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Photoelectric sensors
V18V, Photoelectric retro-reflective sensor, Standard optics

VL18-4N2240V

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Model Name > VL18-4N2240V
Part No. > 6035498

Illustration may differ

At a glance

- IP 69K-rated cylindrical retro-reflective photoelectric sensor in M18 stainless steel housing with 5 m sensing distance
- Available for clear material detection up to 4.5 m
- Extended temperature range: +85° C (long-term), +100°C / 15 min. (short-term)
- Touch teach-in adjustment
- All sensor materials, including the housing, LED and lens are resistant to chemicals
- IP 69K and IP 68 according to DIN 40050
- Laser-etched part numbers
- Ecolab & JohnsonDiversey certified for chemical resistance
- Resistant to all common cleaning agents and certified by independent institutes

Your benefits

- Simple, time-saving design ensures easy mounting, alignment and replacement
- IP 69K-rated stainless steel housing has a long service life that withstands hygienic and wash down environments, reducing maintenance time and costs
- Unique touch-teach feature and lock/ unlock functionality allow users to control who can change the sensor setting, which reduces the chances of disturbing a proven process and saves commissioning and maintenance time
- Laser-etched part numbers ensure the part numbers will not be washed off, saving maintenance time
- Polarizing filter prevents false readings on reflective objects, reducing downtime

Features

Sensor/detection principle:	Photoelectric retro-reflective sensor, Standard optics
Housing design (light emission):	Cylindrical, straight, straight
Housing length:	83 mm
Thread diameter (housing):	M18 x 1
Optical axis:	Axial
Sensing range max.:	0.035 m ... 4.5 m [1)]
Sensing range:	0.035 m ... 4 m [2)]
Type of light:	Visible red light
Light source:	LED [3)]
Light spot (distance):	60 mm (1 m)
Wave length:	660 nm
Angle of dispersion:	3 °

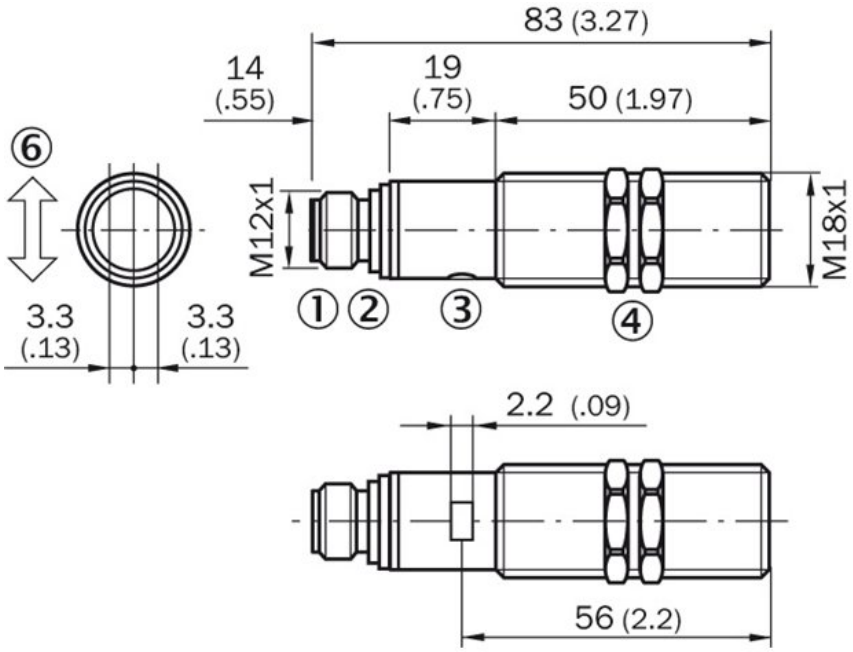
[1] [2] PL80A [3] Average service life of 100,000 h at T_A = +25 °C

Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC [1]
Ripple:	≤ 10 % [2]
Power consumption:	≤ 35 mA [3]
Output type:	NPN, Light/dark-switching, Selectable via L/D control wire, open collector
Signal voltage NPN HIGH/LOW:	Approx. VS/< 2.0 V
Output current Imax.:	≤ 100 mA
Response time:	≤ 1 ms [4]
Switching frequency:	500 Hz [5]
Attenuation along light beam:	≥ 20 %
Attenuation difference along light beam:	≥ 15 %
Attenuation difference of object:	≥ 7.5 %
Connection type:	Connector M12, 4-pin [6]
Cable material:	PPS (Griamid)
Circuit protection::::	A, B, C, D [7] [8] [9] [10]
Protection class:	III
Weight:	120 g
Housing material:	Stainless steel V4A (1.4404, 316L)
Optics material:	Plan, PPS (Grilamid)
Enclosure rating:	IP 67 IP 68 IP 69K [11]
Special feature:	For transparent objects
Ambient operating temperature:	-25 °C ... 80 °C [12]
Ambient storage temperature:	-40 °C ... 80 °C
UL File-No.:	FDA, UL No. NRKH.E181493 & cUL No. NRKH7.E181493

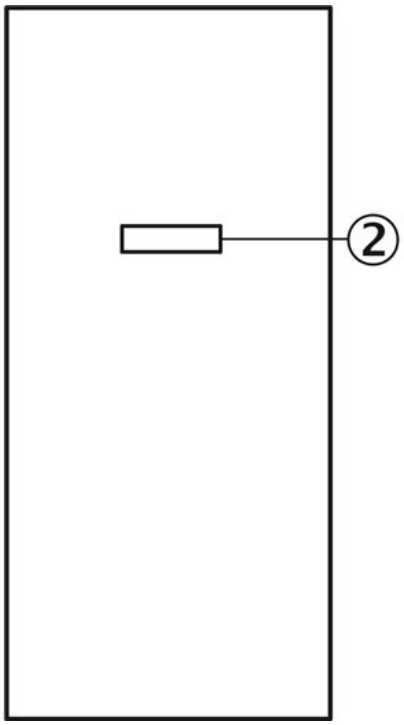
[1] Limit values [2] May not exceed or fall short of V_S tolerances [3] Without load, at VS 30 V DC [4] Signal transit time with resistive load [5] With light/dark ratio 1:1 [6] With gold plated contact pins, PPS with FDA certificate [7] A = V_S connections reverse-polarity protected [8] B = interference suppression [9] D = outputs overcurrent and short-circuit protected [10] D = inputs and output reverse-polarity protected [11] With correct mounted IP 69K connector [12] +100 °C at max 15 minutes

Dimensional drawing

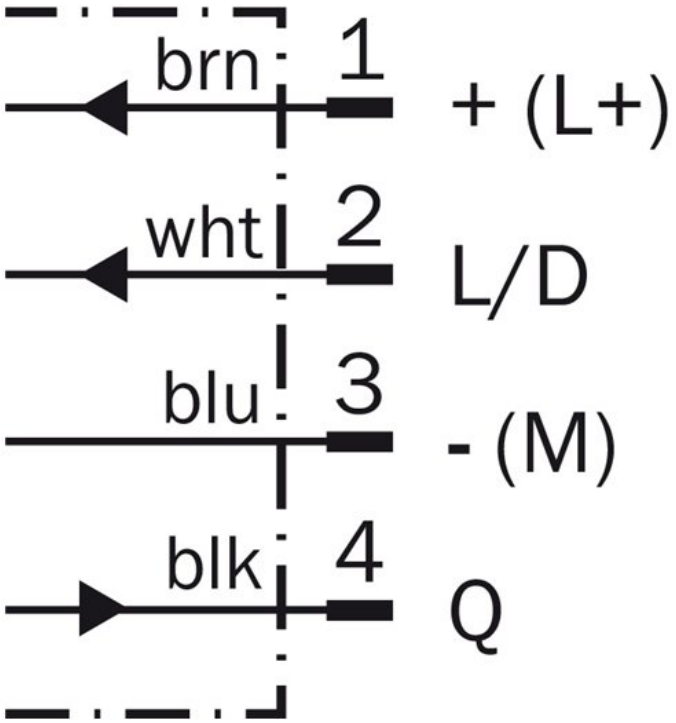


|1| Connector M12, 4-pin
|2| Sensing range adjustment: Touch-Teach-In
|3| Status indicator LED, green: signalizing Touch-Teach-in
|4| Yellow LED indicator:- lights
continuously:reception signal> reserve factor 2- b
links: Reception signal< reserve factor 2 but > switching
|5| fastening nuts (2 x); width across 24, stainless steel

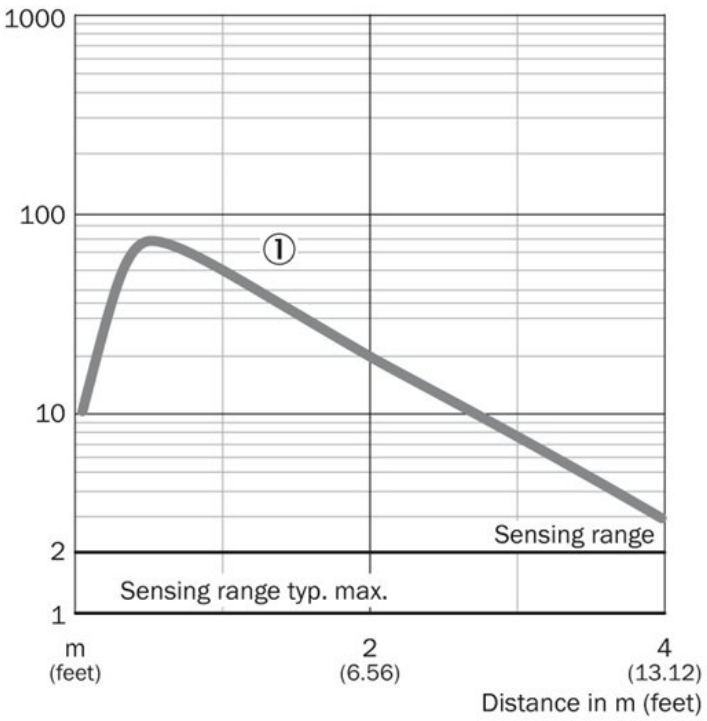
Adjustments possible



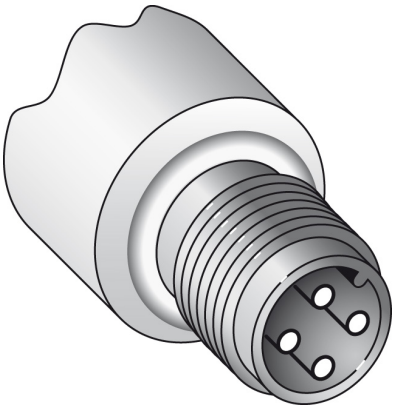
Connection diagram



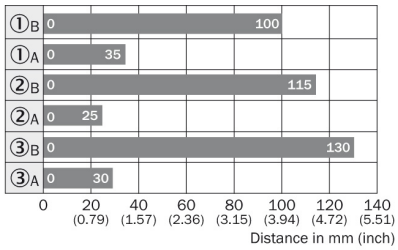
Characteristic curve



Connection type



Sensing range diagram



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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