IO-Link Data Reference Guide: QS18 Expert Emitter

IO-Link Data Map

This document refers to the following IODD file: Banner_Engineering-QS18EK6E-20190831-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	8 bits
Process Data Out length	8 bits
Bit Rate	38400 bps
Minimum cycle time	2.3 ms

Parameter	Value
Port class	A
SIO mode	Yes
Smart sensor profile	Yes
Block parameterization	Yes
Data Storage	Yes

IO-Link Process Data In (Device to Master)

Process Data Input			
Subindex	**Name**	**Number of Bits**	**Data Values**
1	Emitter Enable	1	0=Enabled, 1=Disabled

Octet 0								
Subindex	////	////	////	////	////	////	////	1
Bit offset	7	6	5	4	3	2	1	0

IO-Link Process Data Out (Master to Device)

Process Data Input			
Subindex	**Name**	**Number of Bits**	**Data Values**
1	Emitter Enable	1	0=Enabled, 1=Disabled

Octet 0								
Subindex	////	////	////	////	////	////	////	1
Bit offset	7	6	5	4	3	2	1	0

Parameters Set Using IO-Link

These parameters can be read from and/or written to an IO-Link model of the QS18EK6E/EV sensor. Also included is information about whether the variable in question is saved during Data Storage and whether the variable came from the IO-Link Smart Sensor Profile.

Unlike Process Data In, which is transmitted from the IO-Link device to the IO-Link master cyclically, these parameters are read or written acyclically as needed.

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ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

Index	Subindex	Name	Length	Value Range	Default	Access Rights	Data Storage?	Smart Sensor Profile	AOI
0	1-15	Direct Parameter Page 1 (incl. Vendor ID & Device ID)				ro			y
0	16	Standard Command		130 = Restore Factory Settings 162 = Discovery Start 163 = Discovery Stop		wo			
1	1-16	Direct Parameters Page 2				rw			
2		Standard Command	8-bit uinteger	130 = Restore Factory Settings 162 = Discovery Start 163 = Discovery Stop		wo		y	y
3		Data Storage Index (device-specific list of parameters to be stored)							
4-11		*reserved by IO-Link Specification*							
12		**Device Access Locks**							y
12	1	Parameter Write Access Lock		0 = off 1 = on	0	rw	y		y
12	2	Data Storage Lock		0 = off 1 = on	0	rw	y		y
12	3	Local Parameterization Lock		0 = off 1 = on	0	rw	y		y
12	4	Local User Interface Lock		0 = off 1 = on	0	rw	y		y
13-15		*unused*				ro			
16		Vendor Name string		Banner Engineering Corporation		ro			
17		Vendor Text string		More Sensors. More Solutions		ro			
18		Product Name string		QS18 Expert IO-Link series		ro			
19		Product ID string				ro			
20		Product Text string		More Sensors. More Solutions		ro		y	
21		Serial Number				ro			y
22		*unused*				ro			
23		Firmware Version				ro		y	
24		App Specific Tag (user defined)				rw	y	y	
25-35		*reserved*							
36		Device Status	8-bit integer	0=Device is OK 1=Maintenance required 2=Out of specification 3=Functional check 4=Failure 5..255 Reserved		ro			
37		Detailed Device Status	Array[6] of 3-octet			ro			
38-39		*reserved*							
40		Process Data Input				ro			
41		Process Data Output				ro			
42-68		*unused/reserved*							
69		All Time Run Time	32-bit integer			ro			y
70		Resettable Run Time	32-bit integer			ro			y
76		**Vendor Specific Configuration**							y

Index	Subindex	Name	Length	Value Range	Default	Access Rights	Data Storage?	Smart Sensor Profile	AOI
76	1	Polarity of Pins 2 and 4 **Note:** If Push/Pull, the polarity of Pin 2 will be PNP.	8-bit uinteger	0 = Push/Pull 1 = PNP 2 = NPN	0	rw	y		y
76	2	Pin 2 Configuration	8-bit uinteger	0 = Deactivated 1 = Pin 2 Emitter Enable 2 = Pin 2 Emitter Disable 3 = Remote Input	0	rw	y		y
76	3	Frequency Selection	8-bit uinteger	0 = High Speed 1 = Frequency A 2 = Frequency B 3 = Frequency C	1	rw	y		y
76	4	Power Lever	8-bit uinteger	0 = Power Level 0 1 = Power Level 1 2 = Power Level 2 3 = Power Level 3 4 = Power Level 4 5 = Power Level 5	5	rw	y		y
76	5	Pushbutton Lockout	8-bit uinteger	0 = Unlocked 1 = Locked	0	rw	y		y
78		All Time Run Time Event	32-bit uinteger	0..2147483647	0	rw	y		y
79		Resetable Run Time Event Time	32-bit uinteger	0..2147483647	0	rw	y		y

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	Name	Description
25376 (0x6320)	Error	Parameter Error	Check datasheet and values
36000 (0x8ca0)	Warning	All-time Run Time Event	Event indicating the corresponding configured running time has elapsed
36001 (0x8ca1)	Warning	Resettable Run Time Event	Event indicating the corresponding configured running time has elapsed

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