

IO-Link Technical Reference Manual

CANEO series10

This TRM refers to the IODD files

- CAPTRON-series10-touch-20200204-IODD1.1.xml

Firmware revision: V6.0

IO-Link Specification: IO-Link Interface and System Specification Version 1.1.2 July 2013

Communication Interface

Parameter	Value
IO-Link Version	1.1
Bitrate	COM2 (38.4 kbit/s)
Min Cycle Time	14.8 ms
Process Data Input Bits	80
Process Data Output Bits	N/A
SIO supported	Yes
ISDU supported	Yes
Data Storage	No
Block Parameters	No

Process Data Input (Device to IO-Link Master)

Bit	79:1	0
Information	Reserved / Internal Use	Touched Flag
Type	N/A	Boolean

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System

Index	Subindex	Name	Value	Bit Length - Type	Access	Info
2		System Command	128 = Device Reset 130 = Restore Factory Settings 161 = Save Parameters on Device		W	

Identification

Index	Subindex	Name	Value	Bit Length - Type	Access	Info
16		Vendor Name		StringT	R	
18		Product Name		StringT	R	
19		Product ID		StringT	R	
20		Product Text		StringT	R	
21		Serial Number		StringT	R	
22		Hardware Revision		StringT	R	
23		Firmware Revision		StringT	R	
276		Symbol		StringT	R	

Activation

Index	Subindex	Name	Value	Bit Length - Type	Access	Info
261		Sensor Mode	1 - Toggle 2 - Dynamic 3 - Static	8-Bit UIntegerT	R/W	
260		Sensitivity	0 - High 1 - Middle 2 - Low	8-Bit UIntegerT	R/W	

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Index	Subindex	Name	Value	Bit Length - Type	Access	Info
262		Water Resistance	0 - basic 1 - enhanced 2 - ultimate	8-Bit UIntegerT	R/W	
263		Minimum Actuation Time	0 ... 65535 [ms]	16-Bit UIntegerT	R/W	
283		Minimum Actuation Time (Toggle OFF)	0 ... 65535 [ms]	16-Bit UIntegerT	R/W	

LED

Index	Subindex	Name	Value	Bit Length - Type	Access	Info
264		Colour while in idle state	0 - CANEO 1 - red 2 - green 3 - blue 4 - yellow 5 - magenta 10 - orange 11 - violet 13 - off 254 - manual	8-Bit UIntegerT	R/W	
265		Colour while actuation	See IO-link index 264	8-Bit UIntegerT	R/W	
266		Mode while in idle state	0 - static 1 - flashing ring	8-Bit UIntegerT	R/W	
267		Mode while actuation	See IO-link index 266	8-Bit UIntegerT	R/W	
268	1	Manual Colour while in idle state	0 ... 0xFFFFFFFF RGB-Format (each 8-Bit)	24-Bit UIntegerT	R/W	Mixing pure white is not possible
269	2	Manual Colour while actuation	See IO-link index 268	24-Bit UIntegerT	R/W	Mixing pure white is not possible

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Index	Subindex	Name	Value	Bit Length - Type	Access	Info
270	3	Adaptive Brightness	0 - Off 1 - On	8-Bit UIntegerT	R/W	Switch readjusts to ambient light
285		Max. Brightness	0 ...32	8-Bit UIntegerT	R/W	Adaptive Brightness off: setting is the fixed value

IO

Index	Subindex	Name	Value	Bit Length - Type	Access	Info
271		Input Mode	3 - Automatic (3 pole) 4 - Semi- Automatic (4 pole, E1) 5 - Manual (5 pole, E1, E2)	8-Bit UIntegerT	R/W	
272		E1/E2 Mode	0 - active low 1 - active high 2 - active lowhigh 5 - analog	8-Bit UIntegerT	R/W	
273		Output Mode	0 - NPN 1 - PNP 2 - PushPull	8-Bit UIntegerT	R/W	
274		Output NO/NC	0 - NO (Normally Open) 1 - NC (Normally Closed)	8-Bit UIntegerT	R/W	
275		Output Minimum Impulse Time	10 ...65535 [ms]	16-Bit UIntegerT	R/W	

Diagnosis

Index	Subindex	Name	Value	Bit Length - Type	Access	Info
256		Supply VoltageState	0 ...65535 [ms]	16-Bit UIntegerT	R	
257		Sensor Temperature	-32768 ... 32767 [0.1°C]	16-Bit UIntegerT	R	
258		Surrounding Light Level	0 ... 1023	16-Bit UIntegerT	R	
259		Flash Erase Count	0 ...65535	16-Bit UIntegerT	R	
277	3	Input E1 Voltage	0 ... 65535 [mV]	16-Bit UIntegerT	R	
278	4	Input E2 VoltageText	0 ... 65535 [mV]	16-Bit UIntegerT	R	
279		MCU Core Voltage	0 ... 65535 [mV]	16-Bit UIntegerT	R	
280		Charge number		32-Bit UIntegerT	R	
282		Error code	0 ... 65535	16-Bit UIntegerT	R	

Parameterization

User-Indices are configurable by USER (with an IO-Link Master) and FACTORY (only by CAPTRON).

USER parametrization is done by writing to the desired index. USER parameterization will be cleared after a device reset. To save written parameters, the System Command 'Save Parameters on Device' (writing 160 to Index 2) must be forwarded after parametrization before device reset. It is not necessary to 'Save Parameters on Device' after each configured index. It is recommended to 'Save Parameters on Device' once at the end of the parametrization process. FACTORY parametrization will be done by CAPTRON during production process.

FACTORY parameters are always non-volatile and will overwrite USER parameters when setting the device back to delivery condition by forwarding System Command "Restore Factory Settings" (writing 130 to Index 2).

Button States

The RGB LED-ring is controlled through the button actuation B and the digital inputs E1/E2. E1 and E2 are connected to pin 2 and pin 5 of the M12 connector respectively. E1/E2 can be configured as active high or active low inputs.

If the input mode is set to “Automatic” the LED-ring colour only depends on the actuation. It will light in idle or actuation colour configured through IO-Link index 264 and 265.

When input mode is “Semi-Automatic” or “Manual” the LED-ring colour also depends on the input E1 and E2.