



Photoelectric sensors
V18V, Photoelectric proximity sensor,
Background suppression

VTB18-4P1240VS01



Model Name > **VTB18-4P1240VS01**
Part No. > **6037754**



Illustration may differ

At a glance

- IP 69K-rated cylindrical photoelectric sensor with background suppression in M18 stainless steel housing with 140 mm sensing distance
- Resistant to all common cleaning agents and certified by independent institutes
- Extended temperature range: +85° C (long-term), +100° C / 15 min. (short-term)
- Touch (smart) 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

Your benefits

- Simple, time-saving design and easy mounting, alignment and replacement
- Precise background suppression ensures reliable detection of objects regardless of color
- 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



Features

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Housing design (light emission):	Cylindrical, straight, straight
Housing length:	83 mm
Thread diameter (housing):	M18 x 1
Sensing range max.:	0 mm ... 100 mm ¹⁾
Sensing range:	0 mm ... 100 mm
Type of light:	Visible red light
Light source:	LED ²⁾
Light spot (distance):	3 mm (100 mm)
Wave length:	660 nm
Adjustment of operating distance:	Manual, via Touch-Teach-in

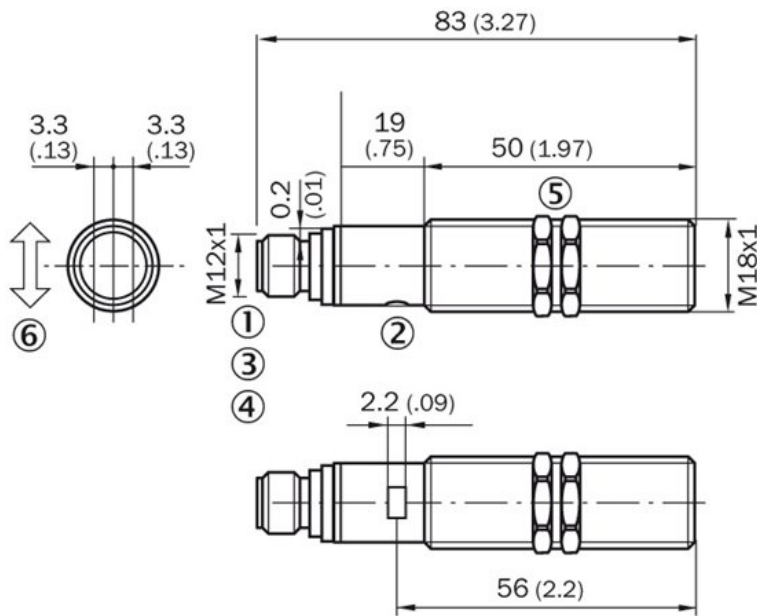
¹⁾ Object with 90 % reflectance (referred to standard white DIN 5033) ²⁾ Average service life of 100,000 h at T_A = +25 °C

Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	$\leq 10\%$ ²⁾
Power consumption:	$\leq 50\text{ mA}$ ³⁾
Output type:	PNP, Light/dark-switching, Selectable via L/D control wire, open collector
Signal voltage PNP HIGH/LOW:	Approx. $V_S - 2.0\text{ V} / 0\text{ V}$
Output current I_{max} :	$\leq 100\text{ mA}$
Response time:	$\leq 1.25\text{ ms}$ ⁴⁾
Switching frequency:	400 Hz 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
Special device:	✓
Housing material:	Stainless steel V4A (1.4404, 316L)
Optics material:	Plan, PPS (Grilamid)
Enclosure rating:	IP 67 IP 68 IP 69K ¹¹⁾
Ambient operating temperature:	$-25\text{ °C} \dots 80\text{ °C}$ ¹²⁾
Ambient storage temperature:	$-40\text{ °C} \dots 80\text{ °C}$
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 $V_S 30\text{ V DC}$ 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

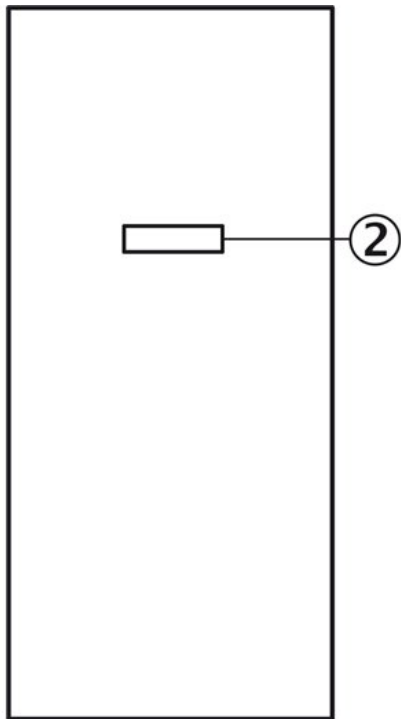
Dimensional drawing



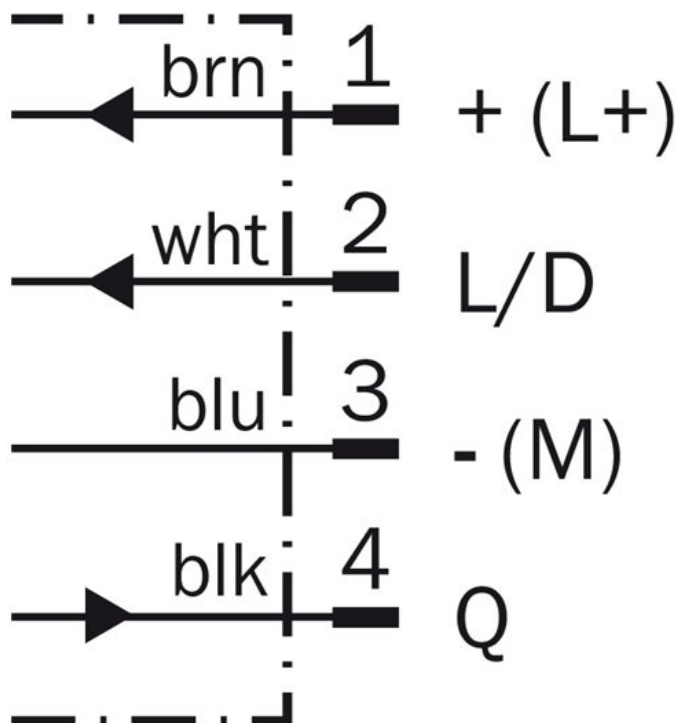
- [1] Connector M12, 4-pin
- [2] Sensing range adjustment: Touch-Teach-In
- [3] Status indicator LED, green: signaling Touch-Teach-in
- [4] Status indicator LED, yellow: Status of received light beam
- [5] fastening nuts (2 x); width across 24, stainless steel
- [6] Standard direction of the material being scanned

All dimensions in mm (inch)

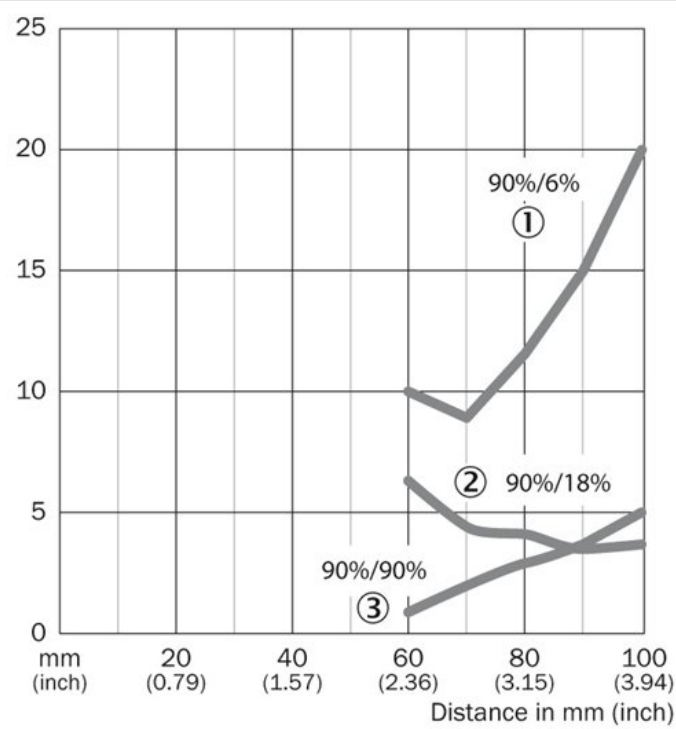
Adjustments possible



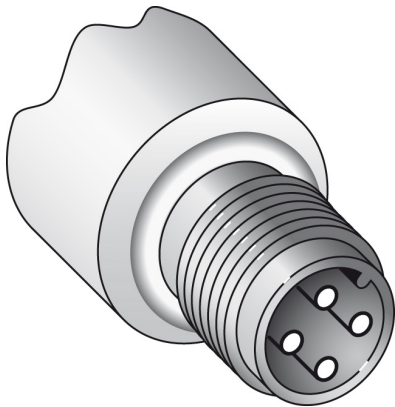
Connection diagram



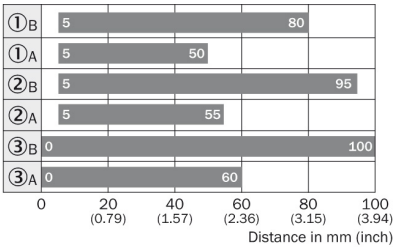
Characteristic curve



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

Australia

Phone +61 3 9457 0600
1800 334 802 – 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 sac@sick.com.br

Canada

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

Ceská 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 kundenservice@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 +972-4-6801000
E-Mail info@sick-sensors.com

Italia

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

Japan

Phone +81 (0)3 3358 1341
E-Mail support@sick.jp

Magyarország

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

Nederlands

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

Norge

Phone +47 67 81 50 00
E-Mail austefjord@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 admin@sicksgp.com.sg

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 8865 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