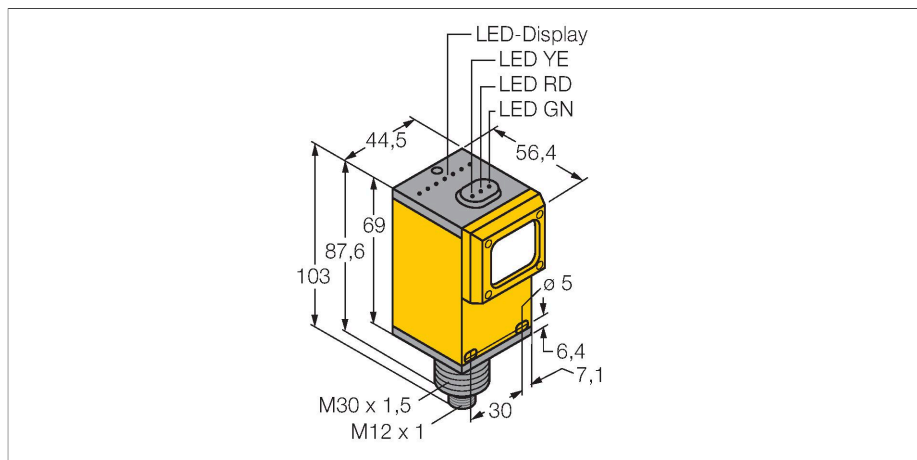


# Q45BB6DQ5

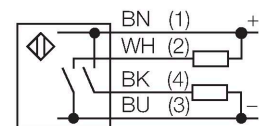
## Photoelectric Sensor – Diffuse Mode Sensor



### Features

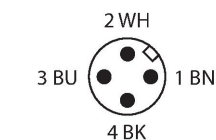
- Male M12 × 1
- Protection class IP67
- Sensitivity adjusted via potentiometer
- Operating voltage: 10...30 VDC
- Switching output, bipolar
- Light or dark operation, adjusted via switch

### Wiring diagram



### Technical data

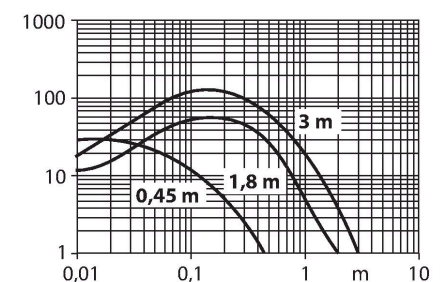
Type	Q45BB6DQ5
ID no.	3038663
<b>Optical data</b>	
Function	Proximity switch
Operating mode	Diffuse
Light type	IR
Wavelength	880 nm
Range	0...450 mm
<b>Electrical data</b>	
Operating voltage	10...30 VDC
Residual ripple	< 10 % U <sub>ss</sub>
DC rated operational current	≤ 150 mA
No-load current	≤ 50 mA
Short-circuit protection	yes / Cyclic
Reverse polarity protection	yes
Output function	NO contact, PNP/NPN
Switching frequency	≤ 250 Hz
Readiness delay	≤ 100 ms
Response time typical	< 2 ms
Overcurrent release	> 220 mA
Setting option	Potentiometer
<b>Mechanical data</b>	
Design	Rectangular, Q45
Dimensions	Ø 30 x 103 x 56.4 x 44.5 mm
Housing material	Plastic, Thermoplastic material
Lens	acrylic, Acrylic
Electrical connection	Connectors, M12 × 1, PVC



### 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



## Technical data

Number of cores	4
Ambient temperature	-40...+70 °C
Protection class	IP67
Special features	keep/defer
Power-on indication	LED, Green
Switching state	LED, Yellow
Error indication	LED, green, Flashing
Excess gain indication	LED, red
<b>Tests/approvals</b>	
MTTF	67 years acc. to SN 29500 (Ed. 99) 40 °C
Approvals	CE, cURus, CSA

## Accessories

