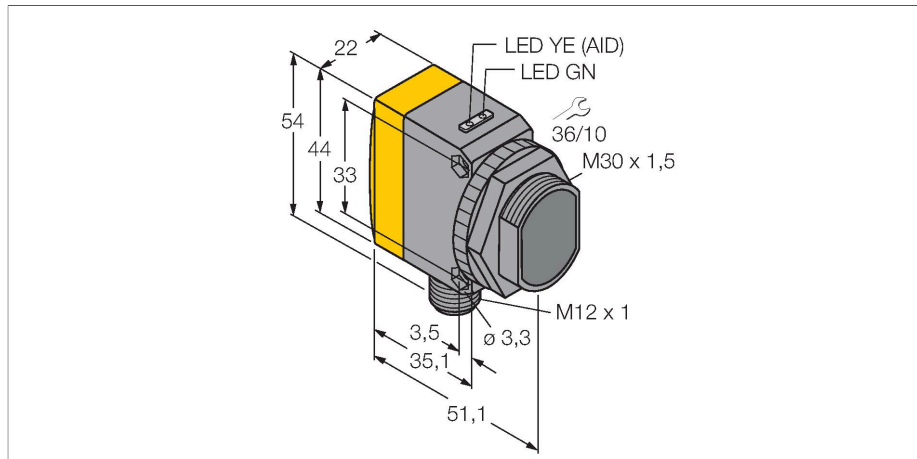# QS30AFF400Q5
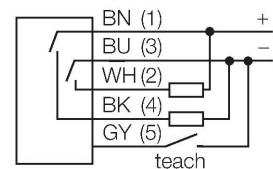# Photoelectric Sensor – Diffuse Mode Sensor with Adjustable Foreground Suppression

Features
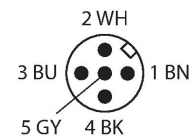
- Male M12 × 1, 5-pin
- Protection class IP67
- LED all-round visible
- Sensitivity adjusted via potentiometer
- Operating voltage: 10…30 VDC
- Switching output, bipolar
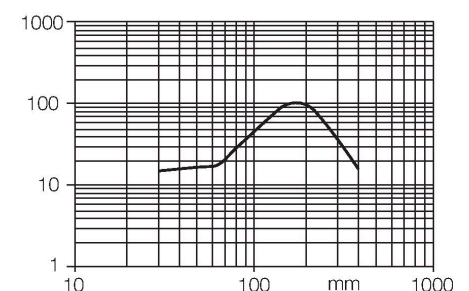- Light or dark operation

Wiring diagram

Functional principle

Diffuse mode sensors with background suppression operate with a single emitter and several receiver elements. The target's position and the optical structure of the sensor determine which receiver element gets the most light. The sensor electronics then determines whether the reflecting target is in or outside the measuring range. The sensors are available with adjustable or fixed cut-off point.

Excess gain curve
Excess gain in relation to distance

Technical data

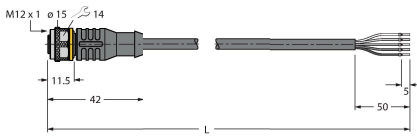| Type	QS30AFF400Q5
ID	3011988
Optical data	
Function	Proximity switch
Operating mode	Foreground suppression, adjustable
Light type	Red
Wavelength	660 nm
Range	50…400 mm
Electrical data	
Operating voltage	10…30 VDC
Residual ripple	< 10 % U_{ss}
DC rated operational current	≤ 150 mA
No-load current	≤ 45 mA
Short-circuit protection	yes
Reverse polarity protection	yes
Output function	NO contact, PNP/NPN
Switching frequency	≤ 500 Hz
Readiness delay	≤ 200 ms
Response time typical	< 5 ms
Setting option	Mechanical Screw
Mechanical data	
Design	Rectangular with thread, QS30
Dimensions	Ø 30 x 35 x 22 x 57 mm
Housing material	Plastic, Thermoplastic material, Yellow
Lens	plastic, Acrylic

Technical data

Electrical connection	Cable with connector, M12 × 1, 0.15 m, PVC
Number of cores	5
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, red, flashing
Tests/approvals	
Approvals	CE

Accessories

SMB30A	3032723

Mounting bracket, rectangular, stainless steel, for sensors with 30mm thread

ø 30,5
6,3 wide
ø 6,3
45
38,5
61
R 40
7,5
69

SMBQS30L	3002809

Mounting bracket, stainless steel, for QS30 series

ø 4,3
44
35
24
33
64,4

SMB30MM	3027162

Mounting bracket, rectangular, stainless steel, for sensors with 30 mm thread, wide holes for accurate alignment

ø 5.1
ø 30.1
69.9
57.2
30
6.4
ø 7.2
ø 6.4
25.4
ø 50.8
30
57.2
35.9
25.4
57.2

SMB30SC	3052521

Mounting bracket, PBT black, for sensors with 30 mm thread, rotatable

12,7
66,5
M30 x 1,5
ø 7
58,7
50,8
29

Accessories

Dimension drawing	Type	ID	
	WKC4.5T-2/TEL	6625028	Connection cable, female M12, angled, 5-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com

ø 15
M12 x 1
14
26.5
32
5
50
L

Dimension drawing	Type	ID	
	RKC4.5T-2/TEL	6625016	Connection cable, female M12, straight, 5-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com