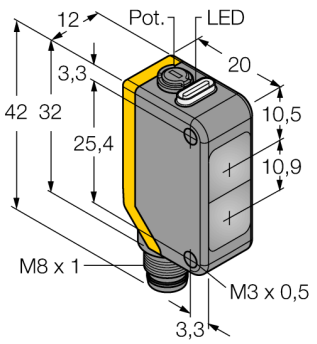
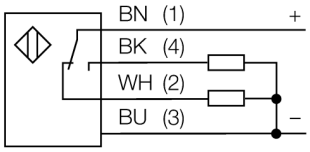
Photoelectric sensor
retroreflective sensor with polarizing filter
Q20PLPQ7

Industrial Automation



- **Male M8 x 1; 4-pin**
- **Protection class IP67**
- **LED all-round visible**
- **Sensitivity adjusted via potentiometer**
- **Operating voltage: 10…30 VDC**
- **PNP switching output, changeover**

Wiring diagram



Type code	Q20PLPQ7
Ident no.	3077762
Operating mode	retro-reflective sensor with polarisation filter
Light type	red
Wavelength	660 nm
Range	30…4000 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 42 mm
Housing material	plastic, ABS
Lens	plastic, acrylic
Connection	male, M8 x 1
Protection class	IP67
Power-on indication	LED green
Switching state	LED yellow
Error indication	LED green flashing
Excess gain indication	LED yellow flashing

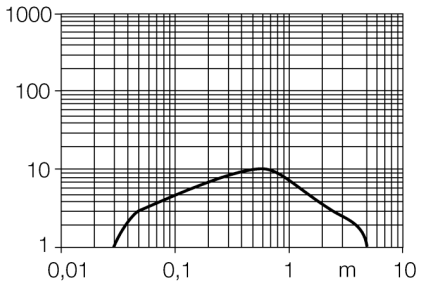
Functional principle

Retro-reflective sensors incorporate emitter and receiver in the same compact housing. The light beam of the emitter is directed towards a reflector which returns the light back to the receiver. An object is detected when it interrupts this beam. Retro-reflective sensors incorporate some of the advantages of opposed mode sensors (good contrast and high excess gain). Further it is merely required to install and wire a single device. A smaller sensing range and susceptibility of devices without polarisation filter can be of disadvantage when shiny objects have to be detected.

Excess gain curve

Excess gain in relation to the distance (type LP)

Excess gain curve



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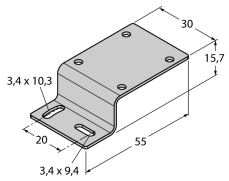
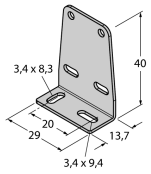
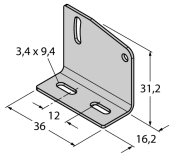
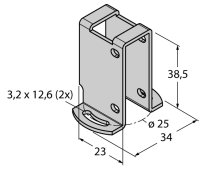
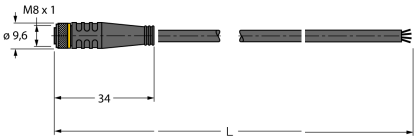
Accessories

Type code	Ident no.	Description	Dimension drawing
SMBQ20H	3079041	Mounting bracket, stainless steel, horizontally mounted, for Q20	
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	

Wiring accessories

Type code	Ident no.	Description	Dimension drawing
PKG4M-2/TEL	6625061	Connection cable, female M8, straight, 4-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com	

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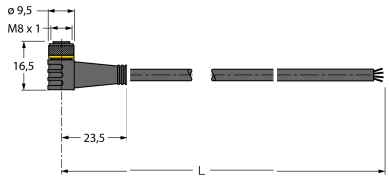
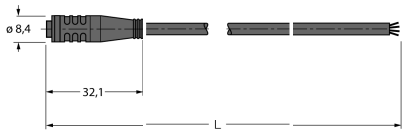
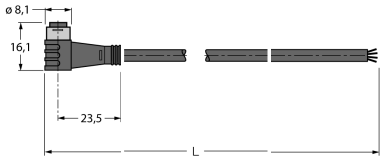
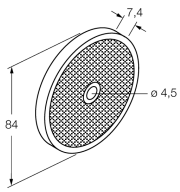
Wiring accessories

Type code	Ident no.	Description	Dimension drawing
PKW4M-2/TEL	6625067	Connection cable, female M8, angled, 4-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com	
PKG4S-2/TEL	6627370	Connection cable, female Ø 8 mm, straight, 4-pin, snap-on type, cable length: 2 m; sheath material: PVC, sheath color: black, cULus approved, RoHS conform, protection class IP67	
PKW4S-2/TEL	6627373	Connection cable, female Ø 8 mm, straight, 4-pin, snap-on type, cable length: 2 m; sheath material: PVC, sheath color: black, cULus approved, RoHS conform, protection class IP67	

Function accessories

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

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