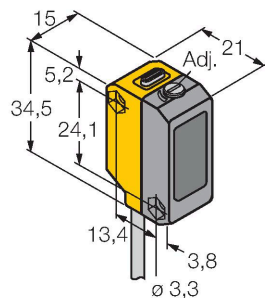# QS18VP6LAF250 W/30'
Photoelectric Sensor – Laser Sensor, Diffuse Mode, with Adjustable Background Suppression
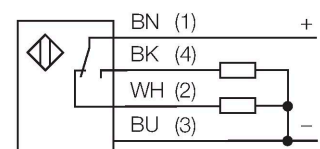
Technical data

Type	QS18VP6LAF250 W/30'
ID	3075740
Optical data	
Function	Proximity switch
Operating mode	Background suppression, adjustable
Light type	Red
Wavelength	658 nm
Laser class	⚠ 2
Beam diameter	1 mm
Range	1…250 mm
Electrical data	
Operating voltage	10…30 VDC
Residual ripple	< 10 % U_{ss}
DC rated operational current	≤ 100 mA
Short-circuit protection	yes
Reverse polarity protection	yes
Output function	NO/NC, PNP
Current output	100 mA
Switching frequency	≤ 700 Hz
Readiness delay	≤ 200 ms
Response time typical	< 0.7 ms
Setting option	Mechanical Screw
Mechanical data	
Design	Rectangular, QS18
Dimensions	21.1 x 15 x 34.5 mm
Housing material	Plastic, ABS

Features

- Cable, PVC, 2 m
- Protection class IP67
- LED all-round visible
- Cut-off point adjusted via potentiometer
- Operating voltage: 10…30 VDC
- PNP switching output, changeover

Wiring diagram
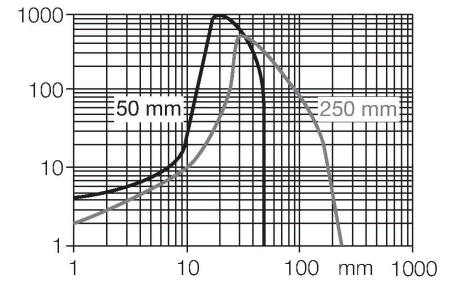
BN (1)   +
BK (4)
WH (2)
BU (3)   –

Functional principle

Diffuse mode sensors with background suppression operate with a single emitter and several receiver elements, one for close range and one for long-range. The target position and the photoelectric structure of the sensor determine which of the receiving elements receives the most light. The optics before the receiver is modified with the adjusting screw until the boundary between close and long-range is shifted. This operation determines whether the reflecting object is within or outside the measuring range.

Excess gain curves relating to the nearest and farthest cut-off point

Technical data

Lens	plastic, Acrylic
Electrical connection	Cable, 9 m, PVC
Number of cores	4
Core cross-section	0.35 mm^2
Ambient temperature	-10…+50 °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	
MTTF	268 years acc. to SN 29500 (Ed. 99) 40 °C
Approvals	CE, cURus

Accessories

SMBQS18A	3069721

Mounting bracket, stainless steel, for 18 mm thread

SMBQS18AF	3067467

Mounting bracket, stainless steel, for 18 mm thread