

P1NHxxx

Reflex Sensors with Background Suppression

High-End with Teach-in



Interface Description

Subject to change without notice

Available as PDF version only

Status: 1.1.0

Status: 28.10.2019

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IO-Link P1NHxxx High-End

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)
P1NH305	0x290E1E	2690590	29 0E 1E	41 14 30
P1NH308	0x290E1F	2690591	29 0E 1F	41 14 31
P1NH502	0x290E1A	2690586	29 0E 1A	41 14 26
P1NH504	0x290E21	2690593	29 0E 21	41 14 33
P1NH702	0x290E0F	2690575	29 0E 0F	41 14 15
P1NH704	0x290E11	2690577	29 0E 11	41 14 17

IO-Link Version:	V 1.1
Data Storage:	Yes
Blockparameter:	Yes
Min Cycle Time:	3,6 ms
SIO-Mode:	Yes
COM-Mode:	COM2
ISDU:	Yes
Process data In (Device to Master):	24 Bit
Process data Out (Master to Device):	—

Process data

Subindex	Name	Bit Offset	Datatype	Valid for Versions	Range
1	A1 Output	0	1 Bit	all	0 = Off 1 = On
2	Contamination Output	1	1 Bit	all	0 = Off 1 = On
3	A2 Output	2	1 Bit	all	0 = Off 1 = On
4	No Signal	3	1 Bit	all	0 = Off 1 = On
5	Short Circuit	4	1 Bit	all	0 = Off 1 = On
6	Laser Error	5	1 Bit	P1NH702, P1NH704	0 = Off 1 = On
7	Overtemperature	6	1 Bit	all	0 = Off 1 = On
8	—	7	1 Bit	—	
9	Signal	8	Uint16	all	0...511 1...510 = Distance 0 = False 511 = Distance measurement off

Octet 0

Subindex	9							
Bit Offset	23	22	21	20	19	18	17	16

Octet 1

Subindex	9							
Bit Offset	15	14	13	12	11	10	9	8

Octet 2

Subindex	8	7	6	5	4	3	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	Dyna-mic	Modify others	Default value	Range
Identification										
Vendor Name	0x0010	16	0	R	String				wenglor sensoric GmbH	
Vendor Text	0x0011	17	0	R	String				the innovative family	
Produkt Name	0x0012	18	0	R	String				P1NHxxx P1NHxxx	
Product ID	0x0013	19	0	R	String				P1NHxxx P1NHxxx	
Product Text	0x0014	20	0	R	String				Reflex Sensor with Background Suppression	
Serial Number	0x0015	21	0	R	String				—	
Hardware Revision	0x0016	22	0	R	String				—	
Firmware Revision	0x0017	23	0	R	String				—	
Application Specific Name	0x0018	24	0	R/W	String 32 Byte	X			***	

Parameter

Device Settings										
System Command	0x0002	2	0	W	UInt8			X	—	Factory Reset = 0x82 (130)
Device Access Locks. Parameter (write) Access Lock	0x000C	12	1	R/W	Bool	X			0	0 = unlocked 1 = Parameter Access locked
Device Access Locks. Data Storage Lock	0x000C	12	2	R/W	Bool	X			0	0 = unlocked 1 = Data Storage locked
Device Access Locks. Local Parameterization	0x000C	12	3	R/W	Bool	X			0	0 = read/write 1 = read only 2 = locked
NFC Lock	0x0305	773	0	R/W	UInt8	X			0	0 = read/write 1 = read only 2 = locked

Mesasured Value Settings

Distance measurement	0x0301	769	0	R/W	UInt8	X			1	0 = On 1 = Off
Emitted Light	0x00E0	224	0	R/W	UInt8	X			0	0 = Light on 1 = Light off
Operating Mode	0x0110	272	0	R/W	UInt8	X			0	0 = Standard 1 = Interference-free
Hysteresis	0x0300	768	0	R/W	UInt8	X			0	0 = Small 1 = Large

Name	Index (hex)	Index (dec)	Sub-index	R/W	Data-type	Data Storage	Dyna-mic	Modify others	Default value	Range
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
E/A2 Pin Function	0x0041	65	0	R/W	UInt8	X		X	0 = Switching Output	0 = Switching Output 1 = Error Output 2 = Contamination Output 4 = Extern Teach A1 Input 5 = Deactivated 6 = Antivalent Switching Output
A1 (Switching Output)										
A1 Teach-In	0x0200	512	0	W	UInt8			X	—	1 = Do Teach
A1 Teach Mode	0x0290	656	0	R/W	UInt8	X		X	0 = Foreground	0 = Foreground 2 = Background
A1 Switch Point	0x0270	624	0	R/W	UInt16	X			510	1...510
A1 ON Delay	0x0050	80	0	R/W	UInt16	X			0 ms	0...10000 ms
A1 OFF Delay	0x0060	96	0	R/W	UInt16	X			0 ms	0...10000 ms
A1 NO/NC	0x0210	528	0	R/W	UInt8	X			0 = NO	0 = NO 1 = NC
A1 PNP/NPN	0x0220	544	0	R/W	UInt8	X			P1NH305, P1NH502, P1NH702: 1 P1NH308, P1NH504, P1NH704: 2	0 = PushPull 1 = PNP 2 = NPN
A1 (Error or Contamination Output)										
A1 ON Delay	0x0050	80	0	R/W	UInt16	X			0 ms	0...10000 ms
A1 OFF Delay	0x0060	96	0	R/W	UInt16	X			0 ms	0...10000 ms
A1 NO/NC	0x0210	528	0	R/W	UInt8	X			0 = NO	0 = NO 1 = NC
A1 PNP/NPN	0x0220	544	0	R/W	UInt8	X			P1NH305, P1NH502, P1NH702: 1 P1NH308, P1NH504, P1NH704: 2	0 = PushPull 1 = PNP 2 = NPN
E/A2 (Switching Output)										
E/A2 Teach-In	0x0201	513	0	W	UInt8			X	—	1 = Do Teach
E/A2 Teach Mode	0x0291	657	0	R/W	UInt8	X		X	0 = Foreground	0 = Foreground 1 = Background
E/A2 Switch Point	0x0280	640	0	R/W	UInt16	X		X	P1NH305, P1NH308: 510 P1NH502, P1NH504: 1	1...510
E/A2 ON Delay	0x0051	81	0	R/W	UInt16	X			0 ms	0...10000 ms
E/A2 OFF Delay	0x0061	97	0	R/W	UInt16	X			0 ms	0...10000 ms
E/A2 NO/NC	0x0211	529	0	R/W	UInt8	X			0 = NO	0 = NO 1 = NC
E/A2 PNP/NPN	0x0221	545	0	R/W	UInt8	X			P1NH305, P1NH502, P1NH702: 1 P1NH308, P1NH504, P1NH704: 2	0 = PushPull 1 = PNP 2 = NPN
E/A2 (Error or Contamination Output)										
E/A2 ON Delay	0x0051	81	0	R/W	UInt16	X			0 ms	0...10000 ms
E/A2 OFF Delay	0x0061	97	0	R/W	UInt16	X			0 ms	0...10000 ms
E/A2 NO/NC	0x0211	529	0	R/W	UInt8	X			0 = NO	0 = NO 1 = NC
E/A2 PNP/NPN	0x0221	545	0	R/W	UInt8	X			P1NH305, P1NH502, P1NH702: 1 P1NH308, P1NH504, P1NH704: 2	0 = PushPull 1 = PNP 2 = NPN

Name	Index (hex)	Index (dec)	Sub-index	R/W	Data-type	Data Storage	Dyna-mic	Modify others	Default value	Range
E/A2 (Antivalent)										
E/A2 PNP/NPN	0x0221	545	0	R/W	UInt8	X			P1NH305, P1NH502, P1NH702: 1 P1NH308, P1NH504, P1NH704: 2	0 = PushPull 1 = PNP 2 = NPN
E2 (Teach Input)										
Input Ub active/inactive	0x0260	608	0	R/W	UInt8	X			0 = Ub active	0 = Ub active 1 = Ub inactive
Device Test										
Test Mode	0x0310	784	0	R/W	UInt8		X		0	0 = OFF 1 = ON
Test Output A1	0x0317	791	0	R/W	UInt8		X		0	0 = OFF 1 = ON
Test Output A2	0x0311	785	0	R/W	UInt8		X		0	0 = OFF 1 = ON
Test Input E2	0x0313	787	0	R	UInt8		X		0	0 = OFF 1 = ON
Test Error	0x0314	788	0	R/W	UInt8		X		0	0 = OFF 1 = ON
Test Contamination	0x0315	789	0	R/W	UInt8		X		0	0 = OFF 1 = ON
Test Measured Value	0x0316	790	0	R/W	UInt16		X		0	0...511