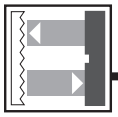
MLS7A Series
Heavy-Duty Retro-Reflective Sensors

- Heavy Duty
- Cast aluminium housing
- Side mount or flange mount



Retro-Reflective Mode

See page 530

Sensing Ranges: 3m

Outputs: NPN

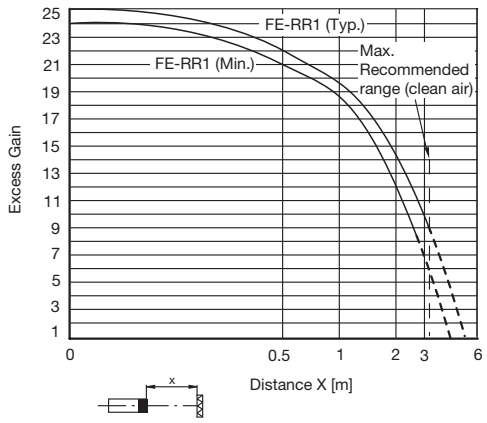
See pages 531-532 for MLS7A Series specifications, wiring and dimensions.

Retro-Reflective Mode

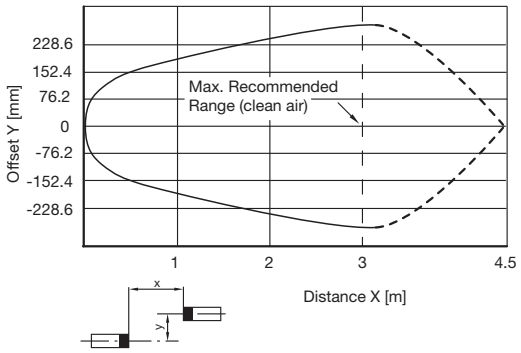
Specifications		
SENSING RANGE	**3m**	**3m**
SENSITIVITY ADJUSTMENT	No	No
POLARIZED FILTER	No	No
MODEL NUMBER(S)	**FE-MLS7A-1011**	**FE-MLS7A-2011**
OUTPUT: Transistor, Normally Open	1 NPN	1 NPN
	—	—
SUPPLY VOLTAGE	12-16VDC	12-16VDC
DIRECTIONAL MOUNTING	Side mount	Flange mount
ELECTRICAL CONNECTION	1-meter cable, PVC covered 3-conductor, #22AWG	1-meter cable, PVC covered 3-conductor, #22AWG
ADDITIONAL DATA	*See pages 531-532*	

Sensing Characteristics

Excess Gain vs. Sensing Range FE-MLS7A



Movement Characteristics FE-MLS7A



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Series Specifications

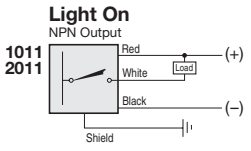
MLS7A Series Specifications

LOAD CURRENT			120mA max.
LEAKAGE CURRENT			≤10µA
VOLTAGE DROP			≤1.4VDC
SHORT CIRCUIT AND OVERLOAD PROTECTION			Yes
REVERSE POLARITY PROTECTION			Yes
LED(s)			Yes (1)
CURRENT CONSUMPTION			≤100mA
OPERATING MODE			Light on
RESPONSE TIME			≤8ms
READINESS DELAY			≤10ms
SWITCHING FREQUENCY			125Hz
ELECTROMAGNETIC COMPATIBILITY COMPLIANCE			NEMA ICS5-2000, See page 6
PROTECTION (IEC)			IP67
LIGHT SOURCE			Infrared LED
TEMPERATURE RANGE			-40°F to +158°F
HOUSING MATERIAL			Diecast aluminum
		LENS	Plastic
APPROVALS CE	UL LISTED	General Purpose	Yes
	CSA CERTIFIED	General Purpose	Yes

Wiring Diagrams

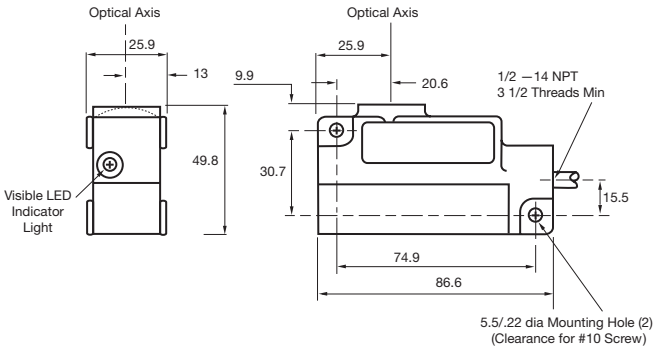
DC

Cable Connection

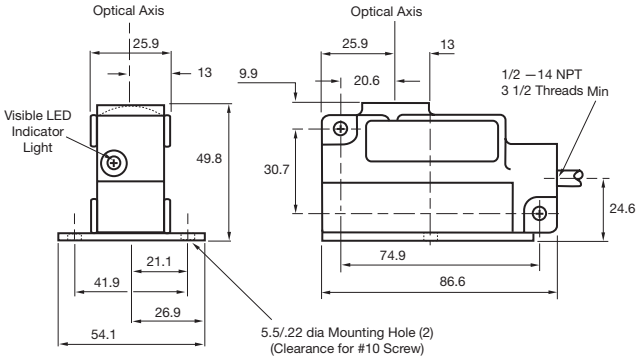


Dimensions (mm)

FE-MLS7A Side Mount Sensors



FE-MLS7A Flange Mount Sensors



See pages 825-836 additional accessories for photoelectric sensors

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PEPPERL+FUCHS

Photoelectric Sensors/Controls

MLS2B Series/MLS7A Series

Standard–Thru-scan AC and DC Input Controls

FEATURES

- **2500-foot thru scan range**
- Sealing: NEMA 1, 3, 4, 12 & 13
- UL-CSA listed
- False pulse, industrial noise, and line transients protection
- Sensitivity adjustment
- Built-in L.O.-D.O. mode switch
- Plug-in earphone alignment aid
- Plug-in 10 amp DPDT relay
- Optional mounting bracket
- Optional plug-in logic circuit cards
- Cast aluminum housing
- Supply voltage: 105 to 130 VAC or 210 to 260 VAC, 50/60 Hz
- Typical response time: 30 msec. On/Off
- Temperature range: –40° to 158°F (–40° to 70°C)
- Weight: 8 lbs. (3,6 kg)

ORDER GUIDE

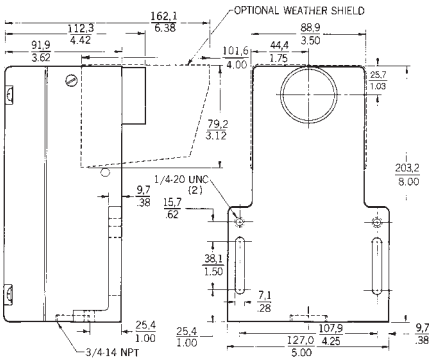
Description	Catalog Listing
Emitter — 115 VAC input	FE-MLS2EB-LR
Receiver — 115 VAC input	FE-MLS2RB-LR

Add suffix -T230 for the 230 VAC model of any of the above.

REPLACEMENT PARTS

Description	Catalog Listing
Relay, standard DPDT plug-in	FE-S2443
Earphone alignment aid	FE-EARPHONE
Lens holder (lens, lens housing, mounting nut) (for MLS2E A or B series)	FE-LH-MLS2E
Lens holder (lens, lens housing, mounting nut) (for MLS2R A or B series)	FE-LH-MLS2R

MOUNTING DIMENSIONS



Flange Mount

Side Mount

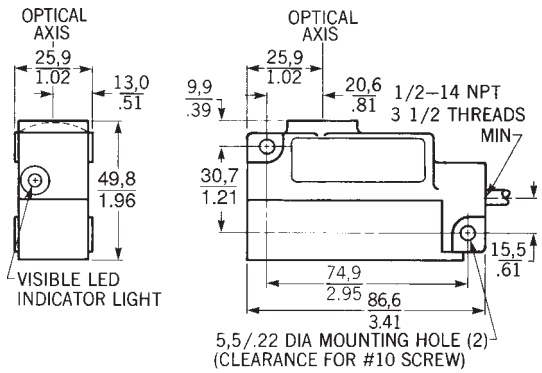
FEATURES

- 10-foot retroreflective scan range with FE-RR1 reflector
- 12 to 16 VDC operation
- Sealing: NEMA 1, 3, 4, 12 & 13*
- UL and CSA recognized
- Reverse polarity and short circuit protection
- Cast aluminum housing epoxy finish
- Prewired with 39 inches shielded 20 ga. cable
- Load current: 120 mA max., light operated (current sinking)
- Typical response time: 4 msec On/Off
- Temperature range: –40° to 158°F (–40° to 70°C)
- Weight 10.5 oz. (298 g)

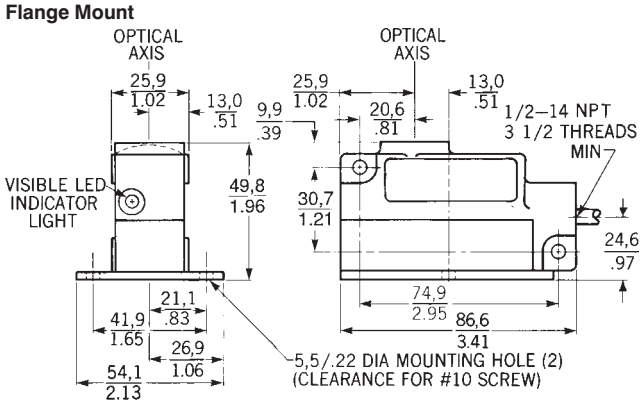
Description	Catalog Listing
12 VDC normally open (N.O.) light operated; side mount	**FE-MLS7A-1011**
12 VDC N.O. light operated; flange mount	FE-MLS7A-2011

MOUNTING DIMENSIONS (For reference only)

Side Mount



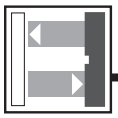
Flange Mount



FE-MLS8C/9C Series

Long Range AC Sensors

- Harsh-duty polycarbonate housing
- DPDT Relay
- Gun sight for easy mechanical alignment

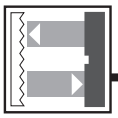


Diffused Mode

See page 534

Sensing Ranges: 2.7m

Outputs: Relay



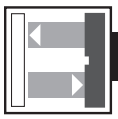
Retro-Reflective Mode

See page 534

Sensing Ranges: 12m

Outputs: Relay

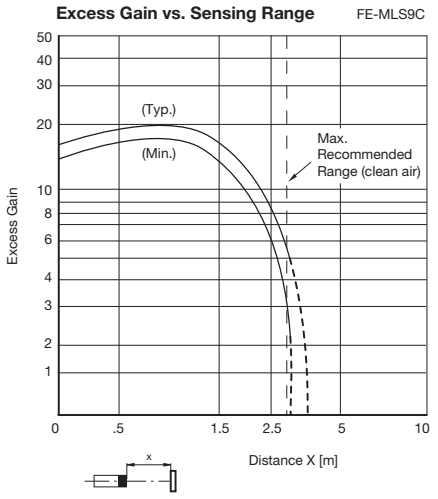
See pages 535-536 for FE-MLS8C/9C Series specifications, wiring and dimensions.

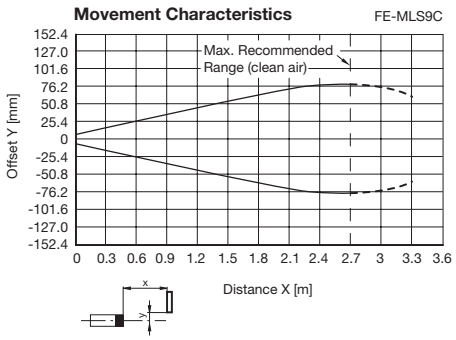


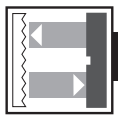
Diffused Mode

Specifications	
SENSING RANGE	2.7m
SENSITIVITY ADJUSTMENT	No
MODEL NUMBER(S)	FE-MLS9C
OUTPUT	DPDT relay
SUPPLY VOLTAGE	102-132VAC
RESPONSE TIME	≤30ms
SWITCHING FREQUENCY	16Hz
APPROVALS — UL LISTED, General Purpose	No
APPROVALS — CE	
APPROVALS — CSA CERTIFIED, General Purpose	No
ADDITIONAL DATA	*See pages 535-536*

Sensing Characteristics



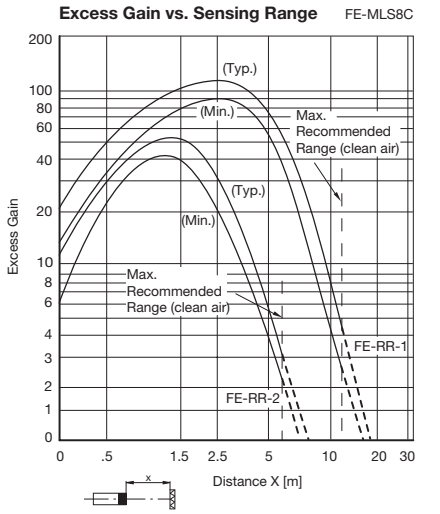


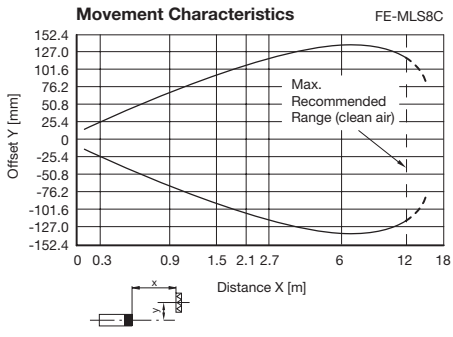


Retro-Reflective Mode

Specifications	
SENSING RANGE	12m
SENSITIVITY ADJUSTMENT	Yes
MODEL NUMBER(S)	FE-MLS8C
OUTPUT	DPDT relay
SUPPLY VOLTAGE	102-132VAC
RESPONSE TIME	≤20ms
SWITCHING FREQUENCY	25Hz
APPROVALS — UL LISTED, General Purpose	Yes
APPROVALS — CE	
APPROVALS — CSA CERTIFIED, General Purpose	Yes
ADDITIONAL DATA	*See pages 535-536*

Sensing Characteristics





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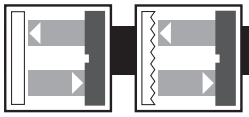
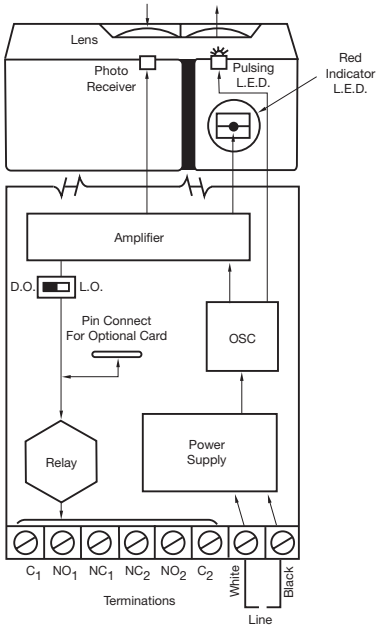


Series Specifications

MLS8C/9C Series Specifications

ELECTRICAL CONTACT RATING	115V/10A
LED(s)	Yes (1)
POWER CONSUMPTION	≤5VA
MECHANICAL LIFE OF RELAY	500,000 operations
OPERATING MODE	Light on/dark on
ELECTROMAGNETIC COMPATIBILITY COMPLIANCE	NEMA ICS5-2000 See page 6
PROTECTION (IEC)	IP67
LIGHT SOURCE	Infrared LED
TEMPERATURE RANGE	-40°F to +158°F
HOUSING MATERIAL	Glass reinforced polycarbonate
LENS	Plastic
ELECTRICAL CONNECTION	 Terminal connection

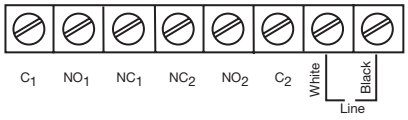
FE-MLS8C and FE-MLS9C Functional Block Diagram



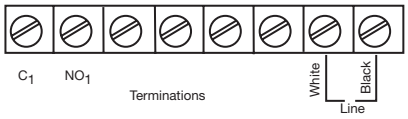
FE-MLS8C Wiring and Alignment

1. Remove the rear housing cover.

2a. Connect the load and load supply (common) to selected terminals. Standard relay connections shown below.



2b. Solid state relay connections shown below.



3. Connect AC power (through the conduit opening) to the “LINE” terminals. The white and black input wires must be connected to the proper terminals. See the control nameplate for correct line volage.

4. Set the mode selector switch to the light operate (L.O.) position.

5. Apply power. The alignment indicator light visible at the top of the control will remain OFF with no reflector present.

6. Position the reflector opposite the lens. The indicator will turn On when control and reflector are in alignment.

7. Center the reflector in the beam (by watching the indicator as the reflector is moved up, down, left and right). Use adhesive or a #8 screw (for the 3-inch disc) to mount the reflector.

8. Block the invisible beam with the object to be detected. When the beam is blocked, the indicator will be Off.

9. Fully tighten the mounting bolts, and again block the beam to recheck alignment.

10. If direct On-Off dark operation is desired (relay energized when the beam is blocked), move the mode selector switch to the dark operate (D.O.) position.

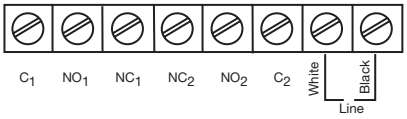
11. Insert optional function card firmly (if used) and adjust pots as required.

12. Replace cover and tighten both screws.

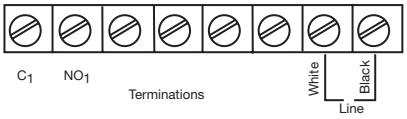
FE-MLS9C Wiring and Alignment

1. Remove the rear housing cover.

2a. Connect the load and load supply (common) to selected terminals. Standard relay connections shown below.



2b. Solid state relay connections shown below.



3. Connect AC power (through the conduit opening) to the “LINE” terminals. The white and black input wires must be connected to the proper terminals. See the control nameplate for correct line volage.

4. Set the mode selector switch to the light operate (L.O.) position.

5. Apply power. The alignment indicator light visible at the top of the control will remain OFF with no reflector present.

6. Position the reflector opposite the lens. The indicator will turn On when control and reflector are in alignment.

7. Center the reflector in the beam (by watching the indicator as the reflector is moved up, down, left and right). Use adhesive or a #8 screw (for the 3-inch disc) to mount the reflector.

8. Block the invisible beam with the object to be detected. When the beam is blocked, the indicator will be Off.

9. Fully tighten the mounting bolts, and again block the beam to recheck alignment.

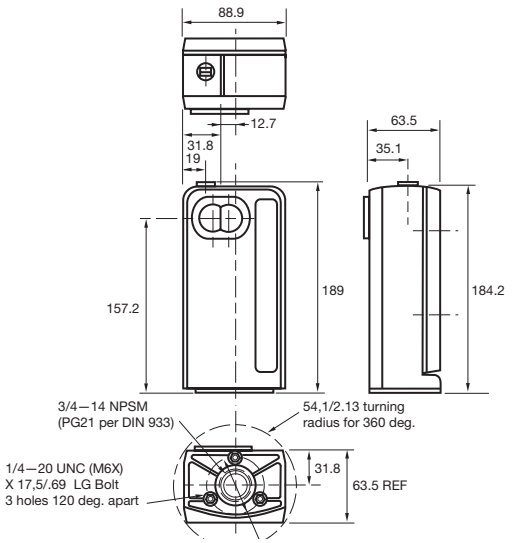
10. If direct On-Off dark operation is desired (relay energized when the beam is blocked), move the mode selector switch to the dark operate (D.O.) position.

11. Insert optional function card firmly (if used) and adjust pots as required.

12. Replace cover and tighten both screws.

Dimensions (mm)

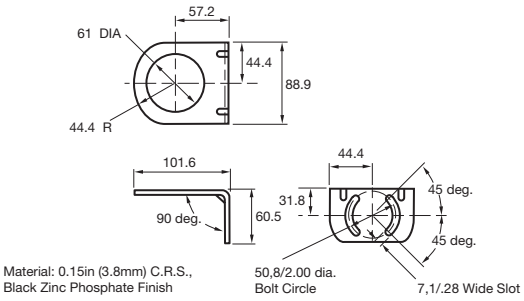
FE-MLS8C and FE-MLS9C Sensors



Accessories

(Dimensions in mm)

Mounting Bracket Model FE-MB8



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