## Reflex Sensor

with Background Suppression

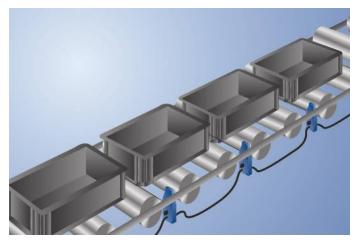
# **OPT1541**

Part Number



- Energy savings thanks to EcoMode
- Increased capacity thanks to intelligent functions
- Optimized performance
- Time-saving initial start-up with fast-clip mounting system and quick wiring
- Wireless settings via NFC

These sensors have been specially designed for use in accumulation roller conveyors. Their compact design allows for installation between rollers below the transport level. High-precision background suppression makes it possible to reliably detect even black objects at up to 900 mm. Settings are entered via wireless NFC, which is even possible in the de-energized state. Thanks to the innovative fast-clip mounting system and quick wiring, the sensors are installed and ready for use in no time flat.

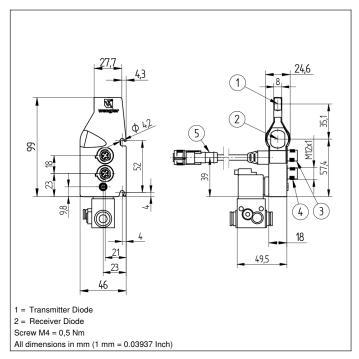


#### **Technical Data**

Technical Data				
Optical Data				
Range	900 mm			
Switching Hysteresis	< 5 %			
Light Source	Infrared Light			
Wavelength	860 nm			
Service Life (T = +25 °C)	100000 h			
Risk Group (EN 62471)	1			
Max. Ambient Light	90000 Lux			
Opening Angle	3 °			
Electrical Data				
Supply Voltage	20,630 V DC			
Current Consumption Sensor (Ub = 24 V)	< 16 mA			
EcoMode	yes			
Switching Frequency	100 Hz			
Response Time	5 ms			
Temperature Drift	< 5 %			
Temperature Range	-4060 °C			
Number of Switching Outputs	2			
Switching Output Voltage Drop	< 0.9 V			
PNP Switching Output/Switching Current	200 mA			
Short Circuit Protection	yes			
Reverse Polarity Protection	yes			
Overload Protection	yes			
Logic	yes			
Single Discharge	yes			
Block Forwarding	yes			
Solenoid Valve	yes			
Automatic Roller Shutdown				
Protection Class	yes			
Mechanical Data	III			
Setting Method	NFC			
Housing Material	Plastic			
Degree of Protection	IP65			
Connection				
Cable Length	M12 × 1; 4-pin 150 cm			
Pneumatic Solenoid Valve Unit	130 cm			
Valve no.	K04			
Supply Voltage Valve	19,228,8 V			
117	86 mA			
Current Consumption Valve  Valve temperature range	-1550 °C			
, ,	47 bar			
Operating Pressure Nominal Width				
	0,8 mm			
Nominal flow rate 1 -> 2	20 NL/min			
Nominal flow rate 2 -> 3	100 NL/min			
Supply-Line Connector Pipe	2× 8×1			
Working-Line Connector Pipe	4×1			
Valve function	3/2-Way			
Switching function	NC			
PNP NO/NC switchable				
NFC Receiver Category 3				
Connection Diagram No.	146			
Control Panel No.	OP3			
	onnection Equipment No. 2 2s			
Suitable Connection Equipment No.				

#### **Complementary Products**

Adapter OPT70N, OPT70S, OPT70P	
Software	
USB NFC Adapter	
ZPTX001 Quick Mount	

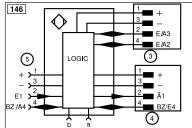


## Ctrl. Panel



2a = NFC interface

3a = Switching Status Indicator/Error Indicator



+	Supply Voltage +	nc	Not connected	ENBRS422	Encoder B/B (TTL)	
-	Supply Voltage 0 V	U	Test Input	ENA	Encoder A	
~	Supply Voltage (AC Voltage)	Ū	Test Input inverted	ENв	Encoder B	
А	Switching Output (NO)	W	Trigger Input	Amin	Digital output MIN	
Ā	Switching Output (NC)	W-	Ground for the Trigger Input	AMAX	Digital output MAX	
V	Contamination/Error Output (NO)	0	Analog Output	Аок	Digital output OK	
⊽	Contamination/Error Output (NC)	O-	Ground for the Analog Output	SY In	Synchronization In	
E	Input (analog or digital)	BZ	Block Discharge	SY OUT	Synchronization OUT	
Т	Teach Input	Amv	Valve Output	OLT	Brightness output	
Z	Time Delay (activation)	а	Valve Control Output +	M	Maintenance	
S	Shielding	b	Valve Control Output 0 V	rsv	Reserved	
RxD	Interface Receive Path	SY	Synchronization	Wire Colo	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	<u>+</u>	Grounding	OG	Orange	
E/A	Output/Input programmable	SnR	Switching Distance Reduction	YE	Yellow	
0	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	
ENo RS422	Encoder 0-pulse 0/0 (TTL)	EDM	Contactor Monitoring	GNYE	Green/Yellow	
PT	Platinum measuring resistor	ENARS422	Encoder A/Ā (TTL)		•	

### **Switching Distance Deviation**

Typical characteristic curve based on white, 90 % remission

