



Photoelectric sensors
VL12-2, Photoelectric retro-reflective sensor

VL12-2P430



Model Name > VL12-2P430
Part No. > 6026220



Illustration may differ

At a glance

- Sensing distance up to 2.8 m (with PL80A reflector)
- Switching reliability with highly-reflective objects
- Adjustable light or dark switching at control input
- Operating reserve display
- M12 device connector, 4-pin or 2 m connection line
- M12 metal housing with an IP 67 enclosure rating

Your benefits

- Economical solution for reliably detecting reflective objects up to 2.8 m (with PL80A reflector)
- Standard M12 miniature housing saves installation space on the machine
- Simple design and time-saving installation due to a standard M12 housing
- Polarizing filter prevents false readings on reflective surfaces, reducing downtime
- Fast and simple alignment to the reflector due to visible red light
- Fast response times ensure reliable detection of objects at high speeds, increasing machine throughput
- Tough metal housing provides a long service life, reducing maintenance time and costs



Features

Sensor/detection principle:	Photoelectric retro-reflective sensor
Housing design (light emission):	Cylindrical, straight
Housing length:	66 mm
Thread diameter (housing):	M12 x 1
Sensing range max.:	0.03 m ... 2.8 m ¹⁾
Sensing range:	0.03 m ... 2.3 m ²⁾
Type of light:	Visible red light
Light source:	LED ³⁾
Wave length:	660 nm
Light spot diameter (distance):	Ø 80 mm (2 m)
Angle of dispersion:	Ca. 2.3 °

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

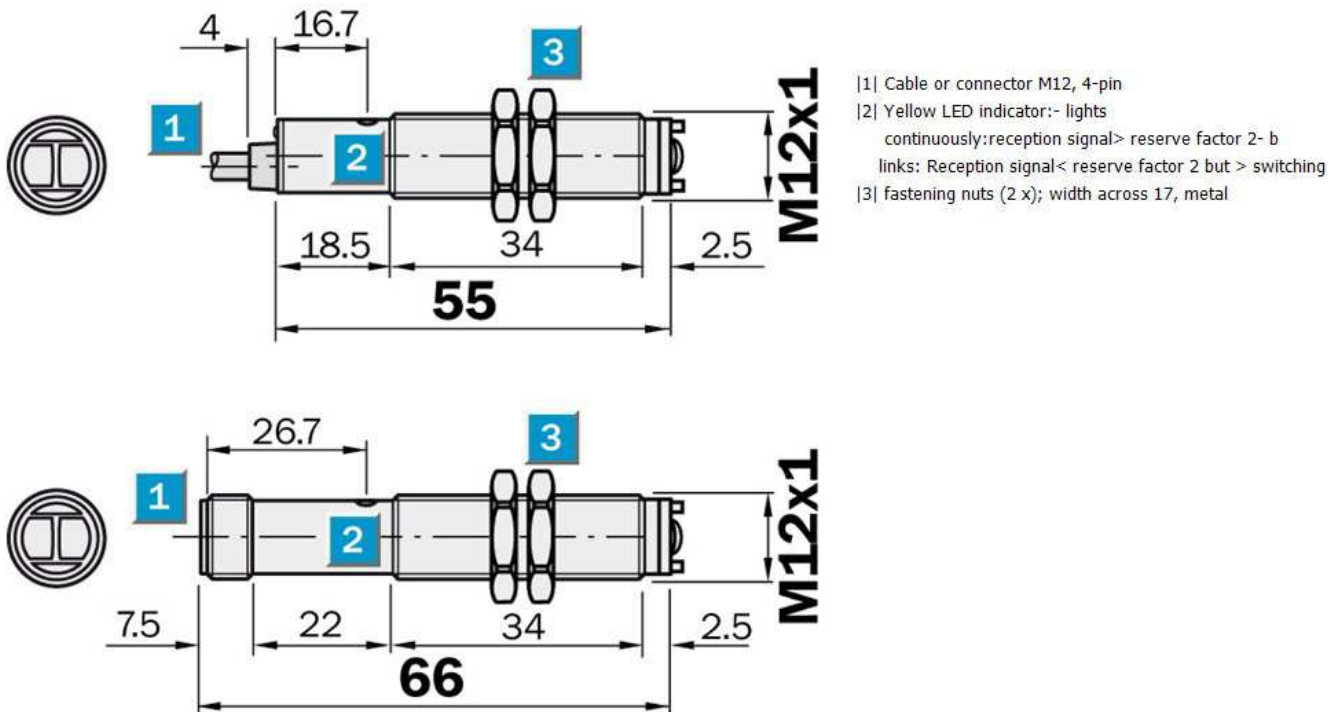
Mechanics/electronics

Supply voltage:	10 V DC ... 30 ¹⁾
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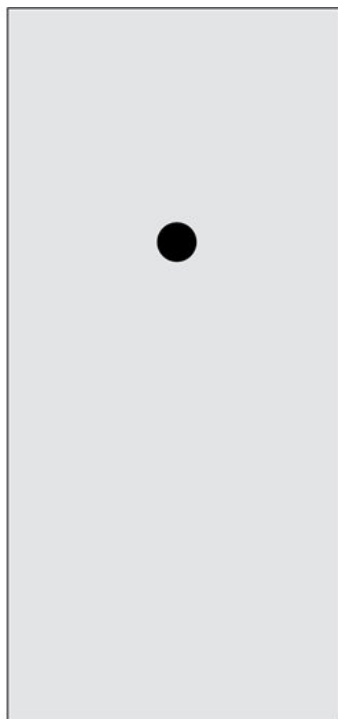
Residual ripple:	$\leq 10\%$ ²⁾
Power consumption:	20 ³⁾
Output type:	PNP, Light/dark-switching, Selectable via L/D control wire
Output current I _{max} .:	100 ⁴⁾
Response time:	≤ 1.25 ms ⁵⁾
Switching frequency:	400 ⁶⁾
Electrical connection:	Connector M12, 4-pin
Circuit protection:::	A, B, C, D ^{7) 8) 9) 10)}
Protection class:	III
Weight:	18 g
Polarisation filter:	✓
Housing material:	Nickel-plated brass/PA
Optics material:	PMMA
Enclosure rating:	IP 67
Ambient temperature operation:	-25 ... 70 °C
Ambient storage temperature:	-25 ... 70 °C

1) Limit values 2) May not exceed or fall short of V_S tolerances 3) 4) Without load 5) Signal transit time with resistive load 6) With light/dark ratio 1:1 7) $A = V_S$
connections reverse-polarity protected 8) B = inputs and output reverse-polarity protected 9) C = interference suppression 10) D = outputs overcurrent and short-circuit protected

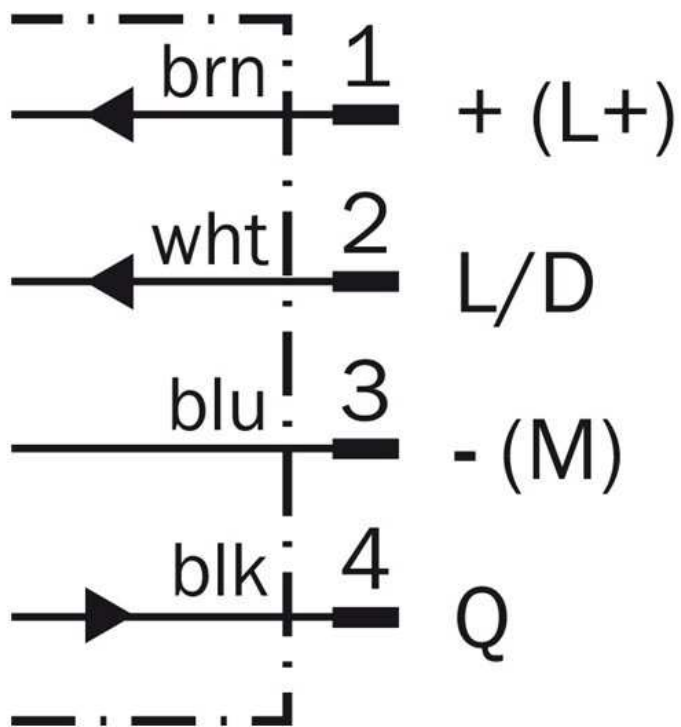
Dimensional drawing



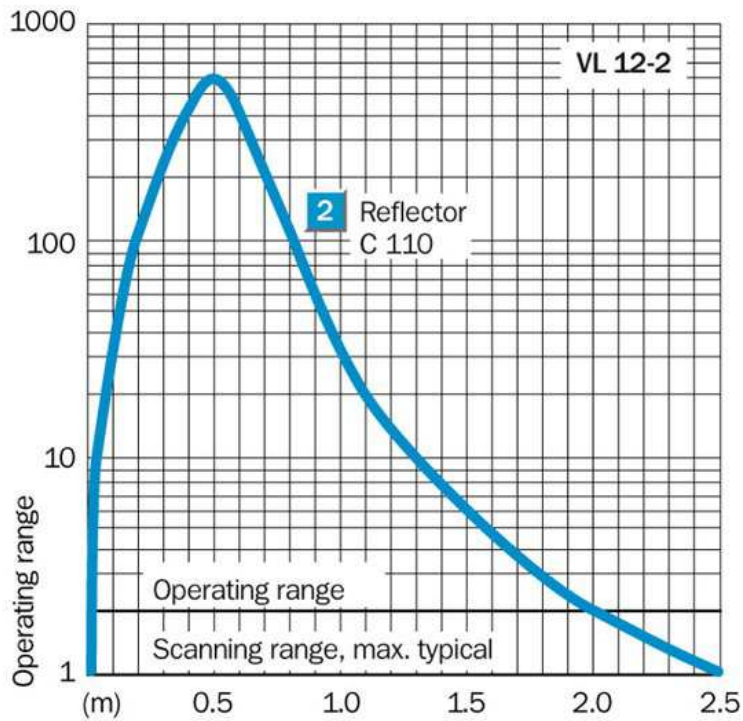
Adjustments possible



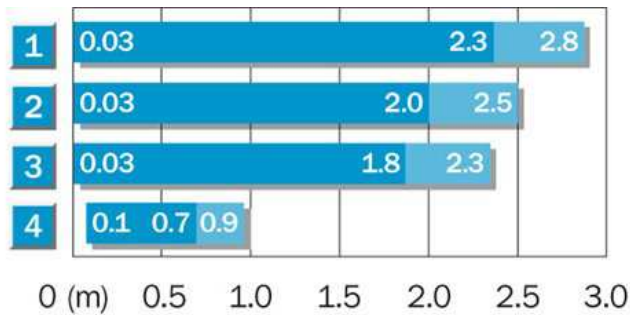
Connection diagram



Characteristic curve



Sensing range diagram



Operating range
 Scanning range, max. typical

	Reflector type	Operating range
1	PL 80 A	0.03 ... 2.3 m
2	C 110	0.03 ... 2.0 m
3	PL 50 A/PL 40 A/ P 250	0.03 ... 1.8 m
4	Reflective tape Diamond Grade	0.1 ... 0.7 m

Connection type



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