

# SERIES EMAX-IO

## IO-Link Smart Sensor Profile

### 1 Communication Parameters

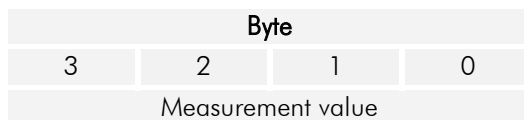
Specification	IO-Link Designation	Value
Transfer rate	COM3	230.4 kBaud
Minimum cycle time of the device	MinCycleTime	1 ms (0x0A)
Frame specification: <ul style="list-style-type: none"> <li>▪ Amount of required data preoperate</li> <li>▪ Amount of required data operate</li> <li>▪ ISDU</li> </ul>	M-Sequence Capability: <ul style="list-style-type: none"> <li>▪ M-Sequence Type Preoperate</li> <li>▪ M-Sequence Type Operate</li> <li>▪ ISDU supported</li> </ul>	0x1B 2 Byte 2 Byte supported
IO-Link protocol version	Revision ID	0x11 (Version 1.1)
Amount of process data from device to master	ProcessDataIn	4 Byte (0xC5)
Amount of process data from master to device	ProcessDataOut	0 Byte (0x00)
Identifier of manufacturer	Vendor ID	0x014f
Identifier of device	Device ID	0x000001
Type of IO-Link profile	Profile	Smart Sensor Profile (Digital Measuring Sensor)

### 2 Process Data

The EMAX-IO cyclically transmits a measured value via the IO-Link interface.

Properties of the measured value:

- signed
- output in  $\mu\text{m}$
- 32 bit format



### 3 Identification Data

Index	Subindex	Parameter	Size	Access	Data Storage
0x0010 (16)	0	Vendor Name	4 Byte	Read Only	
0x0011 (17)	0	Vendor Text	11 Byte	Read Only	
0x0012 (18)	0	Product Name	max. 40 Byte	Read Only	
0x0013 (19)	0	Product ID	15 Byte	Read Only	
0x0014 (20)	0	Product Text	32 Byte	Read Only	
0x0015 (21)	0	Serial Number	7 Byte	Read Only	
0x0016 (22)	0	Hardware Revision	5 Byte	Read Only	
0x0017 (23)	0	Firmware Revision	6 Byte	Read Only	
0x0018 (24)	0	Application Specific Tag	max. 32 Byte	Read/Write	X
0x0019 (25)	0	Function Tag	max. 32 Byte	Read/Write	X
0x001A (26)	0	Location Tag	max. 32 Byte	Read/Write	X

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## 4 System Commands

Different command codes have been implemented into the EMAX-IO. These are accessible via parameter "System Command" on "Index 2, Subindex 0". By transmitting a system command to the EMAX-IO, the corresponding action is triggered if the current application condition permits this.

Command	Name	Description
0x01 (1)	ParamUploadStart	Starts the parameter upload.
0x02 (2)	ParamUploadEnd	Ends the parameter upload.
0x03 (3)	ParamDownloadStart	Starts the parameter download.
0x04 (4)	ParamDownloadEnd	Ends the parameter download.
0x05 (5)	ParamDownloadStore	Close parameterization and start data storage.
0x82 (130)	Restore Factory Settings	Resets all configurations to the default values.
0xE0 (224)	Set Zero	The PDV offset is calculated and stored. The current value of the output is set to zero.

## 5 Set Zero

1. Move the encoder to the desired position.
2. Execute the system command „Set Zero“.
3. EMAX-IO calculates the offset so that zero is output at the desired position.

