

FR 12 R

Photoelectric retro-reflective sensor



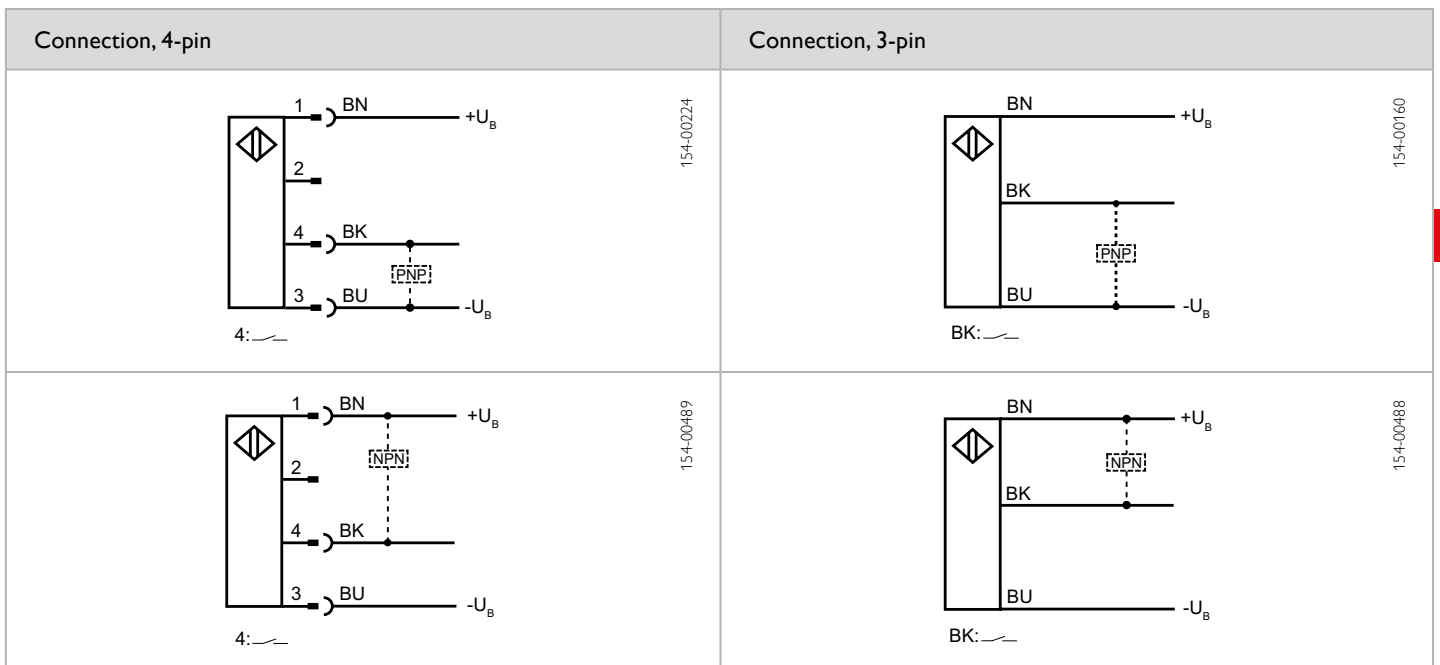
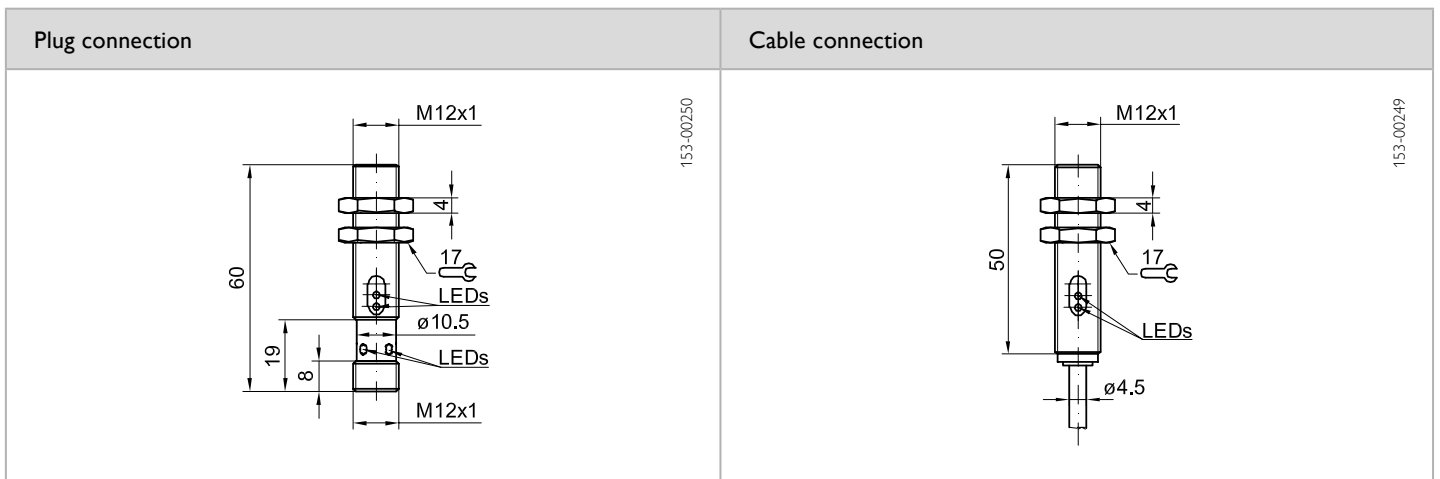
PRODUCT HIGHLIGHTS

- Robust M12 metal housings with short mounting lengths
- Operating range: 60 ... 1500 mm
- Red light, 660 nm
- Switching state and functional reserve indicators

Optical data		Functions	
Scanning distance	60 ... 1500 mm ¹	Indicator LED, green	Functional reserve indicator
Type of light	Red, 660 nm	Indicator LED, yellow	Switching state indicator
Light spot size	Ø 10 mm ²	Scanning distance adjustment	Fixed setting
Electrical data		Mechanical data	
Operating voltage, +U _B	10 ... 36 V DC	Dimensions (plug device)	M12 x 60 mm
No-load current, I ₀	≤ 15 mA	Dimensions (cable device)	M12 x 50 mm
Output current, I _e	≤ 200 mA	Enclosure rating	IP 67 ³
Protective circuits	Reverse-polarity protection, U _B / short-circuit protection	Material, housing	Brass, chromium-plated
Protection Class	2	Material, front screen	Glass
Power On Delay	20 msec	Type of connection	See selection table
Switching output, Q	PNP/NPN / max 200 mA	Ambient temperature: operation	-25 ... +55 °C
Output function	N.O.	Weight (plug device)	20 g
Switching frequency, f (ti/tp 1:1)	≤ 1000 Hz	Weight (cable device)	100 g
Response time	≤ 500 µs	Vibration and impact resistance	IEC 60947-5-2

¹ Reference material: RD8 reflector; Ø 84 mm ² At scanning distance of 50 mm ³ With connected IP 67 plug

Switching output	Type of connection	Part number	Article number
PNP	Plug, M12, 4-pin	FR 12 R-PSL4	703-11000
NPN	Plug, M12, 4-pin	FR 12 R-NSL4	703-11001
PNP	Cable, PVC, 3 x 0.34 mm ² , 2 m	FR 12 R-PSK3	703-11002
NPN	Cable, PVC, 3 x 0.34 mm ² , 2 m	FR 12 R-NSK3	703-11003



Accessories	
Connection cables	From Page A-38
Brackets	From Page A-4