EN

wenglor
the innovative family

P1KExxx

Through-Beam Sensors

IO-Link

Interface Description

Subject to change without notice
Available as PDF version only
Status: 29.02.2024
www.wenglor.com

IO-Link P1KExxx

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)
P1KE001	0x350B01	3476225	35 0B 01	53 11 1
P1KE002	0x350B02	3476226	35 0B 02	53 11 2
P1KE003	0x350B03	3476227	35 0B 03	53 11 3
P1KE004	0x350B04	3476228	35 0B 04	53 11 4
P1KE005	0x350B05	3476229	35 0B 05	53 11 5
P1KE006	0x350B06	3476230	35 0B 06	53 11 6
P1KE007	0x350B07	3476231	35 0B 07	53 11 7
P1KE008	0x350B08	3476232	35 0B 08	53 11 8
P1KE009	0x350B09	3476233	35 0B 09	53 11 9
P1KE010	0x350B0A	3476234	35 0B 0A	53 11 10
P1KE012	0x350B0C	3476236	35 0B 0C	53 11 12
P1KE013	0x350B0D	3476237	35 0B 0D	53 11 13
P1KE015	0x350B0F	3476239	35 0B 0F	53 11 15
P1KE019	0x350B13	3476243	35 0B 13	53 11 19

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	---	3	---	---	---
5	---	4	---	---	---
6	---	5	---	---	---
7	Overtemperature	6	Bool	all	0 = off 1 = on
8	Memory Busy	7	Bool	all	0 = off 1 = on
9	Signal	8	Uint8	all	0...255

Octet 0

Subindex	9							
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	Default value	Range
Identification							
Parameter.Serial number	0x0001	**1**	12...15	R	Uint32	-	-
Direct Parameters 1.Vendor ID 1	0x0000	**0**	8	R	Uint8	0	-
Direct Parameters 1.Vendor ID 2	0x0000	**0**	9	R	Uint8	87	-
Direct Parameters 1.Device ID1	0x0000	**0**	10	R	Uint8	-	-
Direct Parameters 1.Device ID2	0x0000	**0**	11	R	Uint8	-	-
Direct Parameters 1.Device ID3	0x0000	**0**	12	R	Uint8	-	-
Parameter							
Write parameters to OTP memory	0x0001	**1**	16	R/W	Uint8	0 = no action	0 = no action 148 = write parameters
Counter OTP memory	0x0001	**1**	5	R	Uint8	0	0...255
OFF Delay	0x0001	**1**	4 (Bit0...2)	R/W	Uint3	0 = off	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	0 = off	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	0 = Standard	0 = Standard 1 = Interference-free
Switch Point	0x0001	**1**	3	R/W	Uint8	244	0...255
A1 NO/NC	0x0001	**1**	2 (Bit0)	R/W	Boolean	0 = NO: P1KE001, P1KE002, P1KE005, P1KE006, P1KE012, P1KE013, P1KE015, P1KE019 1 = NC: P1KE003, P1KE004, P1KE007, P1KE008, P1KE009, P1KE010	0 = NO 1 = NC
A2 Pin Function (available for P1KE012, P1KE013, P1KE015)	0x0001	**1**	2 (Bit1…2)	R/W	Uint2	0 = antivalent	0 = antivalent 1 = error (NO) 2 = error (NC) 3 = deactivated

Name	Index (hex)	Index (dec)	Sub-index	R/W	Data type	Default value	Range
PNP/NPN	0x0001	**1**	2 (Bit3...4)	R/W	Uint2	1 = PNP: P1KE001, P1KE002, P1KE003, P1KE004, P1KE007, P1KE012, P1KE013 2 = NPN: P1KE005, P1KE006, P1KE008, P1KE009, P1KE010	0 = Push-Pull 1 = PNP 2 = NPN 3 = deactivated
Source SwitchPoint	0x0001	**1**	2 (Bit5)	R/W	Boolean	0 = Potentiometer	0 = Potentiometer 1 = IO-Link
Hysteresis	0x0001	**1**	2 (Bit6)	R/W	Boolean	1 = large	0 = small 1 = large

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