

ONLINE DATA SHEET
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Photoelectric sensors
GR18, Photoelectric retro-reflective sensor, Standard optics

GRL18-P1137



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Model Name > GRL18-P1137
Part No. > 1066554





Illustration may differ

At a glance

- Economical M18 cylindrical sensors with standard housing design
- Two different housing types made of plastic and metal with straight optical output
- Very bright and highly visible PinPoint LEDs
- Highly visible status indicator
- IP 67 enclosure rating

Your benefits

- A whole range of mounting options thanks to the different housing types
- Simple alignment and precise detection using PinPoint LEDs
- Easy to mount with simple M18 hole mounting. No special mounting brackets required.
- Rugged and reliable operation due to proven SICK sensing technology
- Clearly visible status display reduces setup time and maintenance time

Features

Sensor/detection principle:	Photoelectric retro-reflective sensor, Standard optics
Housing design (light emission):	Cylindrical, straight
Optical axis:	axial
Sensing range max.:	0.03 m ... 7.2 m [1]
Sensing range:	0.06 m ... 6 m [2]
Type of light:	Visible red light
Light source:	PinPoint LED [3]
Wave length:	650 nm
Light spot size (distance):	Ø 175 mm (7 m)

[1] [2] PL80A [3] Average service life of 100,000 h at T_A = +25 °C

Mechanics/electronics

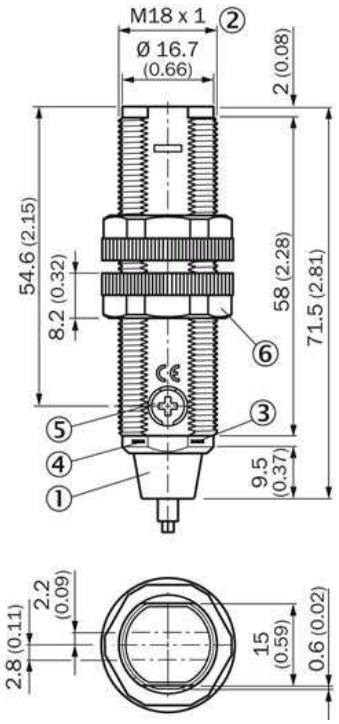
Supply voltage:	10 V DC ... 30 V DC [1]
Ripple:	± 5 Vpp [2]
Power consumption:	≤ 30 mA
Output type:	PNP
Output function:	Complementary
Switching mode:	Light/dark switching
Output current Imax.:	100 mA [3]
Response time:	< 500 µs [4]

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Switching frequency:	1,000 Hz [5]
Electrical connection:	Cable, 4-wire, 2 m [6]
Cable material:	PVC
Circuit protection:::	A, B, D [7] [8] [9]
Protection class:	III
Polarisation filter:	✓
Special device:	-
Enclosure rating:	IP 67
Items supplied:	Fastening nuts (2 x)
EMC:	EN 60947-5-2
Ambient operating temperature:	-25 °C ... +55 °C [10]
Ambient storage temperature:	-40 °C ... +70 °C
UL File No.:	E348498
Signal voltage PNP HIGH/LOW:	VS - (≤ 3 V)/approx. 0 V
Housing material:	Plastic

[1] Limit values, operation in short-circuit protected network max. 8 A [2] May not exceed or fall short of V_S tolerances [3] At Vs > 24 V or ambient temperature > 49 °C, I_A max = 50 mA [4] Signal transit time with resistive load [5] With light/dark ratio 1:1 [6] Do not bend below 0 °C [7] A = V_S connections reverse-polarity protected [8] B = inputs and output reverse-polarity protected [9] D = outputs overcurrent and short-circuit protected [10] At U_v ≤24V and I_A

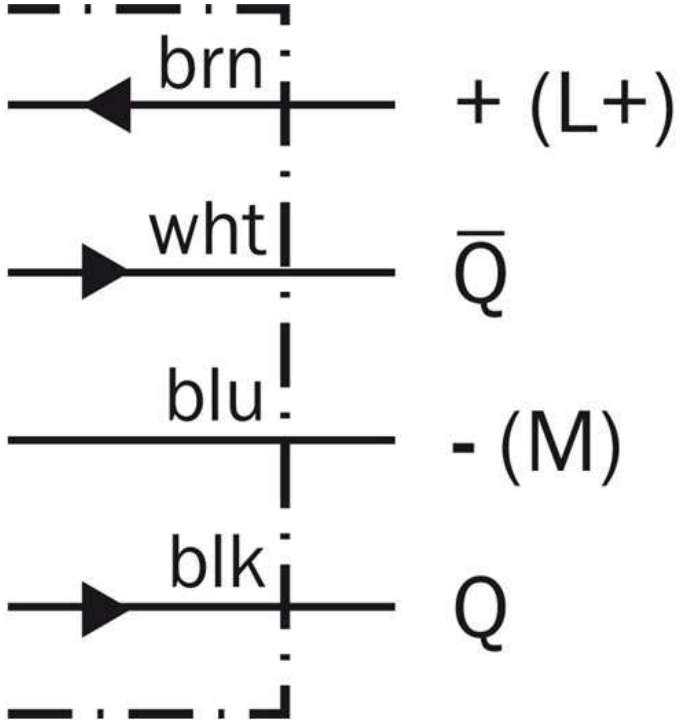
Dimensional drawing



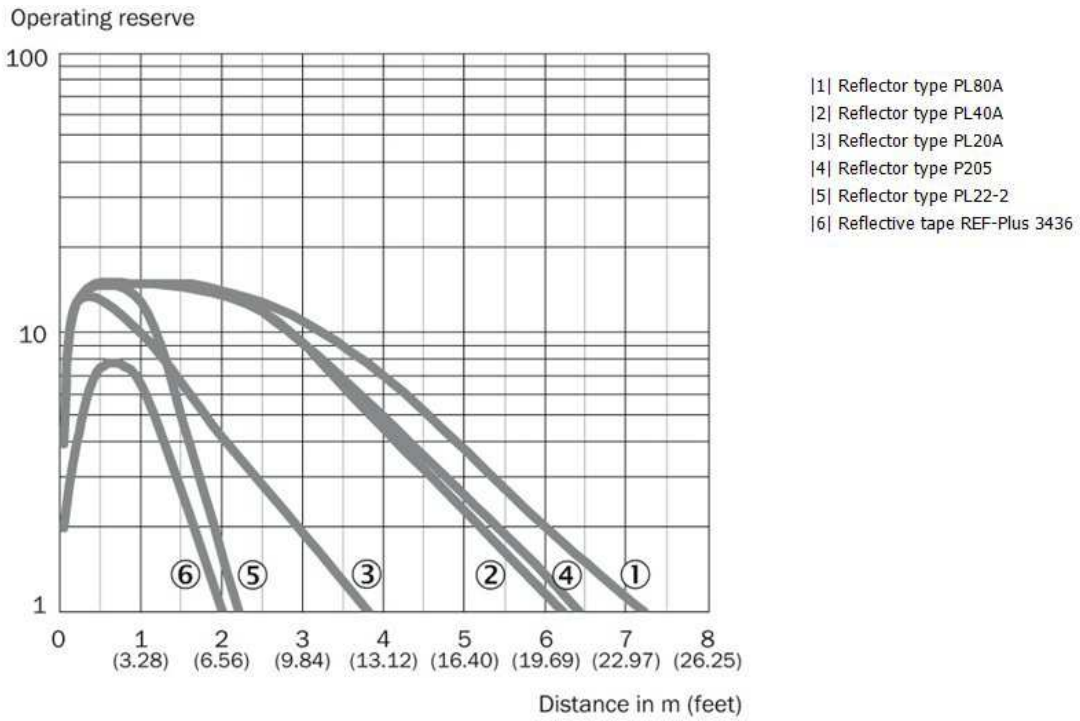
|1| Connection cable 2 m
|2| Threaded mounting hole M18 x 1
|3| LED indicator yellow
|4| LED indicator green
|5| Sensitivity control; Potentiometer 270°
|6| fastening nuts (2 x); width across 22, plastic

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Connection diagram



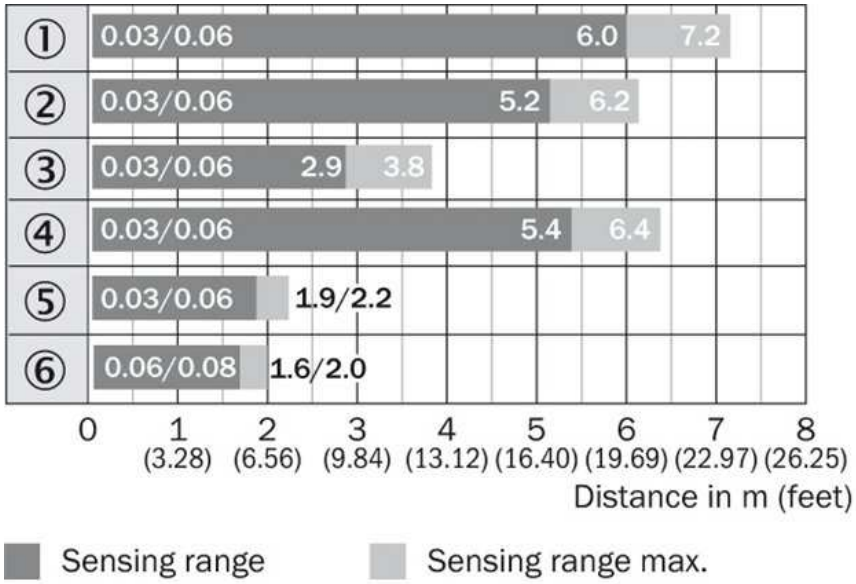
Characteristic curve



|1| Reflector type PL80A
|2| Reflector type PL40A
|3| Reflector type PL20A
|4| Reflector type P205
|5| Reflector type PL22-2
|6| Reflective tape REF-Plus 3436

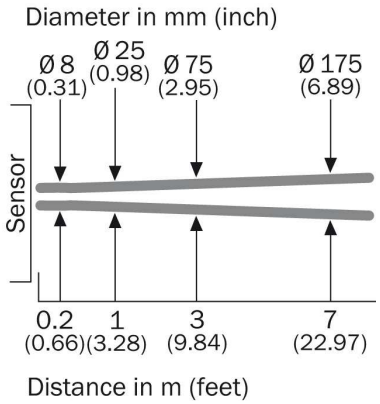
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Sensing range diagram



|1| Reflector type PL80A
|2| Reflector type PL40A
|3| Reflector type PL20A
|4| Reflector type P205
|5| Reflector type PL22-2
|6| Reflective tape REF-Plus 3436

Light spot size



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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**

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