

EN

P1KLxxx

P1KKxxx

Retro-Reflex Sensors
Retro-Reflex Sensors for Clear Glass Recognition



Interface Description

IO-Link P1KLxxx/P1KKxxx

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)
P1KL001	0x2A0B01	2755329	2A 0B 01	42 11 1
P1KL002	0x2A0B02	2755330	2A 0B 02	42 11 2
P1KL003	0x2A0B03	2755331	2A 0B 03	42 11 3
P1KL004	0x2A0B04	2755332	2A 0B 04	42 11 4
P1KL005	0x2A0B05	2755333	2A 0B 05	42 11 5
P1KL006	0x2A0B06	2755334	2A 0B 06	42 11 6
P1KL007	0x2A0B07	2755335	2A 0B 07	42 11 7
P1KL008	0x2A0B08	2755336	2A 0B 08	42 11 8
P1KL009	0x2A0B09	2755337	2A 0B 09	42 11 9
P1KL010	0x2A0B0A	2755338	2A 0B 0A	42 11 10
P1KL017	0x2A0B11	2755345	2A 0B 11	42 11 17

Product	hex	dec	hex (Bytes)	dec (Bytes)
P1KL018	0x2A0B12	2755346	2A 0B 12	42 11 18
P1KL019	0x2A0B13	2755347	2A 0B 13	42 11 19
P1KL020	0x2A0B14	2755348	2A 0B 14	42 11 20
P1KL021	0x2A0B15	2755349	2A 0B 15	42 11 21
P1KL027	0x2A0B1B	2755355	2A 0B 1B	42 11 27
P1KL028	0x2A0B1C	2755356	2A 0B 1C	42 11 28
P1KL029	0x000028	40	00 00 28	00 00 40
P1KK001	0x2A0B64	2755428	2A 0B 64	42 11 100
P1KK003	0x2A0B66	2755430	2A 0B 66	42 11 102
P1KK006	0x2A0B69	2755433	2A 0B 69	42 11 105
P1KK007	0x2A0B6A	2755434	2A 0B 6A	42 11 106

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	Short Circuit	4	Bool	P1KL001-P1KL003, P1KL006, P1KL009, P1KK001, P1KK003, P1KK006, P1KK007, P1KL017, P1KL020, P1KL021, P1KL027, P1KL028, P1KL029	0 = off 1 = on
6	Laser Error		Bool	P1KL006-P1KL008, P1KL017-P1KL019, P1KL021, P1KL028	0 = off 1 = on
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	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 = Speed
Switch Point	0x0001	1	3	R/W	Uint8	all	P1KL001– P1KL005, P1KL009– P1KL010, P1KL020, P1KL029: 250 P1KL006– P1KL008, P1KL027, P1KL028: 240 P1KK001, P1KK003, P1KK006, P1KK007: 244 P1KL017– P1KL019, P1KL021: 210	P1KL001– P1KL005, P1KL009–P1KL010, P1KL029: 0...250 P1KL006–P1KL008, P1KL0027, P1KL028: 0...240 P1KK001, P1KK003, P1KK006, P1KK007: 0...244 P1KL017–P1KL019, P1KL021: 0...210

Name	Index (hex)	Index (dec)	Sub- index	R/W	Data type	Valid for versions	Default value	Range
A1 NO/NC	0x0001	1	² (Bit0)	R/W	Boolean	all	P1KL001– P1KL004, P1KL006, P1KL007, P1KL009, P1KL021, P1KL027, P1KL028, P1KL029: 0 P1KL005, P1KL008, P1KL010, P1KL017, P1KL018, P1KL019, P1KL020: 1 P1KK001, P1KK003, P1KK006, P1KK007: 0	0 = NO 1 = NC
A2 Pin Function	0x0001	1	² (Bit1...2)	R/W	Uint2	P1KL001– P1KL003, P1KL006, P1KL009, P1KK001, P1KK007, P1KL017, P1KL021, P1KL029	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	P1KL027: 0 P1KL001– P1KL008, P1KL017– P1KL020: 1 P1KL009, P1KL010, P1KL021: 2 P1KL028, P1KL029, P1KK001, P1KK007: 1 P1KK003, P1KK006: 2	0 = Push-Pull 1 = PNP 2 = NPN 3 = deactivated
Source SwitchPoint	0x0001	1	² (Bit5)	R/W	Boolean	all	0	0 = Potentiometer 1 = IO-Link
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.