



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

VL18-4N2240V



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
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⁾
Angle of dispersion:	3 °
Light spot size (distance):	Ø 60 mm (1 m)

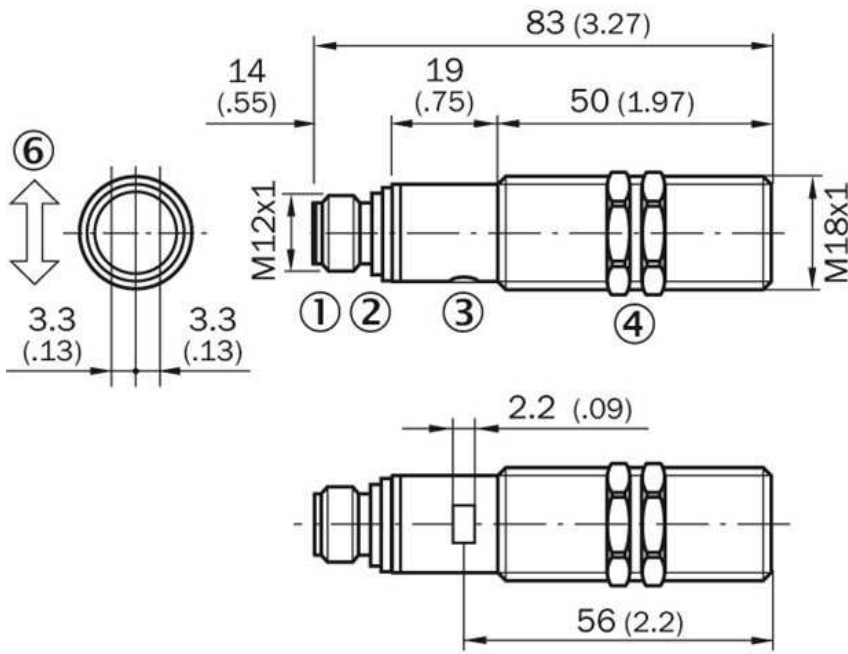
^{1) 2)} PL80A ³⁾ Average service life of 100,000 h at T_A = +25 °C

Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Residual ripple:	≤ 10 % ²⁾
Power consumption:	≤ 35 mA ³⁾
Output type:	NPN, open collector
Switching mode:	Light/dark switching
Switching mode selector:	Selectable via L/D control wire
Output current I _{max.} :	≤ 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 %
Electrical connection:	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
Polarisation filter:	-
Special device:	-
Housing material:	Stainless steel, Stainless steel V4A (1.4404, 316L)
Optics material:	Plan, PPS (Griamid)
Enclosure rating:	IP 67 IP 68 ¹¹⁾ IP 69K
Special feature:	For transparent objects
Ambient temperature operation:	-25 °C ... +80 °C ¹²⁾
Ambient storage temperature:	-40 °C ... +80 °C
UL File No.:	FDA, UL No. NRKH.E181493 & cUL No. NRKH7.E181493
Signal voltage NPN HIGH/LOW:	Approx. V _S / < 2.0 V

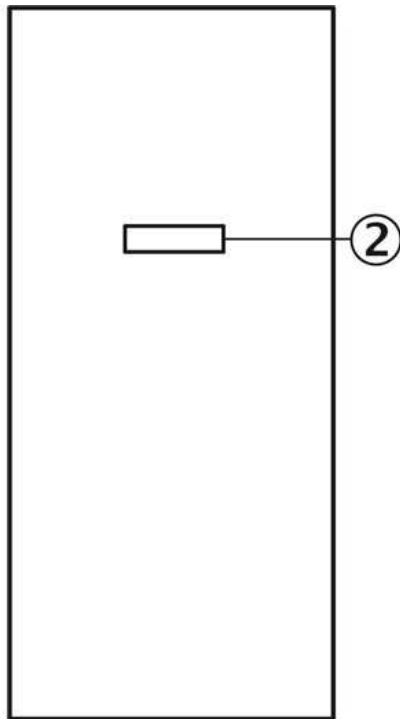
¹⁾ Limit values ²⁾ May not exceed or fall short of V_S tolerances ³⁾ Without load, at V_S 30 V DC ⁴⁾ Signal transit time with resistive load ⁵⁾ With light/dark ratio 1:1 ⁶⁾ With gold plated contact pins, PPS with FDA certificate ⁷⁾ A = V_S connections reverse-polarity protected ⁸⁾ B = interference suppression 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



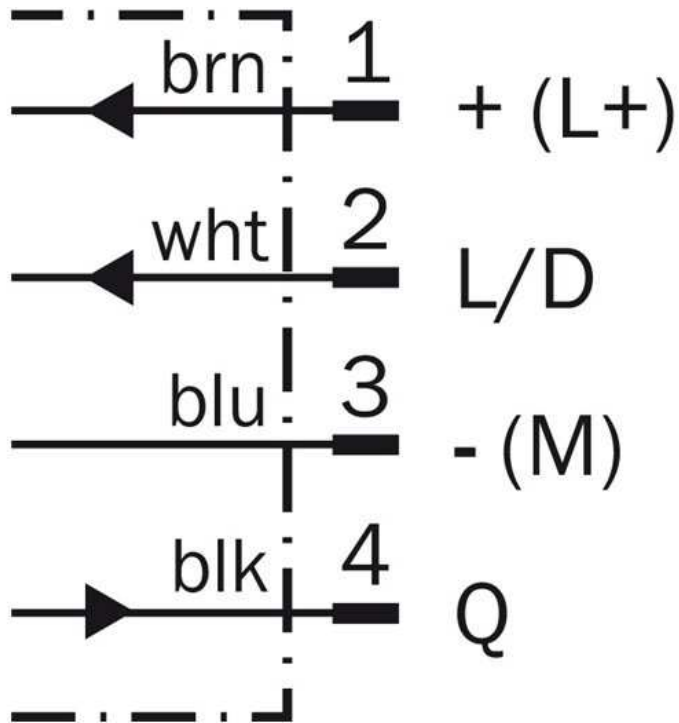
- |1| Connector M12, 4-pin
- |2| Sensing range adjustment: Touch-Teach-In
- |3| Status indicator LED, green: signaling Touch-Teach-in
- |4| Yellow LED indicator:- lights
continuously:reception signal> reserve factor 2- b
links: Reception signal< reserve factor 2 but > switching
- |5| fastening nuts (2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

Adjustments possible

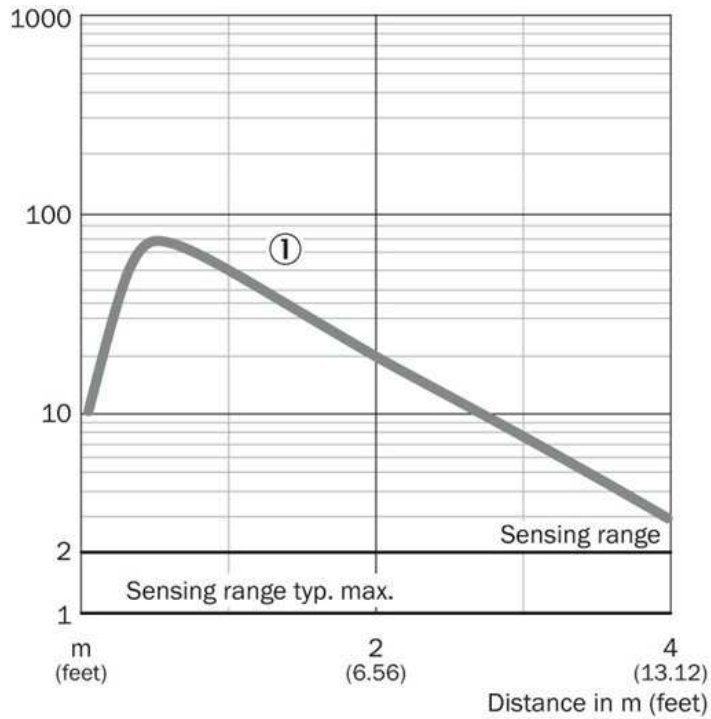


|2| Sensing range adjustment: Touch-Teach-In

Connection diagram



Characteristic curve

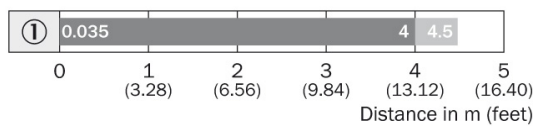


[1] PL80A

Connection type



Sensing range diagram



■ Sensing range ■ Sensing range max.

|1| PL80A

Australia

Phone +61 3 9457 0600
1800 33 48 02 – tollfree
E-Mail sales@sick.com.au

Belgium/Luxembourg

Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil

Phone +55 11 3215-4900
E-Mail marketing@sick.com.br

Canada

Phone +1 905 771 14 44
E-Mail information@sick.com

Česká republika

Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China

Phone +86 4000 121 000
E-Mail info.china@sick.net.cn
Phone +852-2153 6300
E-Mail ghk@sick.com.hk

Danmark

Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland

Phone +49 211 5301-301
E-Mail info@sick.de

España

Phone +34 93 480 31 00
E-Mail info@sick.es

France

Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain

Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

India

Phone +91-22-4033 8333
E-Mail info@sick-india.com

Israel

Phone +972-4-6881000
E-Mail info@sick-sensors.com

Italia

Phone +39 02 27 43 41
E-Mail info@sick.it

Japan

Phone +81 (0)3 5309 2112
E-Mail support@sick.jp

Magyarország

Phone +36 1 371 2680
E-Mail office@sick.hu

Nederland

Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge

Phone +47 67 81 50 00
E-Mail sick@sick.no

Österreich

Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska

Phone +48 22 837 40 50
E-Mail info@sick.pl

România

Phone +40 356 171 120
E-Mail office@sick.ro

Russia

Phone +7-495-775-05-30
E-Mail info@sick.ru

Schweiz

Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore

Phone +65 6744 3732
E-Mail sales.gsg@sick.com

Slovenija

Phone +386 (0)1-47 69 990
E-Mail office@sick.si

South Africa

Phone +27 11 472 3733
E-Mail info@sickautomation.co.za

South Korea

Phone +82 2 786 6321/4
E-Mail info@sickkorea.net

Suomi

Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige

Phone +46 10 110 10 00
E-Mail info@sick.se

Taiwan

Phone +886 2 2375-6288
E-Mail sales@sick.com.tw

Türkiye

Phone +90 (216) 528 50 00
E-Mail info@sick.com.tr

United Arab Emirates

Phone +971 (0) 4 88 65 878
E-Mail info@sick.ae

USA/México

Phone +1(952) 941-6780
1 (800) 325-7425 – tollfree
E-Mail info@sickusa.com

More representatives and agencies
at www.sick.com