

Reflex Sensor for Roller Conveyor Systems

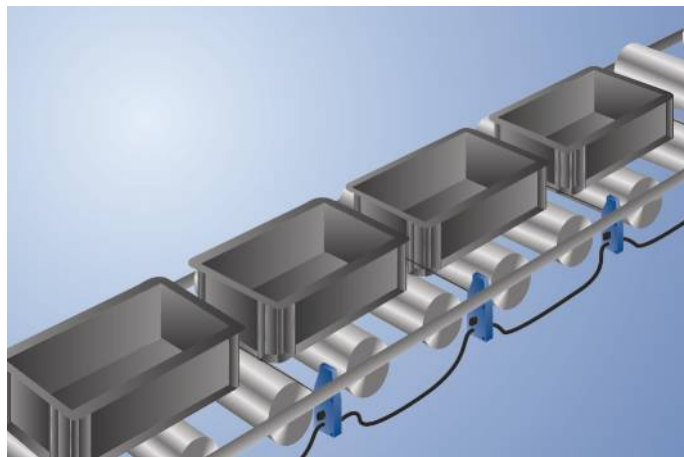
OPT144

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.

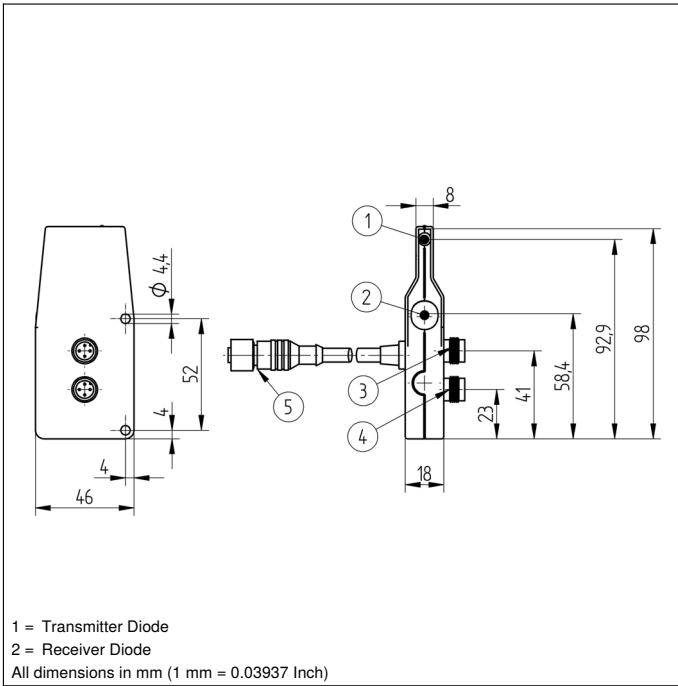


Technical Data

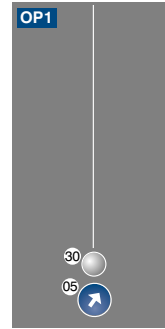
Optical Data	
Range	550 mm
Potentiometer min	220...270 mm
Potentiometer center	320...400 mm
Potentiometer max	550...630 mm
Switching Hysteresis	< 15 %
Light Source	Infrared Light
Wave Length	880 nm
Service Life (T = +25 °C)	100000 h
Risk Group (EN 62471)	1
Max. Ambient Light	10000 Lux
Opening Angle	5 °
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	-25...60 °C
Switching Outputs	1
Switching Output Voltage Drop	< 0,8 V
PNP Switching Output/Switching Current	200 mA
Valve or Motor Output/Switching Current	200 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Logic	yes
Single Discharge	yes
Block Discharge	yes
Output Magnetic Valve/Engine	yes
Protection Class	III
Mechanical Data	
Setting Method	Potentiometer
Housing Material	Plastic
Full Encapsulation	yes
Degree of Protection	IP65
Connection	M12 × 1; 4-pin
Cable Length	88 cm
PNP NC	●
Connection Diagram No.	715
Control Panel No.	OP1
Suitable Connection Technology No.	2 2s
Suitable Mounting Technology No.	420

Complementary Products

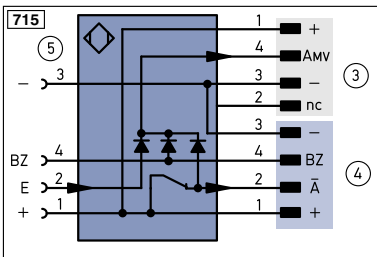
Adapter OPT70N, OPT70S, OPT70P



Ctrl. Panel



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



Legend

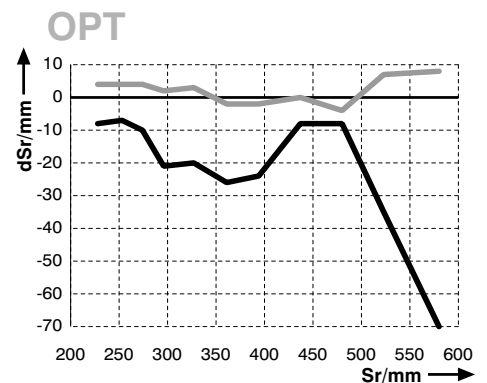
+	Supply Voltage +	PT	Platinum measuring resistor	ENa	Encoder A
-	Supply Voltage 0 V	nc	not connected	ENb	Encoder B
~	Supply Voltage (AC Voltage)	U	Test Input	AMIN	Digital output MIN
A	Switching Output (NO)	U	Test Input inverted	AMAX	Digital output MAX
Ā	Switching Output (NC)	W	Trigger Input	AOK	Digital 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
BZ	Block Discharge	BZ	Block Discharge	LI	Brightness output
E	Input (analog or digital)	Aw	Valve Output	M	Maintenance
T	Teach Input	a	Valve Control Output +		
Z	Time Delay (activation)	b	Valve Control Output 0 V		
S	Shielding	SY	Synchronization		
RxD	Interface Receive Path	E+	Receiver-Line		
TxD	Interface Send Path	S+	Emitter-Line		
RDY	Ready	≡	Grounding		
GND	Ground	SnR	Switching Distance Reduction		
CL	Clock	Rx+/-	Ethernet Receive Path		
E/A	Output/Input programmable	Tx+/-	Ethernet Send Path		
	IO-Link	Bus	Interfaces-Bus A(+)/B(-)		
PoE	Power over Ethernet	La	Emitted Light disengageable		
IN	Safety Input	Mag	Magnet activation		
OSSD	Safety Output	RES	Input confirmation		
Signal	Signal Output	EDM	Contactor Monitoring		
Bl..D+/-	Ethernet Gigabit bidirect. data line (A-D)	ENAR5422	Encoder A/Ā (TTL)		
EN0R5422	Encoder 0-pulse 0-0 (TTL)	ENBR5422	Encoder B/B̄ (TTL)		

Wire Colors according to DIN IEC 757

BK	Black
BN	Brown
RD	Red
OG	Orange
YE	Yellow
GN	Green
BU	Blue
VT	Violet
GY	Grey
WH	White
PK	Pink
GNYE	Green/Yellow

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

