Fiber-optic amplifier

P1XD106

Part Number

- **Intuitive setup using display**
- **LED red light**
- **NFC communication via the weCon app and IO-Link**
- **Tool-free assembly**

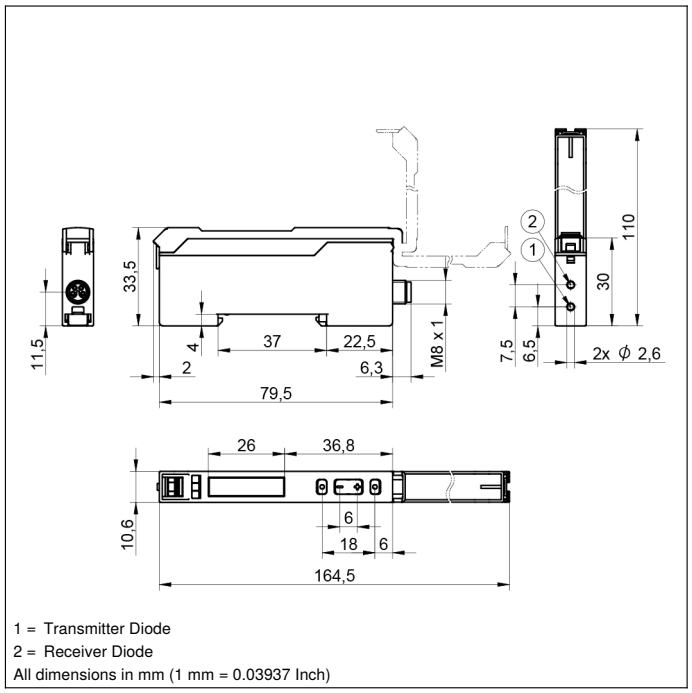
Fiber-optic sensors work according to the energetic principle in which light is emitted via one fiber-optic cable and received via another. The amplifier can be adapted to a wide range of application requirements through the use of flexible plastic fiber-optic cables or glass fiber-optic cables with adapter no. 7. The display shows both the switching threshold and the currently received signal, which means that the sensor can be set up intuitively and quickly using the buttons. More complex parameterizations can be conveniently carried out via the wenglor weCon app on a mobile device or via IO-Link. All sensor information is also provided via the IO-Link process data. Both the fiber-optic cable and the amplifier can be mounted without tools, which further simplifies handling.

Technical Data

Optical Data	
Switching Hysteresis	< 15 %
Light Source	Red Light
Wavelength	633 nm
Service Life (T = +25 °C)	> 100000 h
Max. Ambient Light	10000 Lux
Electrical Data	
Supply Voltage	18...30 V DC
Supply Voltage with IO-Link	18...30 V DC
Current Consumption (Ub = 24 V)	< 40 mA
ADC Resolution	14 bit
Digital switching frequency	4 kHz
Analog switching frequency	2 kHz
Digital response time	71 µs
Analog response time	240 µs
On-/Off-Delay	0...10000 ms
Temperature Drift	< 10 %
Temperature Range	-25...60 °C
Switching Output Voltage Drop	< 2 V
Switching Output/Switching Current	100 mA
Analog Output	0...10 V
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Teach Mode	NT, MT, MT with dynamic readjustment, jump detection, DT, BT, WT
IO-Link transmission speed	COM3
Interface	IO-Link V1.1.3
Protection Class	III
Mechanical Data	
Setting Method	Display
Setting Method	NFC
Housing Material	Plastic, ABS
Housing Material	Plastic, PA
Housing Material	Plastic, PC
Degree of Protection	IP50
Connection	M8 × 1; 4-pin
DIN-Rail mounting	35 mm
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	640,47 a
Scope of delivery	1 × initial start-up instructions 1 × sensor
Analog Output	●
IO-Link	●
PNP NO	●
Connection Diagram No.	614
Suitable Connection Equipment No.	7

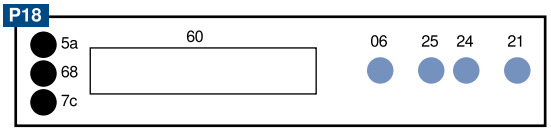
Complementary Products

IO-Link Master
IO-Link converter
Plastic Fiber-Optic Cable

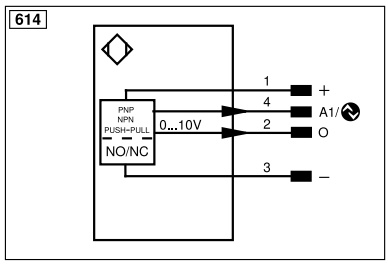


1 = Transmitter Diode
2 = Receiver Diode
All dimensions in mm (1 mm = 0.03937 Inch)

Ctrl. Panel



06 = Teach Button
21 = Mode Button
24 = Plus Button
25 = Minus Button
5a = Switching Status Indicator, O1
60 = display
68 = Power LED
7c = Analog Output Indicator, AO



Legend					
+	Supply Voltage +	PT	Platinum measuring resistor	ENARS422	Encoder A/Ā (TTL)
–	Supply Voltage 0 V	nc	Not connected	ENBRS422	Encoder B/B̄ (TTL)
~	Supply Voltage (AC Voltage)	U	Test Input	ENA	Encoder A
A	Switching Output (NO)	Ū	Test Input inverted	ENB	Encoder B
Ā	Switching Output (NC)	W	Trigger Input	AMIN	Digital output MIN
V	Contamination/Error Output (NO)	W–	Ground for the Trigger Input	AMAX	Digital output MAX
V̄	Contamination/Error Output (NC)	O	Analog Output	AOK	Digital output OK
E	Input (analog or digital)	O–	Ground for the Analog Output	SY In	Synchronization In
T	Teach Input	BZ	Block Discharge	SY OUT	Synchronization OUT
R	Reset input	AMV	Valve Output	OLT	Brightness output
Z	Time Delay (activation)	a	Valve Control Output +	M	Maintenance
S	Shielding	b	Valve Control Output 0 V	rsv	Reserved
RxD	Interface Receive Path	SY	Synchronization	Wire Colors according to DIN IEC 60757	
TxD	Interface Send Path	SY–	Ground for the Synchronization	BK	Black
RDY	Ready	E+	Receiver-Line	BN	Brown
GND	Ground	S+	Emitter-Line	RD	Red
CL	Clock	⏚	Grounding	OG	Orange
E/A	Output/Input programmable	SnR	Switching Distance Reduction	YE	Yellow
	IO-Link	Rx+/–	Ethernet Receive Path	GN	Green
PoE	ower over Ethernet	Tx+/–	Ethernet Send Path	BU	Blue
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(–)	VT	Violet
OSSD	Safety Output	La	Emitted Light disengageable	GY	Grey
Signal	Signal Output	Mag	Magnet activation	WH	White
BI_D+/–	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	PK	Pink
EN0 RS422	Encoder 0-pulse 0/0̄ (TTL)	EDM	Contactor Monitoring	GNYE	Green/Yellow

Specifications are subject to change without notice V1-18.05.2026