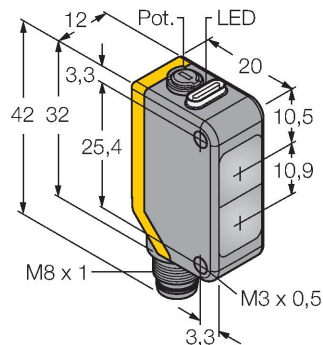


Q20NLVQ7

Photoelectric Sensor – Retroreflective Sensor



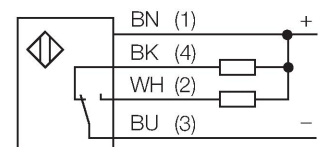
Technical data

Type	Q20NLVQ7
ID	3077768
Optical data	
Function	Retroreflective Sensor
Operating mode	Unpolarized
Reflector included in delivery	no
Light type	Red
Wavelength	645 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 42 mm
Housing material	Plastic, Thermoplastic material
Lens	plastic, Acrylic
Electrical connection	Connector, M8 × 1, PVC
Number of cores	4

Features

- Male M8 × 1; 4-pin
- Protection class IP67
- LED all-round visible
- Sensitivity adjusted via potentiometer
- Operating voltage: 10...30 VDC
- NPN switching output, changeover

Wiring diagram



Functional principle

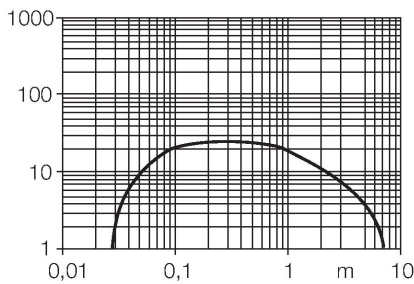
Retroreflective sensors have emitter and receiver circuitry incorporated in the same housing. The light beam of the emitter is directed towards a reflector which returns the light back to the receiver. A target is detected when it interrupts this beam. Retroreflective sensors feature some of the advantages 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

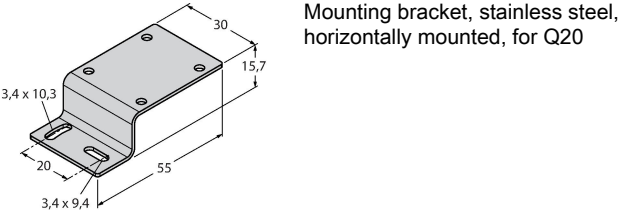
Ambient temperature	-20...+60 °C
Protection class	IP67
Power-on indication	LED, Green
Switching state	LED, Yellow
Error indication	LED, green, Flashing
Excess gain indication	LED, yellow, flashing
Tests/approvals	
Approvals	CE

Excess Gain Curve

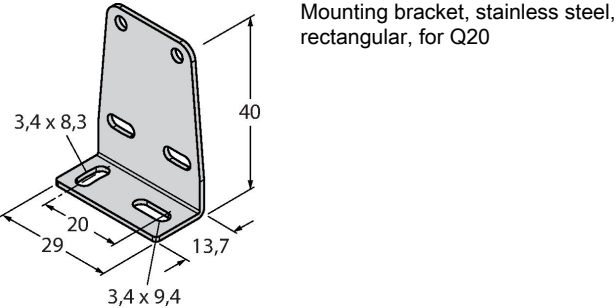


Accessories

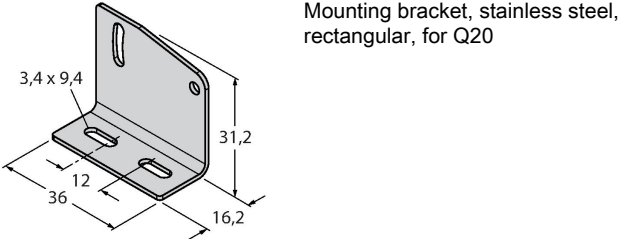
SMBQ20H 3079041



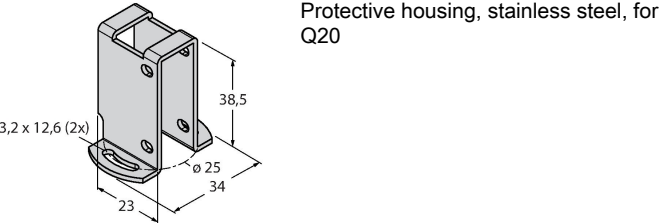
SMBQ20L 3079040



SMBQ20LV 3079042



SMBQ20U 3079043



Accessories

Dimension drawing	Type	ID	
	PKW4M-2/TEL	6625067	Connection cable, female M8, angled, 4-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com
	PKG4M-2/TEL	6625061	Connection cable, female M8, straight, 4-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com

Accessories

Dimension drawing	Type	ID	
	BRT-84	3058979	Round reflector, reflection coefficient 1.4, material acrylic, ambient temperature -20 ... +60 °C

