



Photoelectric sensors  
V18V, Photoelectric proximity sensor,  
Background suppression

VTB18-4P1240V



**Model Name** > **VTB18-4P1240V**  
**Part No.** > **6035493**



*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 ... 140 mm <sup>1)</sup>                          |
| Sensing range:                    | 0 mm ... 130 mm                                        |
| Type of light:                    | Visible red light                                      |
| Light source:                     | LED <sup>2)</sup>                                      |
| Light spot (distance):            | 15 mm (130 mm)                                         |
| Wave length:                      | 660 nm                                                 |
| Adjustment of operating distance: | Manual, via Touch-Teach-in                             |

<sup>1)</sup> Object with 90 % reflectance (referred to standard white DIN 5033) <sup>2)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

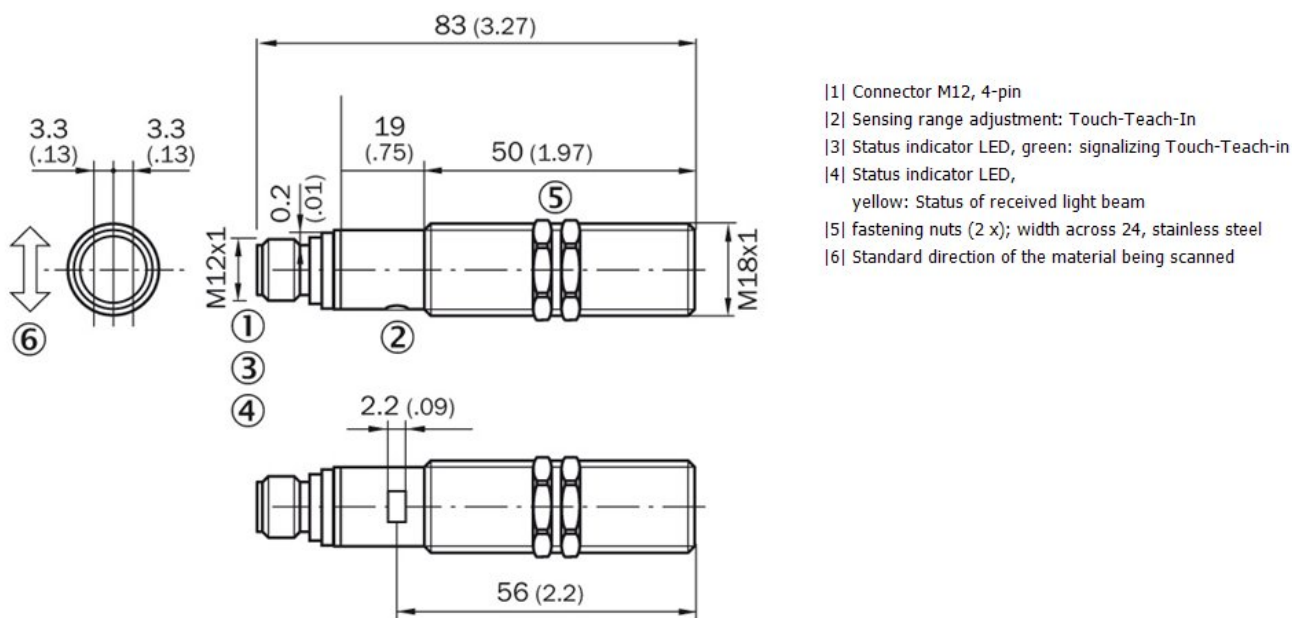
## Mechanics/electronics

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|                                   |                                                                            |
|-----------------------------------|----------------------------------------------------------------------------|
| Supply voltage:                   | 10 V DC ... 30 V DC <sup>1)</sup>                                          |
| Ripple:                           | $\leq 10\%$ <sup>2)</sup>                                                  |
| Power consumption:                | $\leq 50\text{ mA}$ <sup>3)</sup>                                          |
| 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 <sub>max</sub> : | $\leq 100\text{ mA}$ <sup>4)</sup>                                         |
| Response time:                    | $\leq 0.5\text{ ms}$ <sup>5)</sup>                                         |
| Switching frequency:              | 1,000 Hz <sup>6)</sup>                                                     |
| Connection type:                  | Connector M12, 4-pin <sup>6)</sup>                                         |
| Cable material:                   | PPS (Griamid)                                                              |
| Circuit protection:::             | A, B, C, D <sup>7)</sup> <sup>8)</sup> <sup>9)</sup> <sup>10)</sup>        |
| Protection class:                 | III                                                                        |
| Weight:                           | 120 g                                                                      |
| Housing material:                 | Stainless steel V4A (1.4404, 316L)                                         |
| Optics material:                  | Plan, PPS (Grilamid)                                                       |
| Enclosure rating:                 | IP 67<br>IP 68<br>IP 69K <sup>11)</sup>                                    |
| Ambient operating temperature:    | -25 °C ... 80 °C <sup>12)</sup>                                            |
| Ambient storage temperature:      | -40 °C ... 80 °C                                                           |
| UL File-No.:                      | FDA, UL No. NRKH.E181493 & cUL No. NRKH7.E181493                           |

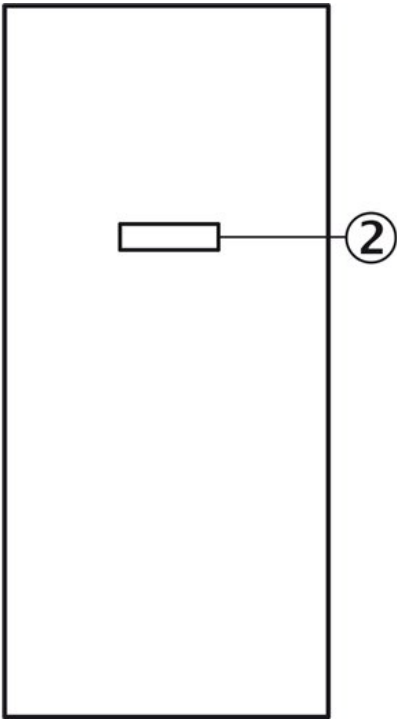
<sup>1)</sup> Limit values   <sup>2)</sup> May not exceed or fall short of  $V_S$  tolerances   <sup>3)</sup> Without load, at  $V_S$  30 V DC   <sup>4)</sup> Signal transit time with resistive load   <sup>5)</sup> With light/dark ratio 1:1   <sup>6)</sup> With gold plated contact pins, PPS with FDA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

Dimensional drawing

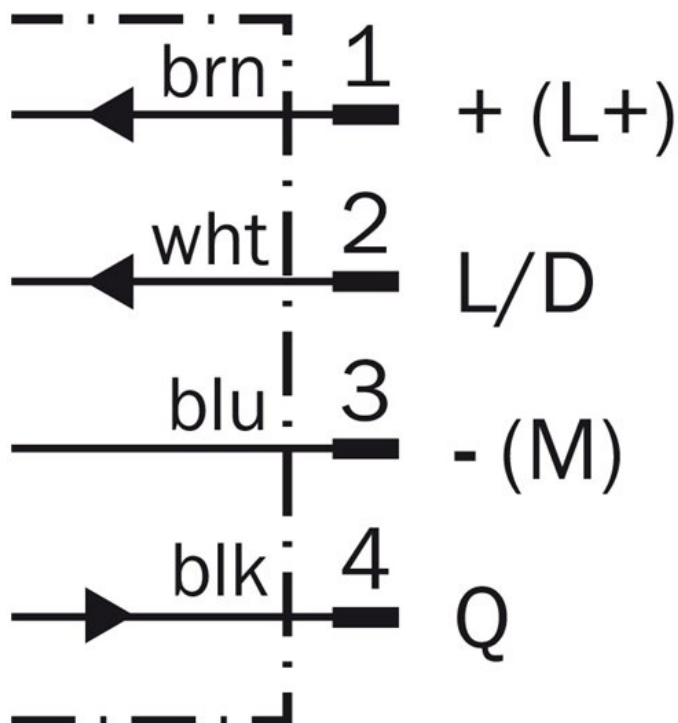


All dimensions in mm (inch)

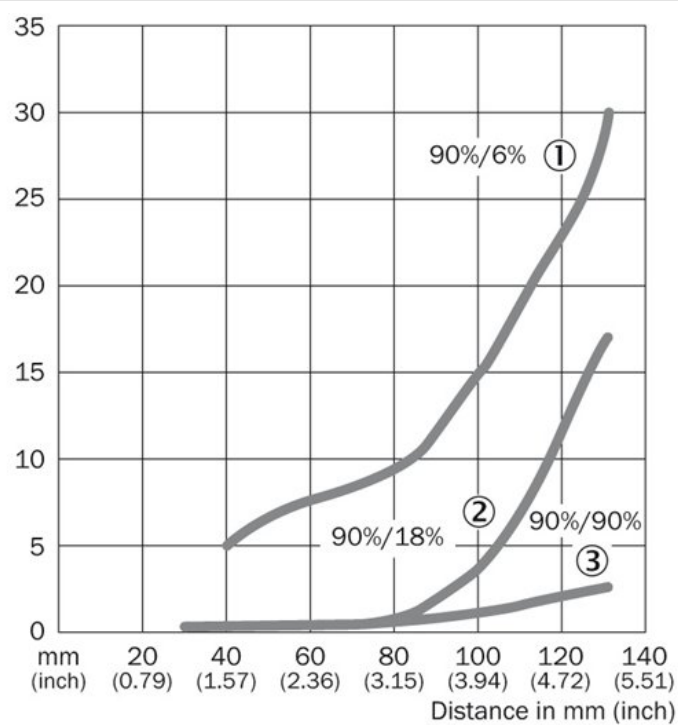
Adjustments possible



Connection diagram

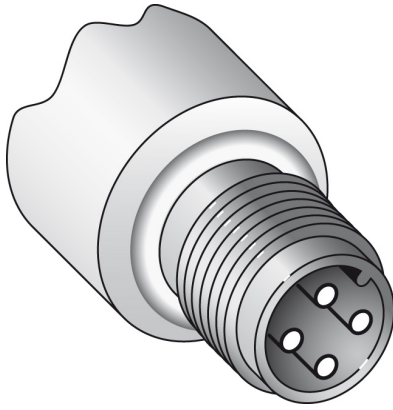


Characteristic curve



## Connection type

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