

**Photoelectric sensor
diffuse mode sensor
Q20PDL**

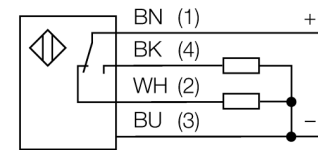
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Industrial
Automation



- Cable, PVC, 2 m
- Protection class IP67
- LED all-round visible
- Sensitivity adjusted via potentiometer
- Operating voltage: 10...30 VDC
- PNP switching output, changeover

Wiring diagram



Type code	Q20PDL
Ident no.	3077753
Operating mode	diffuse mode sensor
Light type	red
Wavelength	630 nm
Range	1...800 mm
Ambient temperature	-20...+60 °C
Operating voltage	10...30VDC
Residual ripple	< 10 % U _{ss}
DC rated operational current	≤ 100 mA
No-load current I ₀	≤ 18 mA
Reverse polarity protection	yes
Output function	changover contact, PNP
Switching frequency	≤ 600 Hz
Readiness delay	≤ 100 ms
Design	rectangular, Q20
Dimensions	20 x 12 x 32 mm
Housing material	plastic, ABS
Lens	plastic, acrylic
Connection	cable, PVC
Cable length	2 m
Cable cross section	4 x 0.35 mm ²
Protection class	IP67
Power-on indication	LED green
Switching state	LED yellow
Error indication	LED green flashing
Excess gain indication	LED yellow flashing

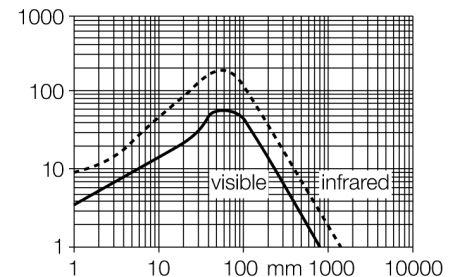
Functional principle

Identical to retro-reflective sensors, emitter and receiver circuitry are incorporated in the same housing of the diffuse mode sensors. However, diffuse mode sensors do not detect the interruption of the light beam but the reflection of the target. A target is detected if it reflects a sufficient amount of light back to the receiver. The sensing range of diffuse mode sensors thus largely depends on the reflectivity of the target.

Excess gain curve

Excess gain in relation to the distance

Excess gain curve

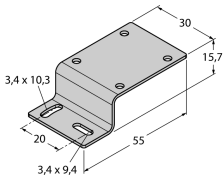
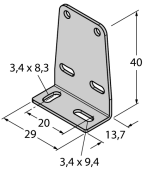
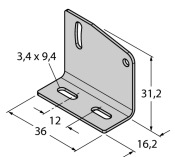
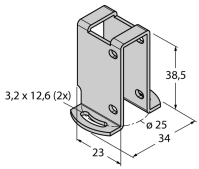


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Accessories

Type code	Ident no.	Description	Dimension drawing
SMBQ20H	3079041	Mounting bracket, stainless steel, horizontally mounted, for Q20	 <p>Technical drawing of the SMBQ20H mounting bracket. It is a stainless steel bracket with a horizontal mounting surface. Dimensions shown: top width 30, top height 15.7, bottom width 55, bottom height 3.4 x 9.4, and a 20mm wide slot at the bottom. The top surface has a 3.4 x 10.3 area.</p>
SMBQ20L	3079040	Mounting bracket, stainless steel, rectangular, for Q20	 <p>Technical drawing of the SMBQ20L mounting bracket. It is a stainless steel bracket with a vertical mounting surface. Dimensions shown: top width 40, top height 3.4 x 8.3, bottom width 29, bottom height 3.4 x 9.4, and a 13.7mm wide slot at the bottom.</p>
SMBQ20LV	3079042	Mounting bracket, stainless steel, rectangular, for Q20	 <p>Technical drawing of the SMBQ20LV mounting bracket. It is a stainless steel bracket with a vertical mounting surface. Dimensions shown: top width 36, top height 3.4 x 9.4, bottom width 12, bottom height 31.2, and a 16.2mm wide slot at the bottom.</p>
SMBQ20U	3079043	Protective housing, stainless steel, for Q20	 <p>Technical drawing of the SMBQ20U protective housing. It is a stainless steel housing with a vertical mounting surface. Dimensions shown: top width 34, top height 38.5, bottom width 23, bottom height 3.2 x 12.6 (2x), and a 25mm diameter hole at the bottom.</p>