

Reflex Sensor for Roller Conveyor Systems

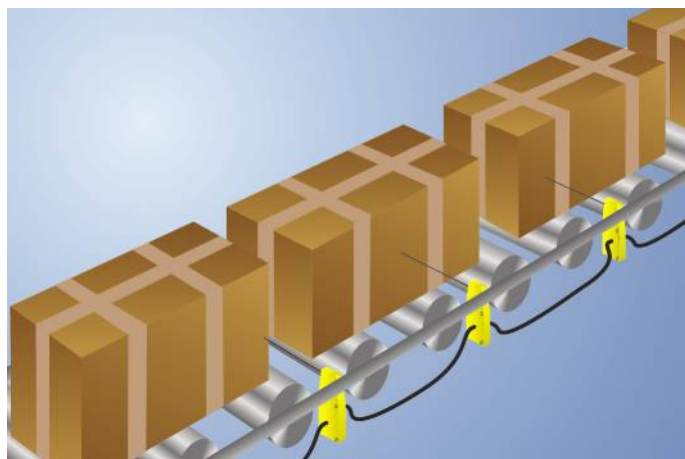
OPT104

Part Number



- Electronic background suppression
- Fully encapsulated
- Integrated logic
- Scaled switching distance adjuster

These sensors have been specially designed for use in accumulation roller conveyors. Their compact design allows for installation between rollers below the transport level. They are thus protected against mechanical damage.



Technical Data

Optical Data	
Range	550 mm
Potentiometer min	220...270 mm
Potentiometer center	320...400 mm
Potentiometer max	550...630 mm
Switching Hysteresis	< 15 %
Light Source	Infrared Light
Wave Length	880 nm
Service Life (T = +25 °C)	100000 h
Risk Group (EN 62471)	1
Max. Ambient Light	10000 Lux
Opening Angle	5 °

Electrical Data	
Supply Voltage	18...30 V DC
Current Consumption Sensor (U _b = 24 V)	< 30 mA
Switching Frequency	100 Hz
Response Time	5 ms
Temperature Drift	< 10 %
Temperature Range	-15...50 °C
Switching Outputs	1
Switching Output Voltage Drop	< 0,8 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 Discharge	yes
Pneumatic Solenoid Valve Unit	yes
Protection Class	III

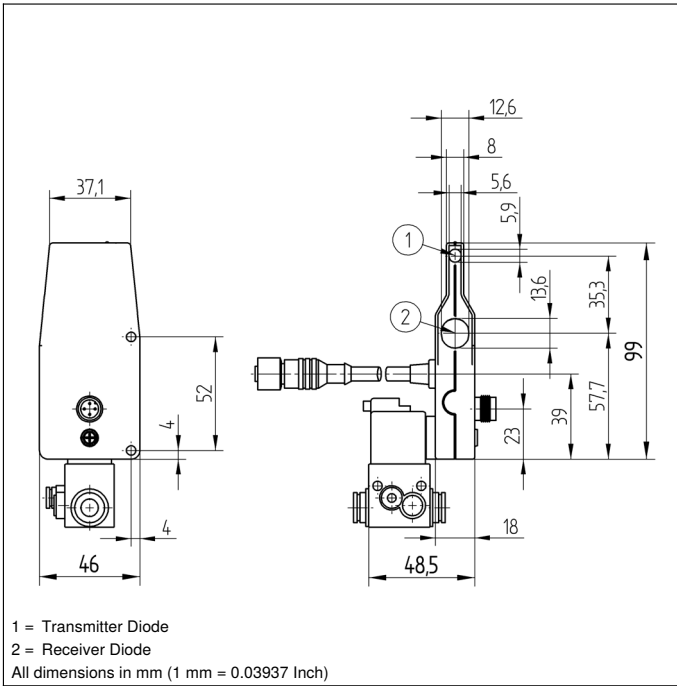
Mechanical Data	
Adjustment	Potentiometer
Housing Material	Plastic
Full Encapsulation	yes
Degree of Protection	IP65
Connection	M12 × 1; 4-pin
Cable Length	88 cm

Pneumatic Solenoid Valve Unit	
Valve no.	K04
Supply Voltage Valve	19,2...28,8 V
Current Consumption Valve	86 mA
Operating Pressure	4...7 bar
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

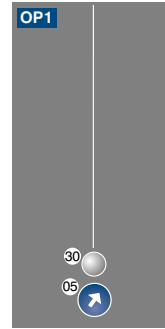
PNP NC	●
Connection Diagram No.	714
Control Panel No.	OP1
Suitable Connection Technology No.	2 2s
Suitable Mounting Technology No.	420

Complementary Products

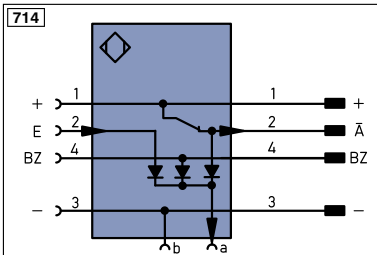
Adapter OPT70N, OPT70S, OPT70P



Ctrl. Panel



05 = Switching Distance Adjuster
 30 = Switching Status/Contamination Warning

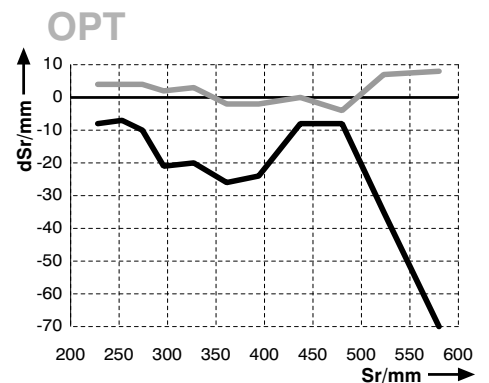


Legend

+	Supply Voltage +	PT	Platinum measuring resistor	ENa	Encoder A
-	Supply Voltage 0 V	nc	not connected	ENb	Encoder B
~	Supply Voltage (AC Voltage)	U	Test Input	AMin	Digital output MIN
A	Switching Output (NO)	U	Test Input inverted	AMax	Digital output MAX
Ā	Switching Output (NC)	W	Trigger Input	Aok	Digital output OK
V	Contamination/Error Output (NO)	O	Analog Output	SY In	Synchronization In
V̄	Contamination/Error Output (NC)	O-	Ground for the Analog Output	SY OUT	Synchronization OUT
E	Input (analog or digital)	BZ	Block Discharge	Out	Brightness output
T	Teach Input	AWV	Valve Output		
Z	Time Delay (activation)	a	Valve Control Output +		Wire Colors according to DIN IEC 757
S	Shielding	b	Valve Control Output 0 V	BK	Black
RxD	Interface Receive Path	SY	Synchronization	BN	Brown
TxD	Interface Send Path	E+	Receiver-Line	RD	Red
RDY	Ready	S+	Emitter-Line	OG	Orange
GND	Ground	±	Grounding	YE	Yellow
CL	Clock	SrR	Switching Distance Reduction	GN	Green
E/A	Output/Input programmable	Rx +/-	Ethernet Receive Path	BU	Blue
	IO-Link	Tx +/-	Ethernet Send Path	VT	Violet
PoE	Power over Ethernet	Ea	Interfaces-Bus A(+)/B(-)	GY	Grey
IN	Safety Input	La	Emitted Light disengageable	WH	White
OSSD	Safety Output	Mag	Magnet activation	PK	Pink
Signal	Signal Output	RES	Input confirmation	GNYE	Green Yellow
M	Maintenance	EDM	Contactur Monitoring		

Switching Distance Deviation

Typical characteristic curve based on Kodak white (90 % remission)



Pot. = Potentiometer Setting
 dSr = Switching Distance Change
 — black 6 % remission
 — grey 18 % remission

