

ONLINE DATA SHEET
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Photoelectric sensors
V18 Laser, Photoelectric retro-reflective sensor, Standard optics

VL18L-4P324



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V18 Laser, Photoelectric retro-reflective sensor, Standard optics

Model Name > VL18L-4P324
Part No. > 6027430





Illustration may differ

At a glance

- Laser emitter LED enclosed in a cylindrical M18 housing
- Sensing distance up to 35 m
- Fast response time
- Straight or right-angle housing
- Durable metal housing
- IP 67
- Small visible light spot to detect small objects
- Laser class 1

Your benefits

- Lowest-cost laser sensor in M18 cylindrical housing saves installation costs
- Time saving installation and alignment with highly visible light spot
- Laser class 1 does not require increased safety measures or markings, reducing installation costs
- Fast response time ensures reliable object detection at high speeds and increases machine throughput
- Polarizing filter prevents false readings on reflective surfaces, reducing downtime

Features

Sensor/detection principle:	Photoelectric retro-reflective sensor, Standard optics
Housing design (light emission):	Cylindrical, straight, straight
Housing length:	97.7 mm
Thread diameter (housing):	M18 x 1
Optical axis:	axial
Sensing range max.:	0.1 m ... 35 m [1]
Sensing range:	0.1 m ... 30 m [2]
Type of light:	Visible red light
Light source:	Laser [3]
Light spot (distance):	9 mm (35 m)
Laser class:	1 (IEC 60825-1)
Wave length:	650 nm
Sensitivity adjustment:	Electronic, via control input C (0 V) manual, via teach-in button
Angle of dispersion:	0.04 °

1) 2) P250F 3) Average service life of 100,000 h at T_A = +25 °C

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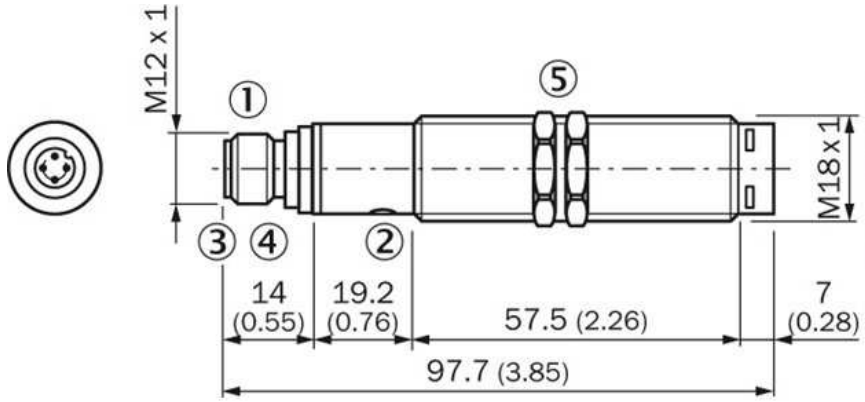
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC [1]
Residual ripple:	≤ 10 % [2]
Power consumption:	≤ 20 mA [3]
Output type:	PNP, Light/dark-switching, Selectable via control input C
Output current Imax.:	≤ 100 mA
Response time:	≤ 0.625 ms [4]
Switching frequency:	800 Hz [5]
Electrical connection:	Connector M12, 4-pin
Circuit protection::::	A, B, C, D [6] [7] [8] [9]
Protection class:	III
Weight:	60 g
Polarisation filter:	✓
Housing material:	Nickel-plated brass/PC
Optics material:	PC with protective glass pane
Enclosure rating:	IP 67
Ambient temperature operation:	-15 °C ... 55 °C
Ambient storage temperature:	-25 °C ... 70 °C
UL File-No.:	UL No. NRKH.E181493, CDRH-Konform (0312012-00)

[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] A = V_S connections reverse-polarity protected [7] B = interference suppression [8] D = outputs overcurrent and short-circuit protected [9] D = inputs and output reverse-polarity protected

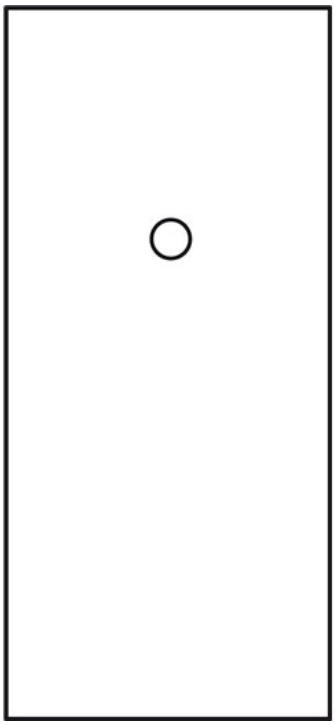
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Dimensional drawing



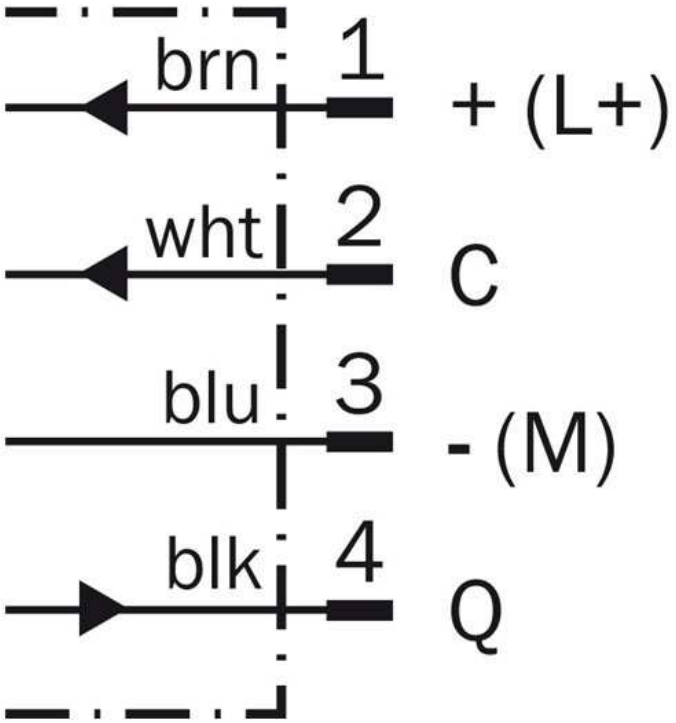
|1| Connector M12, 4-pin
|2| Sensitivity setting; single teach button
|3| green LED indicator: VS supply voltage feed
|4| Yellow LED indicator:- lights
continuously:reception signal> reserve factor 2- b
links: Reception signal< reserve factor 2 but > switching
|5| fastening nuts (2 x); width
across 24, metal(included with delivery)

Adjustments possible

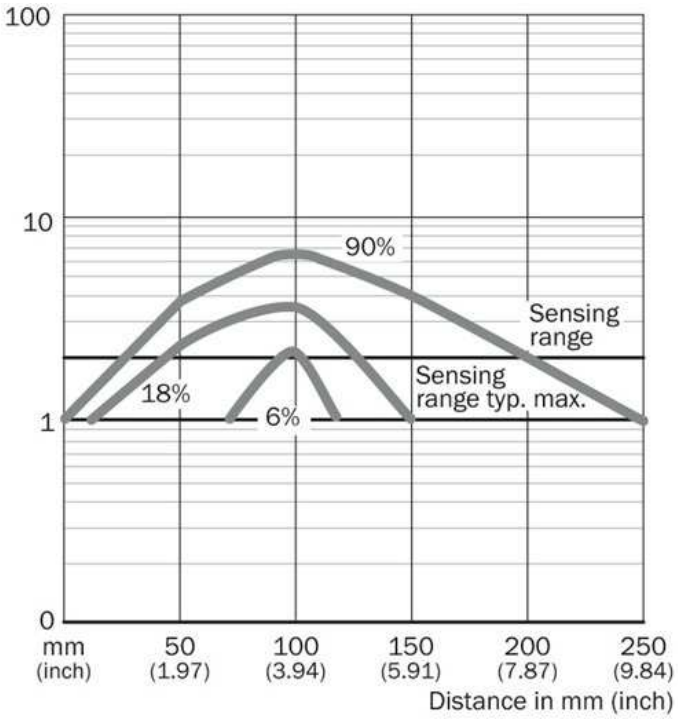


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Connection diagram

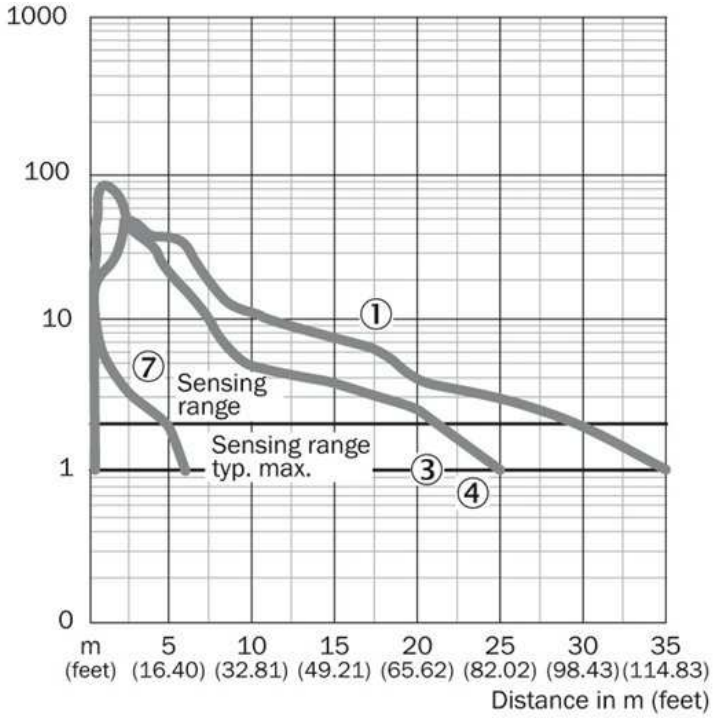


Characteristic curve

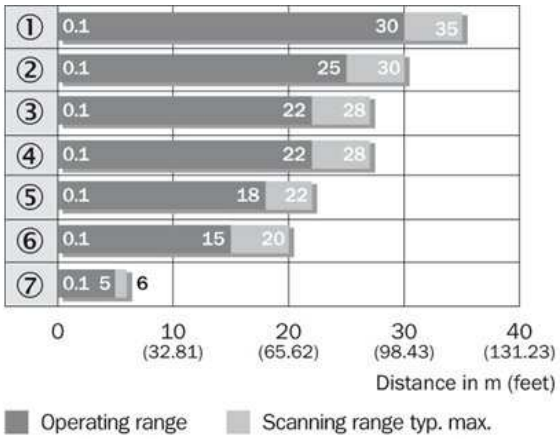


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Characteristic curve



Sensing range diagram



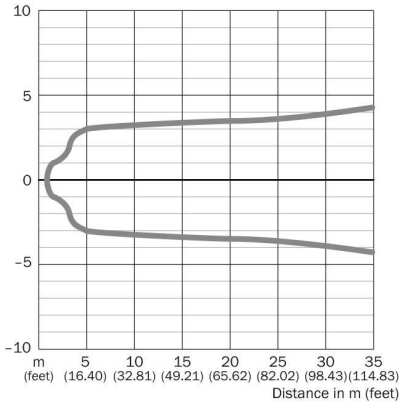
	Reflector type	Operating range
①	P250F	0.1 (.33) ... 30 (131.23)
②	PL10F	0.1 (.33) ... 25 (82.02)
③	PL80A	0.1 (.33) ... 22 (72.18)
④	P 250	0.1 (.33) ... 22 (72.18)
⑤	C110	0.1 (.33) ... 18 (59.06)
⑥	PL10F	0.1 (.33) ... 15 (49.21)
⑦	Reflective tape „Diamond Grade“	0.1 (.33) ... 5 (16.4)

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Connection type



Light spot size



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