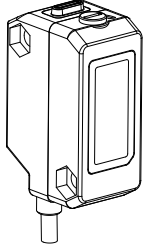


WORLD-BEAM® QS18AF Sensor with Background Suppression



Datasheet

Compact sensors featuring extended range and background suppression mode



- Exceptional optical performance; up to 300 mm sensing range in compact QS18 housing
- Background suppression models for reliable detection of objects when the background condition is not controlled or fixed
- Simple multi-turn screw adjustment of cutoff distance
- Enhanced immunity to fluorescent lights
- Crosstalk immunity algorithm allows two sensors to be used in close proximity
- Visible red emitter



WARNING: Not To Be Used for Personnel **Protection**

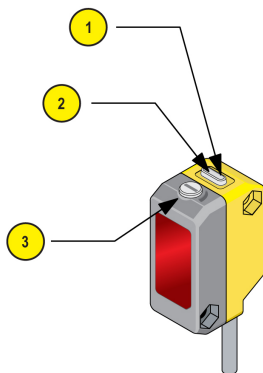
Never use this device as a sensing device for personnel **protection**. Doing so could lead to serious injury or death. This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A sensor failure or malfunction can cause either an energized or de-energized sensor output condition.

Models

Long Range Models			
Models ¹	Supply Voltage	Sensing Range	Output Type
QS18VN6AF300	10 to 30 V dc	Adjustable Cutoff: 30 to 300 mm Minimum sensing range 4 to 10 mm depending on cutoff	NPN
QS18VP6AF300			PNP
QS18AB6AF300			Bipolar (1 NPN & 1 PNP)

Overview

WORLD-BEAM® QS18 Adjustable-Field Sensors with Background Suppression ignore objects beyond the set cutoff distance. Background suppression mode can be used in most situations with varying object color and position or with varying background conditions.



1	Green: Power Indicator
2	Yellow: Light Sensed Indicator (Flashes for Marginal Conditions)
3	Cutoff Point Adjustment Screw

Figure 1. Sensor features

¹ Only standard 2 m (6.5 ft) cable models are listed.

- For 9 m (30 ft) cables: add suffix "W/30" to the model number (for example, QS18VN6AF300 W/30).
- For 150 mm (6 in) pigtail with a 4-pin Pico-style connector, add suffix "Q" to the model number (for example, QS18VN6AF300Q)
- For 150 mm (6 in) pigtail with a 4-pin Euro-style connector, add suffix "Q5" to the model number (for example, QS18VN6AF300Q5)



Sensor Orientation

To ensure reliable detection, orient the sensor as shown in relation to the target to be detected.

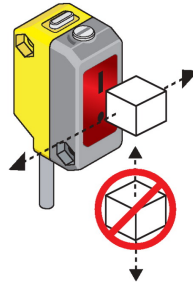
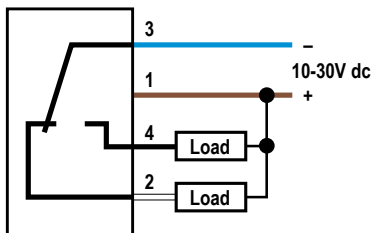


Figure 2. Optimal Orientation of Target to Sensor

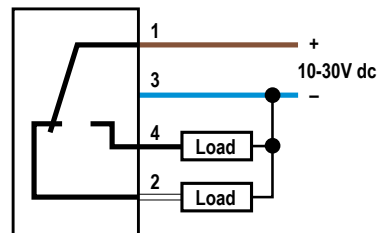
Wiring Diagrams

Cabled wiring diagrams are shown. Quick disconnect (QD) wiring diagrams are functionally identical.

NPN (Sinking) Outputs



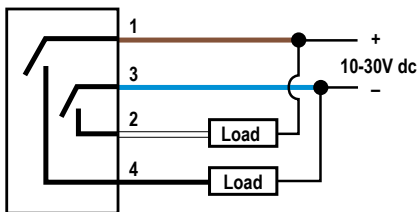
PNP (Sourcing) Outputs



Wiring Key

- 1 = Brown
- 2 = White
- 3 = Blue
- 4 = Black

Bipolar Outputs



Sensor Setup - Background Suppression

Background Suppression Mode: Objects beyond the set cutoff distance will not be detected.

Background suppression mode can be used in most situations with varying object colors and positions or with varying background conditions.

To ensure reliable background suppression, a minimum separation distance between the object and the background is necessary. See [Figure 7](#) on page 6 to determine the minimum separation distance.