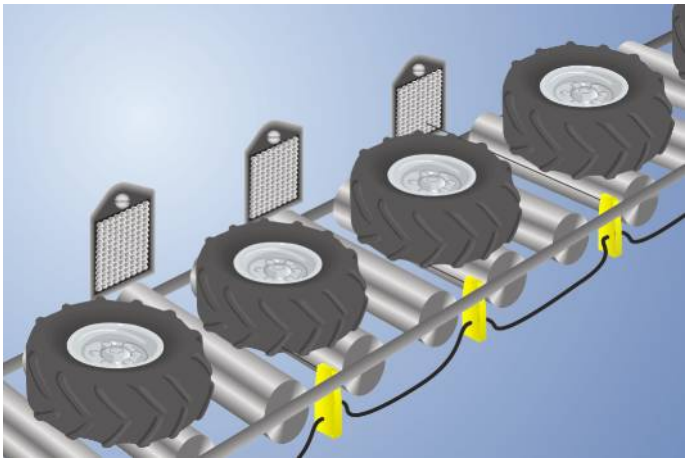
Retro-Reflex Sensor

OPT247

Part Number

- **Fully encapsulated**
- **Integrated logic**
- **Large working range**
- **Recognition of high-gloss and jet black objects**

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

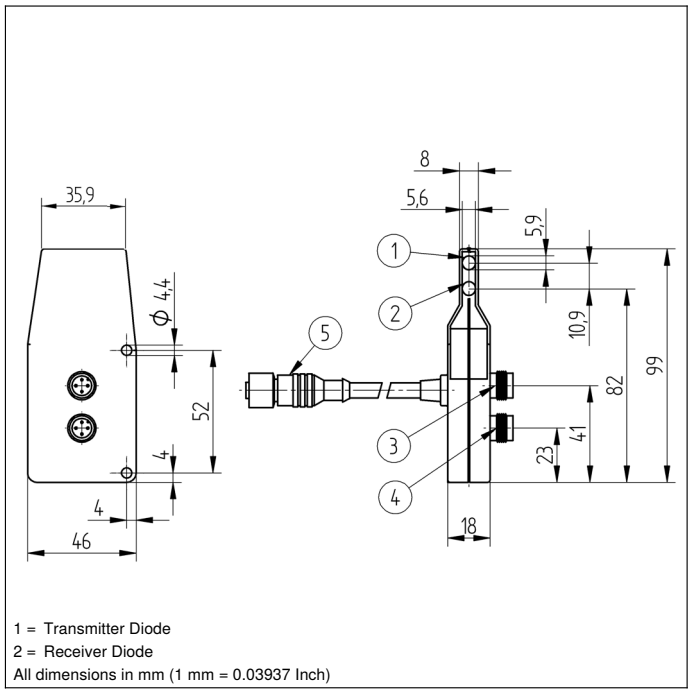


Technical Data

Optical Data	
Range	6500 mm
Reference Reflector/Reflector Foil	RQ100BA
Min. Distance to Reflector	100 mm
Switching Hysteresis	< 15 %
Light Source	Red Light
Polarization Filter	yes
Service Life (T = +25 °C)	100000 h
Max. Ambient Light	10000 Lux
Opening Angle	5 °
Two-Lens Optic	yes
Electrical Data	
Supply Voltage	18...30 V DC
Current Consumption Sensor (Ub = 24 V)	< 30 mA
Switching Frequency	100 Hz
Response Time	5 ms
Temperature Drift	< 10 %
Temperature Range	-15...50 °C
Number of 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 Forwarding	yes
Output Magnetic Valve/Engine	yes
Protection Class	III
Mechanical Data	
Housing Material	Plastic
Full Encapsulation	yes
Degree of Protection	IP54
Connection	M12 × 1; 4-pin
Cable Length	88 cm
PNP NO	●
Connection Diagram No.	724
Control Panel No.	OP2
Suitable Connection Equipment No.	2 2s
Suitable Mounting Technology No.	420

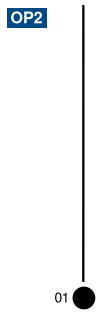
Complementary Products

Adapter OPT70N, OPT70S, OPT70P
Reflector, Reflector Foil

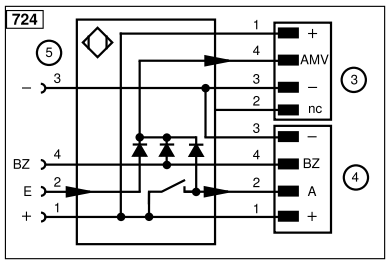


1 = Transmitter Diode
2 = Receiver Diode
All dimensions in mm (1 mm = 0.03937 Inch)

Ctrl. Panel



01 = Switching Status Indicator



Legend					
+	Supply Voltage +	nc	Not connected	ENBRS422	Encoder B/B̄ (TTL)
–	Supply Voltage 0 V	U	Test Input	ENA	Encoder A
~	Supply Voltage (AC Voltage)	Ū	Test Input inverted	ENB	Encoder B
A	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)	O	Analog Output	AOK	Digital output OK
V̄	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
T	Teach 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
PT	Platinum measuring resistor	ENARS422	Encoder A/Ā (TTL)		

Feasible reflector distance

Reflector type, mounting distance

RQ100BA	0,25...6,5 m	**ZRAE02B01**	0,2...1,8 m
RE18040BA	0,1...4 m	**ZRME03B01**	0,15...2 m
RQ84BA	0,25...5 m	**RF505**	0,15...1,9 m
RR84BA	0,2...5 m	**RF508**	0,15...1,9 m
RE9538BA	0,15...2 m	**RF258**	0,15...1,5 m
RR50_A	0,15...3 m	**ZRDF03K01**	0,1...3,5 m
RE6040BR	0,2...2,5 m	**ZRDF10K01**	0,1...4,5 m
RE8222BA	0,25...1,8 m		