value conditioning T1
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 67

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

### 7.2.3.2.23 Object 6233<sub>h</sub>: drv actual value conditioning min interface

This object defines the transducer output at minimum position for an analog position transducer *type* = 67 (see /VDMAPROP/, chapter 9.1.2.4). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6233 <sub>h</sub>
Name	drv actual value conditioning min interface
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 67

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	-10



Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.3.2.24 Object 6234<sub>h</sub>: drv actual value conditioning max interface

This object defines the transducer output at maximum position for an analog position transducer *type* = 67 (see /VDMAPROP/, chapter 9.1.2.4). For other transducer types the parameter is ignored.

##### Object description

Index	6234 <sub>h</sub>
Name	drv actual value conditioning max interface
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 67

##### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	10

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.3.2.25 Object 6240<sub>h</sub>: drv actual value conditioning resolution

This object defines the resolution for position transducers of *type* = [64, 65, 66, 69] (see /VDMAPROP/, chapter 9.1.2.1, 9.1.2.2, 9.1.2.3, and 9.1.2.9). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6240 <sub>h</sub>
Name	drv actual value conditioning resolution
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = [64, 65, 66, 69]

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

**7.2.3.2.26 Object 6241<sub>h</sub>: drv actual value conditioning position offset**

This object defines an offset for position transducers of *type* = [65, 66, 69] (see /VDMAPROP/, chapter 9.1.2.2, 9.1.2.3, and 9.1.2.9). For other transducer types the parameter is ignored.

**OBJECT DESCRIPTION**

Index	6204 <sub>h</sub>
Name	drv actual value conditioning position offset
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = [65, 66, 69]

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

### 7.2.3.2.27 Object 6242<sub>h</sub>: drv actual value conditioning zero shift

This object defines a zero shift for position transducers of *type* = 64 (see *VDMAPROP*, chapter 9.1.2.1). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6242 <sub>h</sub>
Name	drv actual value conditioning zero shift
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 64

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.3.2.28 Object 6243<sub>h</sub>: drv actual value conditioning bit size

This object defines the resolution for position transducers of *type* = [65, 66] (see /VDMAPROP/, chapter 9.1.2.2, and 9.1.2.3). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6243 <sub>h</sub>
Name	drv actual value conditioning bit size
Object code	VAR
Data type	UNSIGNED8
Category	Optional

#### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	UNSIGNED8
Default value	24

#### 7.2.3.2.29 Object 6244<sub>h</sub>: drv actual value conditioning C

This object defines the speed of sound for position transducers of *type* = 68 (see /VDMAPROP/, chapter 9.1.2.5). For other transducer types the parameter is ignored.

**OBJECT DESCRIPTION**

Index	6244 <sub>h</sub>
Name	drv actual value conditioning C
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 68

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

### 7.2.3.2.30 Object 6245<sub>h</sub>: drv actual value conditioning start stop type

This object defines the type of a start-stop position transducers *type* = 68 (see /VDMAPROP/, chapter 9.1.2.5). For other transducer types the parameter is ignored.

#### OBJECT DESCRIPTION

Index	6245 <sub>h</sub>
Name	drv actual value conditioning start stop type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>actual value conditioning</i> implemented and <i>sensor type</i> = 68

#### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

## 7.2.4 Controller output conditioning

The objects defined in this chapter describe parameters of the controller output conditioning block (see /VDMAPROP/, chapter 7.4).

### 7.2.4.1 Controller output conditioning for drives

#### 7.2.4.1.1 Object 6280<sub>h</sub>: drv controller output

This value is an internal value and the output of the controller.

#### OBJECT DESCRIPTION

Index	6228 <sub>h</sub>
Name	drv controller output
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional



**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.4.1.2 Object 6281<sub>h</sub>: drv controller output interface min**

This object defines the output signal of the interface at *minimum controller output* (see /VDMAPROP/, chapter 7.4.3).

**OBJECT DESCRIPTION**

Index	6281 <sub>h</sub>
Name	drv controller output interface min
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>controller output interface</i> implemented

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.4.1.3 Object 6282<sub>h</sub>: drv controller output interface max

This object defines the output signal of the interface at *maximum controller output* (see /VDMAPROP/, chapter 7.4.3).

#### OBJECT DESCRIPTION

Index	6282 <sub>h</sub>
Name	drv controller output interface max
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>controller output interface</i> implemented

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.4.1.4 Object 6290<sub>h</sub>: drv controller output filter type

This object defines the type of the low pass filter (see /VDMAPROP/, chapter 7.4.1).

##### VALUE DESCRIPTION

Value	Description
0	No filter
1	Type 1
2	Type 2
3 to 127	reserved
-1 to -128	manufacturer specific

##### OBJECT DESCRIPTION

Index	6290 <sub>h</sub>
Name	drv controller output filter type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>controller output filter</i> implemented

##### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	0

**7.2.4.1.5 Object 6291<sub>h</sub>: drv controller output filter T1**

This object defines the time constant for *filter type* = 1.

**OBJECT DESCRIPTION**

Index	6291 <sub>h</sub>
Name	drv controller output filter T1
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>filter type 1</i> implemented

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.4.1.6 Object 6292<sub>h</sub>: drv controller output filter D

This object defines the damping constant of *filter type* = 2.

#### OBJECT DESCRIPTION

Index	6292 <sub>h</sub>
Name	drv controller output filter D
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>filter type</i> 2 implemented

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.4.1.7 Object 6293<sub>h</sub>: drv controller output filter f0

This object defines the natural frequency for *filter type* = 2.

##### OBJECT DESCRIPTION

Index	6293 <sub>h</sub>
Name	drv controller output filter f0
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>filter type</i> 2 implemented

##### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	20 <sub>h</sub> (Hz)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.4.1.8 Object 62A0<sub>h</sub>: drv controller output directional dependent gain type

This object defines the type of the *directional dependent gain function* (see *IVDMAPROP*, chapter 9.4).

##### VALUE DESCRIPTION

Value	Description
0	No directional dependent gain
1	Directional dependent gain type 1
2 to 127	reserved
-1 to - 128	manufacturer specific



**OBJECT DESCRIPTION**

Index	62A0 <sub>h</sub>
Name	drv controller output directional dependent gain type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>directional dependent gain function</i> implemented

**ENTRY DESCRIPTION**

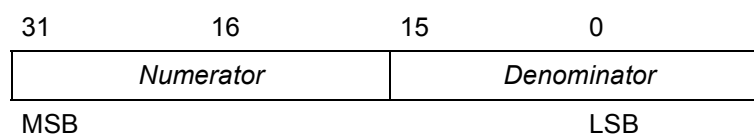
Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.4.1.9 Object 62A1<sub>h</sub>: drv controller output directional dependent gain factor**

This object defines a factor for *directional dependent gain type* = 1.

Value description

The object is composed as shown by (numerator SHL 16)+denominator. This avoids setting numerator and denominator separately.

**OBJECT DESCRIPTION**

Index	62A1 <sub>h</sub>
Name	drv controller output directional dependent gain factor
Object code	VAR
Data type	UNSIGNED32
Category	Conditional; Mandatory, if <i>directional dependent gain type</i> = 1

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

**7.2.4.1.10 Object 62A2<sub>h</sub>: drv controller output characteristic compensation type**

This object defines the type of the output characteristic *compensation function* (see /VDMAPROP/, chapter 9.5). The function is specified using vendor-specific parameters.

**VALUE DESCRIPTION**

Value	Description
0	No characteristic compensation
1 to 127	reserved
-1 to - 128	manufacturer specific

**OBJECT DESCRIPTION**

Index	62A2 <sub>h</sub>
Name	drv controller output characteristic compensation type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>compensation function</i> implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.4.1.11 Object 62B0<sub>h</sub>: drv controller output dead band compensation type**

This object defines the type of the dead band compensation function (see /VDMAPROP/, chapter 9.6).

**VALUE DESCRIPTION**

Value	Description
0	No dead band compensation
1	Type 1
2	Type 2
3 to 127	reserved
-1 to - 128	manufacturer specific

**OBJECT DESCRIPTION**

Index	62B0 <sub>h</sub>
Name	drv controller output dead band compensation type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>dead band compensation function</i> implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	0

**7.2.4.1.12 Object 62B1<sub>h</sub>: drv controller output dead band compensation A side**

This object defines the step height of the A side.

**OBJECT DESCRIPTION**

Index	62B1 <sub>h</sub>
Name	drv controller output dead band compensation A side
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>dead band compensation type</i> = [1, 2]

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.4.1.13 Object 62B2<sub>h</sub>: drv controller output dead band compensation B side

This parameter determines the step height of the B side.

#### OBJECT DESCRIPTION

Index	62B2 <sub>h</sub>
Name	drv controller output dead band compensation B side
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>dead band compensation type</i> = [1, 2]

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.4.1.14 Object 62B3<sub>h</sub>: drv controller output dead band compensation threshold

This object defines the starting point of the compensation step or ramp.

##### OBJECT DESCRIPTION

Index	62B3 <sub>h</sub>
Name	drv controller output dead band compensation threshold
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>dead band compensation type</i> = [1, 2]

##### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.4.1.15 Object 62C0<sub>h</sub>: drv controller output zero correction offset

This object defines the offset used for *zero correction function* (see /VDMAPROP/, chapter 9.7).

#### OBJECT DESCRIPTION

Index	62C0 <sub>h</sub>
Name	drv controller output zero correction offset
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>zero correction function</i> implemented

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

**7.2.4.1.16 Object 62D0<sub>h</sub>: drv controller output dither type**

This object defines the type of *dither function* (see /VDMAPROP/, chapter 9.2).

#### VALUE DESCRIPTION

Value	Description
0	Dither function off
1	Dither with square wave
2	Dither with triangular wave
3	Dither with sinusoidal wave (distortion factor 0.001%)
4 to 127	reserved
- 1 to - 128	manufacturer specific

#### OBJECT DESCRIPTION

Index	62D0 <sub>h</sub>
Name	drv controller output dither type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>dither function</i> implemented

#### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.4.1.17 Object 62D1<sub>h</sub>: drv controller output dither amplitude

This object defines the *amplitude* of the *dither function*.

#### OBJECT DESCRIPTION

Index	62D1 <sub>h</sub>
Name	drv controller output dither amplitude
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>dither function type</i> = [1, 2, 3]

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No



Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.4.1.18 Object 62D2<sub>h</sub>: drv controller output dither frequency

This object defines the *frequency* of the *dither signal*.

##### OBJECT DESCRIPTION

Index	62D2 <sub>h</sub>
Name	drv controller output dither frequency
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>dither function type</i> = [1, 2, 3]

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	20 <sub>h</sub> (Hz)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

**7.2.4.1.19 Object 62E0<sub>h</sub>: drv controller output upper limit**

This object defines the *upper limit* of the *limit function* (see *IVDMAPROP*, chapter 7.4.1.7).

**OBJECT DESCRIPTION**

Index	62E0 <sub>h</sub>
Name	drv controller output upper limit
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>limit function</i> implemented

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	(control mode specific)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	(control mode specific)

#### 7.2.4.1.20 Object 62E1<sub>h</sub>: drv controller output lower limit

This object defines the *lower limit* of the *limit function* (see */VDMAPROP/*, chapter 7.4.1.7).

#### OBJECT DESCRIPTION

Index	62E1 <sub>h</sub>
Name	drv controller output lower limit
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>limit function</i> implemented

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	(control mode specific)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	(control mode specific)

#### 7.2.4.1.21 Object 62F0<sub>h</sub>: drv controller output inverting sign

With this object the sign of the output can be changed (see /VDMAPROP/, chapter 7.4.1.8).

#### OBJECT DESCRIPTION

Index	62F0 <sub>h</sub>
Name	drv controller output inverting sign
Object code	VAR
Data type	INTEGER8
Category	Optional

#### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	-1 to 1
Default value	No

### 7.2.5 Proportional valves and hydrostatic pumps

#### 7.2.5.1 Controller mode: position control

The objects defined in this chapter refer to the control modes valve position control open loop and valve position control closed loop (see /VDMAPROP/, chapter 8.1.1 and 8.1.2). They are also implemented for valve p/Q control.

##### 7.2.5.1.1 Object 6300<sub>h</sub>: vpoc set point

This object corresponds to the *valve position control set point* and includes the float position option (see /VDMAPROP/, chapter 8.1.1 and 8.1.2).

**OBJECT DESCRIPTION**

Index	6300 <sub>h</sub>
Name	vpoc set point
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = [1, 2]

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

### 7.2.5.1.2 Object 6301<sub>h</sub>: vpoc actual value

This object holds the actual value of the sensor interface instance used for the control algorithm (see /VDMAPROP/, chapter 8.1.2).

#### OBJECT DESCRIPTION

Index	6301 <sub>h</sub>
Name	vpoc actual value
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = 2

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.5.1.3 Object 6302<sub>h</sub>: vpoc interface reference

This object creates a reference between the controller and the *actual value*. The parameter specifies the number of the interface, which provides the *actual value*. A write to this object with a value greater than *max interface number* has to be rejected.

#### OBJECT DESCRIPTION

Index	6302 <sub>h</sub>
Name	vpoc interface reference
Object code	VAR
Data type	UNSIGNED8
Category	Optional

#### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

#### 7.2.5.1.4 Object 6310<sub>h</sub>: vpoc demand value generator demand value

This object contains the output of the demand value generator (see /VDMAPROP/, chapter 8.2).



**OBJECT DESCRIPTION**

Index	6310 <sub>h</sub>
Name	vpoc demand value generator demand value
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	(control mode specific)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	(control mode specific)

#### 7.2.5.1.5 Object 6311<sub>h</sub>: vpoc demand value generator reference value

This object contains the reference value, a value corresponding to 100% of the set point (see /VDMAPROP/, chapter 8.2).

#### OBJECT DESCRIPTION

Index	6311 <sub>h</sub>
Name	vpoc demand value generator reference value
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.5.1.6 Object 6314<sub>h</sub>: vpoc demand value generator hold set point

This object contains the hold set point (see /VDMAPROP/, chapter 8.2).

#### OBJECT DESCRIPTION

Index	6314 <sub>h</sub>
Name	vpoc demand value generator hold set point
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.5.1.7 Object 6320<sub>h</sub>: vpoc demand value generator upper limit

This object contains the *upper limit* of the *limit function* in the demand value generator (see /VDMAPROP/, chapter 8.2.1). *Upper limit* < *lower limit* has to be rejected.

#### OBJECT DESCRIPTION

Index	6320 <sub>h</sub>
Name	vpoc demand value generator upper limit
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>limit function</i> implemented

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.5.1.8 Object 6321<sub>h</sub>: vpoc demand value generator lower limit**

This object contains the *lower limit* of the *limit function* in the *demand value generator* (see /VDMAPROP/, chapter 8.2.1). *Lower limit > upper limit* has to be rejected.

**OBJECT DESCRIPTION**

Index	6321 <sub>h</sub>
Name	vpoc demand value generator lower limit
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>limit function</i> implemented

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

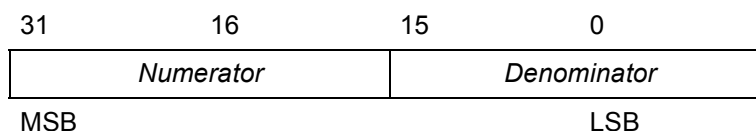
#### 7.2.5.1.9 Object 6322<sub>h</sub>: vpoc demand value generator scaling factor

The 'scaling' serves to change the resolution or the signal range of the set point derivation.

The factor is composed of the elements numerator and denominator. The value 0 is not allowed neither for numerator nor denominator.

Value description

The object is composed as shown by (numerator SHL 16)+denominator. This avoids setting numerator and denominator separately.



#### OBJECT DESCRIPTION

Index	6322 <sub>h</sub>
Name	vpoc demand value generator scaling factor
Object code	VAR
Data type	UNSIGNED32
Category	Conditional; Mandatory, if <i>scaling function</i> implemented

#### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

#### 7.2.5.1.10 Object 6323<sub>h</sub>: vpoc demand value generator scaling offset

This object defines the offset used in the *scaling function*.

#### OBJECT DESCRIPTION

Index	6323 <sub>h</sub>
Name	vpoc demand value generator scaling offset
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>scaling function</i> implemented

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.5.1.11 Object 6324<sub>h</sub>: vpoc demand value generator zero correction offset**

This object defines the offset used for *zero correction function* (see /VDMAPROP/, chapter 9.7).



**OBJECT DESCRIPTION**

Index	6324 <sub>h</sub>
Name	vpoc demand value generator zero correction offset
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>zero correction function</i> implemented

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

### 7.2.5.1.12 Object 6330<sub>h</sub>: vpoc demand value generator ramp type

This object defines the ramp type used in the *ramp function* of the *demand value generator* (see *VDMAPROP*, chapter 9.3).

#### VALUE DESCRIPTION

Value	Description
0	No ramp
1	Linear (same value for all quadrants)
2	Linear (2 parameters for acceleration and deceleration, pos. and neg. values equal)
3	Linear (4 parameters for all quadrants)
4	Sine square
5	Profile generator linear (drives positioning control only)
6	Profile generator sine square (drives positioning control only)
7 to 127	reserved
-1 to -128	manufacturer specific

#### OBJECT DESCRIPTION

Index	6330 <sub>h</sub>
Name	vpoc demand value generator ramp type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>ramp function</i> implemented

#### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.5.1.13 Object 6331<sub>h</sub>: vpoc demand value generator ramp acceleration time**

The *acceleration time* parameter defines the rising speed of the output for ramps with *type* = 1, 2, 4.

**OBJECT DESCRIPTION**

Index	6331 <sub>h</sub>
Name	vpoc demand value generator ramp acceleration time
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = [1, 2, 4]

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.5.1.14 Object 6332<sub>h</sub>: vpoc demand value generator ramp acceleration time positive

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

#### OBJECT DESCRIPTION

Index	6332 <sub>h</sub>
Name	vpoc demand value generator ramp acceleration time positive
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

### 7.2.6 Object 6333<sub>h</sub>: vpoc demand value generator ramp acceleration time negative

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

#### OBJECT DESCRIPTION

Index	6333 <sub>h</sub>
Name	vpoc demand value generator ramp acceleration time negative
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.6.1.1 Object 6334<sub>h</sub>: vpoc demand value generator ramp deceleration time

The acceleration time parameter defines the falling speed of the output for ramps with *type* = 2.

#### OBJECT DESCRIPTION

Index	6334 <sub>h</sub>
Name	vpoc demand value generator ramp deceleration time
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 2

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

**7.2.6.1.2 Object 6335<sub>h</sub>: vpoc demand value generator ramp deceleration time positive**

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

**OBJECT DESCRIPTION**

Index	6335 <sub>h</sub>
Name	vpoc demand value generator ramp deceleration time positive
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)



Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

### 7.2.6.1.3 Object 6336<sub>h</sub>: vpoc demand value generator ramp deceleration time negative

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

#### OBJECT DESCRIPTION

Index	6336 <sub>h</sub>
Name	vpoc demand value generator ramp deceleration time negative
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.6.1.4 Object 6340<sub>h</sub>: vpoc demand value generator directional dependent gain type

This object defines a *directional dependent influence* on the input (see /VDMAPROP/, chapter 9.4).

#### VALUE DESCRIPTION

Value	Description
0	No directional dependent gain
1	Directional dependent gain type 1
2 to 127	reserved
-1 to -128	manufacturer specific

#### OBJECT DESCRIPTION

Index	6340 <sub>h</sub>
Name	vpoc demand value generator directional dependent gain type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>directional dependent gain</i> implemented

#### ENTRY DESCRIPTION

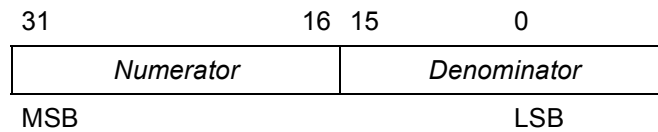
Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.6.1.5 Object 6341<sub>h</sub>: vpoc demand value generator directional dependent gain factor**

The factor is composed of the elements numerator and denominator.

**VALUE DESCRIPTION**

The object is composed as shown by (numerator SHL 16)+denominator. This avoids setting numerator and denominator separately.

**OBJECT DESCRIPTION**

Index	6341 <sub>h</sub>
Name	vpoc demand value generator directional dependent gain factor
Object code	VAR
Data type	UNSIGNED32
Category	Conditional; Mandatory, if <i>directional dependent gain type</i> = 1

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

**7.2.6.1.6 Object 6342<sub>h</sub>: vpoc demand value generator dead band compensation type**

This object defines the type of the *dead band compensation function* (see /VDMAPROP/, chapter 9.6).

**VALUE DESCRIPTION**

Value	Description
0	No dead band compensation
1	Type 1
2	Type 2
3 to 127	reserved
-1 to -128	manufacturer specific

**OBJECT DESCRIPTION**

Index	6342 <sub>h</sub>
Name	vpoc demand value generator dead band compensation type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>dead band compensation</i> implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.6.1.7 Object 6343<sub>h</sub>: vpoc demand value generator dead band compensation A side**

This object defines the step height of the A side.

**OBJECT DESCRIPTION**

Index	6343 <sub>h</sub>
Name	vpoc demand value generator dead band compensation A side
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>dead band compensation type</i> = [1, 2]

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.6.1.8 Object 6344<sub>h</sub>: vpoc demand value generator dead band compensation B side

This parameter determines the step height of the B side.

##### OBJECT DESCRIPTION

Index	6344 <sub>h</sub>
Name	vpoc demand value generator dead band compensation B side
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>dead band compensation type</i> = [1, 2]

##### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.6.1.9 Object 6345<sub>h</sub>: vpoc demand value generator dead band compensation threshold

This object defines the starting point of the compensation step or ramp.

##### OBJECT DESCRIPTION

Index	6345 <sub>h</sub>
Name	vpoc demand value generator dead band compensation threshold
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>dead band compensation type</i> = [1, 2]

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.6.1.10 Object 6346<sub>h</sub>: vpoc demand value generator characteristic compensation type**

This function compensates the non-linearities of a valve (see /VDMAPROP/, chapter 9.5).

**VALUE DESCRIPTION**

Value	Description
0	No characteristic compensation
1 to 127	reserved
-1 to -128	manufacturer specific

**OBJECT DESCRIPTION**

Index	6346 <sub>h</sub>
Name	vpoc demand value generator characteristic compensation type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if block implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.6.1.11 Object 6350<sub>h</sub>: vpoc control deviation**

This object holds the difference between *demand value* and *actual value*:

$control\ deviation = demand\ value - actual\ value.$

Remark: The SI unit of the *control deviation* is the same as the input (*set point*).

**OBJECT DESCRIPTION**

Index	6350 <sub>h</sub>
Name	vpoc control deviation
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No



Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	(control mode specific)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.6.1.12 Object 6351<sub>h</sub>: vpoc control monitoring type

This object defines the type of the *control monitoring function* (see *IVDMAPROP/*, chapter 9.8).

#### VALUE DESCRIPTION

Value	Description
0	No control monitoring
1	Standard control monitoring (upper and lower threshold)
2	Standard control monitoring (symmetric threshold)
3	Dynamic control monitoring (upper and lower threshold)
4	Dynamic control (symmetric threshold)
5 to 127	reserved
-1 to -128	manufacturer specific

**OBJECT DESCRIPTION**

Index	6351 <sub>h</sub>
Name	vpoc control monitoring type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>control monitoring</i> implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.6.1.13 Object 6352<sub>h</sub>: vpoc control monitoring delay time**

After the delay time a control deviation will be shown as a control fault.

**OBJECT DESCRIPTION**

Index	6352 <sub>h</sub>
Name	vpoc control monitoring delay time
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.6.1.14 Object 6353<sub>h</sub>: vpoc control monitoring threshold

This parameter defines the threshold for *control monitoring type* = 2.

##### OBJECT DESCRIPTION

Index	6353 <sub>h</sub>
Name	vpoc control monitoring threshold
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type</i> = 2

##### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.6.1.15 Object 6354<sub>h</sub>: vpoc control monitoring upper threshold

This parameter defines the *upper threshold* for *control monitoring type = 1*.

#### OBJECT DESCRIPTION

Index	6354 <sub>h</sub>
Name	vpoc control monitoring upper threshold
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type = 1</i>

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.6.1.16 Object 6355<sub>h</sub>: vpoc control monitoring lower threshold**

This parameter defines the *lower threshold* for *control monitoring type* = 1.

**OBJECT DESCRIPTION**

Index	6355 <sub>h</sub>
Name	vpoc control monitoring lower threshold
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type</i> = 1

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.6.1.17 Object 6360<sub>h</sub>: vpoc dither type

This object defines the type of *dither function* (see *VDMAPROP*, chapter 9.2).

#### VALUE DESCRIPTION

Value	Description
0	Dither function off
1	Dither with square wave
2	Dither with triangular wave
3	Dither with sinusoidal wave (distortion factor 0.001%)
4 to 127	reserved
- 1 to -128	manufacturer specific

#### OBJECT DESCRIPTION

Index	6360 <sub>h</sub>
Name	vpoc dither type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>dither function</i> implemented

#### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.6.1.18 Object 6361<sub>h</sub>: vpoc dither amplitude**

This object defines the amplitude of the *dither function*.

**OBJECT DESCRIPTION**

Index	6361 <sub>h</sub>
Name	vpoc dither amplitude
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>dither function type</i> = 1

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir



Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.6.1.19 Object 6362<sub>h</sub>: vpoc dither frequency

This object defines the frequency of the *dither signal*.

#### OBJECT DESCRIPTION

Index	6362 <sub>h</sub>
Name	vpoc dither frequency
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>dither function type</i> = 1

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	20 <sub>h</sub> (Hz)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.6.1.20 Object 6370<sub>h</sub>: vpoc target window monitoring type

This object defines the type of *target monitoring function* (see /VDMAPROP/, chapter 9.9).

##### VALUE DESCRIPTION

Value	Description
0	No target window monitoring
1	Standard target window monitoring (upper and lower threshold)
2	Target window monitoring (symmetric threshold)
3 to 127	reserved
-1 to -128	manufacturer specific

##### OBJECT DESCRIPTION

Index	6370 <sub>h</sub>
Name	vpoc target window monitoring type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>target window monitoring</i> implemented

##### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.6.1.21 Object 6371<sub>h</sub>: vpoc target window monitoring switch on time**

This parameter defines the time delay, if the bit of the status word is set to 1, after the control deviation reached the target window range.

**OBJECT DESCRIPTION**

Index	6371 <sub>h</sub>
Name	vpoc target window monitoring switch on time
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.6.1.22 Object 6372<sub>h</sub>: vpoc target window monitoring switch off time

This parameter defines the time delay, if the bit of the status word is set to 0, after the control deviation is outside the target window range.

#### OBJECT DESCRIPTION

Index	6372 <sub>h</sub>
Name	vpoc target window monitoring switch off time
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.6.1.23 Object 6373<sub>h</sub>: vpoc target window monitoring threshold

This parameter defines the *threshold* for *target monitoring type* = 2.

#### OBJECT DESCRIPTION

Index	6373 <sub>h</sub>
Name	vpoc target window monitoring threshold
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>target window monitoring type</i> = 2

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.6.1.24 Object 6374<sub>h</sub>: vpoc target window monitoring upper threshold

This object defines the *upper threshold* for *target window monitoring type* = 1.

##### OBJECT DESCRIPTION

Index	6374 <sub>h</sub>
Name	vpoc target window monitoring upper threshold
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>target window monitoring type</i> = 1

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.6.1.25 Object 6375<sub>h</sub>: vpoc target window monitoring lower threshold**

This object defines the *lower threshold* for *target window monitoring type = 1*.

**OBJECT DESCRIPTION**

Index	6375 <sub>h</sub>
Name	vpoc target window monitoring lower threshold
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>target window monitoring type = 1</i>

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir



Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

### 7.2.6.2 Control mode: pressure control

The objects defined in this chapter refer to the control modes *valve pressure control open loop* and *valve pressure control closed loop* (see *VDMAPROP/*, chapter 8.1.3 and 8.1.4). They are also implemented for *valve p/Q control*.

#### 7.2.6.2.1 Object 6380<sub>h</sub>: vprc set point

This object corresponds to the *valve pressure control set point* (see *VDMAPROP/*, chapter 8.1.3 and 8.1.4).

#### OBJECT DESCRIPTION

Index	6380 <sub>h</sub>
Name	vprc set point
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = [3, 4]

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.6.2.2 Object 6381<sub>h</sub>: vprc actual value

This object holds the *actual value* of the sensor interface instance used for the control algorithm (see /VDMAPROP/, chapter 8.1.4).

#### OBJECT DESCRIPTION

Index	6381 <sub>h</sub>
Name	vprc actual value
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = 4

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

### 7.2.6.2.3 Object 6382<sub>h</sub>: vprc interface reference

This object creates a reference between the controller and the *actual value*. The parameter specifies the number of the interface, which provides the *actual value*. A write to this object with a value greater than *max interface number* has to be rejected.

#### OBJECT DESCRIPTION

Index	6382 <sub>h</sub>
Name	vprc interface reference
Object code	VAR
Data type	UNSIGNED8
Category	Optional

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

**7.2.6.2.4 Object 6390<sub>h</sub>: vprc demand value generator demand value**

This object contains the output of the *demand value generator* (see /VDMAPROP/, chapter 8.2).

**OBJECT DESCRIPTION**

Index	6390 <sub>h</sub>
Name	vprc demand value generator demand value
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

#### 7.2.6.2.5 Object 6391<sub>h</sub>: vprc demand value generator reference value

This object contains the *reference value*, a value corresponding to 100% of the *set point* (see /VDMAPROP/, chapter 8.2).

#### OBJECT DESCRIPTION

Index	6391 <sub>h</sub>
Name	vprc demand value generator reference value
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

#### 7.2.6.2.6 Object 6394<sub>h</sub>: vprc demand value generator hold set point

This object contains the *hold set point* (see /VDMAPROP/, chapter 8.2).

#### OBJECT DESCRIPTION

Index	6394 <sub>h</sub>
Name	vprc demand value generator hold set point
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

#### 7.2.6.2.7 Object 63A0<sub>h</sub>: vprc demand value generator upper limit

This object contains the *upper limit* of the *limit function* in the *demand value generator* (see */VDMAPROP/*, chapter 8.2.1). *Upper limit < lower limit* has to be rejected.

#### OBJECT DESCRIPTION

Index	63A0 <sub>h</sub>
Name	vprc demand value generator upper limit
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>limit function</i> implemented

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0



**7.2.6.2.8 Object 63A1<sub>h</sub>: vprc demand value generator lower limit**

This object contains the *lower limit* of the *limit function* in the *demand value generator* (see /VDMAPROP/, chapter 8.2.1). *Lower limit > upper limit* has to be rejected.

**OBJECT DESCRIPTION**

Index	63A1 <sub>h</sub>
Name	vprc demand value generator lower limit
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>limit function</i> implemented

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

#### 7.2.6.2.9 Object 63A2<sub>h</sub>: vprc demand value generator scaling factor

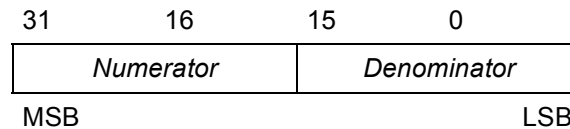
The 'scaling' serves to change the resolution or the signal range of the *set point* derivation.

#### VALUE DESCRIPTION

The factor is composed of the elements numerator and denominator.

$$value = (numerator \text{ SHL } 16) + denominator$$

This avoids setting numerator and denominator separately. The value 0 is not allowed neither for numerator nor denominator.



#### OBJECT DESCRIPTION

Index	63A2 <sub>h</sub>
Name	vprc demand value generator scaling factor
Object code	VAR
Data type	UNSIGNED32
Category	Conditional; Mandatory, if <i>scaling function</i> implemented

#### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

#### 7.2.6.2.10 Object 63A3<sub>h</sub>: vprc demand value generator scaling offset

This object defines the offset used in the *scaling function*.

#### OBJECT DESCRIPTION

Index	63A3 <sub>h</sub>
Name	vprc demand value generator scaling offset
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>scaling function</i> implemented

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

**7.2.6.2.11 Object 63A4<sub>h</sub>: vprc demand value generator zero correction offset**

This object defines the *offset* used for *zero correction function* (see /VDMAPROP/, chapter 9.7).

**OBJECT DESCRIPTION**

Index	63A4 <sub>h</sub>
Name	vprc demand value generator zero correction offset
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>zero correction</i> implemented

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

#### 7.2.6.2.12 Object 63B0<sub>h</sub>: vprc demand value generator ramp type

This object defines the *ramp type* used in the *ramp function* of the *demand value generator* (see /VDMAPROP/, chapter 9.3).

#### VALUE DESCRIPTION

Value	Description
0	No ramp
1	Linear (same value for all quadrants)
2	Linear (2 parameters for acceleration and deceleration, pos. and neg. values equal)
3	Linear (4 parameters for all quadrants)
4	Sine square
5	Profile generator linear (drives positioning control only)
6	Profile generator sine square (drives positioning control only)
7 to 127	reserved
-1 to -128	manufacturer specific

#### OBJECT DESCRIPTION

Index	63B0 <sub>h</sub>
Name	vprc demand value generator ramp type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>ramp function</i> implemented

#### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.6.2.13 Object 63B1<sub>h</sub>: vprc demand value generator ramp acceleration time**

The acceleration time parameter defines the rising speed of the output for ramps with *type* = 1,2,4.

**OBJECT DESCRIPTION**

Index	63B1 <sub>h</sub>
Name	vprc demand value generator ramp acceleration time
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = [1, 2, 4]

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.6.2.14 Object 63B2<sub>h</sub>: vprc demand value generator ramp acceleration time positive

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

#### OBJECT DESCRIPTION

Index	63B2 <sub>h</sub>
Name	vprd demand value generator acceleration time positive
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Conditional; mandatory, if <i>ramp type</i> = 3

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.6.2.15 Object 63B3<sub>h</sub>: vprc demand value generator ramp acceleration time negative

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

#### OBJECT DESCRIPTION

Index	63B3 <sub>h</sub>
Name	vprc demand value generator ramp acceleration time negative
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No



Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.6.2.16 Object 63B4<sub>h</sub>: vprc demand value generator ramp deceleration time

The acceleration time parameter defines the falling speed of the output for ramps with *type* = 2.

#### OBJECT DESCRIPTION

Index	63B4 <sub>h</sub>
Name	vprc demand value generator ramp deceleration time
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 2

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

**7.2.6.2.17 Object 63B5<sub>h</sub>: vprc demand value generator ramp deceleration time positive**

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

**OBJECT DESCRIPTION**

Index	63B5 <sub>h</sub>
Name	vprc demand value generator ramp deceleration time positive
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.6.2.18 Object 63B6<sub>h</sub>: vprc demand value generator ramp deceleration time negative

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

#### OBJECT DESCRIPTION

Index	63B6 <sub>h</sub>
Name	vprc demand value generator ramp deceleration time negative
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.6.2.19 Object 63C0<sub>h</sub>: vprc demand value generator directional dependent gain type

This object defines a *directional dependent influence* on the input (see /VDMAPROP/, chapter 9.4).

#### VALUE DESCRIPTION

Value	Description
0	No directional dependent gain
1	Directional dependent gain type 1
2 to 127	reserved
-1 to -128	manufacturer specific

#### OBJECT DESCRIPTION

Index	63C0 <sub>h</sub>
Name	vprc demand value generator directional dependent gain type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>directional dependent gain</i> implemented

#### ENTRY DESCRIPTION

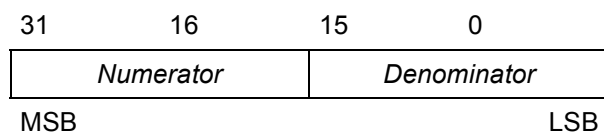
Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.6.2.20 Object 63C1<sub>h</sub>: vprc demand value generator directional dependent gain factor**

The factor is composed of the elements numerator and denominator.

**VALUE DESCRIPTION**

The object is composed as shown by (numerator SHL 16)+denominator. This avoids setting numerator and denominator separately.

**OBJECT DESCRIPTION**

Index	63C1 <sub>h</sub>
Name	vprc demand value generator directional dependent gain factor
Object code	VAR
Data type	UNSIGNED32
Category	Conditional; Mandatory, if <i>directional dependent gain type</i> = 1 implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

**7.2.6.2.21 Object 63C2<sub>h</sub>: vprc demand value generator dead band compensation type**

This object defines the type of the *dead band compensation function* (see /VDMAPROP/, chapter 9.6).

**VALUE DESCRIPTION**

Value	Description
0	No dead band compensation
1	Type 1
2	Type 2
3 to 127	reserved
-1 to -128	manufacturer specific

**OBJECT DESCRIPTION**

Index	63C2 <sub>h</sub>
Name	vprc demand value generator dead band compensation type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>dead band compensation</i> implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.6.2.22 Object 63C3<sub>h</sub>: vprc demand value generator dead band compensation A side**

This object defines the step height of the A side.

**OBJECT DESCRIPTION**

Index	63C3 <sub>h</sub>
Name	vprc deamdn value generator dead band compensation A side
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>dead band compensation type</i> = [1, 2]

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

#### 7.2.6.2.23 Object 63C4<sub>h</sub>: vprc demand value generator dead band compensation B side

This parameter determines the step height of the B side.

##### OBJECT DESCRIPTION

Index	63C4 <sub>h</sub>
Name	vprc demand value generator dead band compensation B side
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>dead band compensation type</i> = [1, 2]

##### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No



Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

#### 7.2.6.2.24 Object 63C5<sub>h</sub>: vprc demand value generator dead band compensation threshold

This object defines the starting point of the compensation step or ramp.

##### OBJECT DESCRIPTION

Index	63C5 <sub>h</sub>
Name	vprc demand value generator dead band compensation threshold
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>dead band compensation type</i> = [1, 2]

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

**7.2.6.2.25 Object 63C6<sub>n</sub>: vprc demand value generator characteristic compensation type**

This function compensates the non-linearities of a valve (see /VDMAPROP/, chapter 9.5).

**VALUE DESCRIPTION**

Value	Description
0	No characteristic compensation
1 to 127	reserved
-1 to -128	manufacturer specific

**OBJECT DESCRIPTION**

Index	63C6 <sub>n</sub>
Name	vprc demand value generator characteristic compensation type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if block implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.6.2.26 Object 63D0<sub>n</sub>: vprc control deviation**

This object holds the difference between *demand value* and *actual value*:

$control\ deviation = demand\ value - actual\ value.$

Remark: The SI unit of the *control deviation* is the same as the input (*set point*).

**OBJECT DESCRIPTION**

Index	63D0 <sub>n</sub>
Name	vprc control deviation
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>n</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>n</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	(control mode specific)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

#### 7.2.6.2.27 Object 63D1<sub>h</sub>: vprc control monitoring type

This object defines the type of the *control monitoring function* (see *IVDMAPROP*, chapter 9.8).

#### VALUE DESCRIPTION

Value	Description
0	No control monitoring
1	Standard control monitoring (upper and lower threshold)
2	Standard control monitoring (symmetric threshold)
3	Dynamic control monitoring (upper and lower threshold)
4	Dynamic control (symmetric threshold)
5 to 127	reserved
-1 to -128	manufacturer specific

**OBJECT DESCRIPTION**

Index	63D1 <sub>h</sub>
Name	vprc control monitoring type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>control monitoring</i> implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.6.2.28 Object 63D2<sub>h</sub>: vprc control monitoring delay time**

After the delay time a *control deviation* will be shown as a *control fault*.

**OBJECT DESCRIPTION**

Index	63D2 <sub>h</sub>
Name	vprc control monitoring delay time
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.6.2.29 Object 63D3<sub>h</sub>: vprc control monitoring threshold

This parameter defines the *threshold* for *control monitoring type = 2*.

#### OBJECT DESCRIPTION

Index	63D3 <sub>h</sub>
Name	vprc control monitoring threshold
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type = 2</i>

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

#### 7.2.6.2.30 Object 63D4<sub>h</sub>: vprc control monitoring upper threshold

This parameter defines the *upper threshold* for *control monitoring type = 1*.

#### OBJECT DESCRIPTION

Index	63D4 <sub>h</sub>
Name	vprc control monitoring upper threshold
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type = 1</i>

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0



**7.2.6.2.31 Object 63D5<sub>h</sub>: vprc control monitoring lower threshold**

This parameter defines the *lower threshold* for *control monitoring type* = 1.

**OBJECT DESCRIPTION**

Index	63D5 <sub>h</sub>
Name	vprc control monitoring lower threshold
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type</i> = 1

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

### 7.2.6.2.32 Object 63E0<sub>h</sub>: vprc dither type

This object defines the type of *dither function* (see *VDMAPROP*, chapter 9.2).

#### VALUE DESCRIPTION

Value	Description
0	Dither function off
1	Dither with square wave
2	Dither with triangular wave
3	Dither with sinusoidal wave (distortion factor 0.001%)
4 to 127	reserved
- 1 to -128	manufacturer specific

#### OBJECT DESCRIPTION

Index	63E0 <sub>h</sub>
Name	vprc dither type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>dither function</i> implemented

#### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.6.2.33 Object 63E1<sub>h</sub>: vprc dither amplitude**

This object defines the *amplitude* of the *dither function*.

**OBJECT DESCRIPTION**

Index	63E1 <sub>h</sub>
Name	vprc dither amplitude
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>dither function type</i> = 1

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

#### 7.2.6.2.34 Object 63E2<sub>h</sub>: vprc dither frequency

This object defines the *frequency* of the *dither signal*.

#### OBJECT DESCRIPTION

Index	63E2 <sub>h</sub>
Name	vprc dither frequency
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>dither function type</i> = 1

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	20 <sub>h</sub> (Hz)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

#### 7.2.6.2.35 Object 63F0<sub>h</sub>: vprc target window monitoring type

This object defines the type of *target monitoring function* (see /VDMAPROP/, chapter 9.9).

#### VALUE DESCRIPTION

Value	Description
0	No target window monitoring
1	Standard target window monitoring (upper and lower threshold)
2	Target window monitoring (symmetric threshold)
3 to 127	reserved
-1 to -128	manufacturer specific

#### OBJECT DESCRIPTION

Index	63F0 <sub>h</sub>
Name	vprc target window monitoring type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>target window monitoring</i> implemented

#### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.6.2.36 Object 63F1<sub>h</sub>: vprc target window monitoring switch on time**

This parameter defines the time delay, if the bit of the status word is set to 1, after the *control deviation* reached the *target window range*.

**OBJECT DESCRIPTION**

Index	63F1 <sub>h</sub>
Name	vprc target window monitoring switch on time
Object code	RECORD
Data type	value parameter record unsigned16 (0081 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.6.2.37 Object 63F2<sub>h</sub>: vprc target window monitoring switch off time

This parameter defines the time delay, if the bit of the status word is set to 0, after the *control deviation* is outside the *target window range*.

#### OBJECT DESCRIPTION

Index	63F2 <sub>h</sub>
Name	vprc target window monitoring switch off time
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.6.2.38 Object 63F3<sub>h</sub>: vprc target window monitoring threshold

This parameter defines the *threshold* for *target monitoring type* = 2.

#### OBJECT DESCRIPTION

Index	63F3 <sub>h</sub>
Name	vprc target window monitoring threshold
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory if <i>target window monitoring type</i> = 2

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No



Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

#### 7.2.6.2.39 Object 63F4<sub>h</sub>: vprc target window monitoring upper threshold

This object defines the *upper threshold* for *target window monitoring type* = 1.

#### OBJECT DESCRIPTION

Index	63F4 <sub>h</sub>
Name	vprc target window monitoring upper threshold
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>target window monitoring type</i> = 1

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

**7.2.6.2.40 Object 63F5<sub>h</sub>: vprc target window monitoring lower threshold**

This object defines the *lower threshold* for *target window monitoring type = 1*.

**OBJECT DESCRIPTION**

Index	63F5 <sub>h</sub>
Name	vprc target window monitoring lower threshold
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>target window monitoring type = 1</i>

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

### 7.2.6.3 Controller mode: valve p/Q control

The objects defined in this chapter refer to the *control mode valve p/Q control* (see /VDMAPROP/, chapter 8.1.5).

#### 7.2.6.3.1 Object 640D<sub>h</sub>: vpqc power limit factor

The *power limit factor* determines the *maximum hydrostatic power*.

#### VALUE DESCRIPTION

The object holds the quotient of *nominal actuation power* and *hydrostatic corner power*. The value 0 is not allowed for both numerator and denominator. The object is composed by

$$value = (nominal\ actuation\ power\ SHL\ 16) + hydrostatic\ corner\ power.$$

31	16	15	0
<i>Nominal actuation power (numerator)</i>		<i>Hydrostatic corner power (denominator)</i>	
MSB		LSB	

#### OBJECT DESCRIPTION

Index	640D <sub>h</sub>
Name	vpqc power limit factor
Object code	VAR
Data type	UNSIGNED32
Category	Conditional; Mandatory, if <i>control mode</i> = 5

#### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.6.3.2 Object 640E<sub>h</sub>: vpqc hydrostatic actual power**

The *hydrostatic actual power* is calculated by the controller from the input physical actual values.

**OBJECT DESCRIPTION**

Index	640E <sub>h</sub>
Name	vpqc hydrostatic actual power
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = 5

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER16
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

### 7.2.6.3.3 Object 6460<sub>h</sub>: vpqc dither type

This object defines the type of *dither function* (see *VDMAPROP*, chapter 9.2).

#### VALUE DESCRIPTION

Value	Description
0	Dither function off
1	Dither with square wave
2	Dither with triangular wave
3	Dither with sinusoidal wave (distortion factor 0.001%)
4 to 127	reserved
- 1 to -128	manufacturer specific

#### OBJECT DESCRIPTION

Index	6460 <sub>h</sub>
Name	vpqc dither type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>dither function</i> implemented

#### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.6.3.4 Object 6461<sub>h</sub>: vpqc dither amplitude**

This object defines the *amplitude* of the *dither function*.

**OBJECT DESCRIPTION**

Index	6461 <sub>h</sub>
Name	vpqc fither amplitude
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>dither function type</i> = 1

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

### 7.2.6.3.5 Object 6462<sub>h</sub>: vpqc dither frequency

This object defines the *frequency* of the *dither signal*.

#### OBJECT DESCRIPTION

Index	6462 <sub>h</sub>
Name	vpqc dither frequency
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>dither function type</i> = 1

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	0



Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	20 <sub>h</sub> (Hz)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

#### 7.2.6.3.6 Object 6470<sub>h</sub>: vpqc target window monitoring type

This object defines the type of *target monitoring function* (see /VDMAPROP/, chapter 9.9).

#### VALUE DESCRIPTION

Value	Description
0	No target window monitoring
1	Standard target window monitoring (upper and lower threshold)
2	Target window monitoring (symmetric threshold)
3 to 127	reserved
-1 to -128	manufacturer specific

#### OBJECT DESCRIPTION

Index	6470 <sub>h</sub>
Name	vpqc target window monitoring type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>target window monitoring</i> implemented

#### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.6.3.7 Object 6471<sub>h</sub>: vpqc target window monitoring switch on time**

This parameter defines the time delay, if the bit of the status word is set to 1, after the *control deviation* reached the *target window range*.

**OBJECT DESCRIPTION**

Index	6471 <sub>h</sub>
Name	vpqc target window monitoring switch on time
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.6.3.8 Object 6472<sub>h</sub>: vpqc target window monitoring switch off time

This parameter defines the time delay, if the bit of the status word is set to 0, after the *control deviation* is outside the *target window range*.

#### OBJECT DESCRIPTION

Index	6472 <sub>h</sub>
Name	vpqc target window monitoring switch off time
Object code	RECORD
Data type	value parameter record UNSIGNED16 (0081 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED16
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.6.3.9 Object 6473<sub>h</sub>: vpqc target window monitoring threshold

This parameter defines the *threshold* for *target monitoring type* = 2.

#### OBJECT DESCRIPTION

Index	6473 <sub>h</sub>
Name	vpqc target window monitoring threshold
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>target window monitoring type</i> = 2

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

#### 7.2.6.3.10 Object 6474<sub>h</sub>: vpqc target window monitoring upper threshold

This object defines the *upper threshold* for *target window monitoring type* = 1.

#### OBJECT DESCRIPTION

Index	6474 <sub>h</sub>
Name	vpqc target window monitoring upper threshold
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>target window monitoring type</i> = 1

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

**7.2.6.3.11 Object 6475<sub>h</sub>: vpqc target window monitoring lower threshold**

This object defines the *lower threshold* for *target window monitoring type = 1*.

**OBJECT DESCRIPTION**

Index	6475 <sub>h</sub>
Name	vpqc target window monitoring lower threshold
Object code	RECORD
Data type	value parameter record INTEGER16 (0084 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>target window monitoring type = 1</i>

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER16
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	ir

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	0

## 7.2.7 Hydrostatic transmissions (drives)

### 7.2.7.1 Control mode: open loop movement

The objects defined in this chapter refer to the *control mode drive open loop movement* (see /VDMAPROP/, chapter 7.1.1).

#### 7.2.7.1.1 Object 6480<sub>h</sub>: dcol set point

This object corresponds to the *open loop set point* (see /VDMAPROP/, chapter 7.1.1).

#### OBJECT DESCRIPTION

Index	6480 <sub>h</sub>
Name	dcol set point
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = 6

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0



Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A1 <sub>h</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.1.2 Object 6490<sub>h</sub>: dcol demand value generator demand value

This object contains the output of the *demand value generator* (see /VDMAPROP/, chapter 7.2).

#### OBJECT DESCRIPTION

Index	6490 <sub>h</sub>
Name	dcol demand value generator demand value
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	(control mode specific)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	(control mode specific)

### 7.2.7.1.3 Object 6492<sub>h</sub>: dcol demand value generator reference A value

This object contains the *reference value* for direction A, a value corresponding to 100% of physical capabilities (see */VDMAPROP/*, chapter 7.2). If only one *reference value* is used, *reference A value* is valid for both directions.

#### OBJECT DESCRIPTION

Index	6492 <sub>h</sub>
Name	dcol demand value generator reference A value
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	(control mode specific)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	(control mode specific)

**7.2.7.1.4 Object 6493<sub>h</sub>: dcol demand value generator reference B value**

This object contains the *reference value* for direction B, a value corresponding to 100% of physical capabilities (see /VDMAPROP/, chapter 7.2).

**OBJECT DESCRIPTION**

Index	6493 <sub>h</sub>
Name	dcol demand value generator reference B value
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
<b>CATEGORY</b>	<b>OPTIONAL</b>

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	(control mode specific)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	(control mode specific)

#### 7.2.7.1.5 Object 6494<sub>h</sub>: dcol demand value generator hold set point

This object contains the *hold set point* (see /VDMAPROP/, chapter 7.2).

#### OBJECT DESCRIPTION

Index	6494 <sub>h</sub>
Name	dcol demand value generator hold set point
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	(control mode specific)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	(control mode specific)

#### 7.2.7.1.6 Object 64A0<sub>h</sub>: dcol demand value generator upper limit

This object contains the *upper limit* of the *limit function* in the *demand value generator* (see /VDMAPROP/, chapter 7.2.1). *Upper limit* < *lower limit* has to be rejected.

#### OBJECT DESCRIPTION

Index	64A0 <sub>h</sub>
Name	dcol demand value generator upper limit
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>limit function</i> implemented

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	(control mode specific)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	(control mode specific)

#### 7.2.7.1.7 Object 64A1<sub>h</sub>: dcol demand value generator lower limit

This object contains the *lower limit* of the *limit function* in the *demand value generator* (see /VDMAPROP/, chapter 7.2.1). *Lower limit > upper limit* has to be rejected.

#### OBJECT DESCRIPTION

Index	64A1 <sub>h</sub>
Name	dcol demand value generator lower limit
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>limit function</i> implemented

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	(control mode specific)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	(control mode specific)



**7.2.7.1.8 Object 64B0<sub>n</sub>: dcol demand value generator ramp type**

This object defines the *ramp type* used in the *ramp function* of the *demand value generator* (see /VDMAPROP/, chapter 9.3).

**VALUE DESCRIPTION**

Value	Description
0	No ramp
1	Linear (same value for all quadrants)
2	Linear (2 parameters for acceleration and deceleration, pos. and neg. values equal)
3	Linear (4 parameters for all quadrants)
4	Sine square
5	Profile generator linear (drives positioning control only)
6	Profile generator sine square (drives positioning control only)
7 to 127	reserved
-1 to -128	manufacturer specific

**OBJECT DESCRIPTION**

Index	64B0 <sub>n</sub>
Name	dcol demand value generator ramp type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>ramp</i> implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.7.1.9 Object 64B1<sub>n</sub>: dcol demand value generator ramp acceleration time**

The *acceleration time* parameter defines the rising speed of the output for ramps with *type* = 1, 2, 4.

**OBJECT DESCRIPTION**

Index	64B1 <sub>n</sub>
Name	dcol demand value generator ramp acceleration time
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>n</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = [1, 2, 4]

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

**7.2.7.1.10 Object 64B2<sub>h</sub>: dcol demand value generator ramp acceleration time positive**

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

**OBJECT DESCRIPTION**

Index	64B2 <sub>h</sub>
Name	dcol demand value generator ramp acceleration time positive
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.1.11 Object 64B3<sub>h</sub>: dcol demand value generator ramp acceleration time negative

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

#### OBJECT DESCRIPTION

Index	64B3 <sub>h</sub>
Name	dcol demand value generator ramp acceleration time negative
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.1.12 Object 64B4<sub>h</sub>: dcol demand value generator ramp deceleration time

The *acceleration time* parameter defines the falling speed of the output for ramps with *type* = 2.

#### OBJECT DESCRIPTION

Index	64B4 <sub>h</sub>
Name	dcol demand value generator ramp deceleration time
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 2

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.1.13 Object 64B5<sub>h</sub>: dcol demand value generator ramp deceleration time positive

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

#### OBJECT DESCRIPTION

Index	64B5 <sub>h</sub>
Name	dcol demand value generator ramp deceleration time positive
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

**7.2.7.1.14 Object 64B6<sub>h</sub>: dcol demand value generator ramp deceleration time negative**

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

**OBJECT DESCRIPTION**

Index	64B6 <sub>h</sub>
Name	dcol demand value generator ramp deceleration time negative
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)



Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

### 7.2.7.2 Control mode: speed control

The objects defined in this chapter refer to the *control mode drive speed control* (see /VDMAPROP/, chapter 7.1.3).

#### 7.2.7.2.1 Object 6500<sub>h</sub>: dsc set point

This object corresponds to the *drive speed control set point* (see /VDMAPROP/, chapter 7.1.3).

#### OBJECT DESCRIPTION

Index	6500 <sub>h</sub>
Name	dsc set point
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = 7

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A1 <sub>h</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.2.2 Object 6501<sub>h</sub>: dsc actual value

This object holds the *actual value* of the sensor interface instance used for the control algorithm (see /VDMAPROP/, chapter 7.1.3).

#### OBJECT DESCRIPTION

Index	6501 <sub>h</sub>
Name	dsc actual value
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = 7

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A1 <sub>h</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

### 7.2.7.2.3 Object 6502<sub>h</sub>: dsc interface reference

This object creates a reference between the controller and the *actual value*. The parameter specifies the number of the interface, which provides the *actual value*. A write to this object with a value greater than *max interface number* has to be rejected.

#### OBJECT DESCRIPTION

Index	6502 <sub>h</sub>
Name	dsc interface reference
Object code	VAR
Data type	UNSIGNED8
Category	Optional

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

**7.2.7.2.4 Object 6503<sub>h</sub>: dsc Kp**

This object defines the proportional factor of a PI controller.

**OBJECT DESCRIPTION**

Index	6503 <sub>h</sub>
Name	dsc Kp
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode = 7</i>

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.7.2.5 Object 6504<sub>h</sub>: dsc Ti

This object defines the integration time constant of a PI controller.

#### OBJECT DESCRIPTION

Index	6504 <sub>h</sub>
Name	dsc Ti
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode = 7</i>

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.7.2.6 Object 6510<sub>h</sub>: dsc demand value generator demand value

This object contains the output of the *demand value generator* (see /VDMAPROP/, chapter 7.2).

#### OBJECT DESCRIPTION

Index	6510 <sub>h</sub>
Name	dsc demand value generator demand value
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A1 <sub>h</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.2.7 Object 6512<sub>h</sub>: dsc demand value generator reference A value

This object contains the *reference value* for direction A, a value corresponding to 100% of physical capabilities (see */VDMAPROP/*, chapter 7.2). If only one *reference value* is used, *reference A value* is valid for both directions.

#### OBJECT DESCRIPTION

Index	6512 <sub>h</sub>
Name	dsc demand value generator reference A value
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A <sub>1</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)



**7.2.7.2.8 Object 6513<sub>h</sub>: dsc demand value generator reference B value**

This object contains the *reference value* for direction B, a value corresponding to 100% of physical capabilities (see /VDMAPROP/, chapter 7.2).

**OBJECT DESCRIPTION**

Index	6513 <sub>h</sub>
Name	dsc demand value generator reference B value
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A1 <sub>h</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.2.9 Object 6514<sub>h</sub>: dsc demand value generator hold set point

This object contains the *hold set point* (see /VDMAPROP/, chapter 7.2).

#### OBJECT DESCRIPTION

Index	6514 <sub>h</sub>
Name	dsc demand value generator hold set point
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A1 <sub>h</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.2.10 Object 6520<sub>h</sub>: dsc demand value generator upper limit

This object contains the *upper limit* of the *limit function* in the *demand value generator* (see /VDMAPROP/, chapter 7.2.1). *Upper limit* < *lower limit* has to be rejected.

#### OBJECT DESCRIPTION

Index	6520 <sub>h</sub>
Name	dsc demand value generator upper limit
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>limit function</i> implemented

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A1 <sub>h</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.2.11 Object 6521<sub>h</sub>: dsc demand value generator lower limit

This object contains the *lower limit* of the *limit function* in the *demand value generator* (see *VDMAPROP*, chapter 7.2.1). *Lower limit* > *upper limit* has to be rejected.

#### OBJECT DESCRIPTION

Index	6521 <sub>h</sub>
Name	dsc demand value generator lower limit
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>limit function</i> implemented

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A1 <sub>h</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

**7.2.7.2.12 Object 6530<sub>h</sub>: dsc demand value generator ramp type**

This object defines the *ramp type* used in the *ramp function* of the *demand value generator* (see /VDMAPROP/, chapter 9.3).

**VALUE DESCRIPTION**

Value	Description
0	No ramp
1	Linear (same value for all quadrants)
2	Linear (2 parameters for acceleration and deceleration, pos. and neg. values equal)
3	Linear (4 parameters for all quadrants)
4	Sine square
5	Profile generator linear (drives positioning control only)
6	Profile generator sine square (drives positioning control only)
7 to 127	reserved
-1 to -128	manufacturer specific

**OBJECT DESCRIPTION**

Index	6530 <sub>h</sub>
Name	dsc demand value generator ramp type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>ramp function</i> implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.7.2.13 Object 6531<sub>h</sub>: dsc demand value generator ramp acceleration time**

The *acceleration time* parameter defines the rising speed of the output for ramps with *type* = 1, 2, 4.

**OBJECT DESCRIPTION**

Index	6531 <sub>h</sub>
Name	dsc demand value generator ramp acceleration time
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = [1, 2, 4]

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

**7.2.7.2.14 Object 6532<sub>h</sub>: dsc demand value generator ramp acceleration time positive**

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

**OBJECT DESCRIPTION**

Index	6532 <sub>h</sub>
Name	dsc demand value generator acceleration time positive
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)



Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.2.15 Object 6533<sub>h</sub>: dsc demand value generator ramp acceleration time negative

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

#### OBJECT DESCRIPTION

Index	6533 <sub>h</sub>
Name	dsc demand value generator ramp acceleration time negative
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.2.16 Object 6534<sub>h</sub>: dsc demand value generator ramp deceleration time

The *acceleration time* parameter defines the falling speed of the output for ramps with *type* = 2.

#### OBJECT DESCRIPTION

Index	6534 <sub>h</sub>
Name	dsc demand value generator ramp deceleration time
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 2

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.2.17 Object 6535<sub>h</sub>: dsc demand value generator ramp deceleration time positive

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

#### OBJECT DESCRIPTION

Index	6535 <sub>h</sub>
Name	dsc demand value generator ramp deceleration time positive
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

**7.2.7.2.18 Object 6536<sub>h</sub>: dsc demand value generator ramp deceleration time negative**

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

**OBJECT DESCRIPTION**

Index	6536 <sub>h</sub>
Name	dsc demand value generator ramp deceleration time negative
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.2.19 Object 6550<sub>h</sub>: dsc control deviation

This object holds the difference between *demand value* and *actual value*:

$$\text{control deviation} = \text{demand value} - \text{actual value}$$

Remark: The SI unit of the *control deviation* is the same as the input (set point).

#### OBJECT DESCRIPTION

Index	6550 <sub>h</sub>
Name	dsc control deviation
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A1 <sub>h</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.2.20 Object 6551<sub>h</sub>: dsc control monitoring type

This object defines the type of the *control monitoring function* (see /VDMAPROP/, chapter 9.8).

#### VALUE DESCRIPTION

Value	Description
0	No control monitoring
1	Standard control monitoring (upper and lower threshold)
2	Standard control monitoring (symmetric threshold)
3	Dynamic control monitoring (upper and lower threshold)
4	Dynamic control (symmetric threshold)
5 to 127	reserved
-1 to -128	manufacturer specific

#### OBJECT DESCRIPTION

Index	6551 <sub>h</sub>
Name	dsc control monitoring type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>control monitoring</i> implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.7.2.21 Object 6552<sub>h</sub>: dsc control monitoring delay time**

After the *delay time* a *control deviation* will be shown as a control fault.

**OBJECT DESCRIPTION**

Index	6552 <sub>h</sub>
Name	dsc control moitoring delay time
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)



Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.2.22 Object 6553<sub>h</sub>: dsc control monitoring threshold

This parameter defines the *threshold* for *control monitoring type = 2*.

#### OBJECT DESCRIPTION

Index	6553 <sub>h</sub>
Name	dsc control monitoring threshold
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type = 2</i>

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A1 <sub>h</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.2.23 Object 6554<sub>h</sub>: dsc control monitoring upper threshold

This parameter defines the *upper threshold* for *control monitoring type* = 1.

#### OBJECT DESCRIPTION

Index	6554 <sub>h</sub>
Name	dsc control monitoring upper threshold
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type</i> = 1

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A1 <sub>h</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.2.24 Object 6555<sub>h</sub>: dsc control monitoring lower threshold

This parameter defines the *lower threshold* for *control monitoring type* = 1.

##### OBJECT DESCRIPTION

Index	6555 <sub>h</sub>
Name	dsc control monitoring lower threshold
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type</i> = 1

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A1 <sub>h</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

**7.2.7.2.25 Object 6556<sub>h</sub>: dsc control monitoring threshold V<sub>max</sub>**

This parameter defines the *threshold at maximum velocity for symmetric dynamic monitoring (control monitoring type = 4)* (see /VDMAPROP/ chapter 9.8.4).

**OBJECT DESCRIPTION**

Index	62B1 <sub>h</sub>
Name	dsc control monitoring threshold Vmax
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type = 4</i>

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A1 <sub>h</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.2.26 Object 6557<sub>h</sub>: dsc control monitoring upper threshold V<sub>max</sub> positive

This parameter defines the *threshold at maximum velocity* for *asymmetric dynamic monitoring* (*control monitoring type = 3*) (see /VDMAPROP/, chapter 9.8.3).

#### OBJECT DESCRIPTION

Index	6557 <sub>h</sub>
Name	dsc control monitoring upper threshold Vmax positive
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type = 3</i>

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A1 <sub>h</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.2.27 Object 6558<sub>h</sub>: dsc control monitoring lower threshold V<sub>max</sub> negative

This parameter defines the *threshold* at *maximum velocity* for *asymmetric dynamic monitoring* (*control monitoring type = 3*) (see /VDMAPROP/, chapter 9.8.3).

#### OBJECT DESCRIPTION

Index	6558 <sub>h</sub>
Name	dsc control monitoring lower threshold Vmax negative
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type = 3</i>

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A1 <sub>h</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.2.28 Object 6570<sub>h</sub>: dsc target window monitoring type

This object defines the *type of target monitoring function* (see *IVDMAPROP*, chapter 9.9).

#### VALUE DESCRIPTION

Value	Description
0	No target window monitoring
1	Standard target window monitoring (upper and lower threshold)
2	Standard target window monitoring (symmetric threshold)
3 to 127	reserved
-1 to -128	manufacturer specific



**OBJECT DESCRIPTION**

Index	6570 <sub>h</sub>
Name	dsc target window monitoring type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>target window monitoring</i> implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value rRange	INTEGER8
Default value	No

**7.2.7.2.29 Object 6571<sub>h</sub>: dsc target window monitoring switch on time**

This parameter defines the time delay, if the bit of the status word is set to 1, after the *control deviation* reached the target window range.

**OBJECT DESCRIPTION**

Index	6571 <sub>h</sub>
Name	dsc target window monitoring switch on time
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.2.30 Object 6572<sub>h</sub>: dsc target window monitoring switch off time

This parameter defines the time delay, if the bit of the status word is reset to 0, after the *control deviation* is outside the target window range.

#### OBJECT DESCRIPTION

Index	6572 <sub>h</sub>
Name	dsc target window monitoring switch off time
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.2.31 Object 6573<sub>h</sub>: dsc target window monitoring threshold

This parameter defines the *threshold* for *target monitoring type = 2*.

#### OBJECT DESCRIPTION

Index	6573 <sub>h</sub>
Name	dsc target window monitoring threshold
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>target monitoring type = 2</i>

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A1 <sub>h</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

**7.2.7.2.32 Object 6574<sub>h</sub>: dsc target window monitoring upper threshold**

This object defines the *upper threshold* for *target window monitoring type = 1*.

**OBJECT DESCRIPTION**

Index	6574 <sub>h</sub>
Name	dsc target window monitoring upper threshold
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>target window monitoring type = 1</i>

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A1 <sub>h</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

### 7.2.7.2.33 Object 6575<sub>h</sub>: dsc target window monitoring lower threshold

This object defines the *lower threshold* for *target window monitoring type* = 1.

#### OBJECT DESCRIPTION

Index	6575 <sub>h</sub>
Name	dsc target window monitoring lower threshold
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>target window monitoring type</i> = 1

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A1 <sub>h</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

### 7.2.7.3 Control mode: drive force/pressure control

The objects defined in this chapter refer to the *control mode drive force/pressure control* (see /VDMAPROP/, chapter 7.1.4).

#### 7.2.7.3.1 Object 6580<sub>h</sub>: dfpc set point

This object corresponds to the *drive force/pressure control set point* (see /VDMAPROP/, chapter 7.1.4).

#### OBJECT DESCRIPTION

Index	6580 <sub>h</sub>
Name	dfpc set point
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = 8

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.3.2 Object 6581<sub>h</sub>: dfpc actual value

This object holds the *actual value* of the sensor interface instance used for the control algorithm (see */VDMAPROP/*, chapter 7.1.4).

#### OBJECT DESCRIPTION

Index	6581 <sub>h</sub>
Name	dfpc actual value
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = 8



**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

**7.2.7.3.3 Object 6582<sub>h</sub>: dfpc interface reference**

This object creates a reference between the controller and the *actual value*. The parameter specifies the number of the interface, which provides the *actual value*. A write to this object with a value greater than *maximum interface number* has to be rejected.

**OBJECT DESCRIPTION**

Index	6582 <sub>h</sub>
Name	dfpc interface reference
Object code	VAR
Data type	UNSIGNED8
Category	Optional

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

**7.2.7.3.4 Object 6583<sub>h</sub>: dfpc K<sub>p</sub>**

This object defines the proportional factor of a PI(DT1) controller (see /VDMAPROP/, chapter 7.1.4.1).

**OBJECT DESCRIPTION**

Index	6583 <sub>h</sub>
Name	dfpc K <sub>p</sub>
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = 8

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.3.5 Object 6584<sub>h</sub>: dfpc T<sub>d</sub>

This object defines the rate time DT1 of a PI(DT1) controller (see /VDMAPROP/, chapter 7.1.4.1).

#### OBJECT DESCRIPTION

Index	6584 <sub>h</sub>
Name	dfpc T <sub>d</sub>
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = 8

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.7.3.6 Object 6585<sub>h</sub>: dfpc T<sub>1</sub>

This object defines the time delay DT1 of a PI(DT1) controller (see /VDMAPROP/, chapter 7.1.4.1)

#### OBJECT DESCRIPTION

Index	6585 <sub>h</sub>
Name	dfpc T1
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = 8

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.7.3.7 Object 6586<sub>h</sub>: dfpc T<sub>i</sub>**

This object defines the integration time constant of a PI(DT1) controller (see /VDMAPROP/, chapter 7.1.4.1)

**OBJECT DESCRIPTION**

Index	6586 <sub>h</sub>
Name	dfpc T <sub>i</sub>
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = 8

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

### 7.2.7.3.8 Object 6587<sub>h</sub>: dfpc pressure sample time

The pressure sample time parameter describes the sample time of the pressure controller in ms (see /VDMAPROP/, chapter 7.1.4). Sample time zero means, the pressure / force controller is disabled.

#### OBJECT DESCRIPTION

Index	6587 <sub>h</sub>
Name	dfpc pressure sample time
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = 8

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.7.3.9 Object 6590<sub>h</sub>: dfpc demand value generator demand value

This object contains the output of the *demand value generator* (see /VDMAPROP/, chapter 7.2).

#### OBJECT DESCRIPTION

Index	6590 <sub>h</sub>
Name	dfpc demand value generator demand value
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No



Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.3.10 Object 6592<sub>h</sub>: dfpc demand value generator reference A value

This object contains the *reference value* for direction A, a value corresponding to 100% of physical capabilities (see */VDMAPROP/*, chapter 7.2). If only one *reference value* is used, *reference A value* is valid for both directions.

#### OBJECT DESCRIPTION

Index	6592 <sub>h</sub>
Name	dfpc demand value generator reference A value
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

**7.2.7.3.11 Object 6593<sub>h</sub>: dfpc demand value generator reference B value**

This object contains the *reference value* for direction B, a value corresponding to 100% of physical capabilities (see /VDMAPROP/, chapter 7.2).

**OBJECT DESCRIPTION**

Index	6593 <sub>h</sub>
Name	dfpc demand value generator reference B value
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

### 7.2.7.3.12 Object 6594<sub>h</sub>: dfpc demand value generator hold set point

This object contains the *hold set point* (see /VDMAPROP/, chapter 7.2).

#### OBJECT DESCRIPTION

Index	6594 <sub>h</sub>
Name	dfpc demand value generator hold set point
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.3.13 Object 65A0<sub>h</sub>: dfpc demand value generator upper limit

This object contains the *upper limit* of the *limit function* in the *demand value generator* (see /VDMAPROP/, chapter 7.2.1). *Upper limit* < *lower limit* has to be rejected.

#### OBJECT DESCRIPTION

Index	65A0 <sub>h</sub>
Name	dfpc demand value generator upper limit
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>limit function</i> implemented

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.3.14 Object 65A1<sub>h</sub>: dfpc demand value generator lower limit

This object contains the *lower limit* of the *limit function* in the *demand value generator* (see /VDMAPROP/, chapter 7.2.1). *Lower limit* > *upper limit* has to be rejected.

#### OBJECT DESCRIPTION

Index	65A1 <sub>h</sub>
Name	dfpc demand value generator lower limit
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>limit function</i> implemented

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

**7.2.7.3.15 Object 65B0<sub>h</sub>: dfpc demand value generator ramp type**

This object defines the *ramp type* used in the *ramp function* of the *demand value generator* (see /VDMAPROP/, chapter 9.3).

**VALUE DESCRIPTION**

Value	Description
0	No ramp
1	Linear (same value for all quadrants)
2	Linear (2 parameters for acceleration and deceleration, pos. and neg. values equal)
3	Linear (4 parameters for all quadrants)
4	Sine square
5	Profile generator linear (drives positioning control only)
6	Profile generator sine square (drives positioning control only)
7 to 127	reserved
-1 to -128	manufacturer specific

**OBJECT DESCRIPTION**

Index	65B0 <sub>h</sub>
Name	dfpc demand value generator ramp type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>ramp function</i> implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.7.3.16 Object 65B1<sub>h</sub>: dfpc demand value generator ramp acceleration time**

The *acceleration time* parameter defines the rising speed of the output for ramps with *type* = 1, 2, 4.

**OBJECT DESCRIPTION**

Index	65B1 <sub>h</sub>
Name	dfpc demand value generator ramp acceleration time
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 1, 2, 4



**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

**7.2.7.3.17 Object 65B2<sub>h</sub>: dfpc demand value generator ramp acceleration time positive**

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

**OBJECT DESCRIPTION**

Index	65B2 <sub>h</sub>
Name	dfpc demand value generator ramp acceleration time positive
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

### 7.2.7.3.18 Object 65B3<sub>h</sub>: dfpc demand value generator ramp acceleration time negative

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

#### OBJECT DESCRIPTION

Index	65B3 <sub>h</sub>
Name	dfpc demand value generator ramp acceleration time negative
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.3.19 Object 65B4<sub>h</sub>: dfpc demand value generator ramp deceleration time

The *deceleration time* parameter defines the falling speed of the output for ramps with *type* = 2.

#### OBJECT DESCRIPTION

Index	65B4 <sub>h</sub>
Name	dfpc demand value generator ramp deceleration time
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 2

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.3.20 Object 65B5<sub>h</sub>: dfpc demand value generator ramp deceleration time positive

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

#### OBJECT DESCRIPTION

Index	65B5 <sub>h</sub>
Name	dfpc demand value generator ramp deceleration time positive
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

**7.2.7.3.21 Object 65B6<sub>h</sub>: dfpc demand value generator ramp deceleration time negative**

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

**OBJECT DESCRIPTION**

Index	65B6 <sub>h</sub>
Name	dfpc demand value generator ramp deceleration time negative
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

### 7.2.7.3.22 Object 65D0<sub>h</sub>: dfpc control deviation

This object holds the difference between *demand value* and *actual value*:

*control deviation* = *demand value* - *actual value*.

Remark: The SI unit of the *control deviation* is the same as the input (set point).

#### OBJECT DESCRIPTION

Index	65D0 <sub>h</sub>
Name	dfpc control deviation
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0



Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.3.23 Object 65D1<sub>h</sub>: dfpc control monitoring type

This object defines the type of the control monitoring function (see /VDMAPROP/, chapter 9.8).

#### VALUE DESCRIPTION

Value	Description
0	No control monitoring
1	Standard control monitoring (upper and lower threshold)
2	Standard control monitoring (symmetric threshold)
3	Dynamic control monitoring (upper and lower threshold)
4	Dynamic control (symmetric threshold)
5 to 127	reserved
-1 to -128	manufacturer specific

#### OBJECT DESCRIPTION

Index	63D1 <sub>h</sub>
Name	dfpc control monitoring type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>control monitoring</i> implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.7.3.24 Object 65D2<sub>h</sub>: dfpc control monitoring delay time**

After the *delay time* a *control deviation* will be shown as a control fault.

**OBJECT DESCRIPTION**

Index	65D2 <sub>h</sub>
Name	dfpc control monitoring delay time
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0085 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

### 7.2.7.3.25 Object 65D3<sub>h</sub>: dfpc control monitoring threshold

This parameter defines the *threshold* for *control monitoring type = 2*.

#### OBJECT DESCRIPTION

Index	65D3 <sub>h</sub>
Name	dfpc control monitoring threshold
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type = 2</i>

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.3.26 Object 65D4<sub>h</sub>: dfpc control monitoring upper threshold

This parameter defines the *upper threshold* for *control monitoring type* = 1.

#### OBJECT DESCRIPTION

Index	65D4 <sub>h</sub>
Name	dfpc control monitoring upper threshold
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type</i> = 1

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.3.27 Object 65D5<sub>h</sub>: dfpc control monitoring lower threshold

This parameter defines the *lower threshold* for *control monitoring type = 1*.

#### OBJECT DESCRIPTION

Index	65D5 <sub>h</sub>
Name	dfpc control monitoring lower threshold
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type = 1</i>

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

**7.2.7.3.28 Object 65D6<sub>h</sub>: dfpc control monitoring threshold V<sub>max</sub>**

This parameter defines the *threshold* at maximum velocity for *symmetric dynamic monitoring* (*control monitoring type = 4*) (see /VDMAPROP/, chapter 9.8.4).

**OBJECT DESCRIPTION**

Index	65D6 <sub>h</sub>
Name	dfpc control monitoring threshold V <sub>max</sub>
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type = 4</i>

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

### 7.2.7.3.29 Object 65D7<sub>h</sub>: dfpc control monitoring upper threshold V<sub>max</sub> positive

This parameter defines the *threshold* at maximum velocity for *asymmetric dynamic monitoring* (*control monitoring type = 3*) (see /VDMAPROP/, chapter 9.8.3).

#### OBJECT DESCRIPTION

Index	65D7 <sub>h</sub>
Name	dfpc control monitoring upper threshold vmax positive
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type = 3</i>

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0



Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

### 7.2.7.3.30 Object 65D8<sub>h</sub>: dfpc control monitoring lower threshold V<sub>max</sub> negative

This parameter defines the *threshold* at maximum velocity for *asymmetric dynamic monitoring* (*control monitoring type = 3*) (see /VDMAPROP/, chapter 9.8.3).

#### OBJECT DESCRIPTION

Index	65D8 <sub>h</sub>
Name	dfpc control monitoring lower threshold Vmax negative
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type = 3</i>

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

### 7.2.7.3.31 Object 65F0<sub>h</sub>: dfpc target window monitoring type

This object defines the *type of target monitoring function* (see *IVDMAPROP*, chapter 9.9).

#### VALUE DESCRIPTION

Value	Description
0	No target window monitoring
1	Standard target window monitoring (upper and lower threshold)
2	Standard target window monitoring (symmetric threshold)
3 to 127	reserved
-1 to -128	manufacturer specific

**OBJECT DESCRIPTION**

Index	65F0 <sub>h</sub>
Name	dfpc target window monitoring type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>target window monitoring</i> implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.7.3.32 Object 65F1<sub>h</sub>: dfpc target window monitoring switch on time**

This parameter defines the time delay, if the bit of the status word is set to 1, after the *control deviation* reached the *target window range*.

**OBJECT DESCRIPTION**

Index	62B1 <sub>h</sub>
Name	drv controller output dead band compensation A side
Object code	RECORD
Data type	value parameter record unsi (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>dead band compensation type</i> = [1, 2]

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	0

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.3.33 Object 65F2<sub>h</sub>: dfpc target window monitoring switch off time

This parameter defines the time delay, if the bit of the status word is reset to 0, after the *control deviation* is outside the *target window range*.

#### OBJECT DESCRIPTION

Index	65F2 <sub>h</sub>
Name	dfpc target window monitoring switch off time
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.3.34 Object 65F3<sub>h</sub>: dfpc target window monitoring threshold

This parameter defines the *threshold* for *target monitoring type = 2*.

##### OBJECT DESCRIPTION

Index	65F3 <sub>h</sub>
Name	dfpc target window monitoring threshold
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>target monitoring type = 2</i>

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

**7.2.7.3.35 Object 65F4<sub>h</sub>: dfpc target window monitoring upper threshold**

This object defines the *upper threshold* for *target window monitoring type = 1*.

**OBJECT DESCRIPTION**

Index	65F4 <sub>h</sub>
Name	dfpc target window monitoring upper threshold
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>window monitoring type = 1</i>

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

### 7.2.7.3.36 Object 65F5<sub>h</sub>: dfpc target window monitoring lower threshold

This object defines the *lower threshold* for *target window monitoring type* = 1.

#### OBJECT DESCRIPTION

Index	65F5 <sub>h</sub>
Name	dfpc target window monitoring lower threshold
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>window monitoring type</i> = 1

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No



Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	4E <sub>h</sub> (bar)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.4 Control mode: position control closed loop

The objects defined in this chapter refer to the *control mode drive position control closed loop* (see /VDMAPROP/, chapter 7.1.2).

##### 7.2.7.4.1 Object 6600<sub>h</sub>: dpc set point

This object corresponds to the *drive position control set point* (see /VDMAPROP/, chapter 7.1.2).

#### OBJECT DESCRIPTION

Index	6600 <sub>h</sub>
Name	dpc set point
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = 9

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.7.4.2 Object 6601<sub>h</sub>: dpc actual value

This object holds the *actual value* of the sensor interface instance used for the control algorithm (see /VDMAPROP/, chapter 7.1.2).

#### OBJECT DESCRIPTION

Index	6601 <sub>h</sub>
Name	dpc actual value
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = 9

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

**7.2.7.4.3 Object 6602<sub>h</sub>: dpc interface reference**

This object creates a reference between the controller and the *actual value*. The parameter specifies the number of the *interface*, which provides the *actual value*. A write to this object with a value greater than *maximum interface number* has to be rejected.

**OBJECT DESCRIPTION**

Index	6602 <sub>h</sub>
Name	dpc interface reference
Object code	VAR
Data type	UNSIGNED8
Category	Optional

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

**7.2.7.4.4 Object 6603<sub>h</sub>: dpc K<sub>p</sub>**

This object defines the proportional factor of a PDT1-controller (see /VDMAPROP/, chapter 7.1.2).

**OBJECT DESCRIPTION**

Index	6603 <sub>h</sub>
Name	dpc K <sub>p</sub>
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = 9

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.7.4.5 Object 6604<sub>h</sub>: dpc T<sub>d</sub>

This object defines the rate time DT1 of a PDT1-controller (see /VDMAPROP/, chapter 7.1.2).

#### OBJECT DESCRIPTION

Index	6604 <sub>h</sub>
Name	dpc T <sub>d</sub>
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = 9

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.7.4.6 Object 6605<sub>h</sub>: dpc T<sub>1</sub>**

This object defines the time delay DT1 of a PDT1-controller (see /VDMAPROP/, chapter 7.1.2).

**OBJECT DESCRIPTION**

Index	6605 <sub>h</sub>
Name	dpc T1
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control mode</i> = 9

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.7.4.7 Object 6608<sub>h</sub>: dpc switched integrator type

This object defines the *type* of the *switched integrator* (see /VDMAPROP/, chapter 7.1.2.1).

#### VALUE DESCRIPTION

Value	Description
0	No switched integrator or deactivated
1	Standard - switched integrator
2 to 127	reserved
-127 to -1	manufacturer specific

#### OBJECT DESCRIPTION

Index	6608 <sub>h</sub>
Name	dpc switched integrator type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>switched integrator</i> implemented

#### ENTRY DESCRIPTION

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.7.4.8 Object 6609<sub>h</sub>: dpc switched integrator T<sub>i</sub>

This object defines the *integration time* of the switched integrator type = 1 (see /VDMAPROP/, chapter 7.1.2.1)

#### OBJECT DESCRIPTION

Index	62B1 <sub>h</sub>
Name	dpc switched integrator T <sub>i</sub>
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>switched integrator type</i> = 1



**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.7.4.9 Object 660A<sub>h</sub>: dpc switched integrator dX**

This object defines the *position window* of the *switched integrator type = 1* (see /VDMAPROP/, chapter 7.1.2.1)

**OBJECT DESCRIPTION**

Index	660A <sub>h</sub>
Name	dpc switched integrator dX
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>switched integrator type = 1</i>

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.7.4.10 Object 660C<sub>h</sub>: DrivePositionControl\_ConditionFeedback\_Kv

This object defines the *velocity feedback* of the *feedback function* (see *VDMAPROP*, chapter 7.1.2.2).

#### OBJECT DESCRIPTION

Index	660C <sub>h</sub>
Name	dpc condition feedback Kv
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>condition feedback function</i> implemented

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.7.4.11 Object 660D<sub>n</sub>: dpc condition feedback Ka

This object defines the *acceleration feedback* of the *feedback function* (see *IVDMAPROP/*, chapter 7.1.2.2).

#### OBJECT DESCRIPTION

Index	660D <sub>n</sub>
Name	dpc condition feedback Ka
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>condition feedback function</i> implemented

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.7.4.12 Object 660E<sub>h</sub>: dpc condition feedback Kpp

This object defines the *pressure gain factor* of the *feedback function* (see *IVDMAPROP*, chapter 7.1.2.2).

#### OBJECT DESCRIPTION

Index	660E <sub>h</sub>
Name	dpc condition feedback Kpp
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>condition feedback function</i> implemented

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	No

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.7.4.13 Object 660F<sub>h</sub>: dpc condition feedback T<sub>1pp</sub>**

This object defines the *time constant high pass filter* (DT1) of the *feedback function* (see /VDMAPROP/, chapter 7.1.2.2).

**OBJECT DESCRIPTION**

Index	660F <sub>h</sub>
Name	dpc condition feedback T1pp
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>condition feedback function</i> implemented

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	No

#### 7.2.7.4.14 Object 6610<sub>h</sub>: dpc demand value generator demand value

This object contains the output of the *demand value generator* (see /VDMAPROP/, chapter 7.2).

#### OBJECT DESCRIPTION

Index	6610 <sub>h</sub>
Name	dpc demand value generator demand value
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	ro
PDO mapping	Optional
Value range	INTEGER32
Default value	No



Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	

#### 7.2.7.4.15 Object 6612<sub>h</sub>: dpc demand value generator reference A value

This object contains the *reference value* for *direction A*, a value corresponding to 100% of physical capabilities (see /VDMAPROP/, chapter 7.2). If only one reference value is used, *reference A value* is valid for both directions.

#### OBJECT DESCRIPTION

Index	6612 <sub>h</sub>
Name	dpc demand value generator reference A value
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.7.4.16 Object 6613<sub>h</sub>: dpc demand value generator reference B value

This object contains the *reference value* for *direction B*, a value corresponding to 100% of physical capabilities (see */VDMAPROP/*, chapter 7.2).

#### OBJECT DESCRIPTION

Index	6613 <sub>h</sub>
Name	dpc demand value generator reference B Value
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

**7.2.7.4.17 Object 6614<sub>h</sub>: dpc demand value generator hold set point**

This object contains the *hold set point* (see /VDMAPROP/, chapter 7.2).

**OBJECT DESCRIPTION**

Index	6614 <sub>h</sub>
Name	dpc demand value generator hold set point
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.7.4.18 Object 6620<sub>h</sub>: dpc demand value generator upper limit

This object contains the *upper limit* of the *limit function* in the *demand value generator* (see *VDMAPROP*, chapter 7.2.1). *Upper limit* < *lower limit* has to be rejected.

#### OBJECT DESCRIPTION

Index	6620 <sub>h</sub>
Name	dpc demand value generator upper limit
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>limit function</i> implemented

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.7.4.19 Object 6621<sub>h</sub>: dpc demand value generator lower limit

This object contains the *lower limit* of the *limit function* in the *demand value generator* (see /VDMAPROP/, chapter 7.2.1). *Lower limit > upper limit* has to be rejected.

#### OBJECT DESCRIPTION

Index	6621 <sub>h</sub>
Name	dpc demand value generator lower limit
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>limit function</i> implemented

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.7.4.20 Object 6630<sub>h</sub>: dpc demand value generator ramp type

This object defines the *ramp type* used in the *ramp function* of the *demand value generator* (see *VDMAPROP*, chapter 9.3).

#### VALUE DESCRIPTION

Value	Description
0	No ramp
1	Linear (same value for all quadrants)
2	Linear (2 parameters for acceleration and deceleration, pos. and neg. values equal)
3	Linear (4 parameters for all quadrants)
4	Sine square
5	Profile generator linear
6	Profile generator sine square
7 to 127	reserved
-1 to -128	manufacturer specific

**OBJECT DESCRIPTION**

Index	6630 <sub>h</sub>
Name	dpc demand value generator ramp type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>ramp function</i> implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.7.4.21 Object 6631<sub>h</sub>: dpc demand value generator ramp acceleration time**

The *acceleration time* parameter defines the rising speed of the output for ramps with *type* = [1, 2, 4] (see /VDMAPROP/, chapter 9.3.3).

**OBJECT DESCRIPTION**

Index	6631 <sub>h</sub>
Name	dpc demand value generator ramp acceleration time
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = [1, 2, 4]

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No



Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.4.22 Object 6632<sub>h</sub>: dpc demand value generator ramp acceleration time positive

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

#### OBJECT DESCRIPTION

Index	6632 <sub>h</sub>
Name	dpc demand value generator ramp acceleration time positive
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.4.23 Object 6633<sub>h</sub>: dpc demand value generator ramp acceleration time negative

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

#### OBJECT DESCRIPTION

Index	6633 <sub>h</sub>
Name	dpc demand value generator ramp acceleration time negative
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

**7.2.7.4.24 Object 6634<sub>h</sub>: dpc demand value generator ramp deceleration time**

The *declearation time* parameter defines the falling speed of the output for ramps with *type* = 2.

**OBJECT DESCRIPTION**

Index	6634 <sub>h</sub>
Name	dpc demand value generator ramp deceleration time
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 2

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.4.25 Object 6635<sub>h</sub>: dpc demand value generator ramp deceleration time positive

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

#### OBJECT DESCRIPTION

Index	6635 <sub>h</sub>
Name	dpc demand value generator ramp deceleration time positive
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.4.26 Object 6636<sub>h</sub>: dpc demand value generator ramp deceleration time negative

This object is used with *ramp type* = 3 (see /VDMAPROP/, chapter 9.3.3).

#### OBJECT DESCRIPTION

Index	6636 <sub>h</sub>
Name	dpc demand value generator ramp deceleration time negative
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = 3

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.4.27 Object 6637<sub>h</sub>: dpc demand value generator ramp velocity

The *velocity* parameter defines the velocity to generate the profile (ramp) of the demand value and is used with *ramp type* = 5, 6 (see /VDMAPROP/, chapter 9.3.5 and 9.3.6).

#### OBJECT DESCRIPTION

Index	6637 <sub>h</sub>
Name	dpc demand value generator ramp velocity
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = [5, 6]

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A1 <sub>h</sub> (m/min)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)



**7.2.7.4.28 Object 6638<sub>h</sub>: dpc demand value generator ramp acceleration**

The *acceleration* parameter defines the acceleration to generate the profile (ramp) of the demand value and is used with *ramp type* = 5, 6 (see /VDMAPROP/, chapter 9.3.5 and 9.3.6).

**OBJECT DESCRIPTION**

Index	6638 <sub>h</sub>
Name	dpc demand value generator ramp acceleration
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = [5, 6]

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A8 <sub>h</sub> (m/s <sup>2</sup> )

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.4.29 Object 6639<sub>h</sub>: dpc demand value generator ramp deceleration

The deceleration parameter defines the deceleration to generate the profile (ramp) of the demand value and is used with *ramp type* = 5, 6 (see /VDMAPROP/, chapter 9.3.5 and 9.3.6).

#### OBJECT DESCRIPTION

Index	6639 <sub>h</sub>
Name	dpc demand value generator ramp deceleration
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>ramp type</i> = [5, 6]

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	A8 <sub>h</sub> (m/s <sup>2</sup> )

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.4.30 Object 6650<sub>h</sub>: dpc control deviation

This object holds the difference between *demand value* and *actual value*:

$$\text{control deviation} = \text{demand value} - \text{actual value}.$$

Remark: The SI unit of the *control deviation* is the same as the input (set point).

#### OBJECT DESCRIPTION

Index	6650 <sub>h</sub>
Name	dpc control deviation
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.7.4.31 Object 6651<sub>h</sub>: dpc control monitoring type

This object defines the *type* of the *control monitoring function* (see *IVDMAPROP*, chapter 9.8).

#### VALUE DEFINITION

Value	Description
0	No control monitoring
1	Standard control monitoring (upper and lower threshold)
2	Standard control monitoring (symmetric threshold)
3	Dynamic control monitoring (upper and lower threshold)
4	Dynamic control (symmetric threshold)
5 to 127	reserved
-1 to -128	manufacturer specific

**OBJECT DESCRIPTION**

Index	6651 <sub>h</sub>
Name	dpc control monitoring type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>control monitoring</i> implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.7.4.32 Object 6652<sub>h</sub>: dpc control monitoring delay time**

After the *delay time* a *control deviation* will be shown as a control fault.

**OBJECT DESCRIPTION**

Index	6652 <sub>h</sub>
Name	dpc control monitoring delay time
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.4.33 Object 6653<sub>h</sub>: dpc control monitoring threshold

This parameter defines the *threshold* for *control monitoring type = 2*.

#### OBJECT DESCRIPTION

Index	6653 <sub>h</sub>
Name	dpc control monitoring threshold
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type = 2</i>

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.7.4.34 Object 6654<sub>h</sub>: dpc control monitoring upper threshold

This parameter defines the *upper threshold* for *control monitoring type = 1*.

#### OBJECT DESCRIPTION

Index	6654 <sub>h</sub>
Name	dpc control monitoring upper threshold
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type = 1</i>

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)



**7.2.7.4.35 Object 6655<sub>h</sub>: dpc control monitoring lower threshold**

This parameter defines the *lower threshold* for *control monitoring type* = 1.

**OBJECT DESCRIPTION**

Index	6655 <sub>h</sub>
Name	dpc control monitoring lower threshold
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type</i> = 1

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.7.4.36 Object 6656<sub>h</sub>: dpc control monitoring threshold V<sub>max</sub>

This parameter defines the *threshold* at *maximum velocity* for symmetric dynamic monitoring (*control monitoring type = 4*) (see *IVDMAPROP*, chapter 9.8.4).

#### OBJECT DESCRIPTION

Index	6656 <sub>h</sub>
Name	dpc control monitoring threshold Vmax
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type = 4</i>

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.7.4.37 Object 6657<sub>h</sub>: dpc control monitoring upper threshold V<sub>max</sub> positive

This parameter defines the *threshold* at *maximum velocity* for asymmetric dynamic monitoring (*control monitoring type* = 3) (see /VDMAPROP/, chapter 9.8.3).

#### OBJECT DESCRIPTION

Index	6657 <sub>h</sub>
Name	dpc control monitoring upper threshold Vmax positive
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Optional

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.7.4.38 Object 6658<sub>h</sub>: dpc conitoring monitoring lower threshold V<sub>max</sub> negative

This parameter defines the *threshold* at *maximum velocity* for asymmetric dynamic monitoring (*control monitoring type* = 3) (see /VDMAPROP/, chapter 9.8.3).

#### OBJECT DESCRIPTION

Index	6658 <sub>h</sub>
Name	dpc control monitoring lower threshold Vmax negative
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>control monitoring type</i> = 3

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

**7.2.7.4.39 Object 6670<sub>h</sub>: dpc target window monitoring type**

This object defines the *type of target monitoring function* (see /VDMAPROP/, chapter 9.9).

**VALUE DEFINITION**

Value	Description
0	No target window monitoring
1	Standard target window monitoring (upper and lower threshold)
2	Standard target window monitoring (symmetric threshold)
3 to 127	reserved
-1 to -128	manufacturer specific

**OBJECT DESCRIPTION**

Index	6670 <sub>h</sub>
Name	dpc target window monitoring type
Object code	VAR
Data type	INTEGER8
Category	Conditional; Mandatory, if <i>target window monitoring</i> implemented

**ENTRY DESCRIPTION**

Access	rw
PDO mapping	Optional
Value range	INTEGER8
Default value	No

**7.2.7.4.40 Object 6671<sub>h</sub>: dpc target window monitoring switch on time**

This parameter defines the *time delay* the bit of the *status word* is set to 1, after the *control deviation* reached the *target window range*.

**OBJECT DESCRIPTION**

Index	6671 <sub>h</sub>
Name	dpc target window monitoring switch on time
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)

#### 7.2.7.4.41 Object 6672<sub>h</sub>: dpc target window monitoring switch off time

This parameter defines the *time delay* the bit of the *status word* is reset to 0, after the *control deviation* is outside the *target window range*.

#### OBJECT DESCRIPTION

Index	6672 <sub>h</sub>
Name	dpc target window monitoring switch off time
Object code	RECORD
Data type	value parameter record UNSIGNED32 (0082 <sub>h</sub> )
Category	Optional

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	UNSIGNED32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	03 <sub>h</sub> (s)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-3 (milli)



**7.2.7.4.42 Object 6673<sub>h</sub>: dpc target window monitoring threshold**

This parameter defines the width of the *target window range band* for *target window monitoring type = 2*.

**OBJECT DESCRIPTION**

Index	6673 <sub>h</sub>
Name	dpc target window monitoring threshold
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>target window monitoring type = 2</i>

**ENTRY DESCRIPTION**

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.7.4.43 Object 6674<sub>h</sub>: dpc target window monitoring upper threshold

This object defines the *upper threshold* for *target window monitoring type* = 1.

#### OBJECT DESCRIPTION

Index	6674 <sub>h</sub>
Name	dpc target window monitoring upper threshold
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>target window monitoring type</i> = 1

#### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)

#### 7.2.7.4.44 Object 6675<sub>h</sub>: dpc target window monitoring lower threshold

This object defines the *lower threshold* for *target window monitoring type* = 1.

##### OBJECT DESCRIPTION

Index	6675 <sub>h</sub>
Name	dpc target window monitoring lower threshold
Object code	RECORD
Data type	value parameter record INTEGER32 (0085 <sub>h</sub> )
Category	Conditional; Mandatory, if <i>target window monitoring type</i> = 1

##### ENTRY DESCRIPTION

Sub-index	00 <sub>h</sub>
Description	Number of entries
Entry Category	Mandatory
Access	ro
PDO Mapping	No
Value Range	1 to 3
Default Value	No

Sub-index	01 <sub>h</sub>
Description	Value
Entry category	Mandatory
Access	rw
PDO mapping	Optional
Value range	INTEGER32
Default value	No

Sub-index	02 <sub>h</sub>
Description	SI unit
Entry category	Optional
Access	ro; rw, if SI unit changeable
PDO mapping	Optional
Value range	UNSIGNED8
Default value	01 <sub>h</sub> (m)

Sub-index	03 <sub>h</sub>
Description	Prefix
Entry category	Optional
Access	ro; rw, if prefix changeable
PDO mapping	Optional
Value range	INTEGER8
Default value	-6 (micro)