

# OPT2172–OPT2174

High-Performance Distance Sensors



## Interface Description

# IO-Link OPT2172–OPT2174

## 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)
OPT2172	0x3B0F20	3870496	3B 0F 20	59 15 32
OPT2173	0x3B0F21	3870497	3B 0F 21	59 15 33
OPT2174	0x3B0F22	3870498	3B 0F 22	59 15 34

IO-Link Version:	V1.1
Parameter Server / Data Storage:	Yes
Blockparameter:	Yes
MinCycletime:	2,3 ms
SIO-Mode:	Ja
COM-Mode:	COM2
ISDU:	No
Process data In (Device to Master)	16 Bit
Process data Out (Master to Device)	—

## Process data (Length: 16 Bit)

If Parameter "Processdatatype" = 0

### Process data (Length: 16 Bit)

Subindex	Name	Bit Offset	Length	Range
1	A1 Output	0	1 Bit	0 = false 1 = true
2	A2 Output	1	1 Bit	0 = false 1 = true
3	Contamination Output	2	1 Bit	0 = false 1 = true
4	Error Output	3	1 Bit	0 = false 1 = true
5	Measured Value	4...15	Uint12	100...1000 mm

#### Octet 0

Subindex	5							
Bit Offset	15	14	13	12	11	10	9	8

#### Octet 1

Subindex	5				4	3	2	1
Bit Offset	7	6	5	4	3	2	1	0

Measured Value = 0 mm      Object too close  
 4 093 mm      Laser off  
 4 094 mm      Object too far  
 4 095 mm      No signal

If Parameter "Processdatatype" = 1

Subindex	Name	Bit Offset	Length	Range
1	Measured Value	0...11	12 Bit	100...1000 mm

#### Octet 0

Subindex	0				1 (MSB)			
Bit Offset	15	14	13	12	11	10	9	8

#### Octet 1

Subindex	1 (LSB)							
Bit Offset	7	6	5	4	3	2	1	0

Measured Value = 0 mm      Object too close  
 4 093 mm      Laser off  
 4 094 mm      Object too far  
 4 095 mm      No signal

## Parameter

Name	Index (hex)	Index (dec)	Sub-index	R/W	Datatype	Data Storage	Dynamic	modify others	Default value	Range
<b>Identification</b>										
Vendor Name	0x0010	16	0	R	String				wenglor sensoric GmbH	
Vendor Text	0x0011	17	0	R	String				the innovative family	
Product Name	0x0012	18	0	R	String				OPT21xx	
Product ID	0x0013	19	0	R	String				OPT21xx	
Product Text	0x0014	20	0	R	String				High-Performance Distance Sensor	
Serial Number	0x0015	21	0	R	String				—	
Hardware Revision	0x0016	22	0	R	String				—	
Firmware Revision	0x0017	23	0	R	String				—	
Application Specific Tag	0x0018	24	0	R/W	String 32 Byte	X			***	
<b>Parameter Device Settings</b>										
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 = unlocked 1 = Local Parameterization locked
<b>Mesasured Value Settings</b>										
Processdatatype	0x005A	90	0	R/W	UInt8	X			0 = Outputs and Measured Value	0 = Outputs and Measured Value 1 = Measured Value only
Emitted Light	0x00E0	224	0	R/W	UInt8	X			0	0 = On 1 = Off
<b>Pin Function</b>										
E/A1 Pin Function	0x0040	64	0	R/W	UInt8	X		X	0 = Switching Output	0 = Switching Output 1 = Error Output 2 = Contamination Output 3 = Emitted Light Disengageable 4 = Extern Teach-in
E/A2 Pin Function	0x0041	65	0	R/W	UInt8	X		X	0 = Switching Output	0 = Switching Output 1 = Error Output 2 = Contamination Output 3 = Emitted Light Disengageable 4 = Extern Teach-in 6 = Antivalent Switching Output
<b>A1 (Switching Output)</b>										
A1_Teach_in	0x0200	512	0	W	UInt8			X	—	1 = Do Teach
A1 Teach Mode	0x0290	656	0	W	UInt8	X		X	0 = Foreground Teach-in	0 = Foreground Teach-in 1 = Background Teach-in 2 = Window Teach-in
A1 Switch Point	0x0270	624	0	R/W	UInt16	X			1000 mm	100...1000 mm
A1 Window Near	0x0271	625	0	R/W	UInt16	X			30 mm	1...500 mm
A1 Window Far	0x0272	626	0	R/W	UInt16	X			30 mm	1...500 mm
A1_Hysteresis	0x0300	768	0	R/W	UInt16	X			20 mm	15...500 mm
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 = Normally open	0 = Normally open 1 = Normally closed
A1 NPN/PNP	0x0220	544	0	R/W	UInt8	X			OPT2172/73/74: 0	0 = PNP 1 = NPN 2 = Pushpull

Name	Index (hex)	Index (dec)	Sub-index	R/W	Datatype	Data Storage	Dynamic	modify others	Default value	Range
<b>A1 (Error or Contamination Output)</b>										
A1 ON Delay	0x0050	<b>80</b>	0	R/W	Uint16	X			0 ms	0...10000 ms
A1 OFF Delay	0x0060	<b>96</b>	0	R/W	Uint16	X			0 ms	0...10000 ms
A1 NO/NC	0x0210	<b>528</b>	0	R/W	Uint8	X			0 = Normally open	0 = Normally open 1 = Normally closed
A1 NPN/PNP	0x0220	<b>544</b>	0	R/W	Uint8	X			OPT2172/73/74: 0	0 = PNP 1 = NPN 2 = Pushpull
<b>E1 (Teach Input)</b>										
E1 Input Ub active/inactive	0x0260	<b>608</b>	0	R/W	Uint8	X			0	0 = Ub active 1 = Ub inactive
<b>A2 (Switching Output)</b>										
A2_Teach_in	0x0201	<b>513</b>	0	W	Uint8			X	—	1 = Do Teach
A2 Teach Mode	0x0291	<b>657</b>	0	R/W	Uint8	X		X	0 = Foreground Teach-in	0 = Foreground Teach-in 1 = Background Teach-in 2 = Window Teach-in
A2 Switch Point	0x0280	<b>640</b>	0	R/W	Uint16	X		X	1000 mm	100...1000 mm
A2 Window Near	0x0281	<b>641</b>	0	R/W	Uint16	X			30 mm	1...500 mm
A2 Window Far	0x0282	<b>642</b>	0	R/W	Uint16	X			30 mm	1...500 mm
A2 Hysteresis	0x0301	<b>769</b>	0	R/W	Uint16	X			20 mm	15...500 mm
A2 ON Delay	0x0051	<b>81</b>	0	R/W	Uint16	X			0 ms	0...10000 ms
A2 OFF Delay	0x0061	<b>97</b>	0	R/W	Uint16	X			0 ms	0...10000 ms
A2 NO/NC	0x0211	<b>529</b>	0	R/W	Uint8	X			0 = Normally open	0 = Normally open 1 = Normally closed
A2 NPN/PNP	0x0221	<b>545</b>	0	R/W	Uint8	X			OPT2172/73/74: 0	0 = PNP 1 = NPN 2 = Pushpull
<b>A2 (Error or Contamination Output)</b>										
A2 ON Delay	0x0051	<b>81</b>	0	R/W	Uint16	X			0 ms	0...10000 ms
A2 OFF Delay	0x0061	<b>97</b>	0	R/W	Uint16	X			0 ms	0...10000 ms
A2 NO/NC	0x0211	<b>529</b>	0	R/W	Uint8	X			0 = Normally open	0 = Normally open 1 = Normally closed
A2 NPN/PNP	0x0221	<b>545</b>	0	R/W	Uint8	X			OPT2172/73/74: 0	0 = PNP 1 = NPN 2 = Pushpull
<b>E2 (Teach Input)</b>										
E2 Input Ub active/inactive	0x0261	<b>609</b>	0	R/W	Uint8	X			0	0 = Ub active 1 = Ub inactive
<b>Device Test</b>										
Test Mode	0x0310	<b>784</b>	0	R/W	Uint8		X		0	0 = OFF 1 = ON
Test Output A1	0x0317	<b>791</b>	0	R/W	Uint8		X		0	0 = OFF 1 = ON
Test Output A2	0x0311	<b>785</b>	0	R/W	Uint8		X		0	0 = OFF 1 = ON
Test Input E2	0x0313	<b>787</b>	0	R	Uint8		X		0	0 = OFF 1 = ON
Test Error	0x0314	<b>788</b>	0	R/W	Uint8		X		0	0 = OFF 1 = ON
Test Contamination	0x0315	<b>789</b>	0	R/W	Uint8		X		0	0 = OFF 1 = ON
Test Distance	0x0316	<b>790</b>	0	R/W	Uint16		X		1000	100...1000 mm