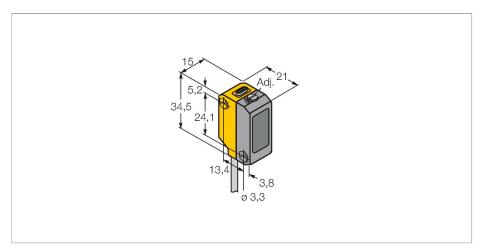


QS18VN6LAF250 Photoelectric Sensor – Laser Sensor, Diffuse Mode, with Adjustable Background Suppression





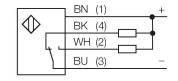
ID no. 3075734	Туре	QS18VN6LAF250
Function Proximity switch Operating mode Background suppression, adjustable Light type Red Wavelength 658 nm Laser class ▲ 2 Beam diameter 1 mm Range 1250 mm Electrical data Operating voltage 1030 VDC Residual ripple < 10 % U₅s DC rated operational current ≤ 100 mA Short-circuit protection yes Reverse polarity protection yes Output function NO/NC, NPN 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	ID no.	3075734
Operating mode Background suppression, adjustable Light type Red Wavelength 658 nm Laser class ▲ 2 Beam diameter 1 mm Range 1250 mm Electrical data Operating voltage Operating voltage 1030 VDC Residual ripple < 10 % U₂,	Optical data	
Light type Red Wavelength 658 nm Laser class	Function	Proximity switch
Wavelength 658 nm Laser class ▲ 2 Beam diameter 1 mm Range 1250 mm Electrical data Operating voltage Operating voltage 1030 VDC Residual ripple < 10 % U₂s	Operating mode	Background suppression, adjustable
Laser class ♠ 2 Beam diameter 1 mm Range 1250 mm Electrical data 0perating voltage Operating voltage 1030 VDC Residual ripple < 10 % U _{ss} DC rated operational current ≤ 100 mA Short-circuit protection yes Reverse polarity protection yes Output function NO/NC, NPN Current output 100 mA Switching frequency ≤ 700 Hz Readiness delay ≤ 200 ms Response time typical < 0.7 ms	Light type	Red
Beam diameter 1 mm Range 1250 mm Electrical data Operating voltage 1030 VDC Residual ripple < 10 % U₂₂₂ DC rated operational current ≤ 100 mA Short-circuit protection yes Reverse polarity protection yes Output function NO/NC, NPN 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	Wavelength	658 nm
Range 1250 mm Electrical data Operating voltage 1030 VDC Residual ripple < 10 % U₂₅ DC rated operational current ≤ 100 mA Short-circuit protection yes Reverse polarity protection yes Output function NO/NC, NPN 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	Laser class	<u>A</u> 2
Electrical data Operating voltage 1030 VDC Residual ripple < 10 % U _{ss} DC rated operational current ≤ 100 mA Short-circuit protection yes Reverse polarity protection yes Output function NO/NC, NPN 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	Beam diameter	1 mm
Operating voltage 1030 VDC Residual ripple < 10 % U _{ss} DC rated operational current ≤ 100 mA Short-circuit protection yes Reverse polarity protection yes Output function NO/NC, NPN Current output 100 mA Switching frequency ≤ 700 Hz Readiness delay ≤ 200 ms Response time typical < 0.7 ms	Range	1250 mm
Residual ripple < 10 % U _{ss} DC rated operational current ≤ 100 mA Short-circuit protection yes Reverse polarity protection yes Output function NO/NC, NPN Current output 100 mA Switching frequency ≤ 700 Hz Readiness delay ≤ 200 ms Response time typical < 0.7 ms	Electrical data	
DC rated operational current ≤ 100 mA Short-circuit protection yes Reverse polarity protection yes Output function NO/NC, NPN 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	Operating voltage	1030 VDC
Short-circuit protection yes Reverse polarity protection yes Output function NO/NC, NPN Current output 100 mA Switching frequency ≤ 700 Hz Readiness delay ≤ 200 ms Response time typical < 0.7 ms	Residual ripple	< 10 % U _{ss}
Reverse polarity protection yes Output function NO/NC, NPN Current output 100 mA Switching frequency ≤ 700 Hz Readiness delay ≤ 200 ms Response time typical < 0.7 ms	DC rated operational current	≤ 100 mA
Output function NO/NC, NPN Current output 100 mA Switching frequency ≤ 700 Hz Readiness delay ≤ 200 ms Response time typical < 0.7 ms	Short-circuit protection	yes
Current output 100 mA Switching frequency ≤ 700 Hz Readiness delay ≤ 200 ms Response time typical < 0.7 ms	Reverse polarity protection	yes
Switching frequency ≤ 700 Hz Readiness delay ≤ 200 ms Response time typical < 0.7 ms	Output function	NO/NC, NPN
Readiness delay ≤ 200 ms Response time typical < 0.7 ms	Current output	100 mA
Response time typical < 0.7 ms Setting option Mechanical Screw Mechanical data Design Rectangular, QS18 Dimensions 21.1 x 15 x 34.5 mm	Switching frequency	≤ 700 Hz
Setting option Mechanical Screw Mechanical data Design Rectangular, QS18 Dimensions 21.1 x 15 x 34.5 mm	Readiness delay	≤ 200 ms
Mechanical data Design Rectangular, QS18 Dimensions 21.1 x 15 x 34.5 mm	Response time typical	< 0.7 ms
Design Rectangular, QS18 Dimensions 21.1 x 15 x 34.5 mm	Setting option	Mechanical Screw
Dimensions 21.1 x 15 x 34.5 mm	Mechanical data	
	Design	Rectangular, QS18
Housing material Plastic, ABS	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
- ■NPN switching output, changeover

Wiring diagram



Functional principle

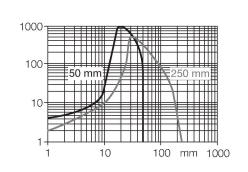
Diffuse mode sensors with background suppression operate with a single emitter and several receiver elements, one for close range and one for long-range. The target position and the photoelectric structure of the sensor determine which of the receiving elements receives the most light. The optics before 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, 2 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

M18 x 1

SMBQS18A	3069721
41	Mounting bracket, stainless steel, for 18 mm thread

