

stepIM CANopen and EtherCAT

Object Dictionary

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1 Introduction

1.1 About This Manual

This manual describes the implementation of CiA 402 and CiA 301 CANopen protocols in the stepIM digital servo drive. This manual is not meant to replace the CANopen specifications, or to reproduce them.

This manual is intended for skilled personnel who have been trained to work with the equipment described.

1.2 Documentation Format – Object Dictionary

The CAN objects are presented and described in the following format:

0xnnnn – Example Name

Object Description

Index	nnnn
Description	Description of the object
Object Code	Variable Array Record
Data Type	INTEGER8 INTEGER16 INTEGER32 UNSIGNED8 UNSIGNED16 UNSIGNED32 REAL32 VISIBLE_STRING PDO_COMM_PAR PDO_MAPPING IDENTITY
Category	Optional Mandatory

Entry Description for Variable and Record Objects

Access	Read/Write Read Only Constant
PDO Mapping	Yes No
Default Value	The object's default value.
Value Range	Discrete values and ranges of values.
Lower Limit	Lowest value in the object's ranges of values.
Upper Limit	Highest value in the object's ranges of values.
Unit	When the object value implies units of measure, these units are specified.

Entry Description for Array Objects

Sub-Index	nnn
Description	Description of the sub-index
Entry Category	Optional Mandatory
Data Type	INTEGER8 INTEGER16 INTEGER32 UNSIGNED8 UNSIGNED16 UNSIGNED32 REAL32 VISIBLE_STRING
Access	Read/Write Read Only Constant
PDO Mapping	Yes No
Default Value	The object's default value.
Lower Limit	Lowest value in the object's ranges of values.
Upper Limit	Highest value in the object's ranges of values.
Unit	When the object value implies units of measure, these units are specified.

2 Communication Segment

1000h: Device Type

Object Description

Index	1000
Description	This object describes the type of the logical device and its functionality. It is comprised of a 16 bit field that describes the device profile, and a second 16 bit field that gives additional information about the specific functionality of the device.
Object Code	Variable
Data Type	UNSIGNED32
Category	Mandatory

Entry Description

Access	Constant
PDO Mapping	No
Default Value	0x00020192
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

1001h: Error Register

Object Description

Index	1001
Description	<p>This object is an error register for the device. It is a field of 8 bits, each of which indicates a particular type of error. If a bit is set to 1, the specified error has occurred.</p> <p>The bits have the following meaning:</p> <ul style="list-style-type: none"> 0: generic error 1: current 2: voltage 3: temperature 4: communication error (overrun, error state) 5: device profile specific 6: reserved 7: manufacturer specific
Object Code	Variable
Data Type	UNSIGNED8
Category	Mandatory

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFF
Unit	Not applicable

1003h: Predefined Error Field

Object Description

Index	1003
Description	<p>This object holds errors that have occurred on the device and have been signaled via the Emergency object. It is an error history.</p> <p>Writing the value 0 to sub-index 0 deletes the entire error history.</p>
Object Code	Array
Data Type	UNSIGNED32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Errors
Entry Category	Mandatory
Access	Read/Write
PDO Mapping	No
Default Value	0
Lower Limit	0x0
Upper Limit	0xFE
Unit	Not applicable
Sub-Index	001
Description	Standard Error Field
Entry Category	Mandatory
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable
Sub-Index	002
Description	Standard Error Field
Entry Category	Mandatory
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Standard Error Field
Entry Category	Mandatory
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	004
Description	Standard Error Field
Entry Category	Mandatory
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	005
Description	Standard Error Field
Entry Category	Mandatory
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	006
Description	Standard Error Field
Entry Category	Mandatory
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	007
Description	Standard Error Field
Entry Category	Mandatory
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	008
Description	Standard Error Field
Entry Category	Mandatory
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	009
Description	Standard Error Field
Entry Category	Mandatory
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	010
Description	Standard Error Field
Entry Category	Mandatory
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

1005h: COB-ID SYNC

Object Description

Index	1005
Description	This object defines the COB ID of the synchronization object (SYNC). The device generates a SYNC message if bit 30 is set. The meaning of other bits is the same as for other communication objects.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x80000080
Lower Limit	0x00000001
Upper Limit	0xFFFFFFFF
Unit	Not applicable

1006h: Communication Cycle Period**Object Description**

Index	1006
Description	This object defines the communication cycle period, in microseconds. Its value is 0 if it is not used.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00000FA0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	μs

1007h: Synchronous Window Length**Object Description**

Index	1007
Description	This object contains the length of the time window for synchronous messages, in microseconds. Its value is 0 if it is not used.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	µs

1008h: Manufacturer Device Name**Object Description**

Index	1008
Description	This object contains the name of the device as given by the manufacturer.
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Constant
PDO Mapping	No
Default Value	stepIM
Lower Limit	-
Upper Limit	-
Unit	Not applicable

1009h: Manufacturer Hardware Version**Object Description**

Index	1009
Description	This object contains the manufacturer hardware version description.
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Constant
PDO Mapping	No
Default Value	00
Lower Limit	-
Upper Limit	-
Unit	Not applicable

100Ah: Manufacturer Software Version**Object Description**

Index	100A
Description	This object contains the manufacturer software version description.
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Constant
PDO Mapping	No
Default Value	-
Lower Limit	0
Upper Limit	0
Unit	Not applicable

100Ch: Guard Time**Object Description**

Index	100C
Description	This entry contains the guard time, in milliseconds. It is 0 if not used.
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFF
Unit	ms

100Dh: Lifetime Factor**Object Description**

Index	100D
Description	The lifetime factor multiplied by the guard time gives the lifetime for the device. It is 0 if not used.
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFF
Unit	Not applicable

1010h: Store Parameter Field

Object Description

Index	1010
Description	<p>This object controls the saving of parameters in non-volatile memory.</p> <p>With read access, the device provides information about its save capabilities. Sub-indexes reference different groups of parameters.</p> <p>Sub-index 1: all parameters</p> <p>Parameters are saved when 0x65766173 (ASCII value of "SAVE") is written to the appropriate sub-index.</p> <p>A save process will be performed only if either the main voltage VIN exceeds 4.5V or the auxiliary voltage exceeds 12V; otherwise object 2F21h remains set to 1.</p>
Object Code	Array
Data Type	UNSIGNED32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Access	Read Only
Entry Category	Optional
PDO Mapping	No
Default Value	0x1
Lower Limit	0x0
Upper Limit	0x7F
Unit	Not applicable
Sub-Index	001
Description	Save all Parameters
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

1011h: Restore Default Parameters

Object Description

Index	1011
Description	This object controls the restoring of default parameters. With read access, the device provides information about its restore capabilities. Sub-indexes reference different groups of parameters. Sub-index 1: all parameters Parameters are restored when 0x64616F6C (ASCII value of "LOAD") is written to the appropriate sub-index.
Object Code	Array
Data Type	UNSIGNED32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x1
Lower Limit	0x0
Upper Limit	0x7F
Unit	Not applicable

Sub-Index	001
Description	Restore all Default Parameters
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

1013h: High Resolution Time Stamp

Object Description

Index	1013
Description	<p>This object contains the drives internal time at a resolution of microseconds. It can be mapped into a PDO in order to define a high resolution time stamp.</p> <p>It can be used to synchronize clocks of multiple drives over CANopen network as follows: map object 1013h to RPDO, a high-resolution time stamp producer transmits a time stamp over the CANopen network, and each drive adjusts its internal clock according to the value that the producer sent.</p>
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	RWR
PDO Mapping	Yes
Default Value	0x00000000
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	μs

1014h: COB-ID EMCY

Object Description

Index	1014
Description	This object defines the COB-ID used for the emergency message (EMCY).
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x80
Lower Limit	0x1
Upper Limit	0xFFFFFFFF
Unit	Not applicable

1015h: Inhibit Time Emergency**Object Description**

Index	1015
Description	This object defines the inhibit time used for the emergency message. The time must be a multiple of 100 milliseconds.
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFF
Unit	100 ms

1016h: Heartbeat Consumer Entries

Object Description

Index	1016
Description	The consumer heartbeat time defines the expected heartbeat cycle time and thus must be higher than the corresponding producer heartbeat time configured on the device producing this heartbeat. Bits 31 - 24 of each sub-index must be 0. Bits 23 - 16 contain the node-ID. The lower 16 bits contain the heartbeat time.
Object Code	Array
Data Type	UNSIGNED32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x02
Lower Limit	0x1
Upper Limit	0x7F
Unit	Not applicable
Sub-Index	001
Description	Consumer Heartbeat Time 1
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0x2FFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Consumer Heartbeat Time 2
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0x2FFFFFFF
Unit	Not applicable

1017h: Producer Heartbeat Time

Object Description

Index	1017
Description	This object defines the cycle time of the heartbeat. If its value is 0 it is not used. The time must be a multiple of 1 millisecond.
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x000007D0
Lower Limit	0x0
Upper Limit	0xFFFF
Unit	1 ms

1018h: Identity Object

Object Description

Index	1018
Description	This object contains general information about the device. Sub-index 1 contains a unique value allocated each manufacturer. Sub-index 2 defines the manufacturer specific product code (device version). Sub-index 3 defines the revision number. Bit 31-16 is the major revision number Bit 15-0 the minor revision number. Sub-index 4 defines a manufacturer specific serial number.
Object Code	Record
Data Type	IDENTITY
Category	Mandatory

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Mandatory
Access	Read Only
PDO Mapping	No
Default Value	0x4
Lower Limit	0x1
Upper Limit	0x4
Unit	Not applicable

Sub-Index	001
Description	Vendor ID
Entry Category	Mandatory
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x02E1
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Product Code
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0xA5A5
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Revision Number
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	004
Description	Serial Number
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

1019h: Synchronous Counter Overflow Value

Object Description

Index	1019										
Description	<p>The synchronous counter defines whether a counter is mapped into the SYNC message, and the highest value the counter can reach.</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>SYNC message transmitted with length 0</td> </tr> <tr> <td>1</td> <td>Reserved</td> </tr> <tr> <td>2 .. 240</td> <td>SYNC message transmitted with length 1, first data byte contains the counter value</td> </tr> <tr> <td>241 .. 255</td> <td>Reserved</td> </tr> </tbody> </table>	Value	Meaning	0	SYNC message transmitted with length 0	1	Reserved	2 .. 240	SYNC message transmitted with length 1, first data byte contains the counter value	241 .. 255	Reserved
Value	Meaning										
0	SYNC message transmitted with length 0										
1	Reserved										
2 .. 240	SYNC message transmitted with length 1, first data byte contains the counter value										
241 .. 255	Reserved										
Object Code	Variable										
Data Type	UNSIGNED8										
Category	Optional										

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xF0
Unit	Not applicable

1029h: Error Behavior

Object Description

Index	1029
Description	Sub-index 000 contains the number of error classes. Sub-index 001 contains the error class for a communication error. Sub-indices 001 to 254 contain device profile or manufacturer specific error classes. The value of an error class can be: 0 = Pre-operational 1 = No state change 2 = Stopped 3 .. 127 = Reserved
Object Code	Array
Data Type	UNSIGNED8
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Mandatory
Access	Read Only
PDO Mapping	No
Default Value	0x1
Lower Limit	0x1
Upper Limit	0xFE
Unit	Not applicable
Sub-Index	001
Description	Communication Error
Entry Category	Mandatory
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	7E
Unit	Not applicable

1200h: Server SDO Parameter 1

Object Description

Index	1200
Description	The object contains the parameters for the SDOs for which the device is the server.
Object Code	Record
Data Type	SDO_PARAMETER
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x02
Lower Limit	0x02
Upper Limit	0x02
Unit	Not applicable

Sub-Index	001
Description	COB-ID Client -> Server
Entry Category	Mandatory
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x00000600
Lower Limit	0x00000600
Upper Limit	0xBFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	COB-ID Server -> Client
Entry Category	Mandatory
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x00000580
Lower Limit	0x00000580
Upper Limit	0xBFFFFFFF
Unit	Not applicable

1400h: Receive PDO Communication Parameter 1

Object Description

Index	1400
Description	The object contains the communication parameters for the PDOs that the device is able to receive. Sub-index 0 defines the number of PDO-parameters implemented. Sub-index 1 defines the COB-ID. If bit 31 is set, the PDO is disabled. Sub-index 2 defines the transmission type.
Object Code	Record
Data Type	PDO_COMM_PAR
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x03
Lower Limit	0x2
Upper Limit	0x5
Unit	Not applicable

Sub-Index	001
Description	COB-ID
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x200
Lower Limit	0x1
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Transmission Type
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0x1
Lower Limit	0x0
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	003
Description	Inhibit Time
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	100 μ s

1401h: Receive PDO Communication Parameter 2

Object Description

Index	1401
Description	The object contains the communication parameters for the PDOs that the device is able to receive. Sub-index 0 defines the number of PDO-parameters implemented. Sub-index 1 defines the COB-ID. If bit 31 is set, the PDO is disabled. Sub-index 2 defines the transmission type.
Object Code	Record
Data Type	PDO_COMM_PAR
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x03
Lower Limit	0x02
Upper Limit	0x05
Unit	Not applicable
Sub-Index	001
Description	COB-ID
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000300
Lower Limit	0x00000001
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Transmission Type
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0x1
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable
<hr/>	
Sub-Index	003
Description	Inhibit Time
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	100 μ s

1402h: Receive PDO Communication Parameter 3

Object Description

Index	1402
Description	The object contains the communication parameters for the PDOs that the device is able to receive. Sub-index 0 defines the number of PDO-parameters implemented. Sub-index 1 defines the COB-ID. If bit 31 is set, the PDO is disabled. Sub-index 2 defines the transmission type.
Object Code	Record
Data Type	PDO_COMM_PAR
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x3
Lower Limit	0x02
Upper Limit	0x05
Unit	Not applicable

Sub-Index	001
Description	COB-ID
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000400
Lower Limit	0x00000001
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Transmission Type
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0x1
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	003
Description	Inhibit Time
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	100 μ s

1403h: Receive PDO Communication Parameter 4

Object Description

Index	1403
Description	The object contains the communication parameters for the PDOs that the device is able to receive. Sub-index 0 defines the number of PDO-parameters implemented. Sub-index 1 defines the COB-ID. If bit 31 is set, the PDO is disabled. Sub-index 2 defines the transmission type.
Object Code	Record
Data Type	PDO_COMM_PAR
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x3
Lower Limit	0x02
Upper Limit	0x05
Unit	Not applicable

Sub-Index	001
Description	COB-ID
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000500
Lower Limit	0x00000001
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Transmission Type
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0xFF
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	003
Description	Inhibit Time
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	100 μ s

1404h: Receive PDO Communication Parameter 5

Object Description

Index	1404
Description	The object contains the communication parameters for the PDOs that the device is able to receive. Sub-index 0 defines the number of PDO-parameters implemented. Sub-index 1 defines the COB-ID. If bit 31 is set, the PDO is disabled. Sub-index 2 defines the transmission type.
Object Code	Record
Data Type	PDO_COMM_PAR
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x3
Lower Limit	0x02
Upper Limit	0x05
Unit	Not applicable
Sub-Index	001
Description	COB-ID
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000500
Lower Limit	0x00000001
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Transmission Type
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0xFF
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable
<hr/>	
Sub-Index	003
Description	Inhibit Time
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable

1405h: Receive PDO Communication Parameter 6

Object Description

Index	1405
Description	The object contains the communication parameters for the PDOs that the device is able to receive. Sub-index 0 defines the number of PDO-parameters implemented. Sub-index 1 defines the COB-ID. If bit 31 is set, the PDO is disabled. Sub-index 2 defines the transmission type.
Object Code	Record
Data Type	PDO_COMM_PAR
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x3
Lower Limit	0x02
Upper Limit	0x05
Unit	Not applicable
Sub-Index	001
Description	COB-ID
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000500
Lower Limit	0x00000001
Upper Limit	0xFFFFFFFF
Unit	Not applicable
Sub-Index	002
Description	Transmission Type
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0xFF
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	003
Description	Inhibit Time
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	-
Lower Limit	-
Upper Limit	-
Unit	Not applicable

1406h: Receive PDO Communication Parameter 7

Object Description

Index	1406
Description	The object contains the communication parameters for the PDOs that the device is able to receive. Sub-index 0 defines the number of PDO-parameters implemented. Sub-index 1 defines the COB-ID. If bit 31 is set, the PDO is disabled. Sub-index 2 defines the transmission type.
Object Code	Record
Data Type	PDO_COMM_PAR
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x3
Lower Limit	0x02
Upper Limit	0x05
Unit	Optional

Sub-Index	001
Description	COB-ID
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000500
Lower Limit	0x00000001
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Transmission Type
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0xFF
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	003
Description	Inhibit Time
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	-
Lower Limit	-
Upper Limit	-
Unit	Not applicable

1407h: Receive PDO Communication Parameter 8

Object Description

Index	1407
Description	The object contains the communication parameters for the PDOs that the device is able to receive. Sub-index 0 defines the number of PDO-parameters implemented. Sub-index 1 defines the COB-ID. If bit 31 is set, the PDO is disabled. Sub-index 2 defines the transmission type.
Object Code	Record
Data Type	PDO_COMM_PAR
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x3
Lower Limit	0x02
Upper Limit	0x05
Unit	Not applicable
Sub-Index	001
Description	COB-ID
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000500
Lower Limit	0x00000001
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Transmission Type
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0xFF
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	003
Description	Inhibit Time
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	-
Lower Limit	-
Upper Limit	-
Unit	Not applicable

1600h: Receive PDO Mapping Parameter 1

Object Description

Index	1600
Description	<p>This object contains the mapping for the PDOs the device is able to receive.</p> <p>Sub-index 0 defines the number of valid entries in the mapping record. This number of entries is also the number of the application variables that are received with the corresponding PDO.</p> <p>Sub-indexes 1 to number of mapped entries contain information about the mapped application variables. These entries describe the PDO contents by their index, sub-index and length. All three values are hexadecimal coded. The length entry defines the length of the object in bits.</p>
Object Code	Record
Data Type	PDO_MAPPING
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Mandatory
Access	Read/Write
PDO Mapping	No
Default Value	0x02
Lower Limit	0x0
Upper Limit	0x40
Unit	Not applicable
Sub-Index	001
Description	Mapping Entry 1
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x60400010
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Mapping Entry 2
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x60600008
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Mapping Entry 3
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	004
Description	Mapping Entry 4
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

1601h: Receive PDO Mapping Parameter 2

Object Description

Index	1601
Description	<p>This object contains the mapping for the PDOs the device is able to receive.</p> <p>Sub-index 0 defines the number of valid entries in the mapping record. This number of entries is also the number of the application variables that are received with the corresponding PDO.</p> <p>Sub-indexes 1 to number of mapped entries contain information about the mapped application variables. These entries describe the PDO contents by their index, sub-index and length. All three values are hexadecimal coded. The length entry defines the length of the object in bits.</p>
Object Code	Record
Data Type	PDO_MAPPING
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Mandatory
Access	Read/Write
PDO Mapping	No
Default Value	0x02
Lower Limit	0x0
Upper Limit	0x40
Unit	Not applicable

Sub-Index	001
Description	Mapping Entry 1
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x607A0020
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Mapping Entry 2
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x60810020
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Mapping Entry 3
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	004
Description	Mapping Entry 4
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

1602h: Receive PDO Mapping Parameter 3

Object Description

Index	1602
Description	<p>This object contains the mapping for the PDOs the device is able to receive.</p> <p>Sub index 0 defines the number of valid entries in the mapping record. This number of entries is also the number of the application variables that are received with the corresponding PDO.</p> <p>Sub indexes 1 to number of mapped entries contain information about the mapped application variables. These entries describe the PDO contents by their index, sub index and length. All three values are hexadecimal coded. The length entry defines the length of the object in bits.</p>
Object Code	Record
Data Type	PDO_MAPPING
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Mandatory
Access	Read/Write
PDO Mapping	No
Default Value	0x02
Lower Limit	0x0
Upper Limit	0x40
Unit	Not applicable

Sub-Index	001
Description	Mapping Entry 1
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x60710010
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Mapping Entry 2
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x60FF0020
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Mapping Entry 3
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	004
Description	Mapping Entry 4
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

1603h: Receive PDO Mapping Parameter 4

Object Description

Index	1603
Description	<p>This object contains the mapping for the PDOs the device is able to receive.</p> <p>Sub-index 0 defines the number of valid entries in the mapping record. This number of entries is also the number of the application variables that are received with the corresponding PDO.</p> <p>Sub-indexes 1 to number of mapped entries contain information about the mapped application variables. These entries describe the PDO contents by their index, sub-index and length. All three values are hexadecimal coded. The length entry defines the length of the object in bits.</p>
Object Code	Record
Data Type	PDO_MAPPING
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Mandatory
Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0x0
Upper Limit	0x40
Unit	Not applicable

Sub-Index	001
Description	Mapping Entry 1
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Mapping Entry 2
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Mapping Entry 3
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	004
Description	Mapping Entry 4
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

1604h: Receive PDO Mapping Parameter 5

Object Description

Index	1604
Description	<p>This object contains the mapping for the PDOs the device is able to receive.</p> <p>Sub-index 0 defines the number of valid entries in the mapping record. This number of entries is also the number of the application variables that are received with the corresponding PDO.</p> <p>Sub-indexes from 1 to the number of mapped entries contain information about the mapped application variables. These entries describe the PDO contents by their index, sub-index and length. All three values are hexadecimal coded. The length entry defines the length of the object in bits.</p>
Object Code	Record
Data Type	PDO_MAPPING
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Mandatory
Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0x0
Upper Limit	0x40
Unit	Not applicable

Sub-Index	001
Description	Mapping Entry 1
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Mapping Entry 2
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Mapping Entry 3
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	004
Description	Mapping Entry 4
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

1605h: Receive PDO Mapping Parameter 6

Object Description

Index	1605
Description	<p>This object contains the mapping for the PDOs the device is able to receive.</p> <p>Sub-index 0 defines the number of valid entries in the mapping record. This number of entries is also the number of the application variables that are received with the corresponding PDO.</p> <p>Sub-indexes from 1 to the number of mapped entries contain information about the mapped application variables. These entries describe the PDO contents by their index, sub-index and length. All three values are hexadecimal coded. The length entry defines the length of the object in bits.</p>
Object Code	Record
Data Type	PDO_MAPPING
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Mandatory
Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0x0
Upper Limit	0x40
Unit	Not applicable

Sub-Index	001
Description	Mapping Entry 1
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Mapping Entry 2
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Mapping Entry 3
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	004
Description	Mapping Entry 4
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

1606h: Receive PDO Mapping Parameter 7

Object Description

Index	1606
Description	<p>This object contains the mapping for the PDOs the device is able to receive.</p> <p>Sub-index 0 defines the number of valid entries in the mapping record. This number of entries is also the number of the application variables that are received with the corresponding PDO.</p> <p>Sub-indexes from 1 to the number of mapped entries contain information about the mapped application variables. These entries describe the PDO contents by their index, sub-index and length. All three values are hexadecimal coded. The length entry defines the length of the object in bits.</p>
Object Code	Record
Data Type	PDO_MAPPING
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Mandatory
Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0x0
Upper Limit	0x40
Unit	Not applicable

Sub-Index	001
Description	Mapping Entry 1
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Mapping Entry 2
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Mapping Entry 3
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	004
Description	Mapping Entry 4
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

1607h: Receive PDO Mapping Parameter 8

Object Description

Index	1607
Description	<p>This object contains the mapping for the PDOs the device is able to receive.</p> <p>Sub-index 0 defines the number of valid entries in the mapping record. This number of entries is also the number of the application variables that are received with the corresponding PDO.</p> <p>Sub-indexes from 1 to the number of mapped entries contain information about the mapped application variables. These entries describe the PDO contents by their index, sub-index and length. All three values are hexadecimal coded. The length entry defines the length of the object in bits.</p>
Object Code	Record
Data Type	PDO_MAPPING
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Mandatory
Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0x0
Upper Limit	0x40
Unit	Not applicable

Sub-Index	001
Description	Mapping Entry 1
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Mapping Entry 2
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Mapping Entry 3
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	004
Description	Mapping Entry 4
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

1800h: Transmit PDO Communication Parameter 1

Object Description

Index	1800
Description	Contains the communication parameters of the current PDO the device is able to transmit. Sub-index 0 defines the number of PDO parameters implemented. Sub-index 1 describes the COB ID. If bit 31 is set, the PDO is disabled. Sub-index 2 defines the transmission type.
Object Code	Record
Data Type	PDO_COMM_PAR
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x5
Lower Limit	0x02
Upper Limit	0x06
Unit	Not applicable
Sub-Index	001
Description	COB-ID
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x180
Lower Limit	0x1
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Transmission Type
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0xFF
Lower Limit	0x0
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	003
Description	Inhibit Time
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x7D0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	100 μ s

Sub-Index	004
Description	Compatibility Entry
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	005
Description	Event Timer
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFF
Unit	ms

1801h: Transmit PDO Communication Parameter 2

Object Description

Index	1801
Description	Contains the communication parameters of the current PDO the device is able to transmit. Sub-index 0 defines the number of PDO parameters implemented. Sub-index 1 describes the COB ID. If bit 31 is set, the PDO is disabled. Sub-index 2 defines the transmission type.
Object Code	Record
Data Type	PDO_COMM_PAR
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Access	Read Only
PDO Mapping	No
Default Value	0x05
Lower Limit	0x02
Upper Limit	0x06
Unit	Not applicable

Sub-Index	001
Description	COB-ID
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000280
Lower Limit	0x00000001
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Transmission Type
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0xFF
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	003
Description	Inhibit Time
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x7D0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	100 μ s

Sub-Index	004
Description	Compatibility Entry
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	005
Description	Event Timer
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFF
Unit	ms

1802h: Transmit PDO Communication Parameter 3

Object Description

Index	1802
Description	Contains the communication parameters of the current PDO the device is able to transmit. Sub-index 0 defines the number of PDO parameters implemented. Sub-index 1 describes the COB ID. If bit 31 is set, the PDO is disabled. Sub-index 2 defines the transmission type.
Object Code	Record
Data Type	PDO_COMM_PAR
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x5
Lower Limit	0x02
Upper Limit	0x06
Unit	Not applicable
Sub-Index	001
Description	COB-ID
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000380
Lower Limit	0x00000001
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Transmission Type
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0xFF
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	003
Description	Inhibit Time
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x7D0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	100 μ s

Sub-Index	004
Description	Compatibility Entry
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	005
Description	Event Timer
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFF
Unit	ms

1803h: Transmit PDO Communication Parameter 4

Object Description

Index	1803
Description	Contains the communication parameters of the current PDO the device is able to transmit. Sub-index 0 defines the number of PDO parameters implemented. Sub-index 1 describes the COB ID. If bit 31 is set, the PDO is disabled. Sub-index 2 defines the transmission type.
Object Code	Record
Data Type	PDO_COMM_PAR
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x5
Lower Limit	0x02
Upper Limit	0x06
Unit	Not applicable

Sub-Index	001
Description	COB-ID
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000480
Lower Limit	0x00000001
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Transmission Type
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0xFF
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	003
Description	Inhibit Time
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x7D0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	100 μ s

Sub-Index	004
Description	Compatibility Entry
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	005
Description	Event Timer
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFF
Unit	ms

1804h: Transmit PDO Communication Parameter 5

Object Description

Index	1804
Description	Contains the communication parameters of the current PDO the device is able to transmit. Sub-index 0 defines the number of PDO parameters implemented. Sub-index 1 describes the COB ID. If bit 31 is set, the PDO is disabled. Sub-index 2 defines the transmission type.
Object Code	Record
Data Type	PDO_COMM_PAR
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x5
Lower Limit	0x02
Upper Limit	0x06
Unit	Not applicable
Sub-Index	001
Description	COB-ID
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000480
Lower Limit	0x00000001
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Transmission Type
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0xFF
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	003
Description	Inhibit Time
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x7D0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	100 μ s

Sub-Index	004
Description	Compatibility Entry
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	005
Description	Event Timer
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable

1805h: Transmit PDO Communication Parameter 6

Object Description

Index	1805
Description	Contains the communication parameters of the current PDO the device is able to transmit. Sub-index 0 defines the number of PDO parameters implemented. Sub-index 1 describes the COB ID. If bit 31 is set, the PDO is disabled. Sub-index 2 defines the transmission type.
Object Code	Record
Data Type	PDO_COMM_PAR
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x05
Lower Limit	0x02
Upper Limit	0x06
Unit	Not applicable

Sub-Index	001
Description	COB-ID
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000480
Lower Limit	0x00000001
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Transmission Type
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0xFF
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	003
Description	Inhibit Time
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x7D0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	100 μ s

Sub-Index	004
Description	Compatibility Entry
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable
Sub-Index	005
Description	Event Timer
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable

1806h: Transmit PDO Communication Parameter 7

Object Description

Index	1806
Description	<p>Contains the communication parameters of the current PDO the device is able to transmit.</p> <p>Sub-index 0 defines the number of PDO parameters implemented.</p> <p>Sub-index 1 describes the COB ID. If bit 31 is set, the PDO is disabled.</p> <p>Sub-index 2 defines the transmission type.</p>
Object Code	Record
Data Type	PDO_COMM_PAR
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x05
Lower Limit	0x02
Upper Limit	0x06
Unit	Not applicable

Sub-Index	001
Description	COB-ID
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000480
Lower Limit	0x00000001
Upper Limit	0xFFFFFFFF

Sub-Index	002
Description	Transmission Type
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0xFF
Lower Limit	0x00
Upper Limit	0xFF

Sub-Index	003
Description	Inhibit Time
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x7D0
Lower Limit	0x0000
Upper Limit	100 μ s

Sub-Index	004
Description	Compatibility Entry
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	005
Description	Event Timer
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable

1807h: Transmit PDO Communication Parameter 8

Object Description

Index	1807
Description	Contains the communication parameters of the current PDO the device is able to transmit. Sub-index 0 defines the number of PDO parameters implemented. Sub-index 1 describes the COB ID. If bit 31 is set, the PDO is disabled. Sub-index 2 defines the transmission type.
Object Code	Record
Data Type	PDO_COMM_PAR
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x05
Lower Limit	0x02
Upper Limit	0x06
Sub-Index	001
Description	COB-ID
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000480
Lower Limit	0x00000001
Upper Limit	0xFFFFFFFF

Sub-Index	002
Description	Transmission Type
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0xFF
Lower Limit	0x00
Upper Limit	0xFF

Sub-Index	003
Description	Inhibit Time
Data Type	UNSIGNED16
Entry Category	Optional
Access	Read/Write
PDO Mapping	No
Default Value	0x7D0
Lower Limit	0xFFFF
Upper Limit	100 μ s

Sub-Index	004
Description	Compatibility Entry
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	005
Description	Event Timer
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable

1A00h: Transmit PDO Mapping Parameter 1

Object Description

Index	1A00
Description	<p>Contains the mapping for the PDOs the device is able to transmit.</p> <p>Sub-index 0 defines the number of valid entries in the mapping record. This number of entries is also the number of the application variables that are transmitted with the corresponding PDO.</p> <p>Sub-indexes 1 to number of entries: Contain information about the mapped application variables.</p> <p>These entries describe the PDO contents by their index, sub-index and length. All three values are hexadecimal coded. The length entry defines the length of the object in bits.</p> <p>The type of the PDO mapping parameter is at index 21h.</p> <p>This parameter can be used to verify the overall mapping length. It is mandatory.</p>
Object Code	Record
Data Type	PDO_MAPPING
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Mandatory
Access	Read/Write
PDO Mapping	No
Default Value	0x02
Lower Limit	0x0
Upper Limit	0xFF
Unit	Not applicable
Sub-Index	001
Description	Mapping Entry 1
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x60410010
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable
Sub-Index	002
Description	Mapping Entry 2
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x60610008
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Mapping Entry 3
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	004
Description	Mapping Entry 4
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

1A01h: Transmit PDO Mapping Parameter 2

Object Description

Index	1A01
Description	<p>Contains the mapping for the PDOs the device is able to transmit.</p> <p>Sub-index 0 defines the number of valid entries in the mapping record. This number of entries is also the number of the application variables that are transmitted with the corresponding PDO.</p> <p>Sub-indexes 1 to number of entries: Contain information about the mapped application variables.</p> <p>These entries describe the PDO contents by their index, sub-index and length. All three values are hexadecimal coded. The length entry defines the length of the object in bits.</p> <p>The type of the PDO mapping parameter is at index 21h.</p> <p>This parameter can be used to verify the overall mapping length. It is mandatory.</p>
Object Code	Record
Data Type	PDO_MAPPING
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Mandatory
Access	Read/Write
PDO Mapping	No
Default Value	0x02
Lower Limit	0x0
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	001
Description	Mapping Entry 1
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x60640020
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Mapping Entry 2
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x606C0020
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Mapping Entry 3
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	004
Description	Mapping Entry 4
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

1A02h: Transmit PDO Mapping Parameter 3

Object Description

Index	1A02
Description	<p>Contains the mapping for the PDOs the device is able to transmit.</p> <p>Sub-index 0 defines the number of valid entries in the mapping record. This number of entries is also the number of the application variables that are transmitted with the corresponding PDO.</p> <p>Sub-indexes 1 to number of entries: Contain information about the mapped application variables.</p> <p>These entries describe the PDO contents by their index, sub-index and length. All three values are hexadecimal coded. The length entry defines the length of the object in bits.</p> <p>The type of the PDO mapping parameter is at index 21h.</p> <p>This parameter can be used to verify the overall mapping length. It is mandatory.</p>
Object Code	Record
Data Type	PDO_MAPPING
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Mandatory
Access	Read/Write
PDO Mapping	No
Default Value	0x03
Lower Limit	0x0
Upper Limit	0xFF
Unit	Not applicable
Sub-Index	001
Description	Mapping Entry 1
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x60780010
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable
Sub-Index	002
Description	Mapping Entry 2
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x60740010
Lower Limit	-
Upper Limit	-
Unit	Not applicable

Sub-Index	003
Description	Mapping Entry 3
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x606B0020
Lower Limit	-
Upper Limit	-
Unit	Not applicable

Sub-Index	004
Description	Mapping Entry 4
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	-
Upper Limit	-
Unit	Not applicable

1A03h: Transmit PDO Mapping Parameter 4

Object Description

Index	1A03
Description	<p>Contains the mapping for the PDOs the device is able to transmit.</p> <p>Sub-index 0 defines the number of valid entries in the mapping record. This number of entries is also the number of the application variables that are transmitted with the corresponding PDO.</p> <p>Sub-indexes 1 to number of entries: Contain information about the mapped application variables.</p> <p>These entries describe the PDO contents by their index, sub-index and length. All three values are hexadecimal coded. The length entry defines the length of the object in bits.</p> <p>The type of the PDO mapping parameter is at index 21h. This parameter can be used to verify the overall mapping length. It is mandatory.</p>
Object Code	Record
Data Type	PDO_MAPPING
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Entry Category	Mandatory
Access	Read/Write
PDO Mapping	No
Default Value	0x01
Lower Limit	0x0
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	001
Description	Mapping Entry 1
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x60FA0020
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Mapping Entry 2
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x60F40020
Lower Limit	-
Upper Limit	-
Unit	Not applicable

Sub-Index	003
Description	Mapping Entry 3
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	-
Upper Limit	-
Unit	Not applicable

Sub-Index	004
Description	Mapping Entry 4
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	-
Upper Limit	-
Unit	Not applicable

1A04h: Transmit PDO Mapping Parameter 5

Object Description

Index	1A04
Description	<p>Contains the mapping for the PDOs the device is able to transmit.</p> <p>Sub-index 0 defines the number of valid entries in the mapping record. This number of entries is also the number of the application variables that are transmitted with the corresponding PDO.</p> <p>Sub-indexes 1 to number of entries: Contain information about the mapped application variables.</p> <p>These entries describe the PDO contents by their index, sub-index and length. All three values are hexadecimal coded. The length entry defines the length of the object in bits.</p> <p>The type of the PDO mapping parameter is at index 21h.</p> <p>This parameter can be used to verify the overall mapping length. It is mandatory.</p>
Object Code	Record
Data Type	PDO_MAPPING
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Mandatory
Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0x0
Upper Limit	0xFF
Unit	Not applicable
Sub-Index	001
Description	Mapping Entry 1
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable
Sub-Index	002
Description	Mapping Entry 2
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Mapping Entry 3
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	-
Upper Limit	-
Unit	Not applicable

Sub-Index	004
Description	Mapping Entry 4
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	-
Upper Limit	-
Unit	Not applicable

1A05h: Transmit PDO Mapping Parameter 6

Object Description

Index	1A05
Description	<p>Contains the mapping for the PDOs the device is able to transmit.</p> <p>Sub-index 0 defines the number of valid entries in the mapping record. This number of entries is also the number of the application variables that are transmitted with the corresponding PDO.</p> <p>Sub-indexes 1 to number of entries: Contain information about the mapped application variables.</p> <p>These entries describe the PDO contents by their index, sub-index and length. All three values are hexadecimal coded. The length entry defines the length of the object in bits.</p> <p>The type of the PDO mapping parameter is at index 21h. This parameter can be used to verify the overall mapping length. It is mandatory.</p>
Object Code	Record
Data Type	PDO_MAPPING
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Mandatory
Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0x0
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	001
Description	Mapping Entry 1
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Mapping Entry 2
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	-
Upper Limit	-
Unit	Not applicable

Sub-Index	003
Description	Mapping Entry 3
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	-
Upper Limit	-
Unit	Not applicable

Sub-Index	004
Description	Mapping Entry 4
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	-
Upper Limit	-
Unit	Not applicable

1A06h: Transmit PDO Mapping Parameter 7

Object Description

Index	1A06
Description	<p>Contains the mapping for the PDOs the device is able to transmit.</p> <p>Sub-index 0 defines the number of valid entries in the mapping record. This number of entries is also the number of the application variables that are transmitted with the corresponding PDO.</p> <p>Sub-indexes 1 to number of entries: Contain information about the mapped application variables.</p> <p>These entries describe the PDO contents by their index, sub-index and length. All three values are hexadecimal coded. The length entry defines the length of the object in bits.</p> <p>The type of the PDO mapping parameter is at index 21h.</p> <p>This parameter can be used to verify the overall mapping length. It is mandatory.</p>
Object Code	Record
Data Type	PDO_MAPPING
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Mandatory
Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0x0
Upper Limit	0xFF
Unit	Not applicable
<hr/>	
Sub-Index	001
Description	Mapping Entry 1
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable
<hr/>	
Sub-Index	002
Description	Mapping Entry 2
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	-
Upper Limit	-
Unit	Not applicable

Sub-Index	003
Description	Mapping Entry 3
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	-
Upper Limit	-
Unit	Not applicable

Sub-Index	004
Description	Mapping Entry 4
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	-
Upper Limit	-
Unit	Not applicable

1A07h: Transmit PDO Mapping Parameter 8

Object Description

Index	1A07
Description	<p>Contains the mapping for the PDOs the device is able to transmit.</p> <p>Sub-index 0 defines the number of valid entries in the mapping record. This number of entries is also the number of the application variables that are transmitted with the corresponding PDO.</p> <p>Sub-indexes 1 to number of entries: Contain information about the mapped application variables.</p> <p>These entries describe the PDO contents by their index, sub-index and length. All three values are hexadecimal coded. The length entry defines the length of the object in bits.</p> <p>The type of the PDO mapping parameter is at index 21h. This parameter can be used to verify the overall mapping length. It is mandatory.</p>
Object Code	Record
Data Type	PDO_MAPPING
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Entry Category	Mandatory
Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0x0
Upper Limit	0xFF
Unit	Not applicable

Sub-Index	001
Description	Mapping Entry 1
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Mapping Entry 2
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	-
Upper Limit	-
Unit	Not applicable

Sub-Index	003
Description	Mapping Entry 3
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	-
Upper Limit	-
Unit	Not applicable

Sub-Index	004
Description	Mapping Entry 4
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	-
Upper Limit	-
Unit	Not applicable

3 Manufacturer Segment

2006h: Current Integral Gain

Object Description

Index	2006
Description	This object indicates the current controller integral gain.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x3E8
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	Not applicable

2007h: Current Proportional Gain

Object Description

Index	2007
Description	This object indicates the current controller proportional gain.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x2710
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	Not applicable

2011h: Warning Bits

Object Description

Index	2011
Description	This object logs the drive warnings. To clear the warnings, set fault reset bit (#7) in Controlword. The bits have the following meaning: bit 0: CW limit switch on bit 1: CCW limit switch on bit 2: Encoder sensor detected disturbance in the force bit 3: Over-temperature warning bit 4: Auxiliary voltage above 29V
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x00
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

201Eh: Position Derivative Gain

Object Description

Index	201E
Description	This object indicates the position derivative gain.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	Not applicable

2020h: Position Integral Gain

Object Description

Index	2020
Description	This object indicates the position integral gain.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	Not applicable

2022h: Position Proportional Gain

Object Description

Index	2022
Description	This object indicates the position proportional gain.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x2710
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	rpm/100/encoder counts/2 ¹⁶

2023h: Position Velocity Feedforward Gain**Object Description**

Index	2023
Description	<p>This object indicates the velocity feedforward gain, which defines the feedforward multiplication factor.</p> <p>The derivative of the position command value, which can be considered the speed of the trajectory, is multiplied by the feedforward factor to generate a feedforward value for the velocity loop.</p> <p>A value of 256 indicates a feedforward factor of 1, meaning the speed of the trajectory is taken as a feedforward value.</p> <p>Example: <i>value</i>=320. The feedforward multiplication factor is therefore $320/256=1.25$. The speed of the trajectory is multiplied by 1.25 and applied as a feedforward term for the velocity loop.</p>
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x100
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	rpm/256

2025h: Position Torque Feedforward Gain

Object Description

Index	2025
Description	This object indicates the torque feedforward gain.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	rpm/256

2026h: Velocity Integral Gain

Object Description

Index	2026
Description	This object indicates the velocity integral gain.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x5
Lower Limit	0x0
Upper Limit	0x1000000
Unit	Not applicable

2027h: Velocity Proportional Gain

Object Description

Index	2027
Description	This object indicates the velocity proportional gain.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x1388
Lower Limit	0x0
Upper Limit	0x1000000
Unit	$\text{mA}/(\text{rpm}/100)/2^{16}$

2028h: Mechanical Position

Object Description

Index	2028
Description	<p>This object indicates the mechanical angle position in 16-bit resolution. It gets the position (angle) of the motor shaft within one mechanical motor revolution.</p> <p>The mechanical angle position increments from 0 to 65535 in the course of one mechanical motor shaft revolution (360 degrees). The range of the mechanical angle position does not change. Its resolution is dependent upon the feedback device resolution.</p> <p><i>$(\text{mechanical angle position})/65535 \times 360 = \text{angle [degrees]}$</i></p>
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFF
Unit	360/2 ¹⁶ degree

2029h: Velocity Loop Adaptive Gain

Object Description

Index	2029
Description	<p>This object variable can be used to increase the velocity loop proportional term (see object 2027h) at higher speeds.</p> <p>Sub-index 1 is the velocity at which the adaptive gain begins to affect the control loop.</p> <p>Sub-index 2 is the adaptive gain factor to be applied. A value of 0 deactivates the adaptive gain part.</p> <p>You must consider the following:</p> <ol style="list-style-type: none"> 1) What is the velocity (sub-index_1) at which the adaptive gain will begin to affect the control loop? The adaptive gain begins to affect the control loop if the actual velocity is either greater than (+)sub-index_1 or less than (-)sub-index_1. 2) What is the target velocity that must be reached? 3) What is the expected multiple of the proportional term at the expected target velocity? <p>The formula to be applied is as follows:</p> $sub-index_2 = 2^{22} * (expectedMultiple - 1) / ((targetVelocity[rpm] - sub-index_1[rpm]) * 100)$ <p>Example:</p> <ul style="list-style-type: none"> • The adaptive gain must start at a velocity of ±50[rpm]. • The expected target velocity is ±700[rpm]. • The proportional gain should be 3.5 times higher at the expected target velocity, <p>Sub-index 1 must be set to a value of 5000 (=50[rpm]).</p> <p>Sub-index 2 must be set to a value of:</p> $2^{22} * (3.5-1) / ((700-50) * 100) = 161$
Object Code	Array
Data Type	UNSIGNED32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x02
Lower Limit	0x02
Upper Limit	0x02
Unit	Not applicable
Sub-Index	001
Description	Adaptive gain start velocity
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x1770
Lower Limit	0x00000000
Upper Limit	0x7FFFFFFF
Unit	[100*rpm]
Sub-Index	002
Description	Adaptive gain factor
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x00000000
Lower Limit	0x00000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

2033h: I2T Value

Object Description

Index	2033
Description	<p>This object indicates the current I2T value. It is calculated by integrating (actual current)² - (rated current)² over time:</p> $I2t = [(object\ 6078h)^2 - (object\ 6075h)^2] \times t$ <p>A fault condition occurs when the value of I2T (object 2033h) exceeds I2T Fault Threshold (object 2034h).</p> <p>Example:</p> <p>The rated current of a stepIM is 3[A], and the user wants to allow an actual current of 3.8[A] (see object 6073h) for no more than 3[s]. The I2t threshold should be set to the value:</p> $I2t\ threshold = (3.8[A]^2 - 3[A]^2) \times 3000[ms] = 16320 [A^2 \times ms]$
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	A ² × ms

2034h: I2T Fault Threshold

Object Description

Index	2034
Description	<p>This object indicates the threshold for I2T fault. Setting it to zero disables the fault generation.</p>
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	A ² × ms

2036h: Peak Current**Object Description**

Index	2036
Description	This object indicates the peak current. When current is 20% higher than peak, fault will be generated.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x1770
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	mA

2043h: Commutation Offset**Object Description**

Index	2043
Description	This object indicates the encoder phase relative to the standard commutation table.
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x5A
Lower Limit	0x0
Upper Limit	0x168
Unit	degree

2044h: Drive Temperature**Object Description**

Index	2044
Description	This object indicates the temperature of the drive electronics board (Celsius degrees).
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	degree Celsius

204Ch: Factory Restore

Object Description

Index	204C
Description	This object restores all configuration variables to factory default settings. Writing 0x64616F6C (ASCII "load") initiates the factory restore command. Writing 0x00726c63 (ASCII "clr") initiates the full EEPROM clear command.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

204Dh: Feedback Type

Object Description

Index	204D
Description	This object indicates the type of motor feedback. 1 = Absolute single turn encoder
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x1
Lower Limit	0x1
Upper Limit	0x1
Unit	Not applicable

2066h: D Axis Actual Current

Object Description

Index	2066
Description	In vector control, indicates the value perpendicular to object 2067h (IQ).
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	mA

2067h: Q Axis Actual Current

Object Description

Index	2067
Description	In vector control, indicates the current for the torque. This value is perpendicular to object 2066h (ID).
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	mA

2068h: Phase C Actual Current

Object Description

Index	2068
Description	This object indicates the actual current at phase C.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	mA

2069h: Phase C Current Offset 1

Object Description

Index	2069
Description	This object indicates the current offset of phase C.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	mA

2070h: Digital Inputs Polarity

Object Description

Index	2070
Description	This object sets the polarity of each digital input. 0 = Input is inverted 1 = Input is not inverted
Object Code	Array
Data Type	UNSIGNED16
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x4
Lower Limit	0x0
Upper Limit	0x4
Unit	Not applicable

Sub-Index	001
Description	Polarity of Input Number 1
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x1
Lower Limit	0x0
Upper Limit	0x1
Unit	Not applicable

Sub-Index	002
Description	Polarity of Input Number 2
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x1
Lower Limit	0x0
Upper Limit	0x1
Unit	Not applicable

Sub-Index	003
Description	Polarity of Input Number 3
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x1
Lower Limit	0x0
Upper Limit	0x1
Unit	

Sub-Index	004
Description	Polarity of Input Number 4
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x1
Lower Limit	0x0
Upper Limit	0x1
Unit	

2072h: Phase A Actual Current

Object Description

Index	2072
Description	This object indicates the actual current at phase A.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	mA

2073h: Phase A Current Offset 1

Object Description

Index	2073
Description	This object indicates the current offset of phase A.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0xF801
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	mA

2074h: Phase B Actual Current

Object Description

Index	2074
Description	This object indicates the actual current at phase B.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	mA

2075h: Phase B Current Offset 1

Object Description

Index	2075
Description	This object indicates the current offset of phase B.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0xF801
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	mA

2076h: Phase A Current Offset 2

Object Description

Index	2076
Description	This object indicates the current offset of phase A.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0xF801
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	mA

2077h: Position Integral Input Saturation

Object Description

Index	2077
Description	This object indicates the position integral input saturation.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x186A0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	count

2078h: Phase B Current Offset 2

Object Description

Index	2078
Description	This object indicates the current offset of phase B.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0xF801
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	mA

207Dh: Motor Pitch

Object Description

Index	207D
Description	This object indicates the pitch of a linear motor.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x64
Lower Limit	0x0
Upper Limit	0x2625A0
Unit	mm

207Eh: Motor Poles

Object Description

Index	207E
Description	This object indicates the number of individual poles (not pairs) in the motor.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0064
Lower Limit	0x0002
Upper Limit	0x0190
Unit	Not applicable

2090h: Home Status

Object Description

Index	2090
Description	This object indicates the status of the homing procedure. 0 = Not Homed 1 = Homed 2 = Failed
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	Not applicable

2099h: Current Level 1 for Digital Output Definition

Object Description

Index	2099
Description	The value of this object is used by the Digital Outputs Functionality object (209Ch) as the first current value for a condition that controls a digital output.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x2EE0
Unit	mA

209Ah: Current Level 2 for Digital Output Definition

Object Description

Index	209A
Description	The value of this object is used by the Digital Outputs Functionality object (209Ch) as the second current value for a condition that controls a digital output. Example: Object 209Ch (Digital Output Functionality) is set to 2, which will make the digital output true/false if the actual current (object 6078h) goes above/below this threshold value.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x2EE0
Lower Limit	0x0
Upper Limit	0x2EE0
Unit	mA

209Bh: Digital Outputs Polarity**Object Description**

Index	209B
Description	This object sets the polarity of each digital output. 0 = Output is inverted 1 = Output is not inverted
Object Code	Array
Data Type	UNSIGNED16
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x2
Lower Limit	0x0
Upper Limit	0x2
Unit	

Sub-Index	001
Description	Polarity of Output Number 1
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x1
Lower Limit	0x0
Upper Limit	0x1
Unit	

Sub-Index	002
Description	Polarity of Output Number 2
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x1
Lower Limit	0x0
Upper Limit	0x1
Unit	

209Ch: Digital Output Functionality

Object Description

Index	209C
Description	<p>This object defines the function of each digital output.</p> <p>0 = Disabled</p> <p>1 = Motor Speed Set (see object 20A0h)</p> <p>2 = Current (see object 209Ah)</p> <p>3 = Reserved1</p> <p>4 = Motor Speed Set Clear (see objects 209Fh and 20A0h)</p> <p>5 = Over Voltage (see object 2F85h)</p> <p>6 = Motion Completed (reflects target reached bit 10 in object 041h)</p> <p>7 = In Position (reflects object 20B5h)</p> <p>8 = Zero Speed (see object 20A0h)</p> <p>9 = Limit Switch (see objects 209Dh and 209Eh)</p> <p>10 = Active (reflects the enabled state of the stepIM)</p> <p>11 = Reserved2</p> <p>12 = Motor Brake (as a precondition, objects 605Ah, 605Bh, 605Ch, and 605Eh must all be ≠0)</p> <p>13 = User (sets digital output via object 60FEh sub-index 1 and 2, bits 16–17)</p> <p>14 = Fault (indicates if a fault is pending)</p> <p>15 = Axis Homed (indicates if object 2090h is set to 1, meaning axis is homed)</p>
Object Code	Array
Data Type	UNSIGNED16
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x2
Lower Limit	0x0
Upper Limit	0x2
Unit	

Sub-Index	001
Description	Functionality of Output Number 1
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xF
Unit	

Sub-Index	002
Description	Functionality of Output Number 2
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xF
Unit	

209Dh: Position Level 1 for Digital Output Definition

Object Description

Index	209D
Description	The value of this object is used by the Digital Outputs Functionality object (209Ch) as the first position value for a condition that controls a digital output. If 209Ch is set to 9: The digital output is set to true if the actual position is within the window: 209Eh < x < 209Dh.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000001
Upper Limit	0x7FFFFFFF
Unit	user-defined position

209Eh: Position Level 2 for Digital Output Definition

Object Description

Index	209E
Description	The value of this object is used by the Digital Outputs Functionality object (209Ch) as the second position value for a condition that controls a digital output. If 209Ch is set to 9: The digital output is set to true if the actual position is within the window: 209Eh < x < 209Dh.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000001
Upper Limit	0x7FFFFFFF
Unit	user-defined position

209Fh: Velocity Level 1 for Digital Output Definition

Object Description

Index	209F
Description	The value of this object is used by the Digital Outputs Functionality object (209Ch) as the first velocity value for a condition that controls a digital output. The digital output is set to true if the actual velocity is within the window: $20A0h < x < 209Fh$.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	user-defined velocity

20A0h: Velocity Level 2 for Digital Output Definition

Object Description

Index	20A0
Description	The value of this object is used by the Digital Outputs Functionality object (209Ch) as the second velocity value for a condition that controls a digital output. If 209Ch is set to 1: The digital output is set to true if the actual velocity is above the threshold $x > 20A0h$. If 209Ch is set to 4: The digital output is set to true if the actual velocity is within the window: $20A0h < x < 209Fh$. If 209Ch is set to 8: The digital output is set to true if the actual velocity is below the threshold $x < 20A0h$.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000001
Upper Limit	0x7FFFFFFF
Unit	user-defined velocity

20A1h: Over-Voltage Threshold**Object Description**

Index	20A1
Description	This object indicates the level for detection of the bus over-voltage condition.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0xBB80
Lower Limit	0x2CEC
Upper Limit	0x1FBD0
Unit	millivolt

20ACh: Software Position Limit Mode

Object Description

Index	20AC
Description	This object enables/disables software position limits. It enables/disables the absolute position limits for the position demand value and the position actual value. Every new target position is checked against these limits. 0 = Limits disabled 1 = Limits enabled 2 = Limits enabled with Stop position functionality
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0x0002
Unit	Not applicable

20B1h: Position Command Derivative

Object Description

Index	20B1
Description	This object can be used for tuning purposes. It indicates the derivative of the position command value in units of [100 rpm], which is the same unit as the actual velocity.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x00
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	100 rpm

20B5h: Position In Window**Object Description**

Index	20B5
Description	This object indicates the "in position" flag. The in position window is set in object 6067h. 0 = Actual position is not within the in-position window. 1 = Actual position is within the in-position window.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	Not applicable

20BAh: Remote Hardware Enable Status

Object Description

Index	20BA
Description	This object indicates the state of the Remote enable input, which is digital input mode number 5 in object 20E0h (Digital Input Mode). 0 = Remote enable input off 1 = Remote enable input on
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0x0001
Unit	Not applicable

20CCh: Run Time

Object Description

Index	20CC
Description	This object indicates the total elapsed run time of the drive since production. The value of this object cannot be reset.
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0
Lower Limit	0
Upper Limit	0
Unit	

20CFh: Under-Voltage Threshold

Object Description

Index	20CF
Description	This object indicates the level for detection of an under-voltage condition.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x3138
Lower Limit	0x3138
Upper Limit	0xCB20
Unit	millivolt

20D9h: Velocity Loop Input Filter

Object Description

Index	20D9
Description	This object indicates the low pass filter cutoff frequency for the velocity loop.
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x7530
Unit	Hz

20DEh: Load Encoder Resolution

Object Description

Index	20DE
Description	This object indicates the configured encoder increments and number of load revolutions. It is calculated by the following formula: <i>position encoder resolution = (encoder increments/motor revolutions)</i>
Object Code	Array
Data Type	UNSIGNED32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x2
Lower Limit	0x2
Upper Limit	0x2
Unit	Not applicable

Sub-Index	001
Description	Encoder Increments
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x1
Lower Limit	0x1
Upper Limit	0xFFFFFFFF
Unit	counts

Sub-Index	002
Description	Load Revolutions
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x1
Lower Limit	0x1
Upper Limit	0xFFFFFFFF
Unit	Not applicable

20E0h: Digital Input Mode

Object Description

Index	20E0
Description	<p>This object defines the function of each digital input.</p> <ul style="list-style-type: none"> 0 = Disabled 1 = General. Indicates a true or false level. No related function. 2 = Home switch. Defines the home position for certain homing modes. 3 = Limit switch clockwise 4 = Limit switch counterclockwise 5 = Remote enable. Enables/disables the stepIM by forcing a value to the controlword (object 6040h). 6 = Start motion command for profiled position operation mode. Sets/resets bit 4 in the controlword (object 6040h), new-set-point bit in profile position. 7 = Touch probe 1 8 = Touch probe 2 9 = Motion segment 0. Selects the motion path, as for scripted motion. 10 = Motion segment 1. Selects the motion path, as for scripted motion. 11 = Motion segment 2. Selects the motion path, as for scripted motion. 12 = Motion segment 3. Selects the motion path, as for scripted motion. 13 = Motion start. If object 2FC8h is set to 0, enables the stepIM and starts the motion segment. 14 = Motion start/stop. Sets/resets the halt bit in the controlword (object 6040h)

	<p>15 = Emergency run. Enables the stepIM in Analog Velocity operation mode and allows motion.</p> <p>16 = Homing command. Enables the stepIM and starts homing on the rising edge. Restores the original mode of operation upon the falling edge.</p> <p>17 = stepIM CANopen only. Address bit 0. Bit 0 of CAN address 2F1Bh. The value is stored 500ms after power-up. A reboot is required to activate the new CAN address.)</p> <p>18 = stepIM CANopen only. Address bit 1. Bit 1 of CAN address 2F1Bh. The value is stored 500ms after power-up. A reboot is required to activate the new CAN address.</p> <p>19 = stepIM CANopen only. Address bit 2. Bit 2 of CAN address 2F1Bh. The value is stored 500ms after power-up. A reboot is required to activate the new CAN address.</p> <p>20 = stepIM CANopen only. Address bit 3. Bit 3 of CAN address 2F1Bh. The value is stored 500ms after power-up. A reboot is required to activate the new CAN address.</p> <p>21 = Emergency Disable. Disables the stepIM upon a high level of the input.</p> <p>22 = Motion stop. Sets the halt bit in the controlword (object 6040h) upon a rising edge).</p> <p>23 = Change motion direction for Analog Torque, Velocity, and Position modes of operation.</p> <p>24 = Additional enable/disable request in conjunction with the DS402 state machine. True = allows transition from Switched On to Operation Enable. False = triggers transition from Operation Enable to Switched On.</p>
Object Code	Array
Data Type	UNSIGNED16
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x4
Lower Limit	0x0
Upper Limit	0x4
Unit	Not applicable

Sub-Index	001
Description	Functionality of Input Number 1
Data Type	UNSIGNED16
Entry Category	Optional
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x18
Unit	Not applicable

Sub-Index	002
Description	Functionality of Input Number 2
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x18
Unit	Not applicable

Sub-Index	003
Description	Functionality of Input Number 3
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x18
Unit	Not applicable

Sub-Index	004
Description	Functionality of Input Number 4
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x18
Unit	Not applicable

20E6h: Record Done Indicator

Object Description

Index	20E6
Description	This object indicates whether the recording is complete and data is available. 0 = Record in progress 1 = Record done
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x1
Lower Limit	0x0
Upper Limit	0x1
Unit	Not applicable

20EEh: Velocity Limit

Object Description

Index	20EE
Description	This object indicates the maximum velocity for a drive and motor.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0xF4240
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	rpm/100

20EFh: Digital Input Debounce Filter

Object Description

Index	20EF
Description	The value of this object, multiplied by 250 μ s, represents the digital input debounce filter time. The digital input level is accepted by the firmware if the digital input level remains stable for the debounce time.
Object Code	Array
Data Type	UNSIGNED
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x04
Lower Limit	0x00
Upper Limit	0x02
Unit	Not applicable
<hr/>	
Sub-Index	001
Description	Debounce Value of Input Number 1
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFA0
Unit	Not applicable
<hr/>	
Sub-Index	002
Description	Debounce Value of Input Number 2
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFA0
Unit	Not applicable

Sub-Index	003
Description	Debounce Value of Input Number 3
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFA0
Unit	Not applicable

Sub-Index	004
Description	Debounce Value of Input Number 4
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFA0
Unit	Not applicable

20F1h: Motor Encoder Resolution

Object Description

Index	20F1
Description	This object indicates the resolution of the motor encoder in number of counts per revolution of the motor.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x1000
Lower Limit	0x1000
Upper Limit	0x1000
Unit	counts per revolution

20F2h: Analog Input**Object Description**

Index	20F2
Description	This object returns the value of the analog input.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	millivolt

20F3h: Analog Command**Object Description**

Index	20F3
Description	This object returns the value of the analog command after filter.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	mV

20F4h: Analog Input Current Scaling**Object Description**

Index	20F4
Description	This object indicates the scaling value of the analog current command from analog input.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	mA/V

20F5h: Analog Command Filter**Object Description**

Index	20F5
Description	This object indicates the low-pass filter cut-off frequency of the analog command from the analog input.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0064
Lower Limit	0x0001
Upper Limit	0x7530
Unit	Hz

20F6h: Analog Input Offset**Object Description**

Index	20F6
Description	This object indicates a value that is added to the analog input to the drive, to compensate for offset in the analog input signal. The analog input offset can be automatically set to the current analog input value by calling the analog zero function (object 20F8h).
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0xB1E0
Upper Limit	0x4E20
Unit	mV

20F7h: Analog Input Velocity Scaling**Object Description**

Index	20F7
Description	This object indicates the scaling value of the analog velocity command from the analog input.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	rpm/100/V

20F8h: Analog Input Zero**Object Description**

Index	20F8
Description	<p>This object sets the value of the analog input offset (object 20F6h) so that the current analog input value reading will return zero. The offset value is calculated from an average of 64 samples of the drive analog input.</p> <p>To perform the zeroing, the object must be written with the value of the analog input number; for example, write 1 to the object to zero analog input 1.</p>
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0x0001
Unit	Not applicable

20F9h: Analog Input Position Scaling

Object Description

Index	20F9
Description	<p>This object indicates the scaling value of the analog position command from the analog input.</p> <p>Example:</p> <p>4096 encoder counts represent one motor revolution. Assume that a motor must move by 123 revolutions when the analog input voltage changes by 8V . The formula to be applied is as follows:</p> $4096[\text{encoder counts/rev}] \times 123[\text{rev}] \times 1.024/8[\text{V}] = 64487$ <p>1.024 is a correction factor due to the unit of this parameter.</p>
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	1024 mV

20FAh: Analog Input Deadband

Object Description

Index	20FA
Description	<p>This object can be used to adjust a deadband at the measured analog input voltage.</p> <p>Sub-index 1: Continuous deadband.</p> <p>A measured analog input voltage is applied as a new command value only if the value has changed by at least the value of this object, which lowers the resolution of the analog input signal. This setting can be used to reduce jitter at the target position in Analog Position mode of operation. It also helps achieve a constant velocity command value in Analog Velocity mode of operation.</p> <p>Sub-index 2: Zero volt deadband.</p> <p>The analog command value is set to zero if the measured voltage is within the window of $0[V] \pm \text{sub-index 2}$.</p> <p>This deadband setting can be used to reduce jitter when expecting zero velocity/torque at $\sim 0[V]$ in Analog Torque or Analog Velocity operation mode.</p>
Object Code	Array
Data Type	INTEGER16
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x02
Lower Limit	0x00
Upper Limit	0x02
Unit	Not applicable

Sub-Index	001
Description	Continuous Deadband
Entry Category	Optional
Data Type	INTEGER16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x1F4
Unit	mV

Sub-Index	002
Description	Zero Volt Deadband
Entry Category	Optional
Data Type	INTEGER16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x1F4
Unit	mV

2116h: Point to Point Generator Status

Object Description

Index	2116
Description	This object indicates the state of the point to point trajectory generator. 0 = Acceleration or constant speed 1 = Deceleration 2 = Finished 3 = Idle
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	Not applicable

2614h: PDO Address Tx**Object Description**

Index	2614
Description	This object can be used to monitor memory for production and testing purposes
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2615h: PDO Data Tx**Object Description**

Index	2615
Description	This object can be used to monitor memory for production and testing purposes
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2616h: PDO Address Rx**Object Description**

Index	2616
Description	This object can be used to monitor memory for production and testing purposes.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2617h: PDO Data Rx**Object Description**

Index	2617
Description	This object can be used to monitor memory for production and testing purposes.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2618h: Sync Counter Out**Object Description**

Index	2618
Description	This object indicates the PLL error in synchronous operation.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

2619h: PFB Sync Delay**Object Description**

Index	2619
Description	This object indicates the delay for sending the PFB in synchronous operation.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	Not applicable

261Ah: PCMD Sync Delay**Object Description**

Index	261A
Description	This object indicates the delay for reading the PCMD in synchronous operation.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	Not applicable

261Bh: PLL State

Object Description

Index	261B
Description	<p>PLL state in synchronous operation.</p> <p>For stepIM CANopen: 0 = Unlocked 1 = Locking 2 = Locked 3 = Lost</p> <p>For stepIM EtherCAT: 0 = Unlocked 1 = Locked</p>
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFF
Unit	Not applicable

2625h: Sync Lost Counter Limit

Object Description

Index	2625
Description	This object indicates the number of lost sync messages in synchronous operation that will cause PLL lock loss.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2626h: Sync Lost Counter**Object Description**

Index	2626
Description	This object indicates the number of lost sync messages in synchronous operation.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2627h: RPDO Lost Counter**Object Description**

Index	2627
Description	This object indicates the number of lost PDO messages in synchronous operation.
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFF
Unit	Not applicable

2628h: Position Derivative for Missing RPDO**Object Description**

Index	2628
Description	This object indicates the change in position at the last received synced PDO, which can be used in the event of a lost PDO.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

2629h: Custom TBPRD**Object Description**

Index	2629
Description	This object indicates the time base of the drive real-time interrupt.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	Not applicable

262Ah: Sync RT Counter**Object Description**

Index	262A
Description	This object indicates the number of real-time interrupts between two sync messages.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

262Bh: Allowed Lost Syncs**Object Description**

Index	262B
Description	This object indicates the maximum number of lost sync messages before a PLL lost fault is generated.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x000F
Lower Limit	0x0000
Upper Limit	0x7FFF
Unit	Not applicable

262Ch: Sync Allowed Window**Object Description**

Index	262C
Description	This object indicates the maximum deviation of a sync message before a PLL lost fault is generated. Example: A value of 12500 means: $12500/90,000,000 = 0.000000138888[s] = 138.888[\mu s]$
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x30D4
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	90 MHz

262Dh: High Resolution Timer Difference**Object Description**

Index	262D
Description	This object indicates the difference between the internal timer and the received value.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

262Eh: PFB Offset**Object Description**

Index	262E
Description	This object indicates an offset that is added to the position feedback so that the axis position becomes 0. This value is set during calibration.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0x1000
Unit	counts

2F00h: Calibration Process Request**Object Description**

Index	2F00
Description	Writing 1 to this object starts the calibration process.
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable

2F01h: Calibration Data Status**Object Description**

Index	2F01
Description	This object indicates the state of the calibration data: 0 = Calibration saved -2 = No calibration saved
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0xFFFE
Upper Limit	0x0002
Unit	Not applicable

2F02h: Calibration Process Max Current**Object Description**

Index	2F02
Description	This object indicates the current that will be used for the calibration process.
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x7D0
Lower Limit	0x0
Upper Limit	0x2EE0
Unit	Not applicable

2F03h: Phase C PWM

Index	2F03
Description	This object indicates the value of Phase C PWM.
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	Not applicable

2F05h: Drive Enabled Time**Object Description**

Index	2F05
Description	This object indicates the accumulated time the drive has been in the enabled state.
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	-
Lower Limit	-
Upper Limit	-
Unit	Not applicable

2F06h: Phase A PWM**Object Description**

Index	2F06
Description	This object indicates the value of Phase A PWM.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	Not applicable

2F07h: Phase B PWM**Object Description**

Index	2F07
Description	This object indicates the value of Phase B PWM.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	Not applicable

2F08h: Maximum Velocity Error**Object Description**

Index	2F08
Description	This object indicates the maximum value for the velocity error. Writing a value of 0 disables velocity error monitoring.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	rpm/100

2F09h: Velocity Loop Out**Object Description**

Index	2F09
Description	This object indicates the value of the velocity loop output (control effort). This value is the input of the current loop in all operation modes except Torque mode (operation mode 4).
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	mA

2F0Ah: Velocity Over-Speed**Object Description**

Index	2F0A
Description	This object indicates the velocity value that triggers the over-speed protection fault.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x1E8480
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	rpm/100

2F0Bh: Maximum Position Derivative**Object Description**

Index	2F0B
Description	This object indicates the value of the maximum position derivative for the position command that is received from the CANopen master in Interpolated Position mode (operation mode 7). Writing a value of 0 disables this functionality.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	counts

2F0Ch: Parameter Help String 1**Object Description**

Index	2F0C
Description	Returns the help string for a command (a CANopen object). The help string is divided into 2 strings, which are located in objects 2F0Ch (first string) and 2F0Dh (second string). The command's CANopen index is written to object 2F0Eh and the help string is read in objects 2F0Ch and 2F0Dh.
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x0
Lower Limit	-
Upper Limit	-
Unit	Not applicable

2F0Dh: Parameter Help String 2

Object Description

Index	2F0D
Description	Returns the help string for a command (a CANopen object). The help string is divided into 2 strings, which are located in objects 2F0Ch (first string) and 2F0Dh (second string). The command's CANopen index is written to object 2F0Eh and the help string is read in objects 2F0Ch and 2F0Dh.
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	-
Lower Limit	-
Upper Limit	-
Unit	Not applicable

2F0Eh: Parameter Help Index

Object Description

Index	2F0E
Description	This object indicates the CANopen index of the command for which a help string is requested. The help string is divided into 2 strings, which are located in objects 2F0Ch (first string) and 2F0Dh (second string). The command's CANopen index is written to object 2F0Eh and the help string is read in objects 2F0Ch and 2F0Dh.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2F0Fh: Parameter Index List**Object Description**

Index	2F0F
Description	Lists the indexes of all the parameters that are saved in the non-volatile memory (EEPROM). Writing 0 to sub-index 1 starts enumeration. Reading sub-index 2 retrieves the CANopen index of the EEPROM parameter. Upon each read the enumerator automatically advances. Enumeration ends when reading 0xFFFFFFFF.
Object Code	Array
Data Type	UNSIGNED32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x2
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	001
Description	Parameter In List Index
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Parameter In List
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2F10h: Recorder Channels

Object Description

Index	2F10
Description	This object selects the recorded data (sub-index 1 is Number of Records, sub-index 2 is the CANopen index of the first channel, sub-index 3 is the CANopen index of the second channel, etc.). Up to 4 channels are available for recording simultaneously. The total length of the recording depends on the number of channels selected.
Object Code	Array
Data Type	UNSIGNED32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x5
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable
Sub-Index	001
Description	Number of Records
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x4
Unit	Not applicable
Sub-Index	002
Description	Channel1 Index
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Channel2 Index
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	004
Description	Channel3 Index
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	005
Description	Channel4 Index
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2F11h: Recorder Sample Cycle

Object Description

Index	2F11
Description	This object is multiplied by 62.5 microseconds to produce the recording sample period. For every 62.5 microseconds sample cycle, the recorder adds a new sample to its recording buffer.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	1
Lower Limit	1
Upper Limit	0x7FFF
Unit	Not applicable

2F12h: Recorder Trigger

Object Description

Index	2F12
Description	<p>This object indicates the trigger for the recording process.</p> <p>Sub-index 1 determines whether the recording will start immediately or after a condition is fulfilled. The remaining sub-indexes are used for conditional recording.</p> <p>0 = Immediate recording 1 = Conditional recording 2 = Recording initiated by fault</p> <p>Sub-index 2 indicates the CANopen index for the channel. Sub-index 3 indicates the value of the condition. Sub-index 4 indicates the direction of the comparator (1 for rising edge, 0 for falling edge). Sub-index 5 indicates the location of the condition in the recording buffer.</p>
Object Code	Array
Data Type	INTEGER32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x5
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable
Sub-Index	001
Description	Recorder Trigger Condition
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x2
Unit	Not applicable
Sub-Index	002
Description	Recorder Condition Channel Index
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Recorder Condition Value
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	004
Description	Recorder Condition Comparator
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x1
Unit	Not applicable

Sub-Index	005
Description	Recorder Buffer Location
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7A120
Unit	Not applicable

2F13h: Recorder Total Number of Points

Object Description

Index	2F13
Description	This object indicates the total number of points available for recording.
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFF
Unit	Not applicable

2F14h: Recordable Parameters

Object Description

Index	2F14
Description	This object indicates the list of parameters available for recording. Writing 0 to sub-index 1 starts enumeration. Reading sub-index 2 retrieves the CANopen index of the recordable parameter. Upon each read the enumerator automatically advances. Enumeration ends when reading 0xFFFFFFFF.
Object Code	Array
Data Type	UNSIGNED32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x2
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	
<hr/>	
Sub-Index	001
Description	Recordable List Index
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable
<hr/>	
Sub-Index	002
Description	Recordable Parameter
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2F15h: Recorder Number of Points per Channel

Object Description

Index	2F15
Description	The object indicates the number of points per channel to be recorded. This value multiplied by the number of recorded channels cannot exceed the total number of points (object 2F13h).
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable

2F16h: Recorder Start

Object Description

Index	2F16
Description	Writing 1 to this object starts recording. Writing 0 cancels recording if in progress.
Object Code	Variable
Data Type	UNSIGNED8
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x1
Unit	Not applicable

2F17h: Number of Recorded Points

Object Description

Index	2F17
Description	This object indicates the number of recorded points for a channel.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2F18h: Recorder Results

Object Description

Index	2F18
Description	<p>This object holds the results of the recording. Setting sub-index 1 to zero starts enumeration. Reading sub-index 2 retrieves the recorded point. Upon each read the next point is retrieved. Reading is repeated according to the value of object 2F15h (Recorder Number of Points per Channel). If more than a single channel was recorded, the recorded points are arranged as follows: 1st channel 1st point 2nd channel 1st point 3rd channel 1st point 1st channel 2nd point 2nd channel 2nd point 3rd channel 2nd point . . . 1st channel last point 2nd channel last point 3rd channel last point</p>
Object Code	Array
Data Type	INTEGER32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x3
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	001
Description	Reset Results Index
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x1
Unit	Not applicable

Sub-Index	002
Description	Recorder Channel Result
Entry Category	Optional
Data Type	INTEGER32
Access	Read Only
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Result Index
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

2F19h: Phase Advance Factor

Object Description

Index	2F19
Description	This object indicates the factor of the phase advance as a function of velocity.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0xBB8
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	0.016763 [electrical degree/1000 rpm]

2F1Ah: Phase Advance Limit

Object Description

Index	2F1A
Description	This object indicates the limit of the phase advance in degrees.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x46
Lower Limit	0x0
Upper Limit	0x168
Unit	degree

2F1Bh: Drive Address

Object Description

Index	2F1B
Description	This object indicates the address of the drive in the CANopen network. To apply a change in the address, save the new address to EEPROM (Store Parameter Field process object 1010h) and reset the drive.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0065
Lower Limit	0x0001
Upper Limit	0x007F
Unit	Not applicable

2F1Ch: PLL Factor

Object Description

Index	2F1C
Description	This object indicates the factor for CANopen synchronized operation PLL.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x10000
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	Not applicable

2F1Dh: Field Weakening Factor

Object Description

Index	2F1D
Description	This object indicates the field weakening as a function of velocity.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0xC8
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	0.00305 [mA/rpm]

2F1Eh: Field Weakening Limit

Object Description

Index	2F1E
Description	This object indicates the field weakening current limit, in milliamperes.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x2BC
Lower Limit	0x0
Upper Limit	0x2EE0
Unit	mA

2F1Fh: CANopen Baud Rate

Object Description

Index	2F1F
Description	<p>This object indicates the baud rate of the drive in the CANopen network.</p> <p>To apply a change in the baud rate, save the new baud rate to EEPROM (Store Parameter Field process object 1010h) and reset the drive.</p> <p>0 = 1 Mbit/s 1 = Reserved 2 = 500 Kbit/s 3 = 250 Kbit/s 4 = 125 Kbit/s 5 = Reserved 6 = 50 Kbit/s 7 = 20 Kbit/s 8 = 10 Kbit/s</p>
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0x0008
Unit	Not applicable

2F20h: Phase Advance Start Velocity

Object Description

Index	2F20
Description	This object indicates the phase advance start velocity.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	Not applicable

2F21h: Save Process Active**Object Description**

Index	2F21
Description	<p>This object indicates whether the Store Parameter Field process (object 1010h) is running.</p> <p>0 = Store Parameter Field process is not active 1 = Store Parameter Field process is active</p> <p>A save process will be performed only if either the main voltage VIN exceeds 4.5V or the auxiliary voltage exceeds 12V; otherwise object 2F21h remains set to 1.</p>
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0x0001
Unit	Not applicable

2F22h: Home On Edge Current Saturation

Object Description

Index	2F22
Description	This object indicates the current saturation for homing on edge method (home methods -1, -2, -3, -4).
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x7D0
Lower Limit	0x0
Upper Limit	0x2EE0
Unit	mA

2F23h: Home On Edge Time

Object Description

Index	2F23
Description	This object indicates the minimum time to wait in stall position before setting home, for homing on edge method (home methods -1, -2, -3, -4).
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x7D0
Lower Limit	0x0
Upper Limit	0x2710
Unit	ms

2F24h: Reserved1**Object Description**

Index	2F24
Description	Reserved1
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x07D0
Lower Limit	0x0000
Upper Limit	0x2EE0
Unit	ms

2F25h: Reserved2**Object Description**

Index	2F25
Description	Reserved2
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x07D0
Lower Limit	0x0000
Upper Limit	0x2EE0
Unit	ms

2F26h: Reserved3**Object Description**

Index	2F26
Description	Reserved3
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x07D0
Lower Limit	0x0000
Upper Limit	0x2EE0
Unit	ms

2F27h: Reserved4**Object Description**

Index	2F27
Description	Reserved4
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x07D0
Lower Limit	0x0000
Upper Limit	0x2EE0
Unit	ms

2F28h: Home End Position Offset

Object Description

Index	2F28
Description	This object indicates how far to move after the homing switch is tripped before stopping.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	user-defined position

2F29h: Current High Limit

Object Description

Index	2F29
Description	This object indicates the maximum current for generating torque in the motor.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x2EE0
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	mA

2F2Ah: Current Low Limit

Object Description

Index	2F2A
Description	This object indicates the minimum current for generating torque in the motor.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0xD120
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	mA

2F2Bh: Saturation Depth Of Current Loop

Object Description

Index	2F2B
Description	This object indicates the saturation depth of current loop.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x07D0
Lower Limit	0x0000
Upper Limit	0x7FFF
Unit	mA

2F2Ch: Semi-Open Proportional Gain

Object Description

Index	2F2C
Description	This object indicates the saturation depth of current loop.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x1388
Lower Limit	0x0
Upper Limit	0x1000000
Unit	mA/(rpm/100)/2 ¹⁶

2F2Dh: Semi-Open Loop Minimum Current

Object Description

Index	2F2C
Description	This object provides the minimum motor current in a semi-open motor type (object 6402h=0).
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0XBB8
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	mA

2F2Eh: Open Loop Standstill Current

Object Description

Index	2F2E
Description	<p>The object defines the current in standstill for an open loop motor type (see object 6402h). This object can be used to reduce the current consumption in standstill.</p> <p>The value must be less than the user current limit (see object 6073h) and the motor rated current (see object 6075:00h). The applied standstill current in an open loop motor type is therefore the minimum value of object 2F2Eh, 6073h, and 6075h.</p> <p>A value of 0 deactivates this function using a dedicated motor standstill current.</p>
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0x7530
Unit	Not applicable

2F2Fh: Velocity Loop Biquad Filter

Object Description

Index	2F2F
Description	<p>This object defines the biquad filter at the output of the velocity loop.</p> <p>Sub-index 1: defines the filter type.</p> <ul style="list-style-type: none"> 0 = Filter disabled 1 = First order low-pass 2 = First order high pass 3 = Second order low-pass 4 = Second order high-pass 5 = Second order band-pass 6 = Second order band-rejection <p>Sub-index 2: defines the filter cut-off frequency for filter types 1–4.</p> <p>Sub-index 3: defines, together with sub-index 2, the filter frequencies for the second order band-pass and band-rejection filter (filter types 5 and 6).</p> <p>Sub-index 4: defines a damping factor for all second order filter types (filter types 3–6). This value divided by 1000 defines the applied damping factor. The higher the damping factor, the more the input signal is affected by the second order filter type.</p> <p>A good default value for the filter type is 1414 $(1414/1000 = 1.414 = \text{sqrt}(2))$.</p> <p>However, if the input signal needs to be damped, or if the input signal is already damped at the filter cut-off frequencies, it might be necessary to change the value. For the band-pass or band-rejection filter, a value of 707 (0.707) might already be sufficient.</p>
Object Code	Array
Data Type	UNSIGNED16
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x4
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable
Sub-Index	001
Description	Filter type
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0000
Upper Limit	0x6
Unit	Not applicable
Sub-Index	002
Description	Filter frequency 1
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x0001
Upper Limit	0x07D0
Unit	Hz

Sub-Index	003
Description	Filter frequency 2
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0xC8
Lower Limit	0x0001
Upper Limit	0x07D0
Unit	Hz

Sub-Index	004
Description	Damping factor
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x586
Lower Limit	0x0001
Upper Limit	0x2710
Unit	1000 counts

2F30h: CAN Buffer Overflow Counter

Object Description

Index	2F30
Description	CAN buffer overflow counter.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x00
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2F70h: LED Color Select**Object Description**

Index	2F70
Description	Selects standby LED configuration 0 = Blinking green 1 = Constant yellow
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0x0001
Unit	Not applicable

2F76h: Reset to Bootloader**Object Description**

Index	2F76
Description	This object initiates reset to bootloader. The drive is reset to bootloader when 0x00747372 (ASCII value of "rst") is written.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2F77h: Stop Position**Object Description**

Index	2F77
Description	If object 20ACh (Software Position Limit Mode) is set to 2, drive will stop upon crossing a stop position value.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	counts

2F78h: Motor Ke

Object Description

Index	2F78
Description	<p>This object indicates the BEMF/velocity (Ke) ratio of the motor. This object is used to increase the applied proportional gain of the current loop at high speeds and reduces the applied proportional gain of the current loop at low speeds.</p> <p>Increasing this object allows the user to select a lower current loop proportional gain (see object 2007h) and therefore achieve a less reactive current loop behavior at lower speeds (e.g. required when facing noise issues produced by the current loop at low speeds).</p> <p>The unit is given in [100×V/rad/s], meaning a value of 123 represents 1.23[V/rad/s].</p>
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0
Lower Limit	0x0
Upper Limit	10000
Unit	100×V/rad/s (= Kt in [100A/Nm])

2F7Ah: Serial Number

Object Description

Index	2F7A
Description	This object indicates the serial number of the motor.
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	SN:0000-0000
Lower Limit	-
Upper Limit	-
Unit	Not applicable

2F7Bh: Boot Version**Object Description**

Index	2F7B
Description	This object contains the version number of the boot software.
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Constant
PDO Mapping	No
Default Value	No version
Lower Limit	-
Upper Limit	-
Unit	Not applicable

2F7Ch: Motor Info**Object Description**

Index	2F7C
Description	This object contains pre-programmed motor parameters and info.
Object Code	Array
Data Type	UNSIGNED32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x19
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable
Sub-Index	001
Description	'M'
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x6D
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable
Sub-Index	002
Description	'O'
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x6F
Lower Limit	0x4F
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	003
Description	'T'
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x74
Lower Limit	0x54
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	004
Description	'O'
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x6F
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	005
Description	'R'
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x72
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	006
Description	Current Integral Gain
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	007
Description	Current Proportional Gain
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x7530
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	008
Description	Motor Pitch
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	009
Description	Motor Poles
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	010 (subA)
Description	Phase Advance Factor
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0xBB8
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	011 (subB)
Description	Phase Advance Limit
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x46
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	degree

Sub-Index	012 (subC)
Description	Field Weakening Factor
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x2BC
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	013 (subD)
Description	Field Weakening Limit
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0xC8
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	mA

Sub-Index	014 (subE)
Description	Motor Ke
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0xA
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	V/rpm

Sub-Index	015 (subF)
Description	Peak Current
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x1388
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	mA

Sub-Index	016 (sub10)
Description	Peak Current Limit
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x157C
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	mA

Sub-Index	017 (sub11)
Description	Max Current
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0xFA0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	mA

Sub-Index	018 (sub12)
Description	Max Current Limit
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x157C
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	mA

Sub-Index	019 (sub13)
Description	Motor Rated Current
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0xBB8
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	mA

Sub-Index	020 (sub14)
Description	I2T Fault Threshold
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	021 (sub15)
Description	Motor Model
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	022 (sub16)
Description	Hardware Revision
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x3
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	023 (sub17)
Description	Motor Size
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	024 (sub18)
Description	Password for Protected Values
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	025 (sub19)
Description	PFB Offset
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x1000
Unit	Not applicable

2F7Dh: Serial Number for CAN ID

Object Description

Index	2F7D
Description	This object indicates the serial number to be configured.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2F7Eh: New CAN ID**Object Description**

Index	2F7E
Description	This object indicates the new CAN ID to be configured for a specific serial number in 0x2F7D.
Object Code	Variable
Data Type	UNSIGNED8
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	101
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable

2F7Fh: CAN ID Configuration**Object Description**

Index	2F7F
Description	This object completes the CAN ID configuration process. 0 = Update CAN Node ID 1 = Save in EEPROM
Object Code	Variable
Data Type	UNSIGNED8
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable

2F80h: User Parameters**Object Description**

Index	2F80
Description	Parameters that can be programmed by user. These parameters are stored in the drive EEPROM by means of the store parameters command.
Object Code	Array
Data Type	UNSIGNED32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x5
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	001
Description	Parameter 0
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Parameter 1
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Parameter 2
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	004
Description	Parameter 3
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	005
Description	Parameter 4
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2F81h: Savable Parameters

Object Description

Index	2F81
Description	This object indicates the list of parameters available for saving. Setting sub-index 1 to zero starts enumeration. Reading sub-index 2 retrieves the CANopen index of the recordable parameter. For each read the enumerator automatically advances. Enumeration ends when 0xFFFFFFFF is read.
Object Code	Array
Data Type	UNSIGNED32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x2
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable
Sub-Index	001
Description	Recordable List Index
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable
Sub-Index	002
Description	Recordable Parameter
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read Only
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2F82h: PLL Lock

Object Description

Index	2F82
Description	<p>This object controls the synchronization method of the drives PLL.</p> <p>stepIM CANopen</p> <p>0 = PLL is not synchronized</p> <p>1 = PLL is synchronized with CANopen sync message - this mode creates a fault at Sync lost in operation mode 8.</p> <p>2 = PLL is synchronized with the high resolution time stamp (object 1013h).</p> <p>3 = PLL is synchronized with CANopen sync message - this mode creates a fault at Sync lost in any operation mode.</p> <p>stepIM EtherCAT</p> <p>0 = No PLL if the distributed clock synchronization event is switched off.</p> <p>1 = PLL is synchronized with the incoming RxDPO if the distributed clock synchronization event is switched off.</p>
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0001
Lower Limit	0x0000
Upper Limit	0x0003
Unit	Not applicable

2F83h: Motion Time

Object Description

Index	2F83
Description	<p>Allows motion to start at a specific time in profile position operation mode (1). The time is based on object 1013h (High Resolution Time Stamp).</p> <p>To start motion at a specific time:</p> <ul style="list-style-type: none"> - Set bit 11 in Controlword (object 6040h) to 1 to enable start of motion at a given time. - Set object 2F82h (PLL Lock) to 2 (optional). - Set start time in object 2F83h. - The motion will start according to the time specified.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x1
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	µs

2F84h: Backlash Compensation Distance

Object Description

Index	2F84
Description	Sets the backlash compensation distance. Applicable in profile position operation mode (1).
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	count

2F85h: Voltage Level for Digital Output Definition**Object Description**

Index	2F85
Description	<p>The value of this object is used by the over-voltage functionality of object 209Ch (Digital Output Functionality = 5). As the voltage rises above the set value, it will set the digital output. This voltage has a hysteresis of ± 500 mV.</p> <p>Example:</p> <p>The voltage level has been set to 2250 mV. The digital output will be set according to the polarity setting if the DC-bus voltage goes higher than 2750 mV. The digital output will be reset if the DC bus voltage drops below 1750 mV.</p>
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0xCB20
Lower Limit	0x0
Upper Limit	0xCB20
Unit	mV

2F86h: Save Actual Position Value on Power Off

Object Description

Index	2F86
Description	<p>This object indicates whether the actual position value (object 6063h) is saved in the EEPROM when the bus voltage supply is powered off, and restored at the next power on. This feature is not active at shutdown of the auxiliary power supply.</p> <p>The feature is intended for use when the stepIM is powered via bus and auxiliary voltage. First the bus voltage must be switched off. The stepIM saves the actual position within 300 ms upon detecting an undervoltage fault (see object 20CFh). Then the auxiliary voltage can also be switched off.</p> <p>1 = Save enabled 0 = Save disabled</p> <p>The stepIM restores the saved position at the next power cycle. Status information is updated in object 2F8Ah. 2F8Ah sub-index 1 indicates whether the position has been restored. (Failure to restore may be due to excessive rotor movement while the stepIM was switched off).</p> <p>Refer to objects 2F89h and 2F8Ah.</p>
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0
Lower Limit	0x0000
Upper Limit	0x7FFF
Unit	Not applicable

2F87h: Manufacture Specific Bits Mode

Object Description

Index	2F87
Description	This object defines the function of each manufacturer specific bit in the controlword (bits 11-15). 0 = Disabled 1 = In profile position mode, the profile velocity will be reduced by 50% 2 = Begin on time select bit for profile position mode
Object Code	Array
Data Type	UNSIGNED16
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x5
Lower Limit	0x0
Upper Limit	0x5
Unit	Not applicable
Sub-Index	001
Description	Functionality of Controlword bit 11
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x2
Lower Limit	0x0
Upper Limit	0x2
Unit	Not applicable

Sub-Index	002
Description	Functionality of Controlword bit 12
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x2
Unit	Not applicable

Sub-Index	003
Description	Functionality of Controlword bit 13
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x2
Unit	Not applicable

Sub-Index	004
Description	Functionality of Controlword bit 14
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x2
Unit	Not applicable

Sub-Index	005
Description	Functionality of Controlword bit 15
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x2
Unit	Not applicable

2F88h: Backlash Compensation Mode

Object Description

Index	2F88
Description	<p>The drive has two types of backlash compensation.</p> <p>Type 1. Prior to starting the first movement after enable, and upon every direction change, the backlash compensation distance is added to the target position. Upon the first movement after enable, the drive will first move the backlash compensation distance in the opposite direction of the move command, and then it will execute the move command.</p> <p>Type 2. At the end of every movement in the direction of the backlash, the backlash compensation distance is added to the target position.</p>
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0x0001
Unit	counts

2F89h: Position Backup Restore Window

Object Description

Index	2F89
Description	Sets position restore verification window. Applicable only when object 2F8Ah = 1. On bootup, the restored encoder position and actual encoder position are compared. If the difference is within the window, the Position Backup Restore Status (object 2F8Ah) is set to 1. Refer to object 2F86h.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	counts

2F8Ah: Position Backup Restore Status

Object Description

Index	2F8A
Description	Sub-Index 1: 0 = Position was not restored correctly 1 = Position was restored correctly Refer to object 2F86h)
Object Code	Array
Data Type	UNSIGNED16
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	3
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	counts

Entry Description

Sub-Index	001
Description	Position Backup Restore Status
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	

Sub-Index	002
Description	Position Backup Restored Encoder
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	

Sub-Index	03
Description	Position Backup Current Encoder
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	

2F8Bh: Reduced Control Loop Frequency

Object Description

Index	2F8B
Description	0 = Normal operation (Velocity loop 8 kHz, Position Loop 16 kHz) 1 = Reduced frequency (Velocity loop 16 kHz, Position Loop 32 kHz)
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0x0001
Unit	Not applicable

2F90h: Path Segment 0

Object Description

Index	2F90
Description	<p>Motion Segment</p> <p>Sub-index 1: Target position</p> <p>Sub-index 2: Cruise velocity</p> <p>Sub-index 3: Acceleration</p> <p>Sub-index 4: Deceleration</p> <p>Sub-index 5: Controlword. A digital input can be used to initiate motion if the corresponding index in object 20E0h is set to 6. This controlword will be executed after the values for sub-indexes 1 through 4 have been set.</p> <p>Sub-index 6: Delay. The duration of time (pause) after the motion has been completed until the next iteration or the next segment begins.</p> <p>Sub-index 7: Number of additional iterations. The number of times this segment will be executed after the first run before continuing to the next segment.</p> <p>Sub-index 8: Index of next segment. The index of the next segment (0 through 9) to be executed after the current segment (with delay) is completed.</p> <p>Value of -1 means that this is the last segment to be executed.</p>
Object Code	Array
Data Type	INTEGER32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x8
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	001
Description	Target Position
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Cruise Velocity
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x2710
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Acceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	004
Description	Deceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	005
Description	Controlword
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	006
Description	Delay
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	007
Description	Number of Additional Iterations
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	008
Description	Next Segment Index
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x9
Unit	Not applicable

2F91h: Path Segment 1

Object Description

Index	2F91
Description	<p>Motion Segment</p> <p>Sub-index 1: Target position</p> <p>Sub-index 2: Cruise velocity</p> <p>Sub-index 3: Acceleration</p> <p>Sub-index 4: Deceleration</p> <p>Sub-index 5: Controlword. A digital input can be used to initiate motion if the corresponding index in object 20E0h is set to 6. This controlword will be executed after the values for sub-indexes 1 through 4 have been set.</p> <p>Sub-index 6: Delay. The duration of time (pause) after the motion has been completed until the next iteration or the next segment begins.</p> <p>Sub-index 7: Number of additional iterations. The number of times this segment will be executed after the first run before continuing to the next segment.</p> <p>Sub-index 8: Index of next segment. The index of the next segment (0 through 9) to be executed after the current segment (with delay) is completed.</p> <p>Value of -1 means that this is the last segment to be executed.</p>
Object Code	Array
Data Type	INTEGER32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x8
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	001
Description	Target Position
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Cruise Velocity
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x2710
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Acceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	004
Description	Deceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	005
Description	Controlword
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	006
Description	Delay
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	007
Description	Number of additional Iterations
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	008
Description	Next Segment Index
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x9
Unit	Not applicable

2F92h: Path Segment 2

Object Description

Index	2F92
Description	<p>Motion Segment</p> <p>Sub-index 1: Target position</p> <p>Sub-index 2: Cruise velocity</p> <p>Sub-index 3: Acceleration</p> <p>Sub-index 4: Deceleration</p> <p>Sub-index 5: Controlword. A digital input can be used to initiate motion if the corresponding index in object 20E0h is set to 6. This controlword will be executed after the values for sub-indexes 1 through 4 have been set.</p> <p>Sub-index 6: Delay. The duration of time (pause) after the motion has been completed until the next iteration or the next segment begins.</p> <p>Sub-index 7: Number of additional iterations. The number of times this segment will be executed after the first run before continuing to the next segment.</p> <p>Sub-index 8: Index of next segment. The index of the next segment (0 through 9) to be executed after the current segment (with delay) is completed.</p> <p>Value of -1 means that this is the last segment to be executed.</p>
Object Code	Array
Data Type	INTEGER32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x8
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	001
Description	Target Position
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Cruise Velocity
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x2710
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Acceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	004
Description	Deceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	005
Description	Controlword
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	006
Description	Delay
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	007
Description	Number of additional Iterations
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	008
Description	Next Segment Index
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x9
Unit	Not applicable

2F93h: Path Segment 3

Object Description

Index	2F93
Description	<p>Motion Segment</p> <p>Sub-index 1: Target position</p> <p>Sub-index 2: Cruise velocity</p> <p>Sub-index 3: Acceleration</p> <p>Sub-index 4: Deceleration</p> <p>Sub-index 5: Controlword. A digital input can be used to initiate motion if the corresponding index in object 20E0h is set to 6. This controlword will be executed after the values for sub-indexes 1 through 4 have been set.</p> <p>Sub-index 6: Delay. The duration of time (pause) after the motion has been completed until the next iteration or the next segment begins.</p> <p>Sub-index 7: Number of additional iterations. The number of times this segment will be executed after the first run before continuing to the next segment.</p> <p>Sub-index 8: Index of next segment. The index of the next segment (0 through 9) to be executed after the current segment (with delay) is completed.</p> <p>Value of -1 means that this is the last segment to be executed.</p>
Object Code	Array
Data Type	INTEGER32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x8
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	001
Description	Target Position
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Cruise Velocity
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x2710
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Acceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	004
Description	Deceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	005
Description	Controlword
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	006
Description	Delay
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	007
Description	Number of additional Iterations
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	008
Description	Next Segment Index
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x9
Unit	Not applicable

2F94h: Path Segment 4

Object Description

Index	2F94
Description	<p>Motion Segment</p> <p>Sub-index 1: Target position</p> <p>Sub-index 2: Cruise velocity</p> <p>Sub-index 3: Acceleration</p> <p>Sub-index 4: Deceleration</p> <p>Sub-index 5: Controlword. A digital input can be used to initiate motion if the corresponding index in object 20E0h is set to 6. This controlword will be executed after the values for sub-indexes 1 through 4 have been set.</p> <p>Sub-index 6: Delay. The duration of time (pause) after the motion has been completed until the next iteration or the next segment begins.</p> <p>Sub-index 7: Number of additional iterations. The number of times this segment will be executed after the first run before continuing to the next segment.</p> <p>Sub-index 8: Index of next segment. The index of the next segment (0 through 9) to be executed after the current segment (with delay) is completed.</p> <p>Value of -1 means that this is the last segment to be executed.</p>
Object Code	Array
Data Type	INTEGER32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x8
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	001
Description	Target Position
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Cruise Velocity
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x2710
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Acceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	004
Description	Deceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	005
Description	Controlword
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	006
Description	Delay
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	007
Description	Number of additional Iterations
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	008
Description	Next Segment Index
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x9
Unit	Not applicable

2F95h: Path Segment 5

Object Description

Index	2F95
Description	<p>Motion Segment</p> <p>Sub-index 1: Target position</p> <p>Sub-index 2: Cruise velocity</p> <p>Sub-index 3: Acceleration</p> <p>Sub-index 4: Deceleration</p> <p>Sub-index 5: Controlword. A digital input can be used to initiate motion if the corresponding index in object 20E0h is set to 6. This controlword will be executed after the values for sub-indexes 1 through 4 have been set.</p> <p>Sub-index 6: Delay. The duration of time (pause) after the motion has been completed until the next iteration or the next segment begins.</p> <p>Sub-index 7: Number of additional iterations. The number of times this segment will be executed after the first run before continuing to the next segment.</p> <p>Sub-index 8: Index of next segment. The index of the next segment (0 through 9) to be executed after the current segment (with delay) is completed.</p> <p>Value of -1 means that this is the last segment to be executed.</p>
Object Code	Array
Data Type	INTEGER32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x8
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	001
Description	Target Position
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Cruise Velocity
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x2710
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Acceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	004
Description	Deceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	005
Description	Controlword
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	006
Description	Delay
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	007
Description	Number of additional Iterations
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	008
Description	Next Segment Index
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x9
Unit	Not applicable

2F96h: Path Segment 6

Object Description

Index	2F96
Description	<p>Motion Segment</p> <p>Sub-index 1: Target position</p> <p>Sub-index 2: Cruise velocity</p> <p>Sub-index 3: Acceleration</p> <p>Sub-index 4: Deceleration</p> <p>Sub-index 5: Controlword. A digital input can be used to initiate motion if the corresponding index in object 20E0h is set to 6. This controlword will be executed after the values for sub-indexes 1 through 4 have been set.</p> <p>Sub-index 6: Delay. The duration of time (pause) after the motion has been completed until the next iteration or the next segment begins.</p> <p>Sub-index 7: Number of additional iterations. The number of times this segment will be executed after the first run before continuing to the next segment.</p> <p>Sub-index 8: Index of next segment. The index of the next segment (0 through 9) to be executed after the current segment (with delay) is completed.</p> <p>Value of -1 means that this is the last segment to be executed.</p>
Object Code	Array
Data Type	INTEGER32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x8
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	001
Description	Target Position
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Cruise Velocity
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x2710
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Acceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	004
Description	Deceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	005
Description	Controlword
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	006
Description	Delay
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	007
Description	Number of additional Iterations
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	008
Description	Next Segment Index
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x9
Unit	Not applicable

2F97h: Path Segment 7

Object Description

Index	2F97
Description	<p>Motion Segment</p> <p>Sub-index 1: Target position</p> <p>Sub-index 2: Cruise velocity</p> <p>Sub-index 3: Acceleration</p> <p>Sub-index 4: Deceleration</p> <p>Sub-index 5: Controlword. A digital input can be used to initiate motion if the corresponding index in object 20E0h is set to 6. This controlword will be executed after the values for sub-indexes 1 through 4 have been set.</p> <p>Sub-index 6: Delay. The duration of time (pause) after the motion has been completed until the next iteration or the next segment begins.</p> <p>Sub-index 7: Number of additional iterations. The number of times this segment will be executed after the first run before continuing to the next segment.</p> <p>Sub-index 8: Index of next segment. The index of the next segment (0 through 9) to be executed after the current segment (with delay) is completed.</p> <p>Value of -1 means that this is the last segment to be executed.</p>
Object Code	Array
Data Type	INTEGER32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x8
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	001
Description	Target Position
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Cruise Velocity
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x2710
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Acceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	004
Description	Deceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	005
Description	Controlword
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	006
Description	Delay
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	007
Description	Number of additional Iterations
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	008
Description	Next Segment Index
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x9
Unit	Not applicable

2F98h: Path Segment 8

Object Description

Index	2F98
Description	<p>Motion Segment</p> <p>Sub-index 1: Target position</p> <p>Sub-index 2: Cruise velocity</p> <p>Sub-index 3: Acceleration</p> <p>Sub-index 4: Deceleration</p> <p>Sub-index 5: Controlword. A digital input can be used to initiate motion if the corresponding index in object 20E0h is set to 6. This controlword will be executed after the values for sub-indexes 1 through 4 have been set.</p> <p>Sub-index 6: Delay. The duration of time (pause) after the motion has been completed until the next iteration or the next segment begins.</p> <p>Sub-index 7: Number of additional iterations. The number of times this segment will be executed after the first run before continuing to the next segment.</p> <p>Sub-index 8: Index of next segment. The index of the next segment (0 through 9) to be executed after the current segment (with delay) is completed.</p> <p>Value of -1 means that this is the last segment to be executed.</p>
Object Code	Array
Data Type	INTEGER32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x8
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	001
Description	Target Position
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Cruise Velocity
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x2710
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Acceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	004
Description	Deceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	005
Description	Controlword
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	006
Description	Delay
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	007
Description	Number of additional Iterations
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	008
Description	Next Segment Index
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x9
Unit	Not applicable

2F99h: Path Segment 9

Object Description

Index	2F99
Description	<p>Motion Segment</p> <p>Sub-index 1: Target position</p> <p>Sub-index 2: Cruise velocity</p> <p>Sub-index 3: Acceleration</p> <p>Sub-index 4: Deceleration</p> <p>Sub-index 5: Controlword. A digital input can be used to initiate motion if the corresponding index in object 20E0h is set to 6. This controlword will be executed after the values for sub-indexes 1 through 4 have been set.</p> <p>Sub-index 6: Delay. The duration of time (pause) after the motion has been completed until the next iteration or the next segment begins.</p> <p>Sub-index 7: Number of additional iterations. The number of times this segment will be executed after the first run before continuing to the next segment.</p> <p>Sub-index 8: Index of next segment. The index of the next segment (0 through 9) to be executed after the current segment (with delay) is completed.</p> <p>Value of -1 means that this is the last segment to be executed.</p>
Object Code	Array
Data Type	INTEGER32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x8
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	001
Description	Target Position
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Cruise Velocity
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x2710
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	003
Description	Acceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	004
Description	Deceleration
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x1
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	005
Description	Controlword
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	006
Description	Delay
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	007
Description	Number of additional Iterations
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	Not applicable
<hr/>	
Sub-Index	008
Description	Next Segment Index
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0xFFFFFFFF
Upper Limit	0x9
Unit	Not applicable

2F9Ah: Path Segment Index

Object Description

Index	2F9A
Description	<p>Motion Segment Index</p> <p>The index of the motion segment that is currently being executed.</p> <p>Writing to this object will cause path execution to jump to the specific segment without executing that segment. The trigger for starting that segment must still come from the controlword bit 4.</p>
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xA
Unit	Not applicable

2FC0h: Calibration Table**Object Description**

Index	2FC0
Description	Calibration Table
Object Code	Variable
Data Type	DOMAIN
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	NULL
Lower Limit	0x0
Upper Limit	0x0
Unit	Not applicable

2FC1h: Calibration Sector Erase**Object Description**

Index	2FC1
Description	Set 0x6563616C to erase calibration sector.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2FC2h: Data Sector**Object Description**

Index	2FC2
Description	Data Sector
Object Code	Variable
Data Type	DOMAIN
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	NULL
Lower Limit	0x0
Upper Limit	0x0
Unit	Not applicable

2FC3h: Data Sector Erase**Object Description**

Index	2FC3
Description	Set 0x65646174 to erase calibration sector
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2FC4h: CAN Error Counter**Object Description**

Index	2FC4
Description	This object keeps count of communication errors. The value of the counter can be reset by writing 0 to appropriate sub-index.
Object Code	Array
Data Type	UNSIGNED16
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x7
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable

Sub-Index	001
Description	CAN Controller Error Active
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable

Sub-Index	002
Description	CAN Controller Bus Off
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable

Sub-Index	003
Description	CAN Controller Receive Hardware Buffer Overrun
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable

Sub-Index	004
Description	CAN Controller Error Passive
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable

Sub-Index	005
Description	CAN Controller Transmit Software Buffer Overflow
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable

Sub-Index	006
Description	CAN Controller Receive Software Buffer Overflow
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable

Sub-Index	007
Description	CAN Controller Form Error Flag
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable

2FC5h: Virtual Inputs

Object Description

Index	2FC5
Description	<p>This object provides virtual inputs.</p> <p>This object is organized bit-wise. The bits have the following meaning:</p> <ul style="list-style-type: none"> bit 0: negative limit switch bit 1: positive limit switch bit 2: home switch bit 3: reserved bit 16–31: manufacturer-specific <p>The bit values have the following meaning:</p> <ul style="list-style-type: none"> 0 = Switch is off 1 = Switch is on
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2FC6h: Virtual Input Mode

Object Description

Index	2FC6
Description	This object defines the function of each virtual input. 0 = Disabled 1 = General 2 = Homing 3 = Limit switch clockwise 4 = Limit switch counterclockwise 5 = Remote enable 6 = Start motion command for profiled position operation mode. 7 = Touch probe 1 8 = Touch probe 2
Object Code	Array
Data Type	UNSIGNED16
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x4
Lower Limit	0x0
Upper Limit	0x4
Unit	Not applicable

Sub-Index	001
Description	Functionality of Input Number 1
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x8
Unit	Not applicable

Sub-Index	002
Description	Functionality of Input Number 2
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x8
Unit	Not applicable

Sub-Index	003
Description	Functionality of Input Number 3
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x8
Unit	Not applicable

Sub-Index	004
Description	Functionality of Input Number 4
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x8
Unit	Not applicable

2FC7h: Virtual Input Setting

Object Description

Index	2FC7
Description	This object defines the setting of each virtual input. 0 = Disabled 1 = Current saturated 2 = Current saturated low 3 = Current saturated high
Object Code	Array
Data Type	UNSIGNED16
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x4
Lower Limit	0x0
Upper Limit	0x4
Unit	Not applicable

Sub-Index	001
Description	Functionality of Input Number 1
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x3
Unit	Not applicable

Sub-Index	002
Description	Functionality of Input Number 2
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x3
Unit	Not applicable

Sub-Index	003
Description	Functionality of Input Number 3
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x3
Unit	Not applicable

Sub-Index	004
Description	Functionality of Input Number 4
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x3
Unit	Not applicable

2FC8h: Input Start Motion Mode

Object Description

Index	2FC8
Description	This object defines the functionality of motion select on input 0 = Binary selection 1 = Input starts motion
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x1
Unit	Not applicable

2FC9h: Bootstrap Time**Object Description**

Index	2FC9
Description	Bootstrap Time
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0014
Lower Limit	0x0005
Upper Limit	0x03E8
Unit	Not applicable

2FD0h: Production Info 0**Object Description**

Index	2FD0
Description	Production Info 0
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	-
Upper Limit	-
Unit	Not applicable

2FD1h: Production Info 1

Object Description

Index	2FD1
Description	Production Info 1
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FD2h: Production Info 2

Object Description

Index	2FD2
Description	Production Info 2
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FD3h: Production Info 3

Object Description

Index	2FD3
Description	Production Info 3
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FD4h: Production Info 4

Object Description

Index	2FD4
Description	Production Info 4
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FD5h: Production Info 5

Object Description

Index	2FD5
Description	Production Info 5
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FD6h: Production Info 6

Object Description

Index	2FD6
Description	Production Info 6
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FD7h: Production Info 7**Object Description**

Index	2FD7
Description	Production Info 7
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FD8h: Production Info 8**Object Description**

Index	2FD8
Description	Production Info 8
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FD9h: Production Info 9

Object Description

Index	2FD9
Description	Production Info 9
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FDAh: Production Info 10

Object Description

Index	2FDA
Description	Production Info 10
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FDBh: Production Info 11

Object Description

Index	2FDB
Description	Production Info 11
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FDCh: Production Info 12

Object Description

Index	2FDC
Description	Production Info 12
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FDDh: Production Info 13

Object Description

Index	2FDD
Description	Production Info 13
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FDEh: Production Info 14

Object Description

Index	2FDE
Description	Production Info 14
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FDFh: Production Info 15**Object Description**

Index	2FDF
Description	Production Info 15
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FE0h: Production Info 16**Object Description**

Index	2FE0
Description	Production Info 16
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FE1h: Production Info 17

Object Description

Index	2FE1
Description	Production Info 17
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FE2h: Production Info 18

Object Description

Index	2FE2
Description	Production Info 18
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FE3h: Production Info 19**Object Description**

Index	2FE3
Description	Production Info 19
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FE4h: Production Info 20**Object Description**

Index	2FE4
Description	Production Info 20
Object Code	Variable
Data Type	VISIBLE_STRING
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0
Upper Limit	0
Unit	Not applicable

2FE8h: Gate Drive Voltage

Object Description

Index	2FE8
Description	Gate drive voltage
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x00
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	millivolt

2FE9h: Magnet Distance

Object Description

Index	2FE9
Description	Magnet Distance
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x00
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	millivolt

2FEAh: 1.65 Voltage**Object Description**

Index	2FEA
Description	1.65 Voltage
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x00
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	millivolt

2FEBh: Board ID Voltage**Object Description**

Index	2FEB
Description	Board ID Voltage
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x00
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	millivolt

2FECh: Velocity Estimator

Object Description

Index	2FEC
Description	Sub-index 1: Enables the velocity estimator Sub-index 2: Proportional gain for the velocity estimator Sub-index 3: Integral gain for the velocity estimator
Object Code	Array
Data Type	INTEGER32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x3
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

Sub-Index	001
Description	Use Estimator
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x1
Unit	Not applicable

Sub-Index	002
Description	Estimator Proportional
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x3A98
Lower Limit	0x0
Upper Limit	0x186A0
Unit	Not applicable

Sub-Index	003
Description	Estimator Integrator
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0xA
Lower Limit	0x0
Upper Limit	0x3E8
Unit	Not applicable

2FEDh: Active Warning Bits

Object Description

Index	2FED
Description	This object displays active drive warnings., which will be also logged inside object 0x2011. The bits have the following meaning: bit 1: CW limit switch on bit 2: CCW limit switch on bit 3: Encoder sensor detected disturbance in the force bit 4: Over temperature warning bit 5: Auxiliary voltage above 29 V
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x00
Lower Limit	0x00000000
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2FF1h: Brake Control**Object Description**

Index	2FF1
Description	This object defines the time delay between motor brake signal and enabling/disabling power to the motor (in ms). Sub-index 1: Time required for the brake to engage before motor power is disabled. Sub-index 2: Time required for the brake to disengage after motor power is enabled and before motion can start.
Object Code	Array
Data Type	UNSIGNED16
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x2
Lower Limit	0x2
Upper Limit	0x2
Unit	Not applicable

Sub-Index	001
Description	Brake Engage Time
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x32
Lower Limit	0x0
Upper Limit	0xFFFF
Unit	Not applicable

Sub-Index	002
Description	Brake Disengage Time
Entry Category	Optional
Data Type	UNSIGNED16
Access	Read/Write
PDO Mapping	No
Default Value	0x32
Lower Limit	0x0
Upper Limit	0xFFFF
Unit	Not applicable

2FF2h: Active Disable

Object Description

Index	2FF2
Description	<p>This object defines parameters for the Active Disable mechanism:</p> <p>Sub-index 1: the speed window around zero in which the motor is considered to be at standstill (in drive velocity units).</p> <p>Sub-index 2: the total time that the motor needs to stop from the moment that the disable command is given and until standstill is achieved (in ms).</p>
Object Code	Array
Data Type	UNSIGNED32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x2
Lower Limit	0x2
Upper Limit	0x2
Unit	Not applicable
Sub-Index	001
Description	Zero Speed
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable
Sub-Index	002
Description	Total Disable Time
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

2FFAh: Moving Average Filter Depth

Object Description

Index	2FFA
Description	<p>Filter depth of the moving average filter after the profile generator in unit [samples]. This filter can be used in order to generate an S-curve profile.</p> <p>The filter depth is calculated in the following way: Filter depth = 2^{value}</p> <p>Example:</p> <p>This object is set to the value 4, meaning the filter depth is $2^4 = 16$ samples.</p> <p>In profile position mode, one sample is $250 \mu\text{s}$, meaning the filter depth is $16 \times 250 \mu\text{s} = 4 \text{ ms}$.</p>
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x8
Unit	samples

2FFBh: Realtime Execution Maximum Time

Object Description

Index	2FFB
Description	The object indicates the execution time, in microseconds.
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFF
Unit	µs

2FFCh: LED Test**Object Description**

Index	2FFC
Description	The object is used to test LED operation. 0 = all LEDs off 1 = green LED on 2 = red LED on 3 = red and green LEDs on
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x3
Unit	samples

4 Device Profile Segment

6007h: Abort Connection Option Code

Object Description

Index	6007
Description	<p>This object indicates the action to be performed when one of the following events occurs:</p> <ul style="list-style-type: none"> CAN bus off Heartbeat lost Node guarding lost NMT stopped (stop remote node indication activated) Reset communication (reset communication indication activated) Reset application (reset node indication activated) <p>The following value definitions are valid:</p> <ul style="list-style-type: none"> 0 = No action 1 = Fault signal 2 = Disable voltage command 3 = Quick Stop command -x = Manufacturer-specific
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0001
Lower Limit	0x8000
Upper Limit	0x0003
Unit	Not applicable

603Fh: Error Code

Object Description

Index	603F
Description	<p>This object indicates the error code of the last error that occurred in the drive device.</p> <p>The error codes are defined as follows:</p> <p>0x2214 - Over current (current exceeded DIPEAK)</p> <p>0x2310 - I2t over current</p> <p>0x3110 - Over voltage fault</p> <p>0x3120 - Under voltage fault</p> <p>0x3201 - Auxiliary over voltage fault</p> <p>0x4310 - PCB over temperature</p> <p>0x5530 - EEPROM data read/write fault or checksum error</p> <p>0x7122 - Commutation error</p> <p>0x7310 – Over-speed limit exceeded</p> <p>0x8130 - Heartbeat lost (stepIM CANopen only)</p> <p>0x8400 - Maximum velocity error limit exceeded</p> <p>0x8611 - Position error limit exceeded</p> <p>0xFF00 - Maximum position derivative limit exceeded</p> <p>0xFF01 - Active Disable timeout</p> <p>0xFF02 - Drive enabled while EtherCAT state is Init or Bootstrap (stepIM EtherCAT only)</p> <p>0xFF03 - Fieldbus PLL lost</p> <p>0xFF04 - Power stage fault</p> <p>0xFF05 - Encoder error (magnet distance too high or too low)</p> <p>0xFF06 - Gate drive voltage error (power chip low voltage detection)</p> <p>0xFF07 - Real Time overload. In stepIM EtherCAT, set 0x2E06:02 to 0 before clearing the error. For stepIM CANopen firmware prior to v.0.0.4.22, refer to error code 0xFF0C - Missing RxPDOs.</p> <p>0xFF0A - Power stage fault (over temperature)</p> <p>0xFF0B - Moving average S-curve filter overflow</p> <p>0xFF0C - Missing RxPDOs For stepIM CANopen firmware prior to v.0.0.4.22, refer to error code 0xFF0D – STO fault.</p> <p>0xFF0D - STO (Safe Torque Off) fault For stepIM CAN firmware prior to v.0.0.4.22, refer to error code 0xFF07 – Real-time Overload.</p> <p>0xFF0E - CAN bus-off error (stepIM CAN only)</p> <p>0xFF0F - CAN buffer overflow/missing CAN telegram (stepIM CANopen only)</p>

	<p>0xFF10 - Parameter configuration fault.</p> <p>The parameter configuration fault is triggered only if the stepLM is enabled, and can happen in the following situations: A motor brake is defined by the hardware or by a digital output mode, and in parallel at least one of the objects 605Ah, 605Bh, 605Ch, or 605Eh is set to 0.</p> <p>For more details, refer to the stepLM user manual!</p>
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFF
Unit	Not applicable

6040h: Controlword

Object Description

Index	6040
Description	<p>This object controls the CiA-402 FSA, CiA-402 modes and manufacturer-specific entities.</p> <p>This object is organized bit-wise. The bits have the following meaning:</p> <ul style="list-style-type: none"> bit 0: switch on bit 1: enable voltage bit 2: quick stop bit 3: enable operation bit 4-6: mode-specific bit 7: fault reset bit 8: halt bit 9: mode-specific bit 10: reserved bit 11: begin on time bit 12-15: manufacturer-specific
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFF
Unit	Not applicable

6041h: Statusword

Object Description

Index	6041
Description	<p>This object indicates the current state of the FSA, the operation mode and manufacturer-specific entities.</p> <p>This object is organized bit-wise. The bits have the following meaning:</p> <ul style="list-style-type: none"> bit 0: ready to switch on bit 1: switched on bit 2: operation enabled bit 3: fault bit 4: voltage enabled bit 5: quick stop bit 6: switch on disabled bit 7: warning bit 8: manufacturer-specific bit 9: remote bit 10: target reached (<i>see Note below</i>) bit 11: internal limit active bit 12-13: mode-specific bit 14-15: manufacturer-specific
Note	<p>bit 10:</p> <p>Profile Position operation mode – Target reached: The target reached bit is set at the end of the motion task if the following error actual value 60F4h is smaller than the position window 6067h. The velocity error is also evaluated for the target reached indication if the velocity window object 606Dh is set to a value greater than 0.</p> <p>Profile Velocity operation mode – Target reached: The target reached bit set if the difference between the commanded velocity 60FFh and the actual velocity 606Ch is smaller than the velocity window 606Dh.</p>
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable

605Ah: Quick Stop Option Code**Object Description**

Index	605A
Description	<p>This object indicates the action to be performed when the quick stop function is executed.</p> <p>The slow down ramp is the deceleration value of the used mode of operations.</p> <p>The following value definitions are valid</p> <p>0 = Disable drive function</p> <p>1 = Slow down on slow down ramp and change to Switch On Disabled</p> <p>2 = Slow down on quick stop ramp and change to Switch On Disabled</p> <p>3 = Slow down on the current limit and change to Switch On Disabled</p> <p>4 = Slow down on voltage limit and change to Switch On Disabled</p> <p>5 = Slow down on slow down ramp and remain in QuickStop Active</p> <p>6 = Slow down on quick stop ramp and remain in QuickStop Active</p> <p>7 = Slow down on the current limit and remain in QuickStop Active</p> <p>8 = Slow down on voltage limit and remain in QuickStop Active</p> <p>-x = manufacturer-specific</p>
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0002
Lower Limit	0x0000
Upper Limit	0x0008
Unit	Not applicable

605Bh: Shutdown Option Code**Object Description**

Index	605B
Description	<p>This object indicates the action to be performed upon transition from the Operation Enabled state to the Ready to Switch On state.</p> <p>The slow down ramp is the deceleration value of the used mode of operations.</p> <p>The following value definitions are valid</p> <p>0 = Disable drive function, switch off the drive power stage</p> <p>1 = Slow down with slow down ramp, then disable the drive function</p> <p>-x = Manufacturer-specific</p>
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0xFFFF
Upper Limit	0x0001
Unit	Not applicable

605Ch: Disable Operation Option Code

Object Description

Index	605C
Description	<p>This object indicates the action to be performed upon transition from the Operation Enabled state to the Switched On state. The slow down ramp is the deceleration value of the mode of operation in effect.</p> <p>The following value definitions are valid:</p> <p>0 = Disable drive function, switch off the drive power stage immediately</p> <p>1 = Slow down with slow down ramp (object 6084h), then disable the drive function</p> <p>-1 = Manufacturer-specific, slow down with slow down ramp (object 6085h), then disable the drive function</p>
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0001
Lower Limit	0xFFFF
Upper Limit	0x0001
Unit	Not applicable

605Dh: Halt Option Code

Object Description

Index	605D
Description	<p>This object indicates the action to be performed when the halt function is executed; that is, when the halt bit in the controlword is set.</p> <p>The slow down ramp is the deceleration value of the mode of operation in effect.</p> <p>The following value definitions are valid:</p> <p>1 = Slow down on slow down ramp and remain in operation enabled.</p> <p>2 = Slow down on quick stop ramp and remain in operation enabled.</p> <p>3 = Slow down on the current limit and remain in operation enabled.</p> <p>4 = Slow down on voltage limit and remain in operation enabled.</p> <p>-x = Manufacturer-specific</p>
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0001
Lower Limit	0x0001
Upper Limit	0x0004
Unit	Not applicable

605Eh: Fault Reaction Option Code

Object Description

Index	605E
Description	<p>This object indicates what action is performed when there is a fault which causes the drive to change into the state Fault Reaction Active except for communication faults (see object 6007h).</p> <p>The slow down ramp is the deceleration value of the used mode of operations.</p> <p>The following value definition is valid:</p> <p>0 = disable drive function, motor is free to rotate 1 = slow down on slow down ramp 2 = slow down on quick stop ramp 3 = slow down on current limit 4 = slow down on voltage limit -x = manufacturer-specific</p>
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0002
Lower Limit	0x0000
Upper Limit	0x0004
Unit	Not applicable

6060h: Modes of Operation

Object Description

Index	6060
Description	<p>The object selects the operational mode. This object shows only the value of the requested operation mode. The actual operation mode of the PDS is reflected in the Modes of Operation Display object (6061h)</p> <p>The following value definitions are valid:</p> <ul style="list-style-type: none"> -6 = profile position with special current limits -5 = motion buffer / scripted motion mode -4 = analog torque mode -3 = analog velocity mode -2 = analog position mode -1 = jog move in closed position loop 0 = no mode change / no mode assigned 1 = profile position mode 2 = velocity mode 3 = profile velocity mode 4 = profile torque mode 5 = reserved 6 = homing mode 7 = interpolated position mode 8 = cyclic synchronous position mode 9 = cyclic synchronous velocity mode (stepIM EtherCAT only) 10 = cyclic synchronous torque mode (stepIM EtherCAT only)
Object Code	Variable
Data Type	INTEGER8
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x04
Lower Limit	0xFA
Upper Limit	0x08
Unit	Not applicable

6061h: Modes of Operation Display

Object Description

Index	6061
Description	<p>This object indicates the actual operation mode. The following value definitions are valid:</p> <ul style="list-style-type: none"> -6 = profile position with special current limits -5 = motion buffer / scripted motion mode -4 = analog torque mode -3 = analog velocity mode -2 = analog position mode -1 = jog move in closed position loop 0 = no mode change / no mode assigned 1 = profile position mode 2 = velocity mode 3 = profile velocity mode 4 = profile torque mode 5 = reserved 6 = homing mode 7 = interpolated position mode 8 = cyclic synchronous position mode 9 = cyclic synchronous velocity mode (stepIM EtherCAT only) 10 = cyclic synchronous torque mode (stepIM EtherCAT only)
Object Code	Variable
Data Type	INTEGER8
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x00
Lower Limit	0x80
Upper Limit	0x0A
Unit	Not applicable

6062h: Position Demand Value

Object Description

Index	6062
Description	This object indicates the demanded position value.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	user-defined position

6063h: Position Actual Value

Object Description

Index	6063
Description	This object indicates the actual value of the position measurement device.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	user-defined position

6064h: Position Actual Internal Value

Object Description

Index	6064
Description	This object indicates the actual value of the position measurement device.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	user-defined position

6065h: Following Error Window

Object Description

Index	6065
Description	<p>This object indicates the symmetrical range of tolerated position values relative to the target position. If the current position is out of range a following error occurs.</p> <p>This object indicates the range of tolerated position values symmetrically to the position demand value (object 6062h). If the following error actual value (object 60F4h) is out of the following error window, a following error occurs. A following error may occur when a drive is blocked, or an unreachable profile velocity occurs, or due to incorrect closed-loop coefficients. If the value of the following error window is FFFFFFFFh, following control is disabled.</p>
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x2710
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	user-defined position

6066h: Following Error Time Out**Object Description**

Index	6066
Description	This object indicates the time for a following error condition, after which bit 13 of the statusword is set to 1 in the profile position mode and in the cyclic synchronous position mode. The reaction of the drive when a following error occurs is manufacturer-specific.
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFF
Unit	ms

6067h: Position Window

Object Description

Index	6067
Description	This object indicates the symmetrical range of accepted positions relative to the target position. If the actual value of the position encoder is within the position window, the target position is regarded as reached. If the value of the position window is FFFFFFFFh, position window control is disabled. The In Position state is indicated in object 20B5h.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x64
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	user-defined position

6068h: Position Window Time

Object Description

Index	6068
Description	This object indicates the time during which the actual position within position_window is measured.
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	ms

606Bh: Velocity Demand Value**Object Description**

Index	606B
Description	This object indicates the output value of the trajectory generator.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	user-defined velocity

606Ch: Velocity Actual Value**Object Description**

Index	606C
Description	This object indicates the actual velocity value derived either from the velocity sensor or the position sensor.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	user-defined velocity

606Dh: Velocity Window**Object Description**

Index	606D
Description	<p>This object indicates the velocity window.</p> <p>This object indicates the velocity window. This window is used for setting the Target Reached bit in the statusword for operations modes -3 (analog velocity), -1 (jog position), and 3 (profile velocity).</p> <p>In profile position operation mode, the target reached bit in the statusword also depends on both the In Position status and the In Velocity status if the value of the object is ≠0.</p>
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x7FFF
Unit	user-defined velocity

606Eh: Velocity Window Time

Object Description

Index	606E
Description	This object indicates the velocity window time.
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	ms

606Fh: Velocity Threshold

Object Description

Index	606F
Description	This object indicates the velocity threshold.
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	user-defined velocity

6070h: Velocity Threshold Time

Object Description

Index	6070
Description	This object indicates the velocity threshold time.
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFF
Unit	ms

6071h: Target Torque

Object Description

Index	6071
Description	This object indicates the input value for the torque controller in profile torque mode.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x0000
Lower Limit	0x8AD0
Upper Limit	0x7530
Unit	mNm

6073h: Max Current

Object Description

Index	6073
Description	This object indicates the maximum permissible torque creating current in the motor.
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x1194
Lower Limit	0x0
Upper Limit	0x7530
Unit	mA

6074h: Torque Demand Value

Object Description

Index	6074
Description	This object provides the command value for the current loop.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	mA

6075h: Motor Rated Current

Object Description

Index	6075
Description	This object provides the motor rated current. This object is considered when moving a motor in mode Micro-step stepper motor/open loop (see object 6402h). This object is also used for the I2t calculation.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0xBB8
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	mA

6078h: Current Actual Value

Object Description

Index	6078
Description	This object indicates the actual value of the current. It corresponds to the current in the motor.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0000
Lower Limit	0x8000
Upper Limit	0x7FFF
Unit	mA

6079h: DC Link Circuit Voltage

Object Description

Index	6079
Description	This object indicates the instantaneous DC link current voltage at the drive device.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	mV

607Ah: Target Position

Object Description

Index	607A
Description	This object indicates the commanded position to which the drive will move in position profile mode or cyclic synchronous position mode. The value of this object can be interpreted as absolute or relative depending on bit 6 of the controlword.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	user-defined position

607Bh: Position Range Limit

Object Description

Index	607B
Description	This object indicates the maximum and minimum position range limits. It limits the numerical range of the input value. Upon reaching or exceeding these limits, the input value automatically wraps to the other end of the range. Wrap-around of the input value may be prevented by setting software position limits as defined in the software position limit object (607Dh).
Object Code	Array
Data Type	INTEGER32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x2
Lower Limit	0x2
Upper Limit	0x2
Unit	Not applicable
Sub-Index	001
Description	Min Position Range Limit
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x80000000
Lower Limit	0x80000000
Upper Limit	0x80000000
Unit	user-defined position

Sub-Index	002
Description	Max Position Range Limit
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x7FFFFFFF
Lower Limit	0x7FFFFFFF
Upper Limit	0x7FFFFFFF
Unit	user-defined position

607Ch: Home Offset

Object Description

Index	607C
Description	This object indicates the difference between the zero position for the application and the machine home position. After the machine home position is found and homing is completed, the zero position is offset from the home position by adding the home offset value to the home position. All subsequent absolute moves are executed relative to this new zero position. If this object is not implemented, home offset is considered to be 0. Negative values indicate the opposite direction.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	user-defined position

607Dh: Software Position Limit

Object Description

Index	607D
Description	This object indicates the maximum and minimum software position limits. These parameters define the absolute position limits for the position demand value and the position actual value. Every new target position is checked against these limits. The limit positions are always relative to the machine home position. Before being compared to the target position, they are corrected internally by the home offset, as follows: Corrected min position limit = (min position limit - home offset) Corrected max position limit = (max position limit - home offset)
Object Code	Array
Data Type	INTEGER32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x2
Lower Limit	0x2
Upper Limit	0x2
Unit	Not applicable
Sub-Index	001
Description	Minimum Software Position Limit
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x80000001
Lower Limit	0x80000001
Upper Limit	0x7FFFFFFF
Unit	user-defined position

Sub-Index	002
Description	Maximum Software Position Limit
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	No
Default Value	0x7FFFFFFF
Lower Limit	0x80000001
Upper Limit	0x7FFFFFFF
Unit	user-defined position

607Eh: Polarity

Object Description

Index	607E
Description	Inverts the direction of the motor movement by inverting the current command value and position feedback value. 0 = Clockwise motion of the rotor shaft is considered positive motion. 1 = Counter clockwise motion of the rotor shaft is considered positive motion.
Object Code	Variable
Data Type	UNSIGNED8
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x00
Upper Limit	0xFF
Unit	Not applicable

6081h: Profile Velocity

Object Description

Index	6081
Description	This object indicates the commanded velocity normally attained at the end of the acceleration ramp during a profiled motion. It is valid for both directions of motion. This object is used in profile position mode and interpolated position mode.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x2710
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	user-defined velocity

6083h: Profile Acceleration

Object Description

Index	6083
Description	This object indicates the commanded acceleration. This object is used in the profile position mode, profile velocity mode, and interpolated position mode.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x3E8
Lower Limit	0x1
Upper Limit	0x1FBD0
Unit	user-defined acceleration

6084h: Profile Deceleration**Object Description**

Index	6084
Description	This object indicates the deceleration. This object is used in the profile position mode, profile velocity mode, and interpolated position mode.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x3E8
Lower Limit	0x1
Upper Limit	0x1FBD0
Unit	user-defined acceleration

6085h: Quick Stop Deceleration

Object Description

Index	6085
Description	This object indicates the deceleration used to stop the motor when the quick stop function is activated and the quick stop option code is set to 2 or 6. The quick stop deceleration is also used if the fault reaction option code is 2 and the halt option code is 2.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x2710
Lower Limit	0x0
Upper Limit	0x1FBD0
Unit	user-defined acceleration

6086h: Motion Profile Type

Object Description

Index	6086
Description	This object indicates the type of motion profile used to perform a profiled motion. The following value definitions are valid: 0 = linear ramp (trapezoidal profile)
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0x0000
Unit	Not applicable

6089h: Position Notation Index**Object Description**

Index	6089
Description	The position notation index is used to scale the objects for which it mandatory. The value of this object is fixed to factor = 1.
Object Code	Variable
Data Type	INTEGER8
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0x0
Unit	Not applicable

608Ah: Position Dimension Index**Object Description**

Index	608A
Description	This object indicates position units. The value of this object is fixed to steps.
Object Code	Variable
Data Type	UNSIGNED8
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0xAC
Lower Limit	0xAC
Upper Limit	0xAC
Unit	Not applicable

608Bh: Velocity Notation Index**Object Description**

Index	608B
Description	The velocity notation index is used to scale the objects for which it mandatory. The value of this object is fixed at 0.01.
Object Code	Variable
Data Type	INTEGER8
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0xFE
Lower Limit	0xFE
Upper Limit	0xFE
Unit	Not applicable

608Ch: Velocity Dimension Index**Object Description**

Index	608C
Description	This object indicates velocity units. The value of this object is fixed at rpm.
Object Code	Variable
Data Type	UNSIGNED8
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0xA4
Lower Limit	0xA4
Upper Limit	0xA4
Unit	Not applicable

608Dh: Acceleration Notation Index**Object Description**

Index	608D
Description	The acceleration notation index is used to scale the objects for which it mandatory. The value of this object is fixed at 0.01.
Object Code	Variable
Data Type	INTEGER8
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0xFE
Lower Limit	0xFE
Upper Limit	0xFE
Unit	Not applicable

608Eh: Acceleration Dimension Index**Object Description**

Index	608E
Description	This object indicates acceleration units. The value of this object is fixed at rpm/s.
Object Code	Variable
Data Type	UNSIGNED8
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0xA4
Lower Limit	0xA4
Upper Limit	0xA4
Unit	Not applicable

608Fh: Position Encoder Resolution**Object Description**

Index	608F
Description	This object indicates the configured encoder increments and number of motor revolutions. It is calculated by the following formula: position encoder resolution = (encoder increments/motor revolutions)
Object Code	Array
Data Type	UNSIGNED32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x2
Lower Limit	0x2
Upper Limit	0x2
Unit	Not applicable

Sub-Index	001
Description	Encoder Increments
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x1
Lower Limit	0x1
Upper Limit	0xFFFFFFFF
Unit	count

Sub-Index	002
Description	Motor Revolutions
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x1
Lower Limit	0x1
Upper Limit	0xFFFFFFFF
Unit	Not applicable

6098h: Homing Method

Object Description

Index	6098
Description	<p>This object indicates the homing method to be used.</p> <p>The following value definitions are valid:</p> <p>-4 = homing on hard stop in positive direction with Index</p> <p>-3 = homing on hard stop in negative direction with Index</p> <p>-2 = homing on hard stop in positive direction</p> <p>-1 = homing on hard stop in negative direction</p> <p>0 = no homing method assigned</p> <p>1 = homing method 1 to be used</p> <p>.</p> <p>.</p> <p>36 = homing method 36 to used</p> <p>-x = manufacturer-specific</p>
Object Code	Variable
Data Type	INTEGER8
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x01
Lower Limit	0xFC
Upper Limit	0x23
Unit	Not applicable

6099h: Homing Speeds

Object Description

Index	6099
Description	This object indicates the commanded speeds used during homing procedure.
Object Code	Array
Data Type	UNSIGNED32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of entries
Entry Category	Optional
Access	Read Only
PDO Mapping	No
Default Value	0x2
Lower Limit	0x2
Upper Limit	0x2
Unit	Not applicable
Sub-Index	001
Description	Fast Homing Speed
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	Yes
Default Value	0x3E8
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	user-defined velocity
Sub-Index	002
Description	Slow Homing Speed
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	Yes
Default Value	0x3E8
Lower Limit	0x0
Upper Limit	0x7FFFFFFF
Unit	user-defined velocity

609Ah: Homing Acceleration

Object Description

Index	609A
Description	This object indicates the acceleration and deceleration to be used during homing operation.
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x3E8
Lower Limit	0x0
Upper Limit	0x1FBD0
Unit	user-defined acceleration

60B8h: Touch Probe Function

Object Description

Index	60B8
Description	<p>Indicates the configured function of the touch probe.</p> <p>This object is organized bit-wise. The bits have the following meaning:</p> <p>Bit Description</p> <p>0: 0 = switch off touch probe 1 1 = enable touch probe 1</p> <p>1: 0 = trigger first event 1 = continuous</p> <p>2: 0 = trigger touch probe 1 input 1 = trigger with zero pulse signal or position encoder</p> <p>3: reserved</p> <p>4: 0 = switch off sampling at positive edge of touch probe 1 1 = enable sampling at positive edge of touch probe 1</p> <p>5: 0 = switch off sampling at negative edge of touch probe 1 1 = enable sampling at negative edge of touch probe 1</p> <p>6,7: user-defined (e.g. for testing)</p> <p>8: 0 = switch off touch probe 2 1 = enable touch probe 2</p> <p>9: 0 = trigger first event 1 = continuous</p> <p>10: 0 = trigger with touch probe 2 input 1 = trigger with zero pulse signal or position encoder</p> <p>11: reserved</p> <p>12: 0 = switch off sampling at positive edge of touch probe 2 1 = enable sampling at positive edge of touch probe 2</p> <p>13: 0 = switch off sampling on negative edge of touch probe 2 1 =enable sampling at negative edge of touch probe 2</p> <p>14,15: user-defined (e.g., for testing)</p>
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable

60B9h: Touch Probe Status**Object Description**

Index	60B9
Description	<p>Indicates the status of the touch probe. This object is organized bit-wise. The bits have the following meaning:</p> <p>Bit Description</p> <p>0: 0 = touch probe 1 is switched off 1 = touch probe 1 is enabled</p> <p>1: 0 = touch probe 1 no positive edge value stored 1 = touch probe 1 negative edge position stored</p> <p>2: 0 = touch probe 1 no negative edge value stored 1 = touch probe 1 positive edge position stored</p> <p>3-5: reserved</p> <p>6,7: user-defined (e.g. for testing)</p> <p>8: 0 = touch probe 2 is switched off 1 = touch probe 2 is enabled</p> <p>9: 0 = touch probe 2 no positive edge value stored 1 = touch probe 2 negative edge position stored</p> <p>10: 0 = touch probe 2 no negative edge value stored 1 = touch probe 2 positive edge position stored</p> <p>11-13: reserved</p> <p>14,15: user-defined (e.g. for testing)</p>
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x00
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable

60BAh: Touch Probe 1 Position Positive Value**Object Description**

Index	60BA
Description	The position value of touch probe 1 at the positive edge.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x00
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	user-defined position

60BBh: Touch Probe 1 Position Negative Value**Object Description**

Index	60BB
Description	The position value of touch probe 1 at the negative edge.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x00
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	user-defined position

60BCh: Touch Probe 2 Position Positive Value**Object Description**

Index	60BC
Description	The position value of touch probe 2 at the positive edge.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x00
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	user-defined position

60BDh: Touch Probe 2 Position Negative Value**Object Description**

Index	60BD
Description	The position value of touch probe 2 at the negative edge.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0x00
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	user-defined position

60C0h: Interpolation Submode Select**Object Description**

Index	60C0
Description	<p>This object indicates the selected interpolation mode.</p> <p>If linear interpolation is the only algorithm available, it is not necessary to implement this object.</p> <p>If a manufacturer-specific interpolation mode is in effect, the corresponding interpolation data record is implemented in the manufacturer-specific profile area of the object dictionary.</p> <p>If the linear interpolation mode is in effect, the interpolation data given in interpolation_data_record is used.</p> <p>The following value definition is valid:</p> <p>0 = linear interpolation -x = manufacturer-specific</p>
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x0000
Lower Limit	0x0000
Upper Limit	0x0000
Unit	Not applicable

60C1h: Interpolation Data Record

Object Description

Index	60C1
Description	This object indicates data words, which are necessary to perform the interpolation algorithm. The number N of data words in the record is defined by interpolation data configuration. The interpretation of the data words in interpolation data record may vary with the different possible interpolation modes as set by interpolation_sub_mode_select. For the linear interpolation mode each interpolation data record is simply regarded as a new position set-point.
Object Code	Variable
Data Type	INTEGER16
Category	Optional

Entry Description

Sub-Index	000
Description	Number of Entries
Entry Category	Optional
Access	Constant
PDO Mapping	No
Default Value	0x00000001
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable
Sub-Index	001
Description	Data Record 1
Entry Category	Optional
Data Type	INTEGER32
Access	Read/Write
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	Not applicable

60C2h: Interpolation Time Period

Object Description

Index	60C2
Description	This object indicates the configured interpolation cycle time. This object has the following sub-indexes: Sub-index 1: value of the time Sub-index 2: dimension index of the time value in sub-index 1
Object Code	Record
Data Type	P402_IP_PERIOD_T
Category	Optional

Entry Description

Sub-Index	000
Description	Number of entries
Entry Category	Optional
Access	Read/Write
PDO Mapping	No
Default Value	0x2
Lower Limit	0x0
Upper Limit	0xFF
Unit	time units
Sub-Index	001
Description	time units
Entry Category	Optional
Data Type	UNSIGNED8
Access	Read/Write
PDO Mapping	No
Default Value	0x4
Lower Limit	0x1
Upper Limit	0xFF
Unit	ms

Sub-Index	002
Description	time index
Entry Category	Optional
Data Type	INTEGER8
Access	Read/Write
PDO Mapping	No
Default Value	0xFD
Lower Limit	0xFD
Upper Limit	0xFD
Unit	Not applicable

60F2h: Positioning Option Code

Object Description

Index	60F2
Description	<p>This object indicates the positioning behavior as described by the profile position mode or the interpolated position mode. This object is organized bit-wise. The bits have the following meaning:</p> <ul style="list-style-type: none"> bit 0,1: Relative option bit 2,3: Change immediately option bit 4,5: Request-response option bit 6,7: Reserved bit 8-11: IP option bit 12-14: Reserved bit 15: Manufacturer-specific
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x00
Lower Limit	0x0000
Upper Limit	0xFFFF
Unit	Not applicable

60F4h: Following Error Actual Value

Object Description

Index	60F4
Description	This object indicates the actual value of the following error.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	user-defined position

60FAh: Control Effort

Object Description

Index	60FA
Description	This object indicates the control effort as the output of the position control loop. In the position control function, notation of the control effort is mode-dependent and therefore not specified.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x00000000
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	user-defined velocity

60FDh: Digital Inputs

Object Description

Index	60FD
Description	<p>This object defines the functionality of the digital inputs.</p> <p>This object is organized bit-wise. The bits have the following meaning:</p> <p>bit 0: negative limit switch</p> <p>bit 1: positive limit switch</p> <p>bit 2: home switch</p> <p>bit 3: reserved</p> <p>bit 16-31: manufacturer-specific</p> <p>The bit values have the following meaning:</p> <p>0 = switch is off</p> <p>1 = switch is on</p>
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

60FEh: Digital Outputs

Object Description

Index	60FE
Description	<p>This object defines the functionality of the digital outputs. This object is organized bit-wise. The bits have the following meaning:</p> <p>bit 16-31: manufacturer-specific</p> <p>This object includes the following sub-indexes:</p> <p>sub-index 1: the physical output value</p> <p>sub-index 2: mask for the physical outputs</p> <p>The bit values for sub-index 1 have the following meaning:</p> <p>0 = output is off, brake is not set</p> <p>1 = output is on, brake is set</p> <p>The bit values for sub-index 2 have the following meaning:</p> <p>0 = disable output (output will not change)</p> <p>1 = enable output (output will change)</p>
Object Code	Array
Data Type	UNSIGNED32
Category	Optional

Entry Description

Sub-Index	000
Description	Number of entries
Entry Category	Optional
Access	Read Only
PDO Mapping	Yes
Default Value	0x2
Lower Limit	0x1
Upper Limit	0x2
Unit	Not applicable

Sub-Index	001
Description	Physical Outputs
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

Sub-Index	002
Description	Output Mask
Entry Category	Optional
Data Type	UNSIGNED32
Access	Read/Write
PDO Mapping	No
Default Value	0x0
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

60FFh: Target Velocity

Object Description

Index	60FF
Description	This object indicates the configured target velocity and is used as input for the trajectory generator.
Object Code	Variable
Data Type	INTEGER32
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	Yes
Default Value	0x0
Lower Limit	0x80000000
Upper Limit	0x7FFFFFFF
Unit	user-defined velocity

6402h: Motor Type**Object Description**

Index	6402
Description	This object indicates the type of motor attached to and driven by the drive device. The following value definitions are valid: 0008h = stepper motor 0009h = open-loop (micro-step) stepper motor with forced commutation angle. The (forced) encoder resolution changes for this mode, see object 20F1h.
Object Code	Variable
Data Type	UNSIGNED16
Category	Optional

Entry Description

Access	Read/Write
PDO Mapping	No
Default Value	0x8
Lower Limit	0x0
Upper Limit	0x9
Unit	Not applicable

6502h: Supported Drive Modes

Object Description

Index	6502
Description	<p>This object provides information about the supported drive modes.</p> <p>This object is organized bit-wise. The bits have the following meaning:</p> <ul style="list-style-type: none"> bit 0: profile position mode bit 1: velocity mode bit 2: profile velocity mode bit 3: profile torque mode bit 4: reserved bit 5: homing mode bit 6: interpolated position mode bit 7: cyclic synchronous position mode bit 8: cyclic synchronous velocity mode bit 9: cyclic synchronous torque mode bit 10-15: reserved bit 16-31: manufacturer-specific <p>The bit values have the following meaning:</p> <ul style="list-style-type: none"> 0 = mode is not supported 1 = mode is supported
Object Code	Variable
Data Type	UNSIGNED32
Category	Optional

Entry Description

Access	Read Only
PDO Mapping	No
Default Value	0xAF
Lower Limit	0x0
Upper Limit	0xFFFFFFFF
Unit	Not applicable

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Object Dictionary