

EN

P1PH90x

Reflex Sensors with Background Suppression

Time-of-Flight



Interface Description

IO-Link P1PH90x

Vendor ID

Product	hex	dec	hex (Bytes)	dec (Bytes)
wenglor sensoric GmbH	0x0057	87	00 57	0 87

Device ID

Product	hex	dec	hex (Bytes)	dec (Bytes)
P1PH901	0x290F11	2690833	29 0F 11	41 15 17
P1PH902	0x290F12	2690834	29 0F 12	41 15 18

IO-Link Version:	V 1.1
Data Storage:	Yes
Blockparameter:	Yes
Min Cycle Time:	3,0 ms
SIO-Mode:	Yes
COM-Mode:	COM2
ISDU:	Yes
Process data In (Device to Master):	24 Bit
Process data Out (Master to Device):	8 Bit

IO-Link Profiles

Common Profile
Firmware Update Profile

Process Data Input (Device to Master)

Length: 24 Bit

Subindex	Name	Bit Offset	Length	Range
1	Signal	8	UInt16	0 = Error 1...1022 = Distance
2	Overtemperature	6	1 Bit	0 = false 1 = true
3	Short Circuit	4	1 Bit	0 = false 1 = true
4	No Signal	3	1 Bit	0 = false 1 = true
5	Contamination	1	1 Bit	0 = false 1 = true
6	A1 Output	0	1 Bit	0 = false 1 = true

Subindex	Octet 0 (MSB)								Octet 1								Octet 2 (LSB)							
	1								2	3	4	5	6											
Bit Offset	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0

Process Data Output (Master to Device)

Length: 8 Bit

Subindex	Name	Bit Offset	Length	Range
1	Emitted Signal	0	1 Bit	0 = Enabled 1 = Disabled
2	Find Me	1	1 Bit	0 = Off 1 = Blinking

Subindex	Octet 0							
	2	1						
Bit Offset	7	6	5	4	3	2	1	0

Parameter

Name	Index (hex)	Index (dec)	Sub-index	R/W	Data-type	Data Storage	Dy-namic	Modify others	Default value	Range
General Settings										
System Command	0x0002	2	0	W	Uint8			X	—	Device Reset = 0x80 (128) Application Reset = 0x81 (129) Restore Factory Settings = 0x82 (130) Back-to-Box = 0x83 (131)
Mesasured Value Settings										
Emitted Light	0x00E0	224	0	R/W	Uint8	X			0 = On	0 = On 1 = Off
Operating Mode	0x0110	272	0	R/W	Uint8	X			0 = Standard	0 = Standard 1 = Interference Free
Hysteresis	0x0300	768	0	R/W	Uint8	X			0 = Small	0 = Small 1 = Large
Pin Function										
A1 Pin Function	0x0040	64	0	R/W	Uint8	X		X	0 = Switching Output	0 = Switching Output 1 = Error Output 2 = Contamination Output
A2 Pin Function	0x0041	65	0	R/W	Uint8	X		X	6 = Antivalent Switching Output	1 = Error Output 2 = Contamination Output 5 = Deactivated 6 = Antivalent Switching Output
A1 (Switching, Error or Warning Output)										
Source Switch Point	0x0230	560	0	R/W	Uint8		X		0 = Potentiometer	0 = Potentiometer 1 = IO-Link
A1 Switch Point Potentiometer	0x251F	9503	0	R	Uint16	X			—	—
A1 Switch Point IO-Link	0x0270	624	0	R/W	Uint16	X			1022	1...1022
A1 On Delay	0x0050	80	0	R/W	Uint16	X			0 ms	0...10.000 ms
A1 Off Delay	0x0060	96	0	R/W	Uint16	X			0 ms	0...10.000 ms
A1 NO/NC	0x0210	528	0	R/W	Uint8	X			0 = NO	0 = NO 1 = NC
A1 NPN/PNP/P-P	0x0220	544	0	R/W	Uint8	X			0 = PNP	0 = PNP 1 = NPN 2 = Push-Pull
A2 (Error or Warning Output)										
A2 On Delay	0x0051	81	0	R/W	Uint16	X			0 ms	0...10.000 ms
A2 Off Delay	0x0061	97	0	R/W	Uint16	X			0 ms	0...10.000 ms
A2 NO/NC	0x0211	529	0	R/W	Uint8	X			0 = NO	0 = NO 1 = NC

Please note: A2 output polarity fixed: P1PH901 (PNP), P1PH902 (NPN).

Diagnosis

Name	Index (hex)	Index (dec)	Sub-index	R/W	Datatype	Data Storage	Dy-namic	Modify others	Default value	Range
Status										
Device Status	0x0024	36	0	R	Uint8			X	0 = Device is OK	0 = Device is OK 1 = Maintenance required 2 = Out of specification 3 = Functional check 4 = Failure
Detailed Device Status	0x0025	37	0	R	Array of OctectStringT3			X	0	Shows the pending Events (maximum 4)
Service Functions										
System Command	0x0002	2	0	W	Uint8			X	—	Back-to-Box = 0x83 (131)
Device Simulation										
Simulation Mode	310	784	0	R/W	Uint8			X	0 = Off	0 = Off 1 = On
Device Simulation Enabled (Simulation Mode = 1)										
Simulate Signal	0x0316	790	0	R/W	Uint16			X	65535 = Use Process Value	0...1023 65535 = Use Process Value
Simulation A1	0x0331	817	0	R/W	Uint8			X	2 = Use Process Value	0 = Off 1 = Active 2 = Use Process Value
Simulation Contamination	0x0315	789	0	R/W	Uint32			X	2 = Use Process Value	0 = Off 1 = Active 2 = Use Process Value

Events

Supported Events

Name	Event Code	Type	Specification
Maintenance required – Cleaning	0x8C40	Notification	IO-Link
General malfunction – unknown error	0x1000	Error	IO-Link
Short circuit – Check installation	0x7710	Error	IO-Link
Device temperature over-run – Clear source of heat	0x4210	Warning	IO-Link
Device temperature under-run – Insulate device	0x4220	Warning	IO-Link
Temperature fault – Overload	0x4000	Error	IO-Link
Primary supply voltage under-run – Check tolerance	0x5111	Warning	IO-Link