



**PHOTOELECTRIC SENSORS:
LASER
SERIES 1180 / 1181L**



- ✓ **Compact laser sensors** M18
- ✓ **Accurate detection** of smallest targets (≥ 0.1 mm)
- ✓ **Accurate & speed-independent target detection**
- ✓ Rugged **metal housing**
- ✓ **Sensing range up to 50 m**
- ✓ **Easy adjustment** (due to visible red laser light)
- ✓ **Shock & vibration resistant** due to fully vacuum-potted electronics
- ✓ **Laser protection class 2**

TECHNICAL DATA

(according to IEC 60947-5-2)	
Housing material	Stainless steel V2A
Supply voltage range U_B	10 ... 36 VDC
Max. ripple content	20 %
Output current (total of both outputs)	≤ 200 mA
Output voltage drop	≤ 2.0 V at 200 mA
Max. switching frequency	5,000 Hz* / 1,000 Hz
Switching time (\uparrow and \downarrow)	0.1 msec* / 0.5 msec
Max. ambient light:	
halogen	5,000 Lux
sun	10,000 Lux
Ambient temperature range	-10 ... +50 °C
Degree of protection	IP 67
Laser protection class	2
EMC protection:	
IEC 60947-5-2 (7.2.3.1)	1 kV
IEC 61000-4-2	Level 2
IEC 61000-4-3	Level 3
IEC 61000-4-4	Level 3
IEC 61000-4-6	Level 2
Short-circuit protection	Built-in
Polarity reversal protection	Built-in
Power-on reset	Built-in

* Version -516 + through-beam sensors

Rugged compact laser sensors M18 (laser protection class 2) in metal housings with long sensing range of 50 m for accurate and speed-independent detection of smallest targets. Shock and vibration, scratch and chemically resistant with high system reserves (excess gain). Pollution monitoring (green LED) in case of reduces system reserves prevents downtime caused by pollution. Easy adjustment due to visible red laser light. Particularly suited for rough industrial environments and where space is limited:

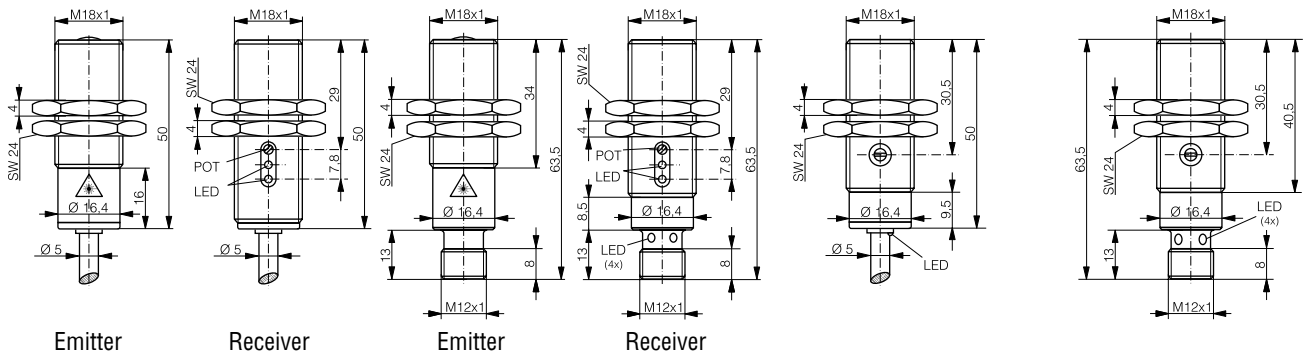
- ✓ **automation equipment**
- ✓ **special machinery**
- ✓ fine positioning of **storage and retrieval systems**
- ✓ **waver detection** in semiconductor industry
- ✓ **edge detection**
- ✓ **cap monitoring** in packaging industry
- ✓ **printed circuit board adjustment**
- ✓ **component positioning**
- ✓ **automotive industry**

HOUSING SIZE **M18 LASER**

SENSING RANGE	THROUGH-BEAM SENSOR 50,000 mm	DIFFUSE SENSOR 250 mm	DIFFUSE SENSOR 600 mm
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Dimensions:



TECHNICAL DATA

Sensing range (setting range)	50,000 mm	250 mm (40 ... 250 mm)	600 mm (60 ... 600 mm)
Standard target	---	100 x 100 mm white	100 x 100 mm white
No-load supply current	≤ 10 mA	≤ 20 mA	≤ 20 mA
Emitter	Laser red pulsed 660 nm	Laser red pulsed 660 nm	Laser red pulsed 660 nm
Approvals	CE, UL, RoHS	CE, UL, RoHS	CE, UL, RoHS
Weight (cable / connector model)	215 / 85 g (R and E)	96 / 63 g	96 / 63 g

PART REFERENCES

(bold: preferred types)	(R) receiver / (E) emitter		
NPN changeover outputs / cable	LLK-1181L-001 (R) / LLK-1181L-000 (E)	LTK-1180L-101-516	LTK-1180L-101
NPN light-ON + excess gain / cable	LLK-1181L-002 (R) / LLK-1181L-000 (E)	LTK-1180L-102-516	LTK-1180L-102
NPN changeover outputs / S12	LLS-1181L-001 (R) / LLS-1181L-000 (E)	LTS-1180L-101-516	LTS-1180L-101
NPN light-ON + excess gain / S12	LLS-1181L-002 (R) / LLS-1181L-000 (E)	LTS-1180L-102-516	LTS-1180L-102
PNP changeover outputs / cable	LLK-1181L-003 (R) / LLK-1181L-000 (E)	LTK-1180L-103-516	LTK-1180L-103
PNP light-ON + excess gain / cable	LLK-1181L-004 (R) / LLK-1181L-000 (E)	LTK-1180L-104-516	LTK-1180L-104
PNP changeover outputs / S12	LLS-1181L-003 (R) / LLS-1181L-000 (E)	LTS-1180L-103-516	LTS-1180L-103
PNP light-ON + excess gain / S12	LLS-1181L-004 (R) / LLS-1181L-000 (E)	LTS-1180L-104-516	LTS-1180L-104
Compatible connectors (page 268)	M, N	M, N	M, N
Wiring (pages 198-199)	Diagram 2 (R) / 4 (E)	Diagram 2	Diagram 2

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