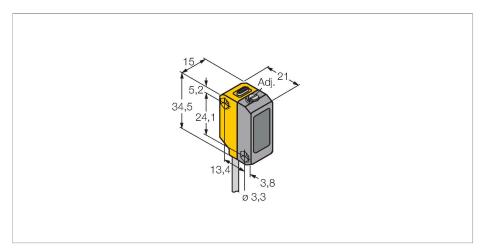


# QS18VP6LAF250 W/30' Photoelectric Sensor – Laser Sensor, Diffuse Mode, with Adjustable Background Suppression





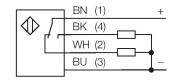
ID         3075740           Optical data         Function         Proximity switch           Operating mode         Background suppression, adjustable           Light type         Red           Wavelength         658 nm           Laser class         ▲ 2           Beam diameter         1 mm           Range         1250 mm           Electrical data         Operating voltage           Operating voltage         1030 VDC           Residual ripple         < 10 % U₂,           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	Туре	QS18VP6LAF250 W/30'
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 % U₂s  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	ID	3075740
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 % U₂s	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 % U₂₂	Operating mode	Background suppression, adjustable
Laser class  Beam diameter  1 mm  Range  1250 mm  Electrical data  Operating voltage  1030 VDC  Residual ripple  < 10 % U₅  DC rated operational current  ≤ 100 mA  Short-circuit protection  Short-circuit protection  Questly protection  Output function  NO/NC, PNP  Current output  100 mA  Switching frequency  ≤ 700 Hz  Readiness delay  Response time typical  Setting option  Mechanical data  Design  Rectangular, QS18	Light type	Red
Beam diameter 1 mm  Range 1250 mm  Electrical data Operating voltage 1030 VDC  Residual ripple < 10 % U₅ 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	Wavelength	658 nm
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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, 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	Beam diameter	1 mm
Operating voltage       1030 VDC         Residual ripple       < 10 % U₅s	Range	1250 mm
Residual ripple       < 10 % U₅ѕ	Electrical data	
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	Operating voltage	1030 VDC
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	Residual ripple	< 10 % U <sub>ss</sub>
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	DC rated operational current	≤ 100 mA
Output function       NO/NC, PNP         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, PNP
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	Switching frequency	≤ 700 Hz
Setting option Mechanical Screw  Mechanical data  Design Rectangular, QS18	Readiness delay	≤ 200 ms
Mechanical data Design Rectangular, QS18	Response time typical	< 0.7 ms
Design Rectangular, QS18	Setting option	Mechanical Screw
	Mechanical data	
Dimensions 21.1 x 15 x 34.5 mm	Design	Rectangular, QS18
	Dimensions	21.1 x 15 x 34.5 mm
Housing material Plastic, ABS	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



## Functional principle

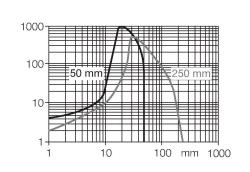
Diffuse mode sensors with background suppression operate with a single emitter and several receiver elements, one for close range and one for long-range. The target position and the photoelectric structure of the sensor determine which of the receiving elements receives the most light. The optics before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

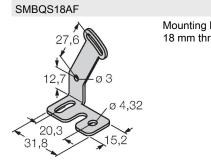
Lens	plastic, Acrylic
Electrical connection	Cable, 9 m, PVC
Number of cores	4
Core cross-section	0.35 mm²
Ambient temperature	-10+50 °C
Protection class	IP67
Power-on indication	LED, Green
Switching state	LED, Yellow
Error indication	LED, green, Flashing
Excess gain indication	LED, yellow, flashing
Tests/approvals	
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



3067467 Mounting bracket, stainless steel, for 18 mm thread