EN

P1NHxxx

Reflex Sensors with Background Suppression

Mechanic

IO-Link

Interface Description

Subject to change without notice
Available as PDF version only
Version: 1.1.0
Status: 27.02.2019
www.wenglor.com

IO-Link P1NHxxx

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)
P1NH102	0x290E03	2690563	29 0E 03	41 14 3
P1NH104	0x290E04	2690564	29 0E 04	41 14 4
P1NH201	0x290E05	2690565	29 0E 05	41 14 5
P1NH202	0x290E06	2690566	29 0E 06	41 14 6
P1NH203	0x290E07	2690567	29 0E 07	41 14 7
P1NH206	0x290E2A	2690602	29 0E 2A	41 14 42
P1NH207	0x290E22	2690594	29 0E 22	41 14 34
P1NH208	0x290E23	2690595	29 0E 23	41 14 35
P1NH301	0x290E09	2690569	29 0E 09	41 14 9
P1NH302	0x290E08	2690568	29 0E 08	41 14 8
P1NH303	0x290E0A	2690570	29 0E 0A	41 14 10
P1NH306	0x290E24	2690596	29 0E 24	41 14 36
P1NH401	0x290E02	2690562	29 0E 02	41 14 2
P1NH402	0x290E0B	2690571	29 0E 0B	41 14 11
P1NH601	0x290E0D	2690573	29 0E 0D	41 14 13
P1NH602	0x290E25	2690597	29 0E 25	41 14 37
P1NH701	0x290E10	2690576	29 0E 10	41 14 16
P1NH706	0x290E27	2690599	29 0E 27	41 14 39
P1NH707	0x290E1B	2690587	29 0E 1B	41 14 27
P1NH708	0x290E28	2690600	29 0E 28	41 14 40
P1NH801	0x290E18	2690584	29 0E 18	41 14 24
P1NH802	0x290E17	2690583	29 0E 17	41 14 23
P1NH803	0x290E16	2690582	29 0E 16	41 14 22
P1NH804	0x290E15	2690581	29 0E 15	41 14 21
P1NH805	0x290E29	2690601	29 0E 29	41 14 41

IO-Link Version:	V1.1
Parameter Server / Data Storage:	No
Blockparameter:	No
MinCycletime:	4,8 ms
SIO-Mode:	Yes
COM-Mode:	COM2
ISDU:	No

Process data (Length: 16 Bit)

Subindex	Name	Bit Offset	Data Type	Valid for versions	Range
1	A1 Output	0	Bool	all	0 = off 1 = on
2	Signal Warning	1	Bool	all	0 = off 1 = on
3	---	2	---	---	---
4	No Signal	3	Bool	all	0 = off 1 = on
5	Short Circuit	4	Bool	all	0 = off 1 = on
6	Laser Error		Bool	P1NH701; P1NH706 – P1NH708; P1NH801 – P1NH805	0 = off 1 = on
7	Overtemperature	6	Bool	all	0 = off 1 = on
8	Memory Busy	7	Bool	all	0 = off 1 = on

Octet 0

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

Octet 1

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	Valid for versions	Default value	Range
Identification								
Parameter.Serial number	0x0001	**1**	12...15	R	Uint32	all	-	-
Direct Parameters 1.Vendor ID 1	0x0000	**0**	8	R	Uint8	all	0	-
Direct Parameters 1.Vendor ID 2	0x0000	**0**	9	R	Uint8	all	87	-
Direct Parameters 1.Device ID1	0x0000	**0**	10	R	Uint8	all	-	-
Direct Parameters 1.Device ID2	0x0000	**0**	11	R	Uint8	all	-	-
Direct Parameters 1.Device ID3	0x0000	**0**	12	R	Uint8	all	-	-
Parameter								
Write parameters to OTP memory	0x0001	**1**	16	R/W	Uint8	all	0	0 = no action 148 = write parameters
Counter OTP memory	0x0001	**1**	5	R	Uint8	all	0	0...255
OFF Delay	0x0001	**1**	4 (Bit0...2)	R/W	Uint3	all	0	0 = off 1 = 2 ms 2 = 5 ms 3 = 10 ms 4 = 20 ms 5 = 50 ms 6 = 100 ms 7 = 200 ms
ON Delay	0x0001	**1**	4 (Bit3...5)	R/W	Uint3	all	0	0 = off 1 = 2 ms 2 = 5 ms 3 = 10 ms 4 = 20 ms 5 = 50 ms 6 = 100 ms 7 = 200 ms
Operating Mode	0x0001	**1**	4 (Bit7)	R/W	Boolean	all	0	0 = Standard 1 = Interference-free
A1 NO/NC	0x0001	**1**	2 (Bit0)	R/W	Boolean	all	0	0 = NO 1 = NC
A2 Pin Function	0x0001	**1**	2 (Bit1...2)	R/W	Uint2	all	P1NH203, P1NH208, P1NH303, P1NH306, P1NH707, P1NH708, P1NH804, P1NH805: 2 Rest: 0	0 = Antivalent Switching Output 1 = Error Output (NO) 2 = Error Output (NC) 3 = deactivated
PNP/NPN	0x0001	**1**	2 (Bit3...4)	R/W	Uint2	all	P1NH104, P1NH206, P1NH207, P1NH208, P1NH301, P1NH306, P1NH402, P1NH602, P1NH706, P1NH708, P1NH801, P1NH805: 2 Rest: 1	0 = Push-Pull 1 = PNP 2 = NPN 3 = deactivated
Hysteresis	0x0001	**1**	2 (Bit6)	R/W	Boolean	all	0	0 = small 1 = large
Emitted Light	0x0001	**1**	2 (Bit7)	R/W	Boolean	all	0	0 = on 1 = off

Notes for the use of the IODD

RAM-memory
The changed parameters are stored in the volatile memory of the sensor. This could be used for testing and if the configuration of the sensor changes often (e. g. for different production batches).

Changes have the following effects:
- Sensor behavior is adjusted immediately without a restart according to the changed parameter.
- In case of a sensor restart (e. g. by turning power off and on) the settings are lost.
- Changes have no effects on the OTP-memory of the sensor.

OTP-memory
By writing the parameters, they are stored in the non-volatile memory. At every start-up the OTP parameters are loaded to the RAM of the sensor. The OTP-memory has limited write cycles. The wenglor sensoric GmbH can guarantee at least 240 writes to the OTP-memory at delivery.
The current number of writes is readable from the parameter “Counter OTP memory”.

Procedure to save parameters in the OTP-memory of the sensor:
1. Test the sensor settings within the application until the desired configuration is clear.
2. Set the parameter “Write parameters to OTP-memory” to “write parameters” and send it to the sensor.
3. The configuration is applied directly, and after a restart it is loaded from the OTP-memory.
4. New configuration is stored in the sensors RAM and OTP-memory.