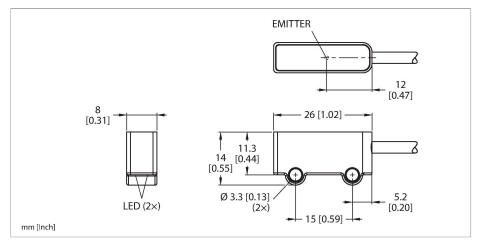
# Q2XRPLPF-2M

# Photoelectric Sensor – Retroreflective Sensor with Polarizing Filter





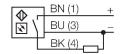
#### Technical data

ID 3808066  Optical data Function Proximity switch  Light type Red polarized  Wavelength 645 nm  Range 3300 mm  Electrical data  Operating voltage U₀ 1030 VDC  Residual ripple < 10 % U₀ 10 % Uồ	Type	Q2XRPLPF-2M		
Function Proximity switch  Light type Red polarized  Wavelength 645 nm  Range 3300 mm  Electrical data  Operating voltage U <sub>8</sub> 1030 VDC  Residual ripple <10 % U <sub>**</sub> DC rated operating current I <sub>**</sub> ≤ 16 mA  Reverse polarity protection yes  Output function PNP  Readiness delay ≤ 120 ms  Response time typical <0.85 ms  Setting option Potentiometer  Mechanical data  Design Rectangular, Q2X  Dimensions 14 x 31 mm  Housing material Plastic, PC  ABS  Lens acrylic, Acrylic  Electrical connection Cable, PVC  Number of cores 3  Ambient temperature -25+50 °C	ID	3808066		
Light type Red polarized  Wavelength 645 nm  Range 3300 mm  Electrical data  Operating voltage U <sub>B</sub> 1030 VDC  Residual ripple < 10 % U <sub>S</sub> DC rated operating current I <sub>C</sub> ≤ 16 mA  Reverse polarity protection yes  Output function PNP  Readiness delay ≤ 120 ms  Response time typical < 0.85 ms  Setting option Potentiometer  Mechanical data  Design Rectangular, Q2X  Dimensions 14 x 31 mm  Housing material Plastic, PC  ABS  Lens acrylic, Acrylic  Electrical connection Cable, PVC  Number of cores 3  Ambient temperature -25+50 °C	Optical data			
Wavelength       645 nm         Range       3300 mm         Electrical data       1030 VDC         Residual ripple       < 10 % U₅s	Function	Proximity switch		
Range 3300 mm  Electrical data  Operating voltage U <sub>s</sub> 1030 VDC  Residual ripple < 10 % U <sub>s</sub> DC rated operating current I <sub>s</sub> ≤ 16 mA  Reverse polarity protection yes  Output function PNP  Readiness delay ≤ 120 ms  Response time typical < 0.85 ms  Setting option Potentiometer  Mechanical data  Design Rectangular, Q2X  Dimensions 14 x 31 mm  Housing material Plastic, PC  ABS  Lens acrylic, Acrylic  Electrical connection Cable, PVC  Number of cores 3  Ambient temperature -25+50 °C	Light type	Red polarized		
Electrical data  Operating voltage U <sub>8</sub> Residual ripple  < 10 % U <sub>ss</sub> DC rated operating current I <sub>e</sub> Reverse polarity protection  Output function  PNP  Readiness delay  < 120 ms  Response time typical  Setting option  Potentiometer  Mechanical data  Design  Rectangular, Q2X  Dimensions  14 x 31 mm  Housing material  Plastic, PC  ABS  Lens  acrylic, Acrylic  Electrical connection  Cable, PVC  Number of cores  3  Ambient temperature  1030 VDC  1030 VDC  1030 VDC  Residual Times  1030 VDC	Wavelength	645 nm		
Operating voltage Us       1030 VDC         Residual ripple       < 10 % Uss	Range	3300 mm		
Residual ripple < 10 % U <sub>ss</sub> DC rated operating current I <sub>s</sub> ≤ 16 mA  Reverse polarity protection yes  Output function PNP  Readiness delay ≤ 120 ms  Response time typical < 0.85 ms  Setting option Potentiometer  Mechanical data  Design Rectangular, Q2X  Dimensions 14 x 31 mm  Housing material Plastic, PC  ABS  Lens acrylic, Acrylic  Electrical connection Cable, PVC  Number of cores 3  Ambient temperature -25+50 °C	Electrical data			
DC rated operating current I₀       ≤ 16 mA         Reverse polarity protection       yes         Output function       PNP         Readiness delay       ≤ 120 ms         Response time typical       < 0.85 ms	Operating voltage U <sub>B</sub>	1030 VDC		
Reverse polarity protection yes   Output function PNP   Readiness delay ≤ 120 ms   Response time typical < 0.85 ms	Residual ripple	< 10 % U <sub>ss</sub>		
Output function       PNP         Readiness delay       ≤ 120 ms         Response time typical       < 0.85 ms	DC rated operating current I <sub>o</sub>	≤ 16 mA		
Readiness delay ≤ 120 ms   Response time typical < 0.85 ms	Reverse polarity protection	yes		
Response time typical < 0.85 ms  Setting option Potentiometer  Mechanical data  Design Rectangular, Q2X  Dimensions 14 x 31 mm  Housing material Plastic, PC ABS  Lens acrylic, Acrylic  Electrical connection Cable, PVC  Number of cores 3  Ambient temperature -25+50 °C	Output function	PNP		
Setting option Potentiometer  Mechanical data  Design Rectangular, Q2X  Dimensions 14 x 31 mm  Housing material Plastic, PC ABS  Lens acrylic, Acrylic  Electrical connection Cable, PVC  Number of cores 3  Ambient temperature -25+50 °C	Readiness delay	≤ 120 ms		
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Dimensions  14 x 31 mm  Housing material  Plastic, PC ABS  Lens  acrylic, Acrylic  Electrical connection  Cable, PVC  Number of cores  3  Ambient temperature  -25+50 °C	Mechanical data			
Housing material Plastic, PC ABS  Lens acrylic, Acrylic  Electrical connection Cable, PVC  Number of cores 3  Ambient temperature -25+50 °C	Design	Rectangular, Q2X		
ABS  Lens acrylic, Acrylic  Electrical connection Cable, PVC  Number of cores 3  Ambient temperature -25+50 °C	Dimensions	14 x 31 mm		
Electrical connection Cable, PVC  Number of cores 3  Ambient temperature -25+50 °C	Housing material	· ·		
Number of cores 3 Ambient temperature -25+50 °C	Lens	acrylic, Acrylic		
Ambient temperature -25+50 °C	Electrical connection	Cable, PVC		
	Number of cores	3		
Relative humidity 0 05 %	Ambient temperature	-25+50 °C		
Totalive naminary 030 /0	Relative humidity	095 %		

#### **Features**

- Miniature sensor with slim housing for confined spaces
- ■Protection class IP67
- Connection via 2-m PVC cable, 3-wire
- Adjusted via potentiometer
- ■PNP switching output, dark operation

#### Wiring diagram



### Functional principle

Retroreflective sensors have an emitter and a receiver incorporated in the same housing. The light beam of the emitter is directed at a reflector which returns the light back to the receiver. An object is detected when it interrupts this light beam. Retroreflective sensors feature some of the advantages of opposed mode sensors, such as good contrast and high excess gain. Furthermore, only one device has to be installed and wired. However, devices without a polarizing filter have a smaller range and are more susceptible to disturbances caused by shiny objects.

Excess gain curve
Excess gain in relation to range (LP type)

# Technical data

Protection class	IP67	
Special features	Miniature Crosstalk protection	
Power-on indication	LED, Green	
Switching state	LED, Yellow	
Excess gain indication	LED, yellow, flashing	
Tests/approvals		
Approvals	CE, cURus	

## Accessories

SMBQ2XB	3812494	SMBQ2XA	3812493
	Mounting bracket, stainless steel, for Q2X design, L-shaped for wall mounting		Mounting bracket, stainless steel, for Q2X design, L-shaped for mounting on horizontal surfaces