IO-Link Data Reference Guide: TL50

TL50 IO-Link Data Map

This document refers to the following IODD file: Banner_Engineering-TL50-20160616-IODD1.1.xml. The IODD file and support files can be found on *www.bannerengineering.com* under the download section of the product family page.

Communication Parameters

The following communication parameters are used.

Parameter	Value
IO-Link revision	V1.1
Process Data In length	N/A
Process Data Out length	16 bit
Bit Rate	38400 bps
Minimum cycle time	4 ms

Parameter	Value
Port class	A
SIO mode	No
Smart sensor profile	N/A
Block parameterization	Yes
Data Storage	Yes

IO-Link Process Data In (Device to Master)

Not applicable.

IO-Link Process Data Out (Master to Device)

Process Data Out is transmitted cyclically to the IO-Link device from the IO-Link master. These values written to the TL50 are used to perform one of the following functions:

- Tower light and audible segments turn off = 00
- Tower light and audible segments turn on = 01
- Tower light segment flashes; audible segment turns on = 10

Process Data Out															
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
0	0	0	1	1	0	1	0	0	0	1	0	0	1	0	1
		Segment 7		Segment 6		Segment 5		Segment 4		Segment 3		Segment 2		Segment 1	
Example:		On		Flashing		Flashing		Off		Flashing		On		On	

Parameters Set Using IO-Link

These parameters can be read from and/or written to an IO-Link model of the TL50 Tower Light. Also included is information about whether the variable in question is saved during Data Storage. Unlike Process Data Out, which is transmitted to the IO-Link device from the IO-Link master cyclically, these parameters are written to the TL50 acyclically as needed.

Index	Subindex	Name	Value Range	Default	Access Rights	Data Storage	AOI
0	1-16	Direct Parameter Page 1 (incl. Vendor ID & Device ID)			ro		
1	1-16	Direct Parameters Page 2			rw		
2		Standard Command (Restore Factory Settings)			wo		y
3		Unused					
4-11		reserved by IO-Link Specification					
12		**Device Access Locks**					

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Index	Subindex	Name	Value Range	Default	Access Rights	Data Storage	AOI
12	1	Parameter Write Access Lock			rw	Yes	
12	2	Data Storage Lock			rw	Yes	
12	3	Local Parameterization Lock			rw	Yes	
12	4	Local User Interface Lock			rw	Yes	
13		Unused					
14		Unused					
15		PDOutput Descriptor			ro		
16		Vendor Name string		Banner Engineering Corp	ro		
17		Vendor Text string			ro		
18		Product Name string			ro		
19		Product ID string		TL50IOLQ8	ro		
20		Product Text string			ro		
21		Serial Number			ro		
22		Hardware Version			ro		
23		Firmware Version (e.g. 1.0.14)			ro		
24		Application Specific Tag (user defined)			rw	Yes	
25–40		unused/reserved					
41		Process Data Output			ro		y
42-58		unused/reserved					
59-64		reserved for Smart Sensor Profile					
65		Number of Segments	1 through 7		ro		y
66		unused					
67		**Flashing Frequency**					
67	1	Segment 1 Flashing Frequency (Hz)	0.5 through 20	1	rw	Yes	y
67	2	Segment 2 Flashing Frequency (Hz)	0.5 through 20	1	rw	Yes	y
67	3	Segment 3 Flashing Frequency (Hz)	0.5 through 20	1	rw	Yes	y
67	4	Segment 4 Flashing Frequency (Hz)	0.5 through 20	1	rw	Yes	y
67	5	Segment 5 Flashing Frequency (Hz)	0.5 through 20	1	rw	Yes	y
67	6	Segment 6 Flashing Frequency (Hz)	0.5 through 20	1	rw	Yes	y
67	7	Segment 7 Flashing Frequency (Hz)	0.5 through 20	1	rw	Yes	y
68		Segment 1 description (segment color, audible type, or N/A)			ro		
69-70		unused					
71		Segment 2 description (segment color, audible type, or N/A)			ro		
72		Segment 3 description (segment color, audible type, or N/A)			ro		
73		Segment 4 description (segment color, audible type, or N/A)			ro		
74		Segment 5 description (segment color, audible type, or N/A)			ro		
75		Segment 6 description (segment color, audible type, or N/A)			ro		

Index	Subindex	Name	Value Range	Default	Access Rights	Data Storage	AOI
76		Segment 7 description (segment color, audible type, or N/A)			ro		

IO-Link Events

Events are acyclic transmissions from the IO-Link device to the IO-Link master. Events can be error messages and/or warning or maintenance data.

Code	Type	Description
20753 (0x5111)	Warning	Primary supply voltage under-run / Check tolerance of power supply

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