

# EN

# OPT2133-38 OPT2139-40

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



## Interface Description

# IO-Link OPT2133-38/OPT2139-40

## 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)
OPT2133	0x3B0F06	3870470	3B 0F 06	59 15 6
OPT2134	0x3B0F07	3870471	3B 0F 07	59 15 7
OPT2135	0x3B0F08	3870472	3B 0F 08	59 15 8
OPT2136	0x3B0F09	3870473	3B 0F 09	59 15 9
OPT2137	0x3B0F0A	3870474	3B 0F 0A	59 15 10
OPT2138	0x3B0F0B	3870475	3B 0F 0B	59 15 11
OPT2139	0x3B0F0C	3870476	3B 0F 0C	59 15 12
OPT2140	0x3B0F0D	3870477	3B 0F 0D	59 15 13

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	all	0 = off 1 = on
6	Laser Error		Bool	OPT2137, OPT3138	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
<b>Identification</b>								
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	-	-
<b>Parameter</b>								
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	OPT2133; OPT2134: 250 / 0...250 OPT2135; OPT2136: 250 / 0...250 OPT2137; OPT2138: 255 / 0...255 OPT2139; OPT2140: 225 / 0...225	OPT2133; OPT2134: 250 / 0...250 OPT2135; OPT2136: 250 / 0...250 OPT2137; OPT2138: 255 / 0...255 OPT2139; OPT2140: 225 / 0...225
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	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	OPT2133; OPT2135 OPT2137; OPT2139: 1 OPT2134; OPT2136 OPT2138; OPT2140: 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.