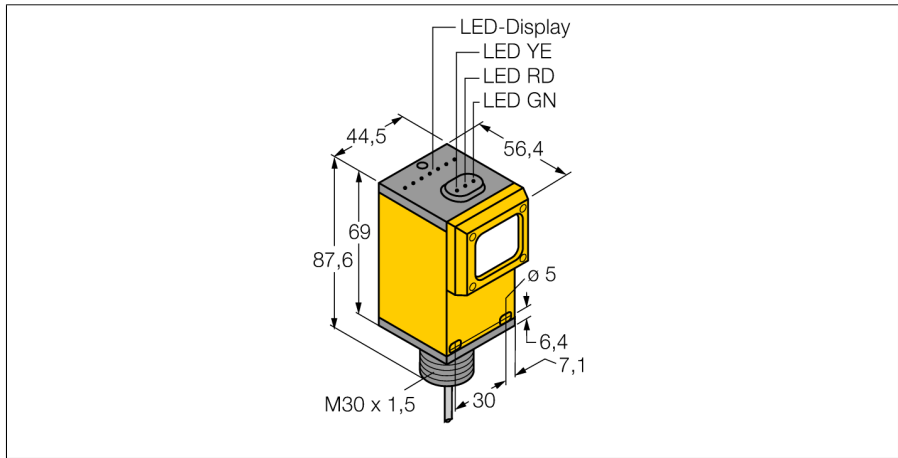
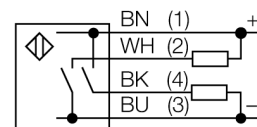


**Photoelectric sensor
diffuse mode sensor
Q45BB6D**



- Cable, PVC, 2 m
- Protection class IP67
- Sensitivity adjusted via potentiometer
- Operating voltage: 10...30 VDC
- Switching output, bipolar
- Light or dark operation, adjusted via switch

Wiring diagram



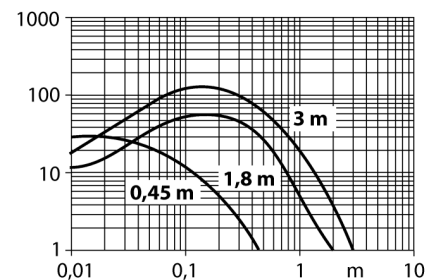
Type code	Q45BB6D
Ident no.	3036558
Operating mode	diffuse mode sensor
Light type	IR
Wavelength	880 nm
Range	0...450 mm
Ambient temperature	-40...+70 °C
Operating voltage	10...30VDC
Residual ripple	< 10 % U _s
DC rated operational current	≤ 150 mA
No-load current I ₀	≤ 50 mA
Short-circuit protection	yes/ cyclic
Reverse polarity protection	yes
Output function	NO contact, PNP/NPN
Switching frequency	0.25 kHz
Switching frequency	≤ 250 Hz
Readiness delay	≤ 100 ms
Overcurrent release	> 220 mA
Design	rectangular, Q45
Dimensions	87.6 x 56.4 x 44.5 mm
Housing material	plastic, PBT
Lens	acrylic, acrylic
Connection	cable, PVC
Cable length	2 m
Cable cross section	4 x 0.34 mm ²
Protection class	IP67
MTTF	67 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED green
Switching state	LED yellow
Error indication	LED green flashing
Excess gain indication	LED red

Functional principle

Like retroreflective sensors, diffuse mode sensors also contain emitter and receiver circuitry in the same housing. However, diffuse mode sensors do not detect the interruption of the light beam but the reflection of the 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 object's reflectivity. This type of sensor is especially suited for detection of transparent objects (diffuse mode sensor with or without background suppression or convergent mode sensors).

Excess gain curve

Excess gain in relation to distance

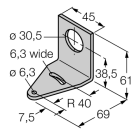
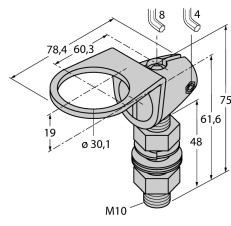
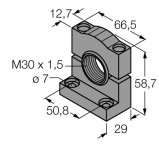


Photoelectric sensor
diffuse mode sensor
Q45BB6D

TURCK

Industrial
Automation

Accessories

Type code	Ident no.	Description	Dimension drawing
SMB30A	3032723	Mounting bracket, stainless steel, for sensors with 30 mm thread	 <p>Technical drawing of the SMB30A mounting bracket. Dimensions include: outer diameter $\varnothing 30,5$, inner diameter $\varnothing 6,3$, width 6,3, height 45, mounting hole diameter $\varnothing 6,3$, distance from mounting hole to center $38,5$, total height 61, base width 7,5, radius R 40, and total width 69.</p>
SMB30FAM10	3011185	Mounting bracket, stainless steel, for M10 x 1.5 thread, thread length 30 mm	 <p>Technical drawing of the SMB30FAM10 mounting bracket. Dimensions include: mounting hole diameter $\varnothing 30,1$, hole offset 19, hole diameter 78,4, hole width 60,3, hole depth 4, hole diameter 8, hole diameter 4, total height 75, distance from hole to center 61,6, distance from hole to center 48, and thread M10.</p>
SMB30SC	3052521	Mounting bracket, PBT black; for 30 mm thread; with 4 screws M5 x 0.8	 <p>Technical drawing of the SMB30SC mounting bracket. Dimensions include: mounting hole diameter $\varnothing 7$, hole diameter 12,7, hole diameter 66,5, hole diameter 58,7, hole diameter 50,8, and hole diameter 29.</p>