



IO-Link Parameter Datasheet

Read head

Optical linear positioning system

WCS3B-LS810 series

Support: fa-info@pepperl-fuchs.com

Internet: www.pepperl-fuchs.com

DOCT-9273A - Version 1.01.000 / 2024-10-24

General Information

Device Identification	
Vendor ID	1 (0x0001)
Device ID	6291713 (0x600101)

Features	
Data storage	Yes
Block parameterization	Yes

Communication Characteristics	
IO-Link revision	V1.1 (specification V1.1.3)
IO-Link backward compatibility	n/a
Data transmission rate	COM3 (230.4 kbit/s)
Min. cycle time	1.5 ms
Process data input	18 byte
Process data output	2 bit
SIO mode support	no
Compatible master port type	Class A, Class B (see NOTE)

Device Profile	
Firmware update	49 (0x0031)
Identification and Diagnosis – I&D	16384 (0x4000)
Function Class – Locator	33025 (0x8101)
Function Class – Product URI	33026 (0x8102)

NOTE: For use at IO-Link master port Class B, use 3-pole adapter or 3-wire cable.

Supported Product Variants

Product ID	Product Name	Description	Connector
199290-0059	WCS3B-LS810S	Standard position range 314 m, resolution 0.8 mm, overspeed Q2 output, Q3 output, M12 plug, 5-pin	Plug, M12, 5-pin
199290-0060	WCS3B-LS810DS	Standard position range 314 m, resolution 0.8 mm, display, overspeed Q2 output, Q3 output, M12 plug, 5-pin	Plug, M12, 5-pin
199290-0061	WCS3B-LS810DHS	Standard position range 314 m, resolution 0.8 mm, display, heating element, overspeed Q2 output, Q3 output, M12 plug, 5-pin	Plug, M12, 5-pin
199290-0062	WCS3B-LS810DHS-OM	Standard position range 314 m, resolution 0.8 mm, display, heating element, overspeed Q2 output, Q3 output, outdoor housing, middle connection, M12 plug, 5-pin	Plug, M12, 5-pin

Connection

Connection Diagram	Description
	<p>Plug, M12, 5-pin</p> <p>1: Brown - L+</p> <p>2: White - Q2 overspeed</p> <p>3: Blue - L-</p> <p>4: Black - C/Q</p> <p>5: Grey - Q3</p>

Process Data

Process Data Input							
Octet	Bitoffs.	Name	Data type	Length	Value	Unit	Description
0 .. 1	128	MV3.3 - Acceleration Z-axis	Integer	16 bit	-32.000 .. 32.000 (-32000 .. 32000) 32764	g	Shows the current acceleration value for the Z-axis. Calculation: gradient 0.001, offset 0.0 <i>No measurement data</i>
2 .. 3	112	MV3.2 - Acceleration Y-axis	Integer	16 bit	-32.000 .. 32.000 (-32000 .. 32000) 32764	g	Shows the current acceleration value for the Y-axis. Calculation: gradient 0.001, offset 0.0 <i>No measurement data</i>
4 .. 5	96	MV3.3 - Acceleration X-axis	Integer	16 bit	-32.000 .. 32.000 (-32000 .. 32000) 32764	g	Shows the current acceleration value for the X-axis. Calculation: gradient 0.001, offset 0.0 <i>No measurement data</i>
6 .. 7	80	MV2 - Velocity	Integer	16 bit	-320.0 .. 320.0 (-32000 .. 32000) -32760 32760 32764	m/s	Shows the current velocity value. Calculation: gradient 0.1, offset 0.0 <i>Out of range (-)</i> <i>Out of range (+)</i> <i>No measurement data</i>
8 .. 9	64	MV1.2 - Ident Number	UInteger	16 bit	1 .. 1260 0		Shows the current value of the ident number. <i>No pad detected</i>
10 .. 13	32	MV1.1 - Position	Integer	32 bit	-1717986304.0 .. 1717986304.0 (-2147482880 .. 2147482880) 2147483644	mm	Shows the current position value. Calculation: gradient 0.8, offset 0.0 <i>No measurement data</i>
14	31	DSC5.5 - Velocity Status	Boolean	1 bit	 <i>false</i> <i>true</i>		Indicates the current status of diagnosis signal channel 5.5 for signaling the validity status of the velocity value MV2. <i>Valid</i> <i>Invalid</i>
	29	Reserved		2 bit			Reserved
	28	DSC5.2 - Out All	Boolean	1 bit	 <i>false</i> <i>true</i>		Indicates the current status of diagnosis signal channel 5.2 for detecting the read head completely outside the code rail. <i>Inactive</i> <i>Active</i>
	27	DSC5.1 - Out	Boolean	1 bit	 <i>false</i> <i>true</i>		Indicates the current status of diagnosis signal channel 5.1 for detecting the read head partially outside the code rail. <i>Inactive</i> <i>Active</i>
	26	Reserved					Reserved
	25	DSC3 - Pollution	Boolean	1 bit	 <i>false</i> <i>true</i>		Indicates the current status of diagnosis signal channel 3 for detecting pollution of the optical lenses. <i>Inactive</i> <i>Active</i>
	24	DSC2 - Error Status	Boolean	1 bit	 <i>false</i> <i>true</i>		Indicates the current status of diagnosis signal channel 2 for signaling if an error has occurred. Details are shown in the parameter 'WCS Device Status - Error Code'. <i>Inactive</i> <i>Active</i>
15	16	DSC1 - Heartbeat	UInteger	8 bit	0..255		Shows the current heartbeat value.
16	12	Reserved		4 bit			Reserved
	11	STAT2 - Preset	Boolean	1 bit	 <i>false</i> <i>true</i>		Indicates if the configured preset value is applied to the position value MV1.1. <i>Inactive</i> <i>Active</i>
	10	STAT1 - Direction	Boolean	1 bit	 <i>false</i> <i>true</i>		Indicates the current drive direction of the read head. <i>Ascending</i> <i>Descending</i>
	8	Reserved		2 bit			Reserved

Process Data Input							
Octet	Bitoffs.	Name	Data type	Length	Value	Unit	Description
17	5	Reserved		3 bit			Reserved
	4	SSC1.5 - Position Range 5	Boolean	1 bit	<i>false</i> <i>true</i>		Indicates the current status of switching signal channel 1.5 for detection of position range 5. <i>Outside (low state)</i> <i>Inside (high state)</i>
	3	SSC1.4 - Position Range 4	Boolean	1 bit	<i>false</i> <i>true</i>		Indicates the current status of switching signal channel 1.4 for detection of position range 4. <i>Outside (low state)</i> <i>Inside (high state)</i>
	2	SSC1.3 - Position Range 3	Boolean	1 bit	<i>false</i> <i>true</i>		Indicates the current status of switching signal channel 1.3 for detection of position range 3. <i>Outside (low state)</i> <i>Inside (high state)</i>
	1	SSC1.2 - Position Range 2	Boolean	1 bit	<i>false</i> <i>true</i>		Indicates the current status of switching signal channel 1.2 for detection of position range 2. <i>Outside (low state)</i> <i>Inside (high state)</i>
	0	SSC1.1 - Position Range 1	Boolean	1 bit	<i>false</i> <i>true</i>		Indicates the current status of switching signal channel 1.1 for detection of position range 1. <i>Outside (low state)</i> <i>Inside (high state)</i>

Process Data Output							
Octet	Bitoffs.	Name	Data type	Length	Value	Unit	Description
0	0	CSC.1 - Hold Position on Out	Boolean	1 bit	<i>false</i> <i>true</i>		Controls the holding of the position in an 'out' state. If enabled, the last valid position is maintained when the read head is outside the code rail. <i>Disabled</i> <i>Enabled</i>
	1	CSC.2 - Preset Suppression	Boolean	1 bit	<i>false</i> <i>true</i>		Controls the position preset suppression. If enabled, the preset value is not applied to the position value. <i>Disabled</i> <i>Enabled</i>
	2	Reserved		6 bit			Reserved

NOTE: The process data input content can also be read via parameter 'Process Data Input' at index 40 (0x28).
The process data output content can also be read via parameter 'Process Data Output' at index 41 (0x29).

Parameter Data

Identification								
Index	Parameter	Access	Data type	Length	Default	Description	DS	R
16 (0x10)	Vendor Name	ro	String	13 byte	Pepperl+Fuchs	The vendor name that is assigned to a Vendor ID.		
17 (0x11)	Vendor Text	ro	String	29 byte	www.pepperl-fuchs.com/io-link	Additional information about the vendor.		
18 (0x12)	Product Name	ro	String	max. 32 byte	See table 'Supported Product Variants'	Complete product name.		
19 (0x13)	Product ID	ro	String	max. 32 byte	See table 'Supported Product Variants'	Vendor-specific product or type identification (e.g., item number or model number).		
20 (0x14)	Product Text	ro	String	33 byte	Optical linear positioning system	Additional product information for the device.		
21 (0x15)	Serial Number	ro	String	max. 32 byte	<serial number>	Unique, vendor-specific identifier of the individual device.		
22 (0x16)	Hardware Revision	ro	String	7 byte	HW**.**	Unique, vendor-specific identifier of the hardware revision of the individual device.		
23 (0x17)	Firmware Revision	ro	String	7 byte	FW**.**	Unique, vendor-specific identifier of the firmware revision of the individual device.		
24 (0x18)	Application Specific Tag	rw	String	max. 32 byte	Your automation, our passion.	Possibility to mark a device with user- or application-specific information.	Y	F
25 (0x19)	Function Tag	rw	String	max. 32 byte	***	Possibility to mark a device with function-specific information.	Y	F
26 (0x1A)	Location Tag	rw	String	max. 32 byte	***	Possibility to mark a device with location-specific information.	Y	F
27 (0x1B)	Product URI	ro	String	max. 48 byte	https://pefu.de/<serial number>	Provides a unique instance identification compliant to DIN-SPEC 91406.		
192 (0xC0)	Installation Tag	rw	String	max. 32 byte	***	Provides the possibility to mark the device with the installation or initial commissioning data or date. Note: this entry will not be transferred to a new device on replacement.		F
17342 (0x43BE)	Hardware Identification Key	ro	String	max. 32 byte		Identifies the hardware for compatibility check with the firmware to be installed.		

Diagnosis											
Index .sub	Parameter	Access	Data type	Length	Bitoffs.	Default	Value	Unit	Description	DS	R
36 (0x24)	Device Status	ro	UInteger	8 bit		0	0 1 2 3 4		Indicator for the current device condition and diagnosis state. <i>Device is OK</i> <i>Maintenance required</i> <i>Out of Specification</i> <i>Functional check</i> <i>Failure</i>		FA
37 (0x25)	Detailed Device Status	ro	Array ⁵⁰	6 byte					List of all currently pending events in the device.		FA
	.1 Element 1		Octetstr	3 byte	24	0					
	.2 Element 2		Octetstr	3 byte	0	0					
176 (0xB0)	Device Characteristic	ro	Record	8 byte					Shows relevant key characteristics of the device for use in applications.		
	.1 Measurement Range	ro	UInteger	32 bit	32			mm	Shows the value of the specified measurement range.		
	.2 Measurement Resolution	ro	UInteger	16 bit	16			µm	Shows the measurement resolution within the specified measurement range.		
	.3 Supply Current Requirement	ro	UInteger	16 bit	0			mA	Shows the maximum specified supply current for the device excluding load.		
224 (0xE0)	Operating Hours	ro	UInteger	32 bit			0 .. 2 ³² -1	h	Shows the overall hours of operation since initial commissioning.		
225 (0xE1)	Temperature Indicator	ro	UInteger	8 bit			0 1 2 3 4		Indicates the operation at critical ambient temperatures or excess of specification limits. <i>Operating condition OK</i> <i>Close to upper limit</i> <i>Upper limit exceeded</i> <i>Close to lower limit</i> <i>Lower limit exceeded</i>		
226 (0xE2)	Temperature Monitor	ro	Record	9 byte					Contains parameters showing current and past conditions of temperature exposure since initial commissioning.		
	.1 Overtemperature Operating Hours	ro	UInteger	32 bit	40		0 .. 2 ³² -1	h	Shows the overall hours of operation above the specified temperature limit.		
	.2 Overtemperature Exceeded Counter	ro	UInteger	16 bit	24		0 .. 65535		Shows the number of transitions to operating temperatures above the specified limit.		
	.3 Maximum Operating Temperature	ro	Integer	8 bit	16		-40 .. 125	°C	Shows the maximum observed temperature of operation since initial commissioning.		
	.4 Minimum Operating Temperature	ro	Integer	8 bit	8		-40 .. 125	°C	Shows the minimum observed temperature of operation since initial commissioning.		
	.5 Device Operating Temperature	ro	Integer	8 bit	0		-40 .. 125	°C	Shows the currently observed temperature of operation.		
227 (0xE3)	Power Monitor	ro	Record	16 byte					Contains parameters showing the power cycle and uptime statistics since initial commissioning.		
	.1 Power Cycle Count	ro	UInteger	32 bit	96		0 .. 2 ³² -1		Shows the number of power cycles since initial commissioning.		
	.2 Maximum Uptime	ro	UInteger	32 bit	64		0 .. 2 ³² -1	s	Shows the maximum observed powered operating time between power cycles in seconds since initial commissioning.		
	.3 Average Uptime	ro	UInteger	32 bit	32		0 .. 2 ³² -1	s	Shows the average observed powered operating time between power cycles in seconds since initial commissioning.		
	.4 Uptime	ro	UInteger	32 bit	0		0 .. 2 ³² -1	s	Shows the current operating time since the last power cycle in seconds.		
230 (0xE6)	WCS Device Status - Error Code	ro	UInteger	8 bit		0			Shows the currently pending error code for an active read head diagnosis.		FA

Diagnosis											
Index .sub	Parameter	Access	Data type	Length	Bitoffs.	Default	Value	Unit	Description	DS	R
							0 1 2 3 4 5 6 7 21		Operation OK No position calculation possible - check adjustment or device No position calculation possible - check adjustment or device RAM error - exchange device EPROM error - exchange device ROM error - exchange device No position calculation possible - check for extraneous light influence No position value available - change read head position EPROM error (microcontroller) - exchange device		
239 (0xEF)	Device Feature	ro	Record ^{S0}	16 bit					Shows the supported features of the device.		
.1	Display Support	ro	Boolean	1 bit	0		false true		Indicates if the display is supported in this device. Feature not supported Feature supported		
.2	Heating Element Support	ro	Boolean	1 bit	1		false true		Indicates if the heating element is supported in this device. Feature not supported Feature supported		
.3 .. .16	Reserved	ro			2 .. 15				Reserved		

NOTE 1: The parameter data provide the attributes DS (Data Storage) and R (Reset behavior). The following rules apply:

DS: Parameter marked with 'Y' (yes) are exchanged with the master via the data storage mechanism.

R: Parameter marked with 'F' are reset to the default value upon reception of the command 'Back-to-box'.

R: Parameter marked with 'A' are reset to the default value upon reception of the command 'Application Reset'.

NOTE 2: Parameter with datatype Record or Array, which are marked with 'S0' can only be accessed over subindex 0 (whole parameter object). Subindex access to single items is not possible.

Parameterization & Configuration												
Index .sub	Parameter	Access	Data type	Length	Bit- offs.	Default	Value	Unit	Description	DS	R	
64 (0x40)	SSC1.1 Param - Position Range 1	rw	Record	8 byte					Defines the setpoint values for switching signal channel 1.1.	Y	FA	
	.1	SP1	rw	Integer	32 bit	32	0.0 (0)	0.0 .. 314563.2 (0 .. 393204)	mm	Defines the setpoint 1 value for the switching signal channel. Calculation: gradient 0.8, offset 0.0	Y	FA
	.2	SP2	rw	Integer	32 bit	0	314563.2 (393204)	0.0 .. 314563.2 (0 .. 393204)	mm	Defines the setpoint 2 value for the switching signal channel. Calculation: gradient 0.8, offset 0.0	Y	FA
65 (0x41)	SSC1.1 Config - Position Range 1	rw	Record	6 byte					Defines the configuration parameter for switching signal channel 1.1.	Y	FA	
	.1	Logic	rw	UInteger	8 bit	40	0	0 1		Defines the logical behavior of the switching signal. <i>High active</i> <i>Low active</i>	Y	FA
	.2	Mode	rw	UInteger	8 bit	32	0	0 1 2 3		Defines the evaluation mode for the switching signal. <i>Deactivated</i> <i>Single point</i> <i>Window</i> <i>Two point</i>	Y	FA
	.3	Hysteresis	rw	Integer	32 bit	0	0	0.0 157281.6 (0 .. 196602)	mm	Defines the hysteresis at the switchpoint. A higher hysteresis may help to improve the stability in critical applications. Calculation: gradient 0.8, offset 0.0	Y	FA
66 (0x42)	SSC1.2 Param - Position Range 2	rw	Record	8 byte					Defines the setpoint values for switching signal channel 1.2. <i>See index 64</i>	Y	FA	
67 (0x43)	SSC1.2 Config - Position Range 2	rw	Record	6 byte					Defines the configuration parameter for switching signal channel 1.2. <i>See index 65</i>	Y	FA	
68 (0x44)	SSC1.3 Param - Position Range 3	rw	Record	8 byte					Defines the setpoint values for switching signal channel 1.3. <i>See index 64</i>	Y	FA	
69 (0x45)	SSC1.3 Config - Position Range 3	rw	Record	6 byte					Defines the configuration parameter for switching signal channel 1.3. <i>See index 65</i>	Y	FA	
70 (0x46)	SSC1.4 Param - Position Range 4	rw	Record	8 byte					Defines the setpoint values for switching signal channel 1.4. <i>See index 64</i>	Y	FA	
71 (0x47)	SSC1.4 Config - Position Range 4	rw	Record	6 byte					Defines the configuration parameter for switching signal channel 1.4. <i>See index 65</i>	Y	FA	
72 (0x48)	SSC1.5 Param - Position Range 5	rw	Record	8 byte					Defines the setpoint values for switching signal channel 1.5. <i>See index 64</i>	Y	FA	
73 (0x49)	SSC1.5 Config - Position Range 5	rw	Record	6 byte					Defines the configuration parameter for switching signal channel 1.5 <i>See index 65</i>	Y	FA	

Parameterization & Configuration											
Index .sub	Parameter	Access	Data type	Length	Bit- offs.	Default	Value	Unit	Description	DS	R
88 (0x58)	SSC1 Ext Config - Position Ranges	rw	Record	16 bit					Defines the extended configuration parameter for all switching signal channels 1.n.	Y	FA
	.1 Pulse Extension	rw	UInteger	8 bit	8	0			Defines the minimum signal duration in the process data input, if the switching signal status changes. With the setting 'Auto', the signal extension is derived from the IO-Link master cycle time. 0 1 2 3 4 <i>Disabled</i> <i>Auto</i> <i>10 ms</i> <i>100 ms</i> <i>1000 ms</i>	Y	FA
	.2 Substitute Behavior	rw	UInteger	8 bit	0	0			Defines the behavior of the switching signals if the measurement value shows substitute value 'no measurement data'. 0 1 2 <i>Low</i> <i>High</i> <i>Hold</i>	Y	FA
91 (0x5B)	MV Config - Behavior on Out	rw	UInteger	8 bit		0			Defines the behavior of the measurement values MV1.n and MV2 if the read head is outside the code rail and one of the diagnosis signals 'DSC5.1 - Out' or 'DSC5.2 - Out All' gets active. 0 1 <i>Substitute value</i> <i>Hold last valid value</i>	Y	FA
96 (0x60)	Position Offset	rw	Integer	32 bit		0.0 (0)	-314563.2 .. 314563.2 (-393204 .. 393204)	mm	Shows the position offset value, which is calculated from the position preset value and the current position on trigger of the command 'Position Preset'. Calculation: gradient 0.8, offset 0.0	Y	FA
97 (0x61)	Config - Position Preset	rw	Integer	32 bit		0.0 (0)	0.0 .. 314563.2 (0 .. 393204)	mm	Defines the preset value, which is set for the current position on trigger of the command 'Position Preset'. Calculation: gradient 0.8, offset 0.0	Y	FA
100 (0x64)	Config - Display Orientation	rw	UInteger	8 bit		0			Defines the rotation of the character position on the display 0 1 2 <i>Auto detect</i> <i>0° (upright mounting)</i> <i>180° (suspended mounting)</i>	Y	FA
101 (0x65)	Config - Display Primary Information	rw	UInteger	8 bit		0			Defines which information is primarily shown on the display. 0 1 2 <i>Position value</i> <i>Ident number</i> <i>Position value [mm]</i>	Y	FA
113 (0x71)	I/O Config - Q2 / Q3 Output Type	rw	UInteger	8 bit		0			Defines the output type at Q2 (pin 2) and Q3 (pin 5). 0 1 <i>PNP</i> <i>NPN</i>	Y	FA
119 (0x71)	I/O Config - Q3 Output Function	rw	UInteger	8 bit		0			Defines the output function at Q3 (pin 5). Note: For the signals SSC1.n the configured pulse extension and substitute behavior are applied. 0 1 2 <i>Inactive (constant)</i> <i>Output: SSC1.n - Position Ranges (disjunction)</i> <i>Output: DSC5.1/2 - Out or Out All</i>	Y	FA

Observation										
Index .sub	Parameter	Access	Data type	Length	Bit- offs.	Default	Value	Unit	Description	
36 (0x24)	Device Status	ro	UInteger	8 bit		0			Indicator for the current device condition and diagnosis state. See <i>Diagnosis – Device Status</i>	
236 (0xEC)	Observation Data	ro	Record	22 byte					Collection of measurement data relevant for observation of device operational state.	
	.1	MV1.1 - Position	ro	Integer	32 bit	144	0	-1717986304.0 .. 1717986304.0 (-2147482880 .. 2147482880) 2147483644	mm	Shows the current position value. Calc.: gradient 0.8, offset 0.0 <i>No measurement data</i>
	.2	MV1.2 - Ident Number	ro	UInteger	16 bit	128	0	1 .. 1260 0		Shows the current value of the ident number. <i>No pad detected</i>
	.3	MV2 - Velocity	ro	Integer	16 bit	112	0	-320.0 .. 320.0 (-32000 .. 32000) -32760 32760 32764	m/s	Shows the current velocity value. Calc.: gradient 0.1, offset 0.0 <i>Out of range (-)</i> <i>Out of range (+)</i> <i>No measurement data</i>
	.4	MV3.1 - Acceleration X-axis	ro	Integer	16 bit	96	0	-32.000 .. 32.000 (-32000 .. 32000) 32764	g	Shows the current acceleration value for the X-axis. Calc.: gradient 0.001, offset 0.0 <i>No measurement data</i>
	.5	MV3.2 - Acceleration Y-axis	ro	Integer	16 bit	80	0	-32.000 .. 32.000 (-32000 .. 32000) 32764	g	Shows the current acceleration value for the Y-axis. Calc.: gradient 0.001, offset 0.0 <i>No measurement data</i>
	.6	MV3.3 - Acceleration Z-axis	ro	Integer	16 bit	64	0	-32.000 .. 32.000 (-32000 .. 32000) 32764	g	Shows the current acceleration value for the Z-axis. Calc.: gradient 0.001, offset 0.0 <i>No measurement data</i>
	.7	SSC1.1 - Position Range 1	ro	UInteger	8 bit	56	0	 false true		Indicates the current status of switching signal channel 1.1 for detection of position range 1. <i>Low</i> <i>High</i>
	.8	SSC1.2 - Position Range 2	ro	UInteger	8 bit	48	0	 false true		Indicates the current status of switching signal channel 1.2 for detection of position range 2. <i>Low</i> <i>High</i>
	.9	SSC1.3 - Position Range 3	ro	UInteger	8 bit	40	0	 false true		Indicates the current status of switching signal channel 1.3 for detection of position range 3. <i>Low</i> <i>High</i>
	.10	SSC1.4 - Position Range 4	ro	UInteger	8 bit	32	0	 false true		Indicates the current status of switching signal channel 1.4 for detection of position range 4. <i>Low</i> <i>High</i>
	.11	SSC1.5 - Position Range 5	ro	UInteger	8 bit	24	0	 false true		Indicates the current status of switching signal channel 1.5 for detection of position range 5. <i>Low</i> <i>High</i>
	.12	STAT1 - Direction	ro	UInteger	8 bit	16	0	 false true		Indicates the current drive direction of the read head. <i>Ascending</i> <i>Descending</i>
	.13	STAT2 - Preset	ro	UInteger	8 bit	8	0	 false true		Indicates if the configured preset value is applied to the position value MV1.1. <i>Inactive</i> <i>Active</i>
.14	DSC - Diagnostic Bits	ro	UInteger	8 bit	0	0	Bit 0: DSC2 Bit 1: DSC3 Bit 3 .. 7: DSC5.n		Shows diagnostic bits that are made up of DSC2, DSC3 and DSC5.n.	

Command Interface

Index	Parameter	Access	Data type	Length	Value	Description
2 (0x02)	System Command	wo	UInteger	8 bit	See command value	Command interface for applications. A positive acknowledge indicates the complete and correct finalization of the requested function.

Command Value	Command	Description
126 (0x7E)	Locator Start	The visual indicators of the device are switched to the localization display pattern, which makes it easier to spot a device in an application.
127 (0x7F)	Locator Stop	The localization indication pattern is stopped. The optical indicators of the device will show again the device specific states of operation.
129 (0x81)	Application Reset	The parameters of the technology-specific application are set to default values. Identification parameter remain unchanged. An upload to the data storage of the master will be executed, if activated in the port configuration of the master.
131 (0x83)	Back-to-box	The parameters of the device are set to factory default values and communication will be inhibited until the next power cycle. Note: Directly detach the device from the master port!
170 (0xA0)	Position Preset	The position value at the current position is set to the position preset value.

Error Codes

Code	Additional code	Name	Description
128 (0x80)	17 (0x11)	Index not available	Read or write access attempt to a non-existing index.
128 (0x80)	18 (0x12)	Subindex not available	Read or write access attempt to a non-existing subindex of an existing index.
128 (0x80)	32 (0x20)	Service temporarily not available	Parameter not accessible due to the current state of the technology-specific application.
128 (0x80)	33 (0x21)	Service temporarily not available - local control	Parameter not accessible. The device is currently in an ongoing, locally controlled operation.
128 (0x80)	34 (0x22)	Service temporarily not available - device control	Parameter not accessible. The technology-specific application is currently in a remotely triggered operation.
128 (0x80)	35 (0x23)	Access denied	Write access to a read-only parameter or read access to write-only parameter.
128 (0x80)	48 (0x30)	Parameter value out of range	Written parameter value is outside of the permitted value range.
128 (0x80)	49 (0x31)	Parameter value above limit	Written parameter value is above its specified value range.
128 (0x80)	50 (0x32)	Parameter value below limit	Written parameter value is below its specified value range.
128 (0x80)	51 (0x33)	Parameter length overrun	Written parameter is longer than specified.
128 (0x80)	52 (0x34)	Parameter length underrun	Written parameter is shorter than specified.
128 (0x80)	53 (0x35)	Function not available	Written command is not supported by the technology-specific application.
128 (0x80)	54 (0x36)	Function temporarily unavailable	Written command is unavailable due to the current state of the technology-specific application.
128 (0x80)	64 (0x40)	Invalid parameter set	Written single parameter value collides with other existing parameter settings.
128 (0x80)	65 (0x41)	Inconsistent parameter set	Parameter set inconsistencies at the end of block parameter transfer. Device plausibility check failed.

Event Codes

Code	Type	Name	Description
36163 (0x8D43)	Warning	Ambient temperature outside specified operating temperature range for device	Check environment or application
36179 (0x8D53)	Warning	Error status active	Check the error code and perform the required actions