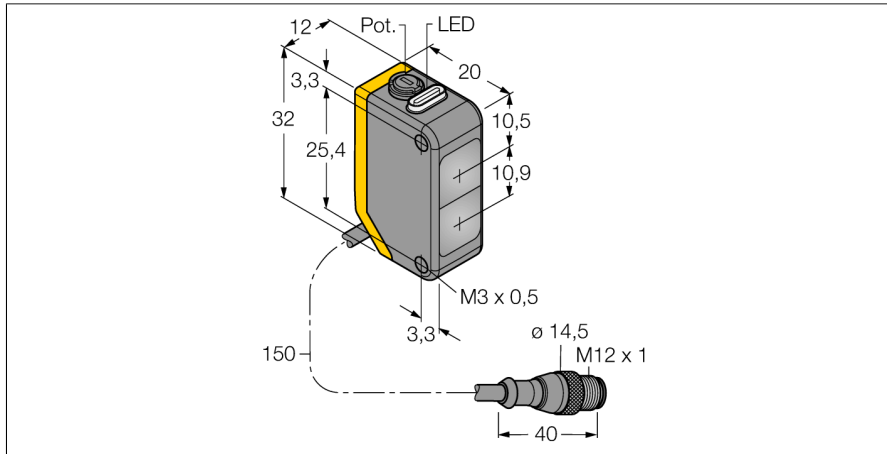


Photoelectric Sensor

Diffuse-Mode Sensor

Q20NDLQPMA



Type	Q20NDLQPMA
ID	3078166

Optical data	
Function	Proximity switch
Operating mode	Diffuse
Light type	Red
Wavelength	655 nm
Range	1...800 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	Complementary contact, NPN
Switching frequency	≤ 600 Hz
Readiness delay	≤ 100 ms
Response time typical	< 0.8 ms
Setting option	Potentiometer

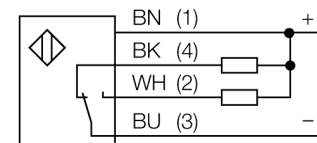
Mechanical data	
Design	Rectangular, Q20
Housing material	Plastic, Thermoplastic material
Lens	plastic, Acrylic
Electrical connection	Cable with connector, M12 × 1, 0.15 m, PUR
Number of cores	4
Ambient temperature	-20...+60 °C
Protection class	IP67

Power-on indication	LED, Green
Switching state	LED, Yellow
Error indication	LED, green, Flashing
Excess gain indication	LED, yellow, flashing

Tests/approvals	
Approvals	CE

- Cable with male end M12 × 1, 4-pin, PUR, 150 mm
- Protection class IP67
- LED, all-round visible
- Sensitivity adjusted via potentiometer
- Operating voltage: 10...30 VDC
- NPN switching output, changeover

Wiring Diagram



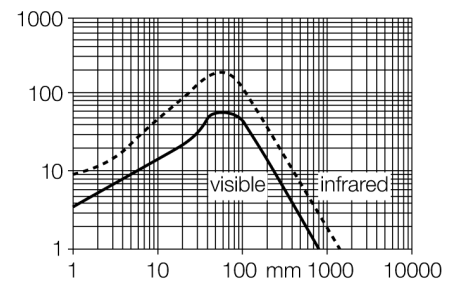
Functional principle

Like retroreflective sensors, diffuse-mode sensors also have an emitter and a receiver incorporated in the same housing. However, diffuse-mode sensors do not evaluate the interruption of a light beam but the reflection of an object. An object is detected if it reflects sufficient light back to the receiver. The switching distance of diffuse-mode sensors thus largely depends on the reflectivity of the object.

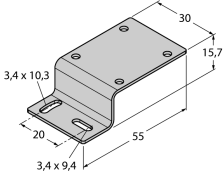
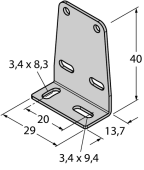
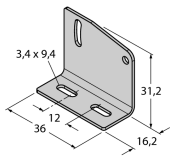
Excess gain curve

Excess gain in relation to range

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	