

Lightcurtain in robust aluminium housing

F3ET

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The F3ET lightcurtains provide a reliable area monitoring in a robust housing. The M12 5-pin connectors and optical synchronisation between emitter and receiver allow a fast and simple installation without special requirements.

- Optical synchronisation for reliable operation without additional wiring
- Robust aluminium housing
- NPN/PNP and light on/dark on selectable



Ordering Information

Sensor type	Detection area (Max _M)	Pitch	Sensing distance	Channels	Connection method				Output	Order code
	150	5 mm	3 m	30	—	5 pin	—	—	NPN/PNP	F3ET-005-150
		18 mm	15 m	8	—		—	—		F3ET-018-150
	300	5 mm	3 m	60	—		—	—		F3ET-005-300
		18 mm	15 m	16	—		—	—		F3ET-018-300
	600	5 mm	3 m	120	—		—	—		F3ET-005-600
		18 mm	15 m	32	—		—	—		F3ET-018-600
	900	5 mm	3 m	180	—		—	—		F3ET-005-900
		18 mm	15 m	48	—		—	—		F3ET-018-900
	2100	18 mm	15 m	112	—		—	—		F3ET-018-2100

Lightcurtain accessories

Shape	Type	Comment	Order Code
	Laser alignment kit	snap-on Laser beam generator and level	F39-TGR-LLK2-SB
	Protective tube	for F3ET-_-150	F3ET-IP150
		for F3ET-_-300	F3ET-IP300
		for F3ET-_-600	F3ET-IP600
		for F3ET-_-900	F3ET-IP900

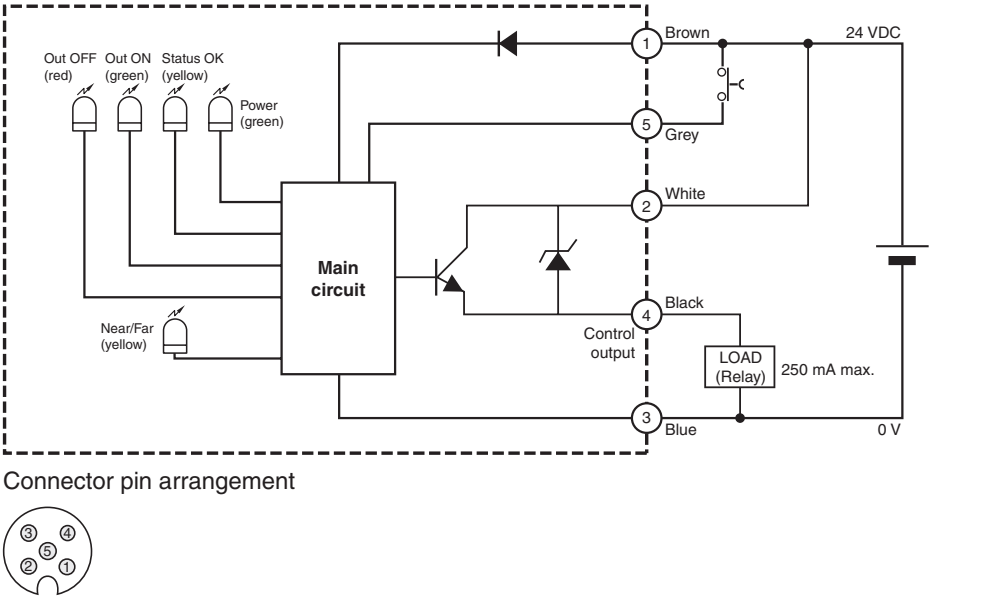
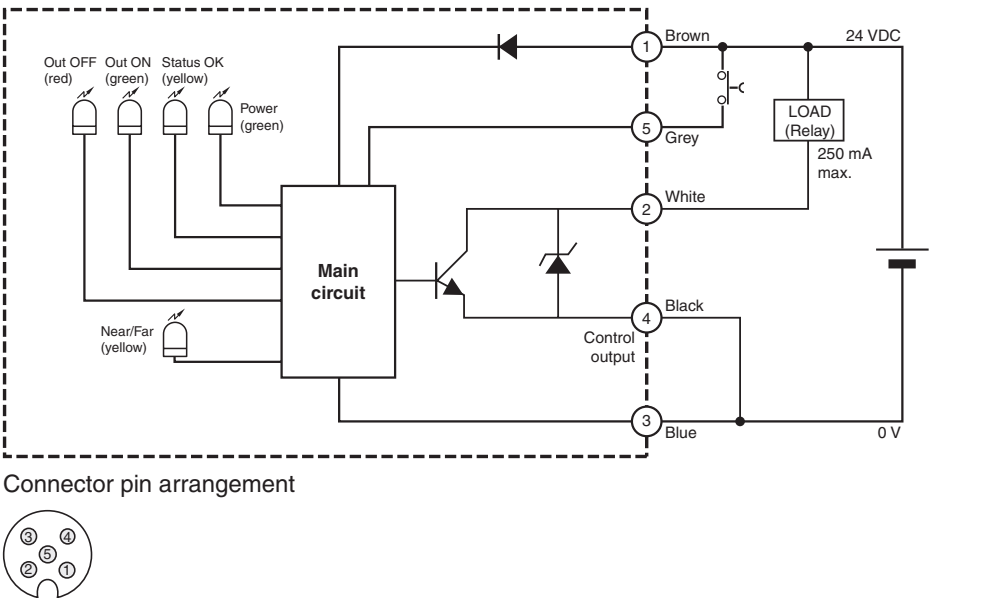
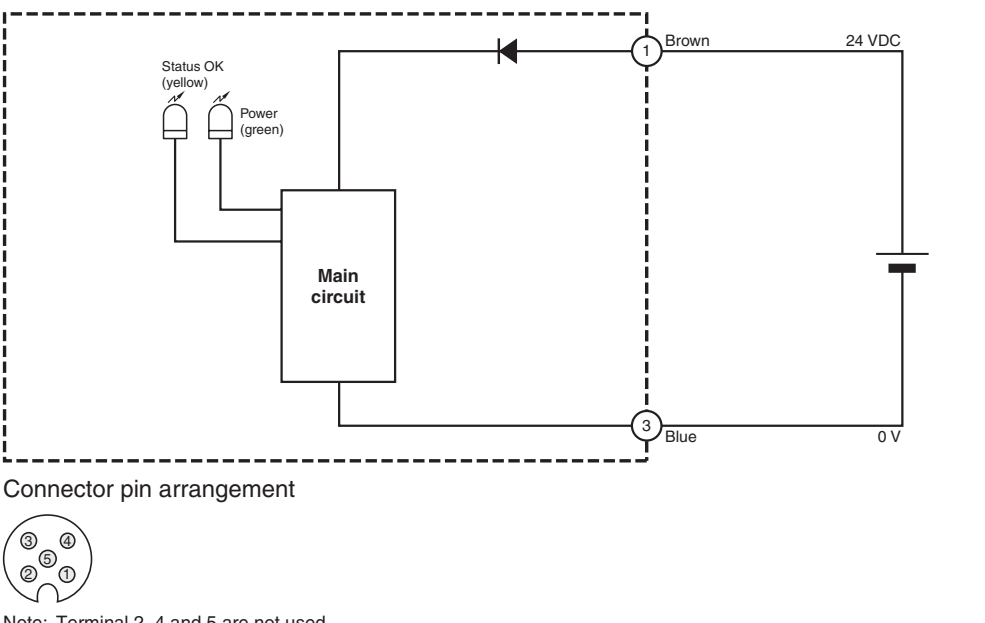
Rating/Specifications

Item	Through-beam	
	F3ET-005_	F3ET-018_
Sensing distance	0 to 3 m	0 to 15 m
Vertical detection area	0 to Max _M mm; Max _M : 150, 300, 600, 900, (2000) ¹	0 to Max _M mm; Max _M : 150, 300, 600, 900, 2100 ²
Minimum detectable object size	10 mm	30 mm
Pitch	5 mm	18 mm
Response time	t=5 ms + 0,18 x Channels ms	
Light source (wave length)	Infrared LED (950 nm)	
Power supply voltage	24 VDC ±10%	
Ambient temperature	0 to 50°C	
Degree of protection	IEC 60529 IP65	
Dimensions	35 x 45 x (55 + 1.06 x Max _M) mm	35 x 45 x (55 + 0.98 x Max _M) mm
Material	Aluminium	
Case		

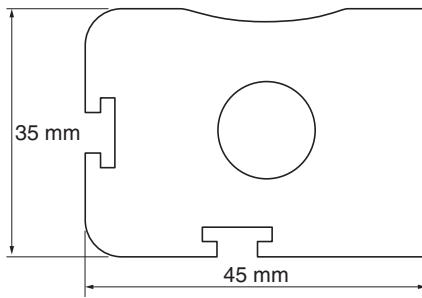
¹ Models with different detection ranges between 150 mm and 2000 mm are available in 50 mm intervals.

² Models with different detection ranges between 150 mm and 2100 mm are available in 150 mm intervals.

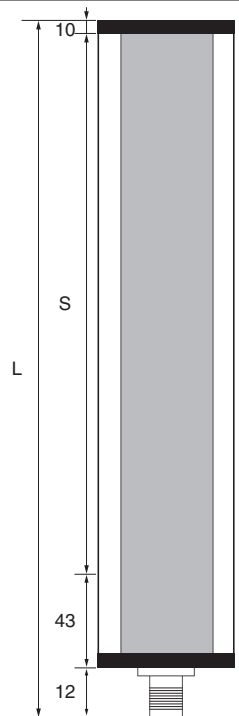
Output circuits

Type	Output circuit
Receiver PNP	 <p>Connector pin arrangement</p>
Receiver NPN	 <p>Connector pin arrangement</p>
Emitter	 <p>Connector pin arrangement</p> <p>Note: Terminal 2, 4 and 5 are not used</p>

Dimensions



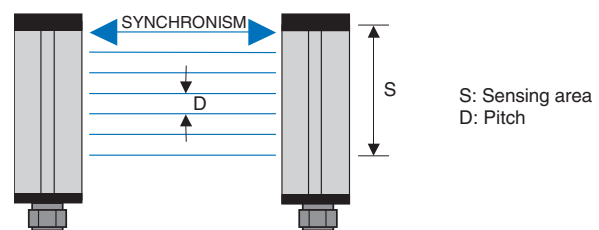
Item number	Sensing area S (mm)	Total length L (mm)
F3ET-005-150	159	225
F3ET-018-150	147	213
F3ET-005-300	318	384
F3ET-018-300	294	360
F3ET-005-600	636	702
F3ET-018-600	588	654
F3ET-005-900	954	1020
F3ET-018-900	882	948
F3ET-018-2100	2058	2124



Operation

The F3ET lightcurtain features optical synchronization. This function is provided by the upper beam located on the opposite side of the connector (see illustration below). During operation this beam must always be kept free. Otherwise it will result a loss of synchronism between the transmitter and receiver.

For applications where all beams are interrupted there are special models with synchronization by wire. Please contact your OMRON representative.



Indicator LEDs

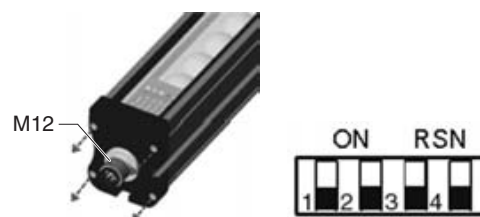
For functions of indicator LEDs please refer to the tables below:

	Name of indicator	Colour
	Power	Green
	Run ok	Yellow
	Out on	Green
	Out off	Red
Near/Far	Yellow	

	Name of indicator	Colour
	Power	Green
Run ok	Yellow	

Selector Switches

Operation mode and distance setting can be changed by selector switches. To access selector switches unscrew the end cap of the receiver unit:



Switch						
1	2	3	4			
Operation mode		not used	Distance setting (NEAR position recommended if distance is <1 m)	not used		
ON	Dark-ON				ON	NEAR
OFF	Light-ON (default)				OFF	FAR (default)

Note: Selector setting must only be carried out when the receiver is not connected to the power supply.

Mounting

Mechanical attachment and alignment

Standard Mounting Bracket (provided with the sensor)

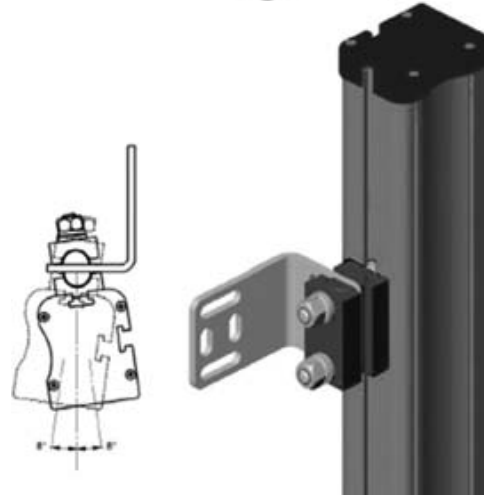
When the mounting bracket is attached to the surface, the mounting screws can be inserted into the mounting rail of the light curtain. This allows a vertical position adjustment.



Adjustable Mounting Bracket

Order separately under: F39-TGR-ST-ADJ

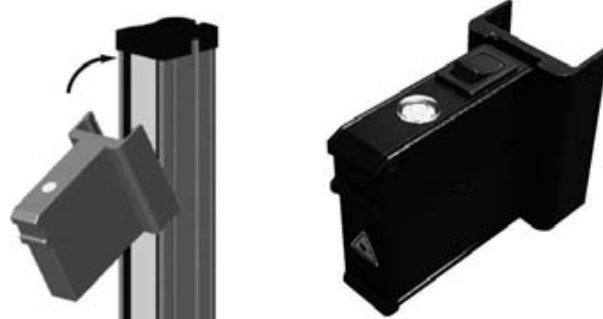
For adjustment of the optical axis angle, the adjustable mounting bracket allows a turning of the light curtain.



Laser Alignment




Order separately under: F39-TGR-LLK2-SB

The laser alignment kit can be snapped onto the light curtain and emits a high visibility laser beam for ensuring the optimal optical axis angle adjustment.



Cable connectors

For pin arrangement and connecting the wires refer to Output Circuits.

Size	Shape	Type	Features	Material		Order code	
				Nut	Cable		
M12		General purpose (screw)	5 wire	Brass (CuZn)	PVC 2M	XS2F-M12PVC5S2M	XS2F-M12PVC5A2M
					PUR 2M	XS2F-M12PUR5S2M	XS2F-M12PUR5A2M

Precautions

⚠ WARNING

The F3ET multi-beam photoelectric sensor is not a safety component for ensuring the safety of people which is defined in EC directive (2006/42/EC) or by any other regulations or standards.

Power Supply Voltage and Output Load Power Supply Voltage

Do not connect an AC power supply to the Sensor. If AC power (100 VAC or more) is supplied to the Sensor, it may explode or burn. Make sure that the power supply to the Sensor is within the rated voltage range. If a voltage exceeding the rated voltage range is supplied to the Sensor, it may explode or burn.

Operating Environment

Do not use the sensor in locations with explosive or flammable gas. Make sure that the product is operated in accordance with IP65 standards.

Do not subject the sensor to excessive shock when mounting.

When you use the sensor in the vicinity of an inverter motor, be sure to connect the protective earth ground wire of the motor to earth. Failure to ground the motor may result in malfunction of the sensor.

Mounting the Sensor

Do not strike the sensor with a hammer or any other tool during the installation of the Sensor.

Cleaning

Never use paint thinners or other organic solvents to clean the surface of the product

M12 Connector

Always turn OFF the power supply to the sensor before connecting or disconnecting the metal connector. Hold the connector cover to connect or disconnect it.

Secure the connector cover by hand. Do not use pliers; otherwise the connector may be damaged.

If the connector is not connected securely, it may be disconnected by vibration or the proper degree of protection of the sensor may not be maintained.

Cat. No. E63E-EN-01A

In the interest of product improvement, specifications are subject to change without notice.

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