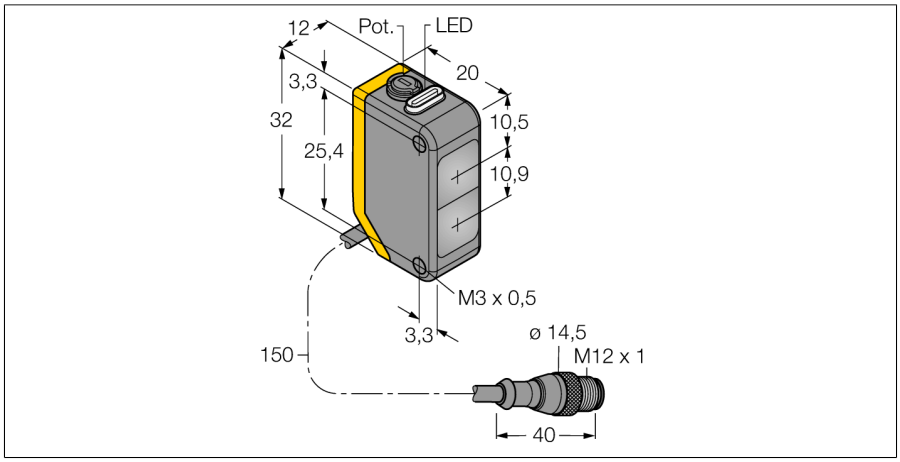
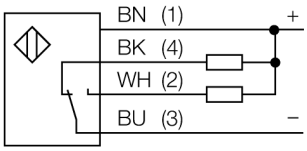
Photoelectric Sensor
Retroreflective Sensor
Q20NLVQPMA



- 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

Type	Q20NLVQPMA
ID	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 U_B	10…30 VDC
Residual ripple	< 10 % U_{ss}
DC rated operating current I_e	≤ 100 mA
No-load current I_0	≤ 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
Housing material	Plastic, Thermoplastic material
Lens	plastic, Acrylic
Electrical connection	Cable with connector, M12 × 1, 0.15 m, PUR
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

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

Excess Gain Curve

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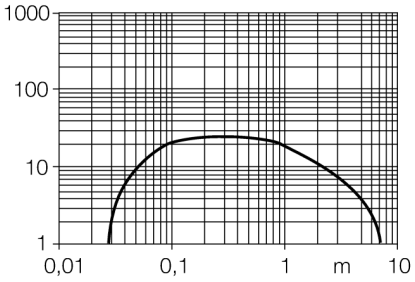
Tests/approvals	
Approvals	CE



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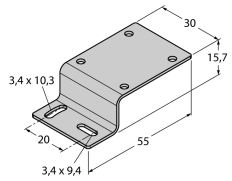
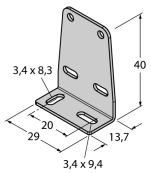
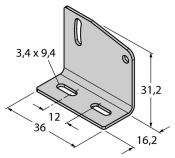
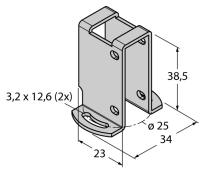
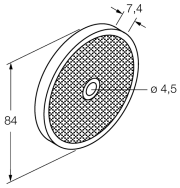
Accessories

Type code	Ident no.		Dimension drawing
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	

Function accessories

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

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