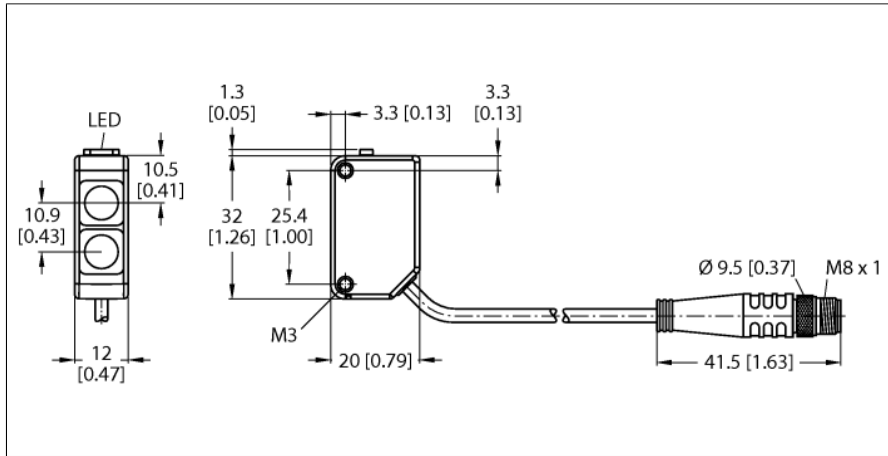


Photoelectric Sensor

Retroreflective Sensor with Polarizing Filter

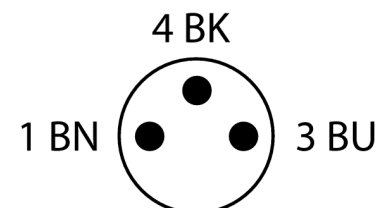
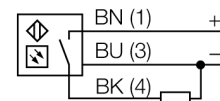
Q20RPLPFQ-3



Type	Q20RPLPFQ-3
ID	3808223
Optical data	
Function	Retroreflective Sensor
Operating mode	Polarized
Reflector included in delivery	no
Light type	Red polarized
Wavelength	655 nm
Range	30...4000 mm
Electrical data	
Operating voltage U_s	10...30 VDC
Residual ripple	< 10 % U_s
DC rated operating current I_s	≤ 100 mA
No-load current I_0	≤ 18 mA
Reverse polarity protection	yes
Output function	Dark operation, PNP
Switching frequency	≤ 600 Hz
Readiness delay	≤ 100 ms
Response time typical	< 0.8 ms
Mechanical data	
Design	Rectangular, Q20
Housing material	Plastic, Thermoplastic material
Lens	plastic, Acrylic
Electrical connection	Cable with connector, M8 × 1, 0.2 m, PVC
Number of cores	3
Ambient temperature	-20...+60 °C
Protection class	IP67
Power-on indication	
Power-on indication	LED, Green
Switching state	LED, Yellow
Error indication	LED, green, Flashing
Excess gain indication	LED, yellow, flashing
Tests/approvals	
Approvals	CE

- Cable with male end M8 × 1, 3-pin, PVC, 200 mm
- Protection class IP67
- LED, all-round visible
- Maximum sensitivity setting, not adjustable
- Operating voltage: 10...30 VDC
- PNP switching output, dark operation

Wiring Diagram



Functional principle

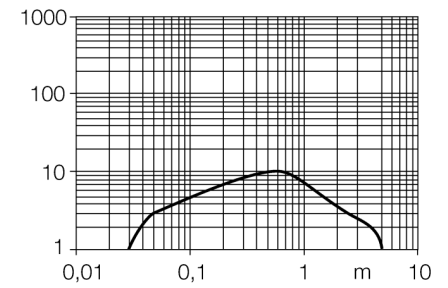
Retroreflective sensors have an emitter and a receiver incorporated in the same housing. The light beam of the emitter is directed at a reflector which returns the light back to the receiver. An object is detected when it interrupts this light beam. Retroreflective sensors feature some of the advantages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

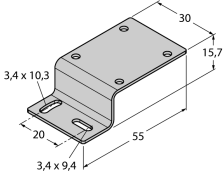
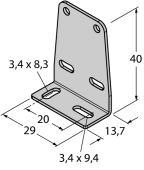
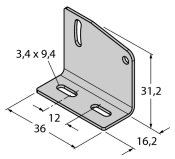
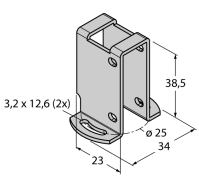
Excess gain curve

Excess gain in relation to range (LP type)

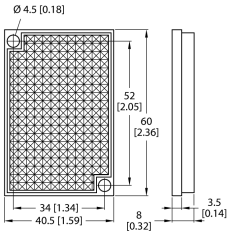
Excess Gain Curve



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-60X40C-M4	3808265		

Function accessories

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