

The NEW standard for M18 Photoelectrics.

F 18-2 – series of optical sensors





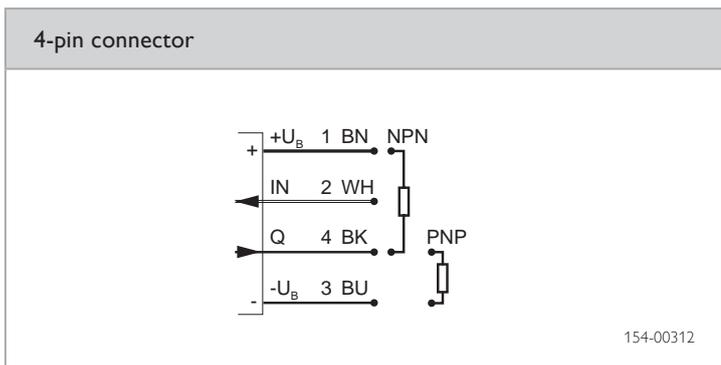
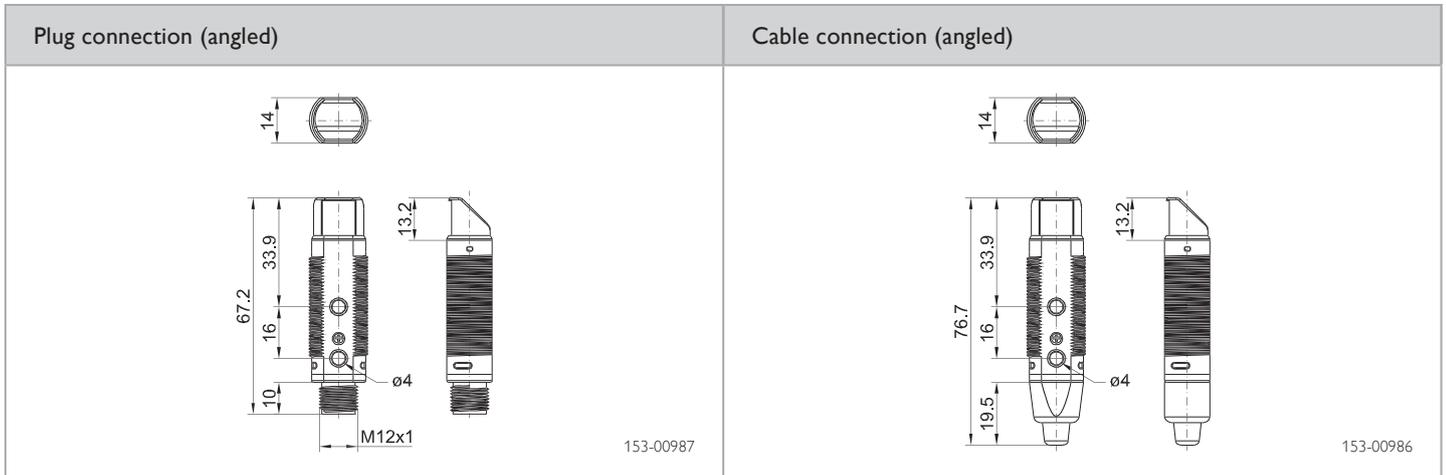
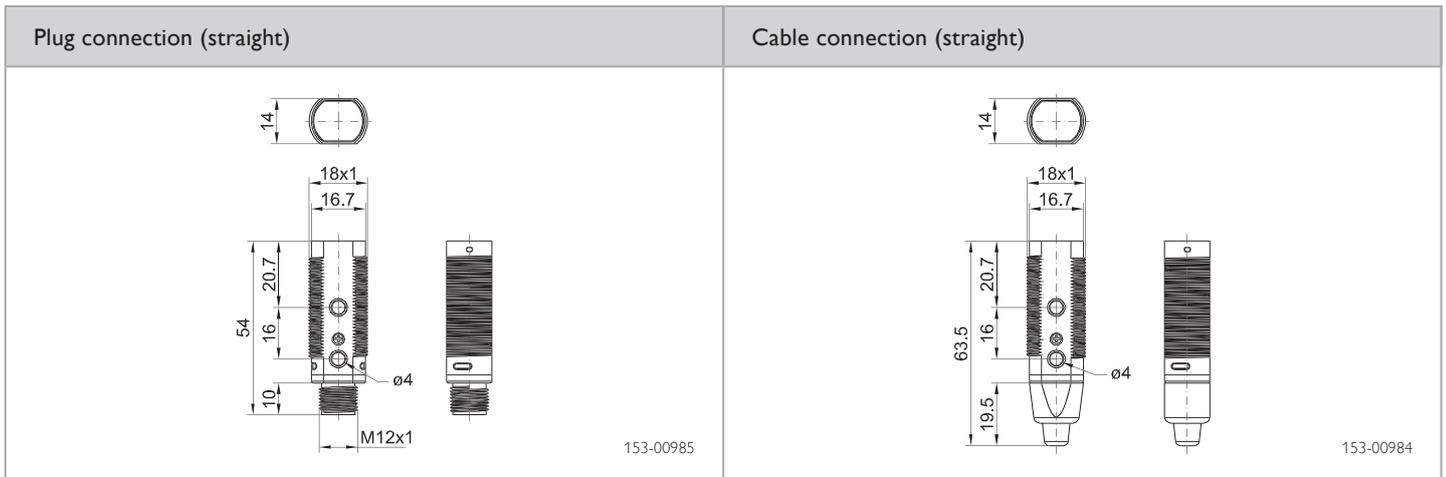
PRODUCT HIGHLIGHTS

- Economical solution for numerous applications
- Scanning distance up to 800 mm, adjustable via potentiometer
- Red light or infrared
- Straight and right angled versions
- Robust metal housing (IP 67)
- Simple adjustment via potentiometer
- 2 through holes for additional mounting possibilities

Optical data		Functions	
Scanning distance, red light	(See selection table)	LED indicator, green	Operating voltage indicator
Type of light	(See selection table)	LED indicator, yellow	Switching output indicator
		Sensitivity adjustment	Via potentiometer
		Adjustment possibilities	N.O. / N.C. via control input (IN)
		Default setting	Max. scanning distance and N.O.
Electrical data		Mechanical data	
Operating voltage, +U _B	10 ... 30V DC	Dimensions	M18 x 44 mm
No-load current, I ₀	≤ 30 mA	Enclosure rating	IP 67 ¹
Output current, I _e	≤ 100 mA	Material, housing	Metal
Protective circuits	Reverse-polarity protection U _B / short-circuit protection	Material, front screen	PMMA
Switching output, Q	PNP / NPN (See selection table)	Type of connection	(See selection table)
Output function	-U _B = N.O. / +U _B = N.C.	Operating ambient temperature	-25 ... +55 °C
Switching frequency, f (ti/tp 1:1)	≤ 1000 Hz	Weight (plug device)	23 g ² / 25 g ³
Response time	≤ 1 ms	Weight (cable device)	63 g ² / 65 g ³

¹With IP 67 plug connected ²Straight light exit variant ³Angled light exit variant

Scanning distance	Type of light	Light exit	Switching output	Type of connection	Part number	Article number
0 ... 400 mm	Red light	Straight	PNP	Metal plug, M12, 4-pin	FT 18-2 RM-PS-L4	740-21021
0 ... 400 mm	Red light	Straight	NPN	Metal plug, M12, 4-pin	FT 18-2 RM-NS-L4	740-21022
0 ... 400 mm	Red light	Straight	PNP	Cable, 2 m, 4-wire	FT 18-2 RM-PS-K4	740-21023
0 ... 400 mm	Red light	Straight	NPN	Cable, 2 m, 4-wire	FT 18-2 RM-NS-K4	740-21024
0 ... 320 mm	Red light	Angled 90°	PNP	Metal plug, M12, 4-pin	FT 18-2 RWM-PS-L4	740-21025
0 ... 320 mm	Red light	Angled 90°	NPN	Metal plug, M12, 4-pin	FT 18-2 RWM-NS-L4	740-21026
0 ... 320 mm	Red light	Angled 90°	PNP	Cable, 2 m, 4-wire	FT 18-2 RWM-PS-K4	740-21027
0 ... 320 mm	Red light	Angled 90°	NPN	Cable, 2 m, 4-wire	FT 18-2 RWM-NS-K4	740-21028
0 ... 800 mm	Infrared	Straight	PNP	Metal plug, M12, 4-pin	FT 18-2 IDM-PS-L4	740-21029
0 ... 800 mm	Infrared	Straight	NPN	Metal plug, M12, 4-pin	FT 18-2 IDM-NS-L4	740-21030
0 ... 800 mm	Infrared	Straight	PNP	Cable, 2 m, 4-wire	FT 18-2 IDM-PS-K4	740-21031
0 ... 800 mm	Infrared	Straight	NPN	Cable, 2 m, 4-wire	FT 18-2 IDM-NS-K4	740-21032



Diffuse photoelectric proximity sensor



PRODUCT HIGHLIGHTS

- Economical solution for numerous applications
- Scanning distance up to 800 mm, adjustable via potentiometer
- Red light or infrared
- Straight and right angled versions
- Robust plastic housing (IP 67)
- Simple adjustment via potentiometer
- 2 through holes for additional mounting possibilities

Optical data		Functions	
Scanning distance	(See selection table)	LED indicator, green	Operating voltage indicator
Type of light	(See selection table)	LED indicator, yellow	Switching output indicator
		Sensitivity adjustment	Via potentiometer
		Adjustment possibilities	N.O. / N.C. via control input (IN)
		Default setting	Max. scanning distance and N.O.
Electrical data		Mechanical data	
Operating voltage, +U _B	10 ... 30V DC	Dimensions	M18 x 44 mm
No-load current, I ₀	≤ 30 mA	Enclosure rating	IP 67 ¹
Output current, I _e	≤ 100 mA	Material, housing	ABS
Protective circuits	Reverse-polarity protection U _B / short-circuit protection	Material, front screen	PMMA
Switching output, Q	PNP / NPN (See selection table)	Type of connection	(See selection table)
Output function	N.O. / N.C. / -U _B = N.O. / +U _B = N.C.	Operating ambient temperature	-25 ... +55 °C
Switching frequency, f (ti/tp 1:1)	≤ 1000 Hz	Weight (plug device)	11 g ² / 13 g ³
Response time	≤ 1 ms	Weight (cable device)	55 g ² / 57g ³

¹With IP 67 plug connected ² Straight light exit variant ³ Angled light exit variant

Scanning distance	Type of light	Light exit	Switching output	Type of connection	Part number	Article number
0 ... 400 mm	Red light	Straight	PNP	Plug, M12, 4-pin	FT 18-2 R-PS-L4	740-21033
0 ... 400 mm	Red light	Straight	NPN	Plug, M12, 4-pin	FT 18-2 R-NS-L4	740-21034
0 ... 400 mm	Red light	Straight	PNP	Cable, 2 m, 4-wire	FT 18-2 R-PS-K4	740-21020
0 ... 400 mm	Red light	Straight	NPN	Cable, 2 m, 4-wire	FT 18-2 R-NS-K4	740-21035
0 ... 320 mm	Red light	Angled 90°	PNP	Plug, M12, 4-pin	FT 18-2 RW-PS-L4	740-21036
0 ... 320 mm	Red light	Angled 90°	NPN	Plug, M12, 4-pin	FT 18-2 RW-NS-L4	740-21037
0 ... 320 mm	Red light	Angled 90°	PNP	Cable, 2 m, 4-wire	FT 18-2 RW-PS-K4	740-21038
0 ... 320 mm	Red light	Angled 90°	NPN	Cable, 2 m, 4-wire	FT 18-2 RW-NS-K4	740-21039
0 ... 800 mm	Infrared	Straight	PNP	Plug, M12, 4-pin	FT 18-2 ID-PS-L4	740-21040
0 ... 800 mm	Infrared	Straight	NPN	Plug, M12, 4-pin	FT 18-2 ID-NS-L4	740-21041
0 ... 800 mm	Infrared	Straight	PNP	Cable, 2 m, 4-wire	FT 18-2 ID-PS-K4	740-21042
0 ... 800 mm	Infrared	Straight	NPN	Cable, 2 m, 4-wire	FT 18-2 ID-NS-K4	740-21043

Plug connection (straight)	Cable connection (straight)
Plug connection (angled)	Cable connection (angled)
4-pin connector	



PRODUCT HIGHLIGHTS

- Economical solution for numerous applications
- Scanning distance up to 3.0 m
- Straight and right angled versions
- Robust metal housing (IP 67)
- Polarisation filter for reliable detection of highly reflective surfaces
- Simple adjustment via potentiometer
- 2 through holes for additional mounting possibilities

Optical data		Functions	
Operating range	(See selection table) ¹	LED indicator, green	Operating voltage indicator
Type of light	(See selection table)	LED indicator, yellow	Switching output indicator
Polarising filter	Yes	Sensitivity adjustment	Via potentiometer
		Adjustment possibilities	N.O. / N.C. via control input (IN)
		Default setting	Max. scanning distance and N.O.
Electrical data		Mechanical data	
Operating voltage, +U _B	10 ... 30V DC	Dimensions	M18 x 44 mm
No-load current, I ₀	≤ 30 mA	Enclosure rating	IP 67 ²
Output current, I _e	≤ 100 mA	Material, housing	Metal
Protective circuits	Reverse-polarity protection U _B / short-circuit protection	Material, front screen	PMMA
Switching output, Q	PNP / NPN (See selection table)	Type of connection	(See selection table)
Output function	N.O. / N.C.	Operating ambient temperature	-25 ... +55 °C
Switching frequency, f (ti/tp 1:1)	≤ 1000 Hz	Weight (plug device)	34 g ³ / 36 g ⁴
Response time	≤ 1 ms	Weight (cable device)	74 g ³ / 76 g ⁴

¹ Reference material: R5 reflector ² With IP 67 plug connected ³ Straight light exit variant ⁴ Angled light exit variant

Operating range	Type of light	Light exit	Switching output	Type of connection	Part number	Article number
3.0 m	Red light	Straight	PNP	Metal plug, M12, 4-pin	FR 18-2 RM-PS-L4	741-11014
3.0 m	Red light	Straight	NPN	Metal plug, M12, 4-pin	FR 18-2 RM-NS-L4	741-11015
3.0 m	Red light	Straight	PNP	Cable, 2 m, 4-wire	FR 18-2 RM-PS-K4	741-11016
3.0 m	Red light	Straight	NPN	Cable, 2 m, 4-wire	FR 18-2 RM-NS-K4	741-11017
2.4 m	Red light	Angled 90°	PNP	Metal plug, M12, 4-pin	FR 18-2 RWM-PS-L4	741-11018
2.4 m	Red light	Angled 90°	NPN	Metal plug, M12, 4-pin	FR 18-2 RWM-NS-L4	741-11019
2.4 m	Red light	Angled 90°	PNP	Cable, 2 m, 4-wire	FR 18-2 RWM-PS-K4	741-11020
2.4 m	Red light	Angled 90°	NPN	Cable, 2 m, 4-wire	FR 18-2 RWM-NS-K4	741-11021

Scope of delivery

Reflector, 53.4 x 53.4 mm²
2 x securing nuts

Plug connection (straight)	Cable connection (straight)
<p>153-00985</p>	<p>153-00984</p>
Plug connection (angled)	Cable connection (angled)
<p>153-00987</p>	<p>153-00986</p>
4-pin connector	
<p>154-00312</p>	

Infrared photoelectric reflex sensor



PRODUCT HIGHLIGHTS

- Economical solution for numerous applications
- Scanning distance up to 3.60 m
- Straight and right angled versions
- Robust plastic housing (IP 67)
- Simple adjustment via potentiometer
- 2 through holes for additional mounting possibilities

Optical data		Functions	
Operating range	(See selection table) ¹	LED indicator, yellow	Switching output indicator
Type of light	(See selection table)	Sensitivity adjustment	Via potentiometer
Polarising filter	No	Adjustment possibilities	N.O. / N.C. via control input (IN)
		Default setting	Max. scanning distance and N.O.
Electrical data		Mechanical data	
Operating voltage, +U _B	10 ... 30V DC	Dimensions	M18 x 44 mm
No-load current, I ₀	≤ 30 mA	Enclosure rating	IP 67 ²
Output current, I _e	≤ 100 mA	Material, housing	ABS
Protective circuits	Reverse-polarity protection U _B / short-circuit protection	Material, front screen	PMMA
Switching output, Q	PNP / NPN (See selection table)	Type of connection	(See selection table)
Output function	N.O. / N.C.	Operating ambient temperature	-25 ... +55 °C
Switching frequency, f (ti/tp 1:1)	≤ 1000 Hz	Weight (plug device)	11 g ³ / 13 g ⁴
Response time	≤ 1 ms	Weight (cable device)	55 g ³ / 57 g ⁴

¹ Reference material: R5 reflector ² With IP 67 plug connected ³ Straight light exit variant ⁴ Angled light exit variant

Operating range	Type of light	Light exit	Switching output	Type of connection	Part number	Article number
3.6 m	Infrared	Straight	PNP	Plug, M12, 4-pin	FR 18-2 I-PS-L4	741-11022
3.6 m	Infrared	Straight	NPN	Plug, M12, 4-pin	FR 18-2 I-NS-L4	741-11023
3.6 m	Infrared	Straight	PNP	Cable, 2 m, 4-wire	FR 18-2 I-PS-K4	741-11024
3.6 m	Infrared	Straight	NPN	Cable, 2 m, 4-wire	FR 18-2 I-NS-K4	741-11025
2.5 m	Infrared	Angled 90°	PNP	Plug, M12, 4-pin	FR 18-2 IW-PS-L4	741-11026
2.5 m	Infrared	Angled 90°	NPN	Plug, M12, 4-pin	FR 18-2 IW-NS-L4	741-11027
2.5 m	Infrared	Angled 90°	PNP	Cable, 2 m, 4-wire	FR 18-2 IW-PS-K4	741-11028
2.5 m	Infrared	Angled 90°	NPN	Cable, 2 m, 4-wire	FR 18-2 IW-NS-K4	741-11029

Scope of delivery

Reflector, 53.4 x 53.4 mm²
2 x securing nuts

Plug connection (straight)	Cable connection (straight)
<p>153-00985</p>	<p>153-00984</p>
Plug connection (angled)	Cable connection (angled)
<p>153-00987</p>	<p>153-00986</p>
4-pin connector	
<p>154-00312</p>	

Through-beam photoelectric sensor



PRODUCT HIGHLIGHTS

- Economical solution for numerous applications
- Long scanning distance up to 10 m
- Robust metal housing (IP 67)
- Simple adjustment via potentiometer
- 2 through holes for additional mounting possibilities

Optical data		Functions	
Operating range	10 m	LED indicator, green	Operating voltage indicator
Type of light	(See selection table)	LED indicator, yellow	Switching output indicator
		Sensitivity adjustment	Via potentiometer
		Adjustment possibilities	N.O. / N.C. via control input (IN)
		Default setting	Max. scanning distance and N.O.
Electrical data		Mechanical data	
Operating voltage, +U _B	10 ... 30V DC	Dimensions	M18 x 44 mm
No-load current, I ₀	≤ 30 mA	Enclosure rating	IP 67 ¹
Output current, I _e	≤ 100 mA	Material, housing	Metal
Protective circuits	Reverse-polarity protection U _B / short-circuit protection	Material, front screen	PMMA
Switching output, Q	PNP / NPN (See selection table)	Type of connection	(See selection table)
Output function	N.O. / N.C.	Operating ambient temperature	-25 ... +55 °C
Switching frequency, f (ti/tp 1:1)	≤ 400 Hz	Weight (plug device)	46 g
Response time	≤ 2.5 ms	Weight (cable device)	130 g

¹With IP 67 plug connected

Transmitter / receiver	Type of light	Light exit	Switching output	Type of connection	Part number	Article number
Transmitter / receiver	Infrared	Straight	PNP	Metal plug, M12, 4-pin	FSE 18-2 IM-PS-L4	742-51004
Transmitter / receiver	Infrared	Straight	NPN	Metal plug, M12, 4-pin	FSE 18-2 IM-NS-L4	742-51005
Transmitter / receiver	Infrared	Straight	PNP	Cable, 2 m, 4-wire	FSE 18-2 IM-PS-K4	742-51006
Transmitter / receiver	Infrared	Straight	NPN	Cable, 2 m, 4-wire	FSE 18-2 IM-NS-K4	742-51007

Scope of delivery

Transmitter & receiver
2 x securing nuts

Through-beam photoelectric sensor

Plug connection	Cable connection
4-pin connector (Transmitter)	4-pin connector (Receiver)

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