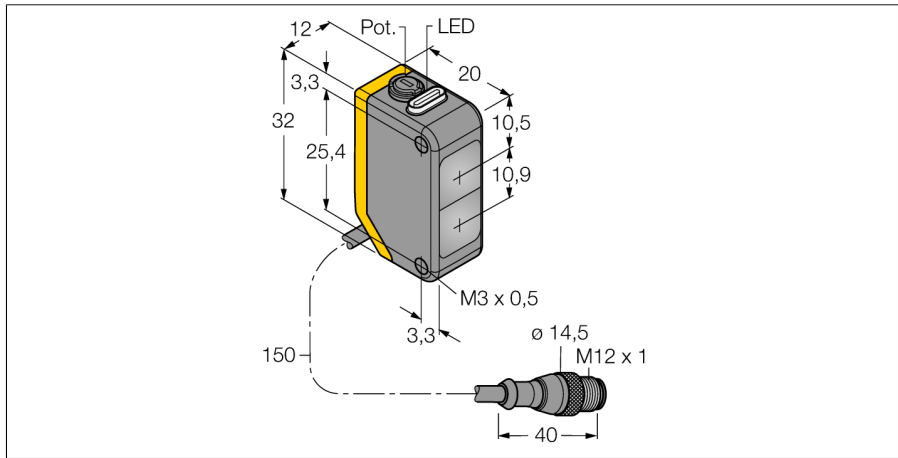
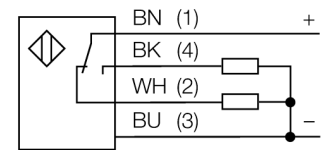


**Photoelectric Sensor
diffuse mode sensor
Q20PDQ5**



- 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
- PNP switching output, changeover

Wiring Diagram



Type designation	Q20PDQ5
Ident no.	3078191
Function	Diffuse mode sensor
Light type	Red
Wavelength	630 nm
Range	1...250 mm
Ambient temperature	-20...+60 °C
Operating voltage	10...30 VDC
Residual ripple	< 10 % U _{ss}
DC rated operational current	≤ 100 mA
No-load current I ₀	≤ 18 mA
Reverse polarity protection	yes
Output function	Complementary contact, PNP
Switching frequency	≤ 600 Hz
Readiness delay	≤ 100 ms
Response time typical	< 0.8 ms
Approvals	CE
Design	Rectangular, Q20
Dimensions	20 mm x 12 mm x 32 mm
Housing diameter	0 mm
Housing material	Plastic, Thermoplastic
Lens	plastic, Acrylic
Electrical connection	Cable with connector, M12 × 1, PVC
Cable length	0.15 m
Core cross-section	4 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

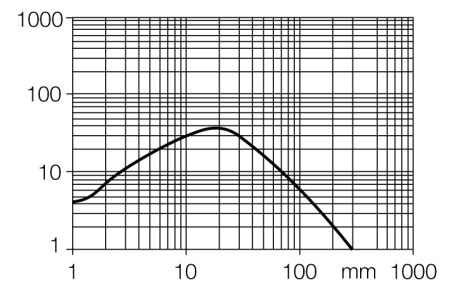
Functional principle

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



**Photoelectric Sensor
diffuse mode sensor
Q20PDQ5**

Accessories

Type code	Ident no.	Description	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	