

# FT 18-2

## Photoelectric diffuse sensor



### PRODUCT HIGHLIGHTS

- Economical solution for numerous applications
- Scanning distance of up to 800 mm, adjustable via potentiometer
- Red light or infrared
- Variants with angled light exit
- Simple adjustment via potentiometer
- 2 through holes as additional mounting possibility

Optical data		Functions	
Scanning distance	See selection table	Indicator LED, green	Operating voltage indicator
Type of light	See selection table	Indicator LED, yellow	Switching output indicator
Light spot size	See selection table	Sensitivity adjustment	Via potentiometer
		Adjustment possibilities	N.O./N.C. via control input (IN)
		Default settings	Max. scanning distance and N.O.
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	10 ... 30V DC	Dimensions	See dimensional drawings
No-load current, I <sub>0</sub>	≤ 30 mA	Enclosure rating	IP 67 <sup>1</sup>
Output current, I <sub>e</sub>	≤ 100 mA	Material, housing	Brass, nickel-plated
Protective circuits	Reverse-polarity protection, U <sub>B</sub> / 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.	Ambient temperature: operation	-25 ... +55 °C
Switching frequency, f (ti/tp 1:1)	≤ 1000 Hz	Weight (plug device)	23 g <sup>2</sup> / 25 g <sup>3</sup>
Response time	≤ 1 ms	Weight (cable device)	63 g <sup>2</sup> / 65 g <sup>3</sup>
Control input, IN	+U <sub>B</sub> = teach-in -U <sub>B</sub> = button locked open = normal operation	Max. tightening torque	3 Nm

<sup>1</sup>With connected IP 67 plug    <sup>2</sup>Straight light exit variant    <sup>3</sup>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	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	90° angle	PNP	Metal plug, M12, 4-pin	FT 18-2 RWM-PS-L4	740-21025
0 ... 320 mm	Red light	90° angle	NPN	Metal plug, M12, 4-pin	FT 18-2 RWM-NS-L4	740-21026
0 ... 320 mm	Red light	90° angle	PNP	Cable, 2 m, 4-wire	FT 18-2 RWM-PS-K4	740-21027
0 ... 320 mm	Red light	90° angle	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

Plug connection (straight)	Cable connection (straight)

Plug connection (angled)	Cable connection (angled)

Connection, 4-pin

Light spot size	Straight		90° angle	
Scanning distance (mm)	200	400	150	300
Light spot diameter (mm)	Ø 14	Ø 27	Ø 14	Ø 25

Scope of delivery	Accessories	
Sensor	Connection cables	From Page A-38
2 x securing nuts	Brackets	From Page A-4

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		Adjustment possibilities	N.O./N.C. via control input (IN)
		Default settings	Max. scanning distance and N.O.
Electrical data		Mechanical data	
Operating voltage, +U <sub>B</sub>	10 ... 30V DC	Dimensions	See dimensional drawings
No-load current, I <sub>0</sub>	≤ 30 mA	Enclosure rating	IP 67 <sup>1</sup>
Output current, I <sub>e</sub>	≤ 100 mA	Material, housing	ABS
Protective circuits	Reverse-polarity protection, U <sub>B</sub> / 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.	Ambient temperature: operation	-25 ... +55 °C
Switching frequency, f (ti/tp 1:1)	≤ 1000 Hz	Weight (plug device)	11 g <sup>2</sup> / 13 g <sup>3</sup>
Response time	≤ 1 ms	Weight (cable device)	55 g <sup>2</sup> / 57g <sup>3</sup>
Control input, IN	+U <sub>B</sub> = teach-in -U <sub>B</sub> = button locked open = normal operation	Max. tightening torque	3 Nm

<sup>1</sup>With connected IP 67 plug    <sup>2</sup>Straight light exit variant    <sup>3</sup>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	90° angle	PNP	Plug, M12, 4-pin	FT 18-2 RW-PS-L4	740-21036
0 ... 320 mm	Red light	90° angle	NPN	Plug, M12, 4-pin	FT 18-2 RW-NS-L4	740-21037
0 ... 320 mm	Red light	90° angle	PNP	Cable, 2 m, 4-wire	FT 18-2 RW-PS-K4	740-21038
0 ... 320 mm	Red light	90° angle	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)
<p style="text-align: right;">153-00985</p>	<p style="text-align: right;">153-00984</p>

Plug connection (angled)	Cable connection (angled)
<p style="text-align: right;">153-00987</p>	<p style="text-align: right;">153-00986</p>

Connection, 4-pin
<p style="text-align: right;">154-00312</p>

Light spot size	Straight		90° angle	
Scanning distance (mm)	200	400	150	300
Light spot diameter (mm)	Ø 14	Ø 27	Ø 14	Ø 25

Scope of delivery	Accessories	
Sensor	Connection cables	From Page A-38
2 x securing nuts	Brackets	From Page A-4