



Photoelectric sensors V18, Photoelectric proximity sensor, Background suppression

VTB18-3N1212



Model Name > **VTB18-3N1212**
Part No. > **6030197**



Illustration may differ

At a glance

- Cylindrical M18 housing
- Background suppression
- Sensing distance up to 140 mm
- 3- or 4-wire
- Metal or plastic housing

Your benefits

- Simple, standardized design ensures easy mounting, alignment and replacement
- Precise background suppression ensures reliable detection and increases throughput
- Compact, space-saving design easily fits in tight application spaces



Features

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Housing design (light emission):	Cylindrical, straight, straight
Housing length:	65.2 mm
Thread diameter (housing):	M18 x 1
Optical axis:	Axial
Sensing range max.:	25 mm ... 140 mm ¹⁾
Sensing range:	30 mm ... 130 mm
Type of light:	Visible red light
Light source:	LED ²⁾
Light spot (distance):	12 mm (130 mm)
Wave length:	660 nm
Adjustment of operating distance:	Potentiometer, 270°
Angle of dispersion:	5 °

¹⁾ Object with 90 % reflectance (referred to standard white DIN 5033) ²⁾ Average service life of 100,000 h at T_A = +25 °C

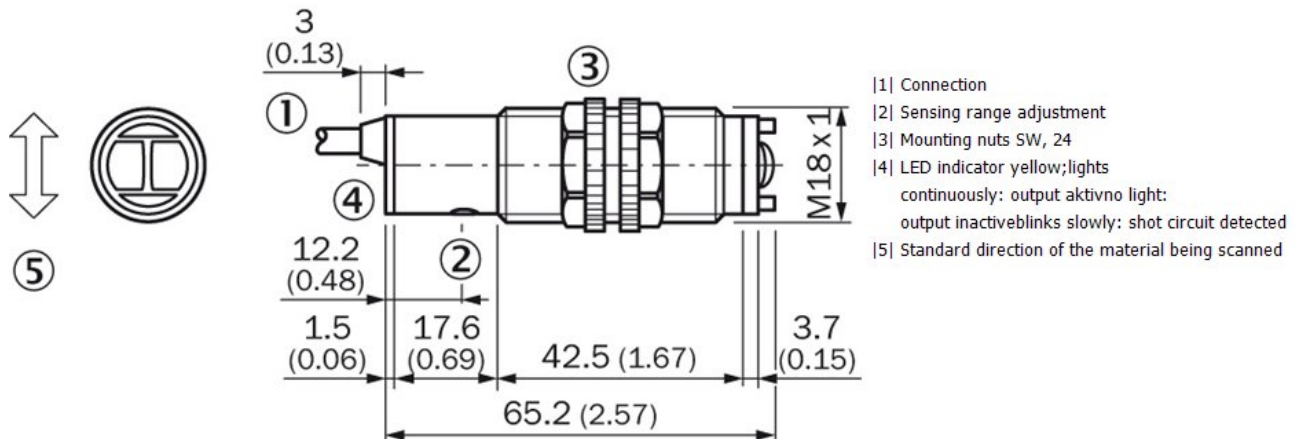
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	≤ 10 % ²⁾
Power consumption:	≤ 30 mA ³⁾
Output type:	NPN, Dark-switching, open collector
Output current I _{max.} :	100 mA
Response time:	≤ 0.5 ms ⁴⁾

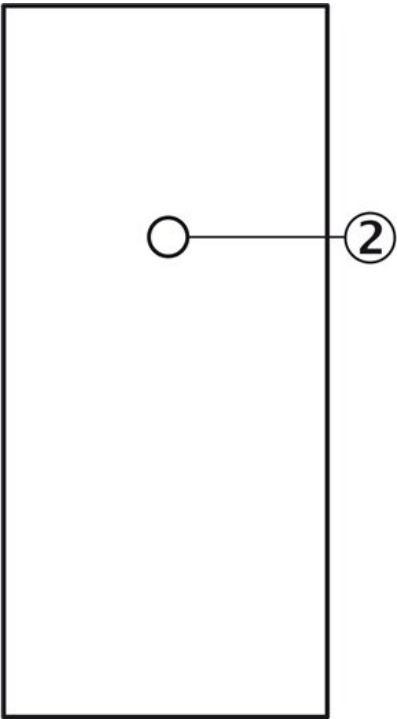
Switching frequency:	1,000 Hz ⁵⁾
Connection type:	Cable, 4-wire, 2 m ⁶⁾
Cable material:	PVC
Conductor cross-section:	0.14 mm ²
Cable diameter:	5 mm
Circuit protection::::	A, B, C, D ⁷⁾ ⁸⁾ ⁹⁾ ¹⁰⁾
Protection class:	III
Weight:	240 g
Housing material:	Nickel-plated brass
Optics material:	PMMA
Enclosure rating:	IP 67
Ambient operating temperature:	-25 °C ... 70 °C
Ambient storage temperature:	-55 °C ... 80 °C

¹⁾ Limit values ²⁾ May not exceed or fall short of V_S tolerances ³⁾ Without load ⁴⁾ Signal transit time with resistive load ⁵⁾ With light/dark ratio 1:1 ⁶⁾ Do not bend
below 0 °C ⁷⁾ A = V_S connections reverse-polarity protected ⁸⁾ B = inputs and output reverse-polarity protected ⁹⁾ C = interference suppression ¹⁰⁾ D = outputs
overcurrent and short-circuit protected

Dimensional drawing

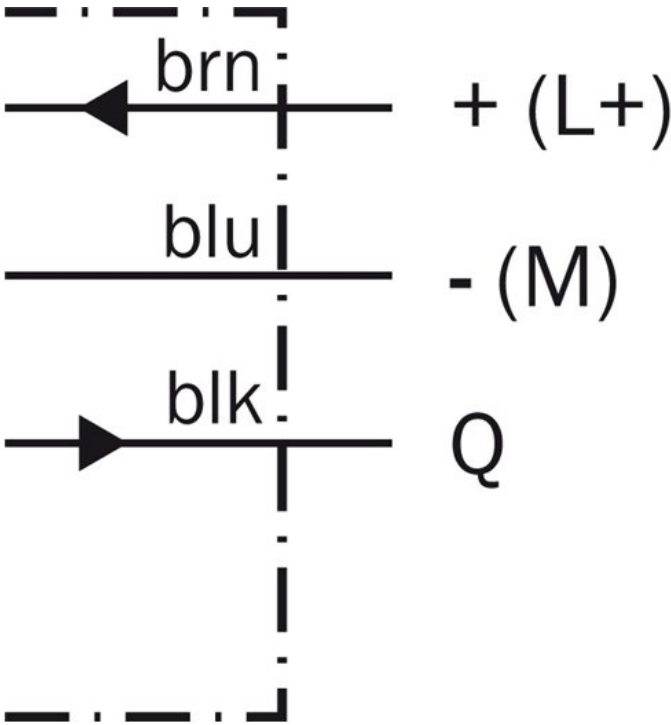


Adjustments possible

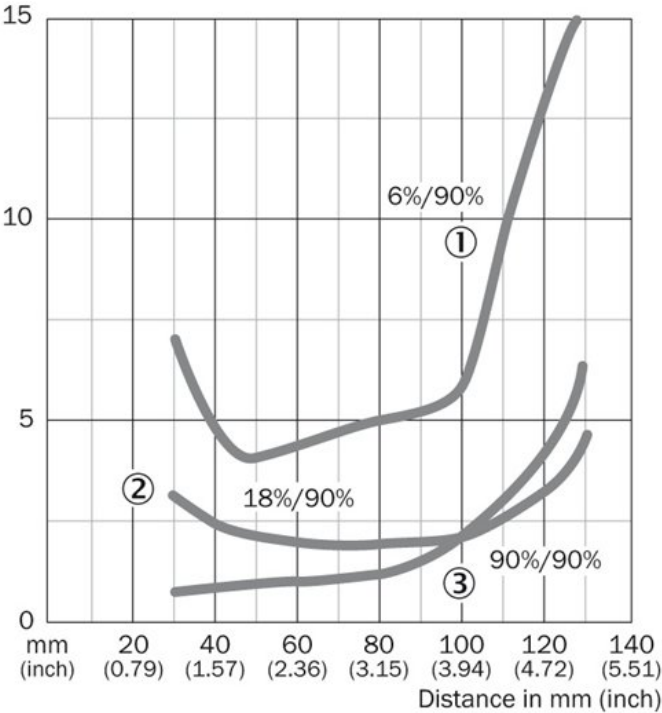


[2] Sensing range adjustment: potentiometer, 270°

Connection diagram



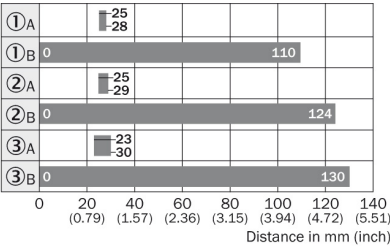
Characteristic curve



Connection type



Sensing range diagram



- Sensing range
- ① Sensing range on black, 6 % remission
 - ② Sensing range on gray, 18 % remission
 - ③ Sensing range on white, 90 % remission
 - A Sensing range adjuster on MIN
 - B Sensing range adjuster on MAX

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