Q20NLVQPMA
Photoelectric Sensor –   Retroreflective Sensor
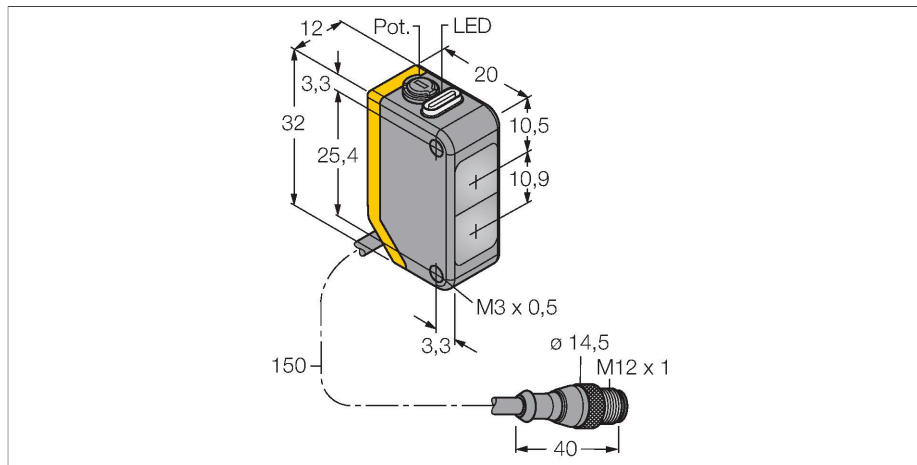

Technical data

Type	Q20NLVQPMA
ID no.	3078174
Optical data	
Function	Retroreflective Sensor
Operating mode	Unpolarized
Reflector included in delivery	no
Light type	Red
Wavelength	660 nm
Range	30…6000 mm
Electrical data	
Operating voltage	10…30 VDC
Residual ripple	< 10 % U_{ss}
DC rated operational current	≤ 100 mA
No-load current	≤ 18 mA
Reverse polarity protection	yes
Output function	Complementary contact, NPN
Switching frequency	≤ 600 Hz
Readiness delay	≤ 100 ms
Response time typical	< 0.8 ms
Setting option	Potentiometer
Mechanical data	
Design	Rectangular, Q20
Dimensions	20 x 12 x 32 mm
Housing material	Plastic, Thermoplastic material
Lens	plastic, Acrylic
Electrical connection	Cable with connector, M12 × 1, 0.15 m, PUR

Features

- Cable with male end, M12 × 1, 4-pin, PVC, 150 mm
- Protection class IP67
- LED all-round visible
- Sensitivity adjusted via potentiometer
- Operating voltage: 10…30 VDC
- NPN switching output, changeover

Wiring diagram
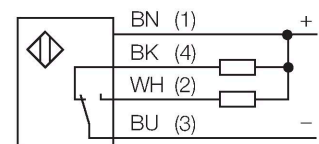

Functional principle

Retroreflective sensors have emitter and receiver circuitry incorporated in the same housing. The light beam of the emitter is directed towards a reflector which returns the light back to the receiver. A target is detected when it interrupts this beam. Retroreflective sensors feature some of the advantages of opposed mode sensors (good contrast and high excess gain). Furthermore, only one device has to be installed and wired. A smaller sensing range and susceptibility of devices without polarizing filter can be of disadvantage when shiny targets have to be detected.

Excess gain curve
Excess gain in relation to distance

Technical data

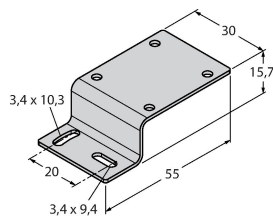|	
Number of cores	4
Ambient temperature	-20…+60 °C
Protection class	IP67
Power-on indication	LED, Green
Switching state	LED, Yellow
Error indication	LED, green, Flashing
Excess gain indication	LED, yellow, flashing
Tests/approvals	
Approvals	CE

Excess Gain Curve
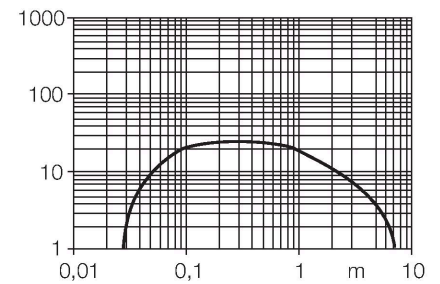
Accessories

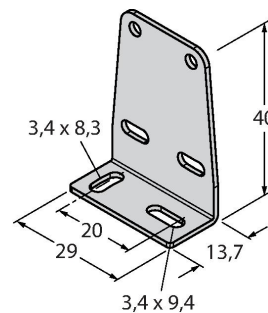| SMBQ20H	3079041

Mounting bracket, stainless steel, horizontally mounted, for Q20
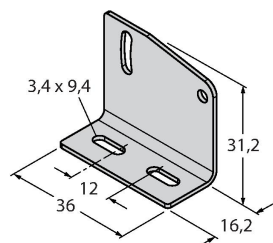
SMBQ20L	3079040

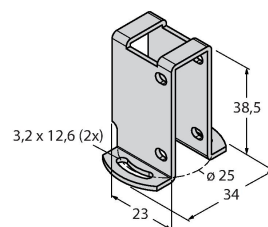Mounting bracket, stainless steel, rectangular, for Q20

SMBQ20LV	3079042

Mounting bracket, stainless steel, rectangular, for Q20

SMBQ20U	3079043

Protective housing, stainless steel, for Q20

Accessories

Dimension drawing	Type	ID no.	
	BRT-84	3058979	Round reflector, reflection coefficient 1.4, material acrylic, ambient temperature -20 … +60 °C

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