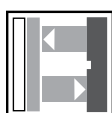




ML7 Series Miniature Sensors

- IP69K rated for high-pressure washdown
- Ecolab certified
- Horizontal and vertical mounting
- Vertical housings have LED visible through lens



Diffuse Mode with Background Suppression

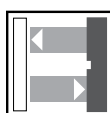
See pages 464-465

Features:

- Precision sensing range cut-off
- Consistent detection of light and dark objects
- Cross-talk immunity

Sensing Ranges: 140 mm, 350 mm

Output: 4-in-1



Diffuse Mode

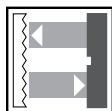
See page 466

Features:

- Simple one pushbutton programming
- Cross-talk immunity

Sensing Range: 200 mm

Outputs: NPN, PNP



Retro-Reflective Mode

See pages 467-468

Features:

- Simple one pushbutton programming
- Polarization filter detects shiny objects
- Cross-talk immunity

Sensing Range: 2.5 m

Outputs: NPN, PNP



Retro-Reflective Mode for Clear Object Detection

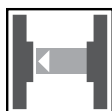
See page 469

Features:

- Automatic teach to three types of clear objects
- Cross-talk immunity

Sensing Ranges: 3.5 m

Output: 4-in-1



Thru-Beam Mode

See page 470

Features:

- Simple one pushbutton programming
- Visible red light source

Sensing Range: 3.5 m

Outputs: NPN, PNP



4 output options from 1 sensor:
NPN normally open, NPN normally closed, PNP normally open, or PNP normally closed

See pages 471-476 for ML7 Series specifications, wiring and dimensions.



Diffuse Mode with Background Suppression

Specifications

SENSING RANGE	4-140 mm (IR) 5-140 mm (RT)	4-140 mm (IR) 5-140 mm (RT)	4-140 mm (IR) 5-140 mm (RT)
SENSITIVITY ADJUSTMENT	Yes (Potentiometer)	Yes (Potentiometer)	Yes (Potentiometer)
REFERENCE TARGET	100 x 100 mm white test card	100 x 100 mm white test card	100 x 100 mm white test card
BLACK/WHITE DIFFERENTIAL*	< 6% (IR), < 10% (RT)	< 6% (IR), < 10% (RT)	< 6% (IR), < 10% (RT)
MODEL NUMBER(S)	ML7-8-H-140-IR/59/65a/115/136 ML7-8-H-140-RT/59/65a/115/136 •	ML7-8-H-140-IR/59/65a/136/143 ML7-8-H-140-RT/59/65a/136/143 ⚡	ML7-8-H-140-IR/59/65a/115b/136 ML7-8-H-140-RT/59/65a/115b/136 ⚡
OUTPUT	/136 4-in-1†	4-in-1†	4-in-1†
VOLTAGE DROP	≤ 2.5 VDC	≤ 2.5 VDC	≤ 2.5 VDC
SUPPLY VOLTAGE	10-30 VDC	10-30 VDC	10-30 VDC
CURRENT CONSUMPTION	< 20 mA	< 20 mA	< 20 mA
OPERATING MODE	Light on/dark on	Light on/dark on	Light on/dark on
RESPONSE TIME	≤ 0.5 ms	≤ 0.5 ms	≤ 0.5 ms
SWITCHING FREQUENCY	1 kHz	1 kHz	1 kHz
LIGHT SPOT DIAMETER	≈ 5 mm at a range of 120 mm	≈ 5 mm at a range of 120 mm	≈ 5 mm at a range of 120 mm
LIGHT SOURCE	-IR Infrared LED -RT Visible red LED	Infrared LED Visible red LED	Infrared LED Visible red LED
AMBIENT LIGHT RESISTANCE	≤ 50,000 lux	≤ 50,000 lux	≤ 50,000 lux
WEIGHT	1.8 oz	0.4 oz	0.9 oz
ELECTRICAL CONNECTION	2-meter cable, PVC covered 4-conductor, #26 AWG	Quick disconnect type V31, integral	200 mm pigtail, PUR covered, quick disconnect type V1
ADDITIONAL DATA	See pages 471-476		

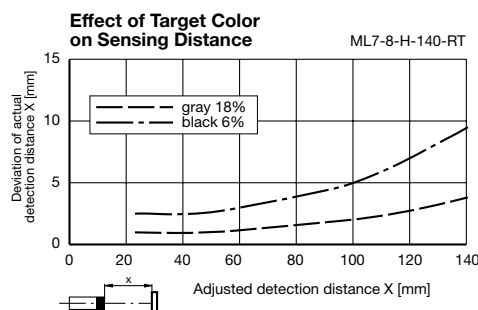
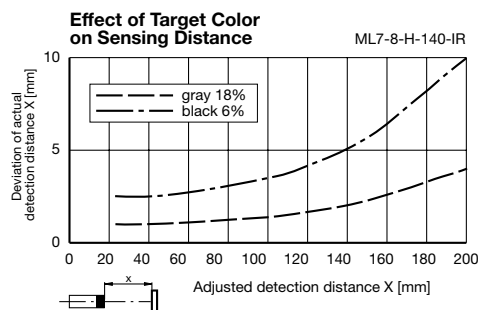
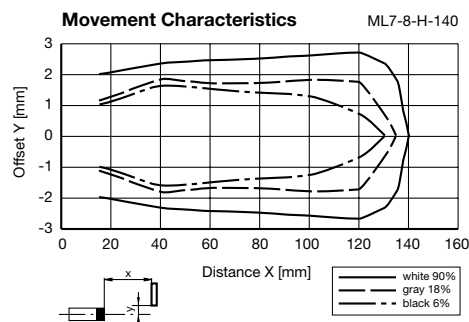
*Difference in sensing range between 90% white test card and 6% black test card.

†NPN normally open, NPN normally closed, PNP normally open, or PNP normally closed

⚡ Stocked item

• Typical delivery 4 weeks or less
Consult factory for all other models

Sensing Characteristics





Diffuse Mode with Background Suppression

Specifications

SENSING RANGE	5-350 mm
SENSITIVITY ADJUSTMENT	Yes (Potentiometer)
REFERENCE TARGET	100 x 100 mm white test card
BLACK/WHITE DIFFERENTIAL*	< 17%
MODEL NUMBER(S)	ML7-8-H-350-IR/59/65a/136/143 •
OUTPUT	4-in-1†
VOLTAGE DROP	≤ 2.5 VDC
SUPPLY VOLTAGE	10-30 VDC
CURRENT CONSUMPTION	< 20 mA
OPERATING MODE	Light on/dark on
RESPONSE TIME	≤ 2 ms
SWITCHING FREQUENCY	250 Hz
LIGHT SPOT DIAMETER	≈ 15 mm at a range of 350 mm
LIGHT SOURCE	Infrared LED
AMBIENT LIGHT RESISTANCE	≤ 50,000 lux
WEIGHT	0.4 oz
ELECTRICAL CONNECTION	Quick disconnect type V31, integral
ADDITIONAL DATA	See pages 471-476

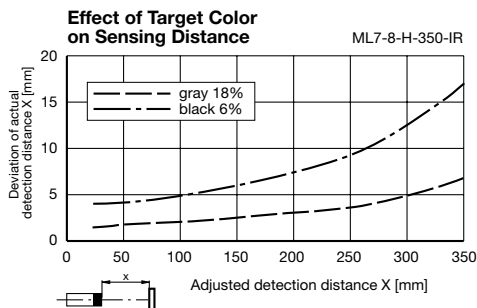
*Difference in sensing range between 90% white test card and 6% black test card.

†NPN normally open, NPN normally closed, PNP normally open, or PNP normally closed

⚡ Stocked item

- Typical delivery 4 weeks or less
Consult factory for all other models

Sensing Characteristics





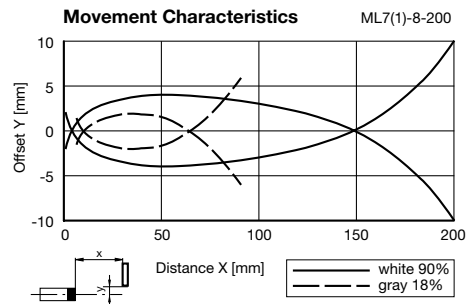
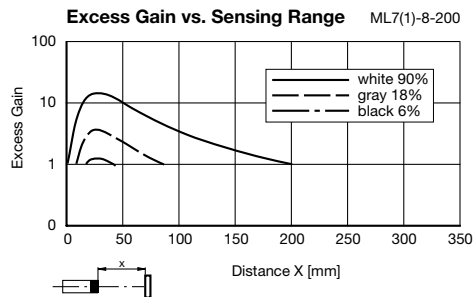
Diffuse Mode

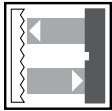
Specifications

SENSING RANGE	20-200 mm	20-200 mm	20-200 mm	20-200 mm
SENSITIVITY ADJUSTMENT	Yes (60-200 mm)	Yes (60-200 mm)	Yes (60-200 mm)	Yes (60-200 mm)
DIRECTIONAL MOUNTING	Vertical	Vertical	Horizontal	Horizontal
MODEL NUMBER(S)	ML7-8-200/25/102/115 ⚡	ML7-8-200/25/102/143	ML71-8-200/25/102/115 ⚡	ML71-8-200/25/102/143
	ML7-8-200/25/103/115	ML7-8-200/25/103/143 •	ML71-8-200/25/103/115	ML71-8-200/25/103/143
	ML7-8-200/59/102/115 ⚡	—	ML71-8-200/59/102/115	—
	ML7-8-200/59/103/115	—	—	—
OUTPUT: Transistor, Normally Open or Normally Closed	/102	1 NPN	1 NPN	1 NPN
	/103	1 PNP	1 PNP	1 PNP
VOLTAGE DROP	≤ 1.5 VDC	≤ 1.5 VDC	≤ 1.5 VDC	≤ 1.5 VDC
SUPPLY VOLTAGE	10-30 VDC	10-30 VDC	10-30 VDC	10-30 VDC
CURRENT CONSUMPTION	< 20 mA	< 20 mA	< 20 mA	< 20 mA
OPERATING MODE	/25	Light on	Light on	Light on
	/59	Dark on	—	—
RESPONSE TIME	≤ 0.5 ms	≤ 0.5 ms	≤ 0.5 ms	≤ 0.5 ms
SWITCHING FREQUENCY	1 kHz	1 kHz	1 kHz	1 kHz
LIGHT SPOT DIAMETER	≈ 15 mm at a range of 200 mm	≈ 15 mm at a range of 200 mm	≈ 15 mm at a range of 200 mm	≈ 15 mm at a range of 200 mm
LIGHT SOURCE	Visible red LED	Visible red LED	Visible red LED	Visible red LED
AMBIENT LIGHT RESISTANCE	≤ 40,000 lux	≤ 40,000 lux	≤ 40,000 lux	≤ 40,000 lux
WEIGHT	1.8 oz	0.4 oz	1.8 oz	0.4 oz
ELECTRICAL CONNECTION	2-meter cable, PVC covered 4-conductor, #26 AWG	Quick disconnect type V31	2-meter cable, PVC covered 4-conductor, #26 AWG	Quick disconnect type V31
ADDITIONAL DATA	See pages 471-476			

- ⚡ Stocked item
- Typical delivery 4 weeks or less
Consult factory for all other models

Sensing Characteristics





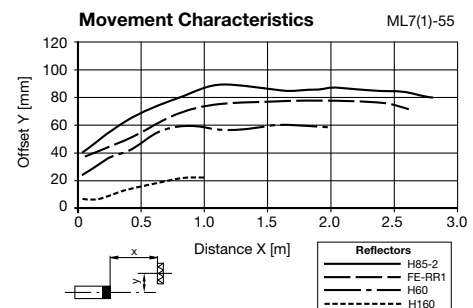
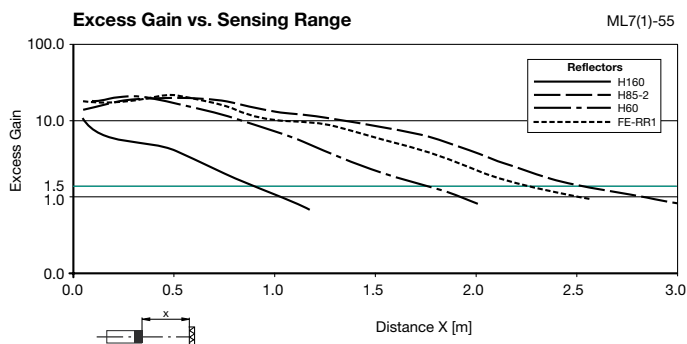
Retro-Reflective Mode

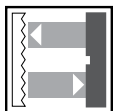
Specifications

SENSING RANGE	0-2.5 m	0-2.5 m	0-2.5 m	0-2.5 m
SENSITIVITY ADJUSTMENT	Yes	Yes	Yes	Yes
DIRECTIONAL MOUNTING	Vertical	Vertical	Horizontal	Horizontal
REFLECTOR DISTANCE	30 mm-2.5 m	30 mm-2.5 m	30 mm-2.5 m	30 mm-2.5 m
POLARIZED FILTER	Yes	Yes	Yes	Yes
MODEL NUMBER(S)	ML7-55/25/102/115	—	—	—
	—	—	—	—
	ML7-55/59/102/115 •	ML7-55/59/102/143	ML71-55/59/102/115	ML71-55/59/102/143
	ML7-55/59/103/115	ML7-55/59/103/143 •	ML71-55/59/103/115	ML71-55/59/103/143
OUTPUT: Transistor, Normally Open or Normally Closed	/102	1 NPN	1 NPN	1 NPN
	/103	1 PNP	1 PNP	1 PNP
VOLTAGE DROP	≤ 1.5 VDC	≤ 1.5 VDC	≤ 1.5 VDC	≤ 1.5 VDC
SUPPLY VOLTAGE	10-30 VDC	10-30 VDC	10-30 VDC	10-30 VDC
CURRENT CONSUMPTION	< 20 mA	< 20 mA	< 20 mA	< 20 mA
OPERATING MODE	/25	Light on	—	—
	/59	Dark on	Dark on	Dark on
RESPONSE TIME	≤ 0.5 ms	≤ 0.5 ms	≤ 0.5 ms	≤ 0.5 ms
SWITCHING FREQUENCY	1 kHz	1 kHz	1 kHz	1 kHz
LIGHT SPOT DIAMETER	≈ 180 mm at a range of 2.5 m	≈ 180 mm at a range of 2.5 m	≈ 180 mm at a range of 2.5 m	≈ 180 mm at a range of 2.5 m
LIGHT SOURCE	Visible red LED	Visible red LED	Visible red LED	Visible red LED
AMBIENT LIGHT RESISTANCE	≤ 40,000 lux	≤ 40,000 lux	≤ 40,000 lux	≤ 40,000 lux
WEIGHT	1.8 oz	0.4 oz	1.8 oz	0.4 oz
ELECTRICAL CONNECTION	2-meter cable, PVC covered 4-conductor, #26 AWG	Quick disconnect type V31	2-meter cable, PVC covered 4-conductor, #26 AWG	Quick disconnect type V31
ADDITIONAL DATA	See pages 471-476			

- ⚡ Stocked item
 - Typical delivery 4 weeks or less
- Consult factory for all other models

Sensing Characteristics





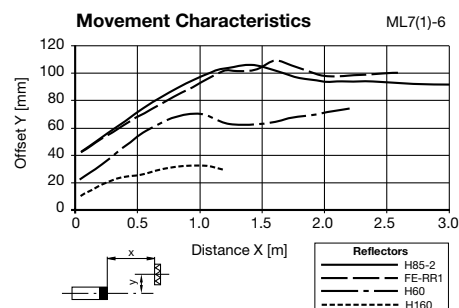
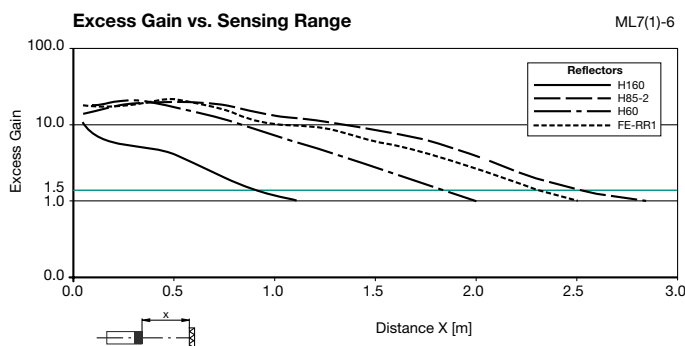
Retro-Reflective Mode

Specifications

SENSING RANGE	0-2.5 m	0-2.5 m	0-2.5 m	0-2.5 m
SENSITIVITY ADJUSTMENT	Yes	Yes	Yes	Yes
DIRECTIONAL MOUNTING	Vertical	Vertical	Horizontal	Horizontal
REFLECTOR DISTANCE	20 mm-2.5 m	20 mm-2.5 m	20 mm-2.5 m	20 mm-2.5 m
POLARIZED FILTER	No	No	No	No
MODEL NUMBER(S)	ML7-6/25/102/115	—	—	—
	—	—	—	—
	ML7-6/59/102/115 ⚡	ML7-6/59/102/143	ML71-6/59/102/115	ML71-6/59/102/143
	ML7-6/59/103/115	ML7-6/59/103/143	ML71-6/59/103/115	ML71-6/59/103/143
OUTPUT: Transistor, Normally Open or Normally Closed	/102 1 NPN	1 NPN	1 NPN	1 NPN
	/103 1 PNP	1 PNP	1 PNP	1 PNP
VOLTAGE DROP	≤ 1.5 VDC	≤ 1.5 VDC	≤ 1.5 VDC	≤ 1.5 VDC
SUPPLY VOLTAGE	10-30 VDC	10-30 VDC	10-30 VDC	10-30 VDC
CURRENT CONSUMPTION	< 20 mA	< 20 mA	< 20 mA	< 20 mA
OPERATING MODE	/25 Light on	—	—	—
	/59 Dark on	Dark on	Dark on	Dark on
RESPONSE TIME	≤ 0.5 ms	≤ 0.5 ms	≤ 0.5 ms	≤ 0.5 ms
SWITCHING FREQUENCY	1 kHz	1 kHz	1 kHz	1 kHz
LIGHT SPOT DIAMETER	≈ 180 mm at a range of 2.5 m	≈ 180 mm at a range of 2.5 m	≈ 180 mm at a range of 2.5 m	≈ 180 mm at a range of 2.5 m
LIGHT SOURCE	Visible red LED	Visible red LED	Visible red LED	Visible red LED
AMBIENT LIGHT RESISTANCE	≤ 40,000 lux	≤ 40,000 lux	≤ 40,000 lux	≤ 40,000 lux
WEIGHT	1.8 oz	0.4 oz	1.8 oz	0.4 oz
ELECTRICAL CONNECTION	2-meter cable, PVC covered 4-conductor, #26 AWG	Quick disconnect type V31	2-meter cable, PVC covered 4-conductor, #26 AWG	Quick disconnect type V31
ADDITIONAL DATA	See pages 471-476			

- ⚡ Stocked item
- Typical delivery 4 weeks or less
Consult factory for all other models




Sensing Characteristics





Retro-Reflective Mode for Clear Object Detection

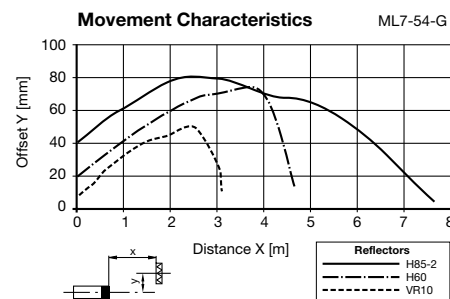
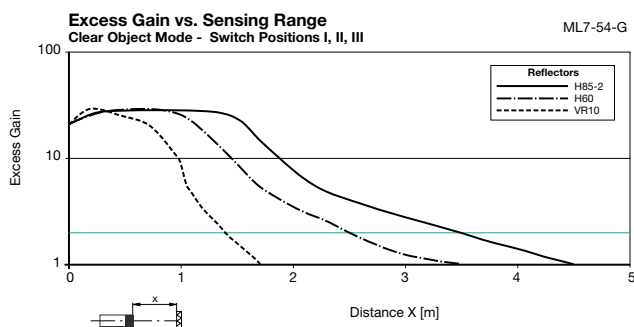
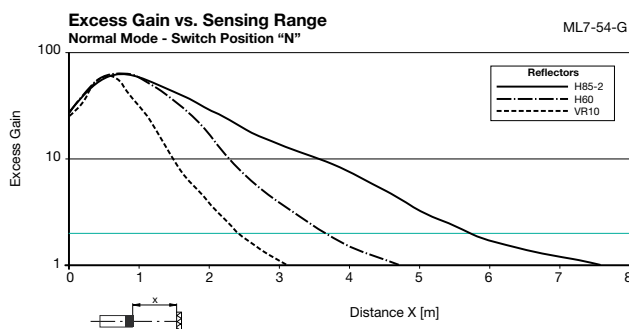
Specifications

CLEAR OBJECT MODE SENSING RANGE	0-3.5 m	0-3.5 m	0-3.5 m
NORMAL MODE SENSING RANGE	0-5.7 m	0-5.7 m	0-5.7 m
SENSITIVITY ADJUSTMENT	Yes (5-position potentiometer)	Yes (5-position potentiometer)	Yes (5-position potentiometer)
POLARIZED FILTER	Yes	Yes	Yes
MODEL NUMBER(S)	ML7-54-G/25/136/115 •	ML7-54-G/25/136/143 •	ML7-54-G/25/136/115b
OUTPUT	4-in-1* /136	4-in-1*	4-in-1*
VOLTAGE DROP	≤ 2.5 VDC	≤ 2.5 VDC	≤ 2.5 VDC
SUPPLY VOLTAGE	10-30 VDC	10-30 VDC	10-30 VDC
CURRENT CONSUMPTION	< 20 mA @ 24 VDC	< 20 mA @ 24 VDC	< 20 mA @ 24 VDC
OPERATING MODE	Light on/dark on	Light on/dark on	Light on/dark on
RESPONSE TIME	≤ 0.5 ms	≤ 0.5 ms	≤ 0.5 ms
SWITCHING FREQUENCY	1 kHz	1 kHz	1 kHz
LIGHT SPOT DIAMETER	≈ 40 mm at a range of 1 m	≈ 40 mm at a range of 1 m	≈ 40 mm at a range of 1 m
LIGHT SOURCE	Visible red LED 660 nm	Visible red LED 660 nm	Visible red LED 660 nm
AMBIENT LIGHT RESISTANCE	≤ 40,000 lux	≤ 40,000 lux	≤ 40,000 lux
WEIGHT	1.8 oz	0.4 oz	0.9 oz
ELECTRICAL CONNECTION	 2-meter cable, PVC covered, 4-conductor, #26 AWG	 Quick disconnect type V31, integral	 200 mm pigtail, PUR covered, quick disconnect type V1
ADDITIONAL DATA	See pages 471-476		

*NPN normally open, NPN normally closed, PNP normally open, or PNP normally closed

- ⚡ Stocked item
 - Typical delivery 4 weeks or less
- Consult factory for all other models

Sensing Characteristics



Subject to modifications without notice

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SENSING YOUR NEEDS



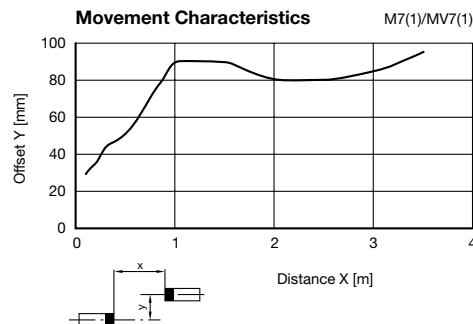
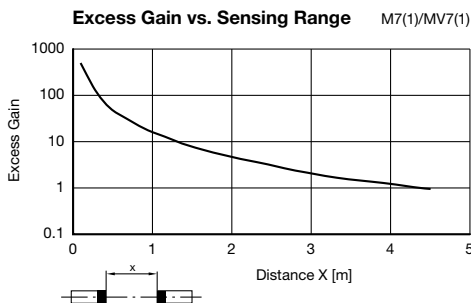
Thru-Beam Mode

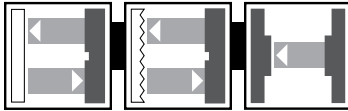
Specifications

SENSING RANGE		0-3.5m	0-3.5m	0-3.5m	0-3.5m
SENSITIVITY ADJUSTMENT		Yes	Yes	Yes	Yes
DIRECTIONAL MOUNTING		Vertical	Vertical	Horizontal	Horizontal
MODEL NUMBER(S)	Transmitter	M7/76a/115 •	M7/76a/143 •	M71/76a/115	M71/76a/143
	Receiver	MV7/59/102/115 •	MV7/59/102/126b/143 •	MV71/59/102/115	MV71/59/102/126b/143
		MV7/59/82b/103/115	MV7/59/82b/103/143	MV71/59/82b/103/115	MV71/59/82b/103/143
OUTPUT: Transistor, Normally Open or Normally Closed	/102	1 NPN	—	1 NPN	—
	/102/126b	—	NPN with NPN weak signal output	—	NPN with NPN weak signal output
	/82b/103	PNP with PNP weak signal output	PNP with PNP weak signal output	PNP with PNP weak signal output	PNP with PNP weak signal output
VOLTAGE DROP		≤ 1.5 VDC	≤ 1.5 VDC	≤ 1.5 VDC	≤ 1.5 VDC
SUPPLY VOLTAGE		10-30 VDC	10-30 VDC	10-30 VDC	10-30 VDC
CURRENT CONSUMPTION		≤ 17 mA transmitter, ≤ 15 mA receiver	≤ 17 mA transmitter, ≤ 15 mA receiver	≤ 17 mA transmitter, ≤ 15 mA receiver	≤ 17 mA transmitter, ≤ 15 mA receiver
OPERATING MODE		Dark on	Dark on	Dark on	Dark on
RESPONSE TIME		≤ 0.5 ms	≤ 0.5 ms	≤ 0.5 ms	≤ 0.5 ms
SWITCHING FREQUENCY		1 kHz	1 kHz	1 kHz	1 kHz
LIGHT SPOT DIAMETER		≈ 240 mm at a range of 3.5 m (7 mm minimum target size)	≈ 240 mm at a range of 3.5 m (7 mm minimum target size)	≈ 240 mm at a range of 3.5 m (7 mm minimum target size)	≈ 240 mm at a range of 3.5 m (7 mm minimum target size)
LIGHT SOURCE		Visible red LED	Visible red LED	Visible red LED	Visible red LED
AMBIENT LIGHT RESISTANCE		≤ 40,000 lux	≤ 40,000 lux	≤ 40,000 lux	≤ 40,000 lux
WEIGHT		1.8 oz	0.4 oz	1.8 oz	0.4 oz
ELECTRICAL CONNECTION		2-meter cable, PVC covered 4-conductor, #26 AWG	Quick disconnect type V31	2-meter cable, PVC covered 4-conductor, #26 AWG	Quick disconnect type V31
ADDITIONAL DATA		See pages 471-476			

- ⚡ Stocked item
 - Typical delivery 4 weeks or less
- Consult factory for all other models

Sensing Characteristics





Series Specifications

ML7 Series Specifications

LOAD CURRENT	100 mA max.
SHORT CIRCUIT AND OVERLOAD PROTECTION	Yes
REVERSE POLARITY PROTECTION	Yes
VOLTAGE RIPPLE	10%
LED(s)	Yes (2)*
STANDARDS	EN 60947-5-2
PROTECTION (IEC)	IP67, IP69K
TEMPERATURE RANGE	<i>WORKING</i> -4 °F to +140 °F <i>STORAGE</i> -40 °F to +167 °F
HOUSING MATERIAL	PC (fiber-reinforced Makrolon)
LENS	PMMA
APPROVALS	CE cULus

*See dimensional drawings for LED functions.

4-in-1 Output

The 4-in-1 technology offers a normally open or normally closed output, which automatically detect their connected loads and either sink current (NPN output) or source current (PNP output). A single sensor with a 4-in-1 output can operate in four output configurations, either NPN Light On, NPN Dark On, PNP Light On, or PNP Dark On.

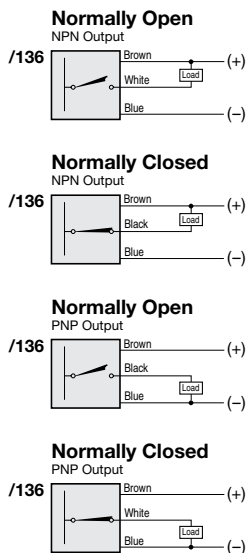


Wiring Diagrams

DC



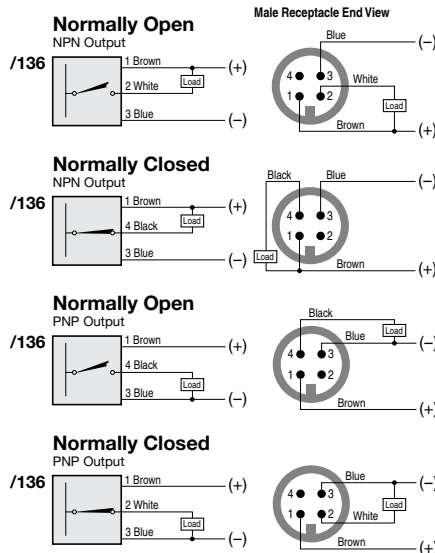
Cable Connection



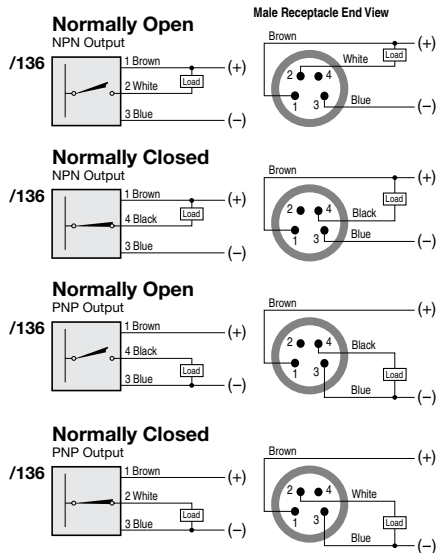
Quick Disconnect

Note: Wiring diagrams show quick disconnect pin numbers.

V1 Type



V31 Type



Wiring diagrams continued on next page

Wiring Diagrams

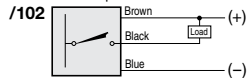
DC



Cable Connection

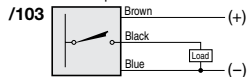
**Light On (/25)
Dark On (/59)**

NPN Output



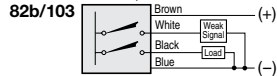
**Light On (/25)
Dark On (/59)**

PNP Output



Dark On

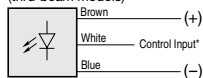
NPN Output



PIN 2: Weak Signal Output inactive for weak signal

Transmitter

(thru-beam models)



***Control Input:** transmitter inactive when 10-30 VDC applied



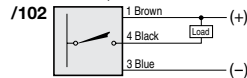
Quick Disconnect

Note: Wiring diagrams show quick disconnect pin numbers.

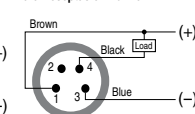
V31 Type

**Light On (/25)
Dark On (/59)**

NPN Output

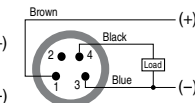
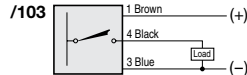


Male Receptacle End View



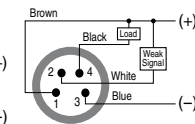
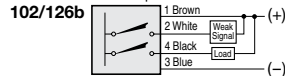
**Light On (/25)
Dark On (/59)**

PNP Output



Dark On

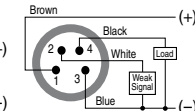
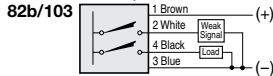
NPN Output



PIN 2: Weak Signal Output inactive for weak signal

Dark On

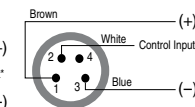
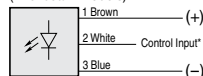
NPN Output



PIN 2: Weak Signal Output inactive for weak signal

Transmitter

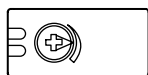
(thru-beam models)



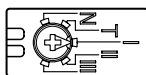
***Control Input:** transmitter inactive when 10-30 VDC applied

ML7 Series Sensitivity Adjustment

ML7 photoelectric sensors are available with three different configurations for sensitivity adjustment. The first type is for the ML7-8-H background suppression models, the second is for the ML7-54-G retro-reflective mode for clear object detection, and the third is for all other ML7 types.



Configuration 1
(ML7-8-H)



Configuration 2
(ML7-54-G)



Configuration 3
(ML7(1)-8-200, ML7(1)-55,
ML7(1)-6, MV7(1))

ML7-8-H (Background Suppression Mode) Adjustment

The adjustment for the ML7-8-H models includes a single potentiometer for sensitivity adjustment. The multi-turn potentiometer can be turned toward the larger end of the marked swirl to increase the sensing range or toward the shorter end of the swirl to decrease the sensing range. Light on / dark on mode is determined by the wiring.

ML7-54-G (Retro-reflective Mode for Clear Object) Adjustment

The adjustment for the ML7-54-G also includes one potentiometer, but with five settings: N, T, I, II, and III. Light on / dark on mode is determined by the wiring.

To program:

1. Align the powered ML7-54-G to its reflector with the potentiometer in its default setting at "N". Both the green and yellow LEDs should be on solid which indicates that the sensor sees the reflector with sufficient excess gain. If the green LED is on and the yellow LED flashes (4Hz), then the reflector is not seen with enough excess gain and should be re-aligned and/or moved closer. The sensor can detect opaque targets in this normal mode.
2. Turn the potentiometer from N to T and wait approximately 2 seconds until the yellow and green LEDs flash (2.5 Hz).
3. Turn the potentiometer to either I, II, or III depending on the contrast desired. (Refer to "Modes Selected by Potentiometer" chart.)

The green LED will turn off then on again for less than a second to signify when the potentiometer position has been changed. The potentiometer can be turned in either direction, and its pointer must be within the printed arc of the desired setting.

After a successful teach, settings will be stored even if power to the sensor is disconnected. Detection of low-contrast transparent objects is affected by excessive lens contamination.

LED Diagnostics

Green LED	Yellow LED	Indicates
ON solid	—	Power ON
Flashing (0.8Hz)	OFF	Under-voltage
Flashing (4Hz)	OFF	Short-circuited output
Flashing (2.5Hz)	Flashing (2.5Hz)	Teach mode initiated
Flashing (8Hz)	Flashing (8Hz)	Teach not successful
ON solid	Flashing (4Hz)	Marginal excess gain
ON solid	ON solid	Light is received

Modes Selected by Potentiometer

Position	Mode
N	Normal mode – for detection of opaque objects
T	Teach mode
I	10% contrast (most transparent targets, such as clear PET bottles with water)
II	18% contrast (clear glass bottles)
III	40% contrast (least transparent, or more opaque, targets, such as colored glass)

ML7(1)-8-200, ML7(1)-55, ML7(1)-6, and MV7(1) Adjustment

1. With the sensor connected to the specified supply voltage, aim the sensor's light beam at the target for diffuse mode, at the reflector for retro-reflective mode, or align the transmitter and receiver for thru-beam mode.
2. Press the teach button once. The green LED will turn off and on again to acknowledge this step.
3. Press and hold the teach button until the green and yellow LEDs blink simultaneously (2 Hz frequency). The green and yellow LEDs will then blink alternately (2 Hz frequency) to indicate an internal set-up procedure.

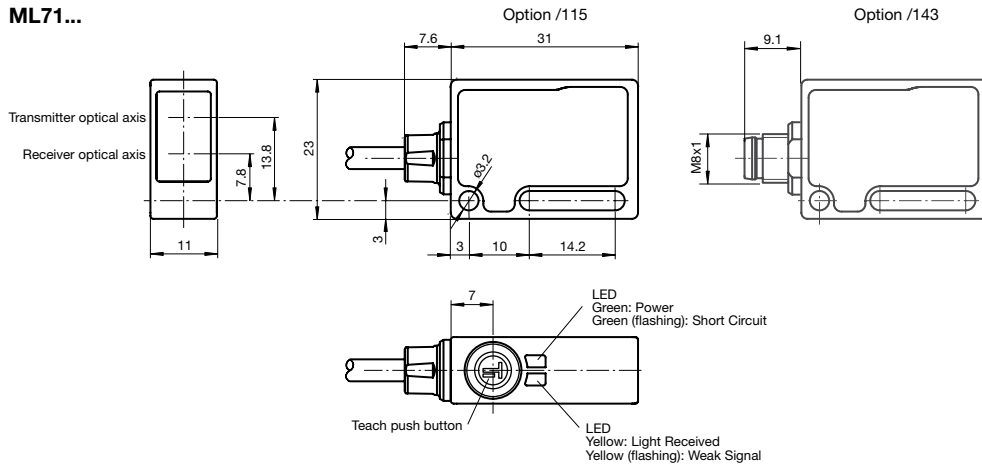
If the teach is successful, both the green and yellow LEDs should be on continuously. The green LED indicates power is supplied to the sensor, and the yellow LED indicates if light is received.

If the teach is not successful, then both the green and yellow LEDs blink alternately at a faster rate (4 Hz frequency) for about 5 seconds and the sensor will return to its maximum sensitivity default setting. In this case, steps 1 through 3 should be repeated.

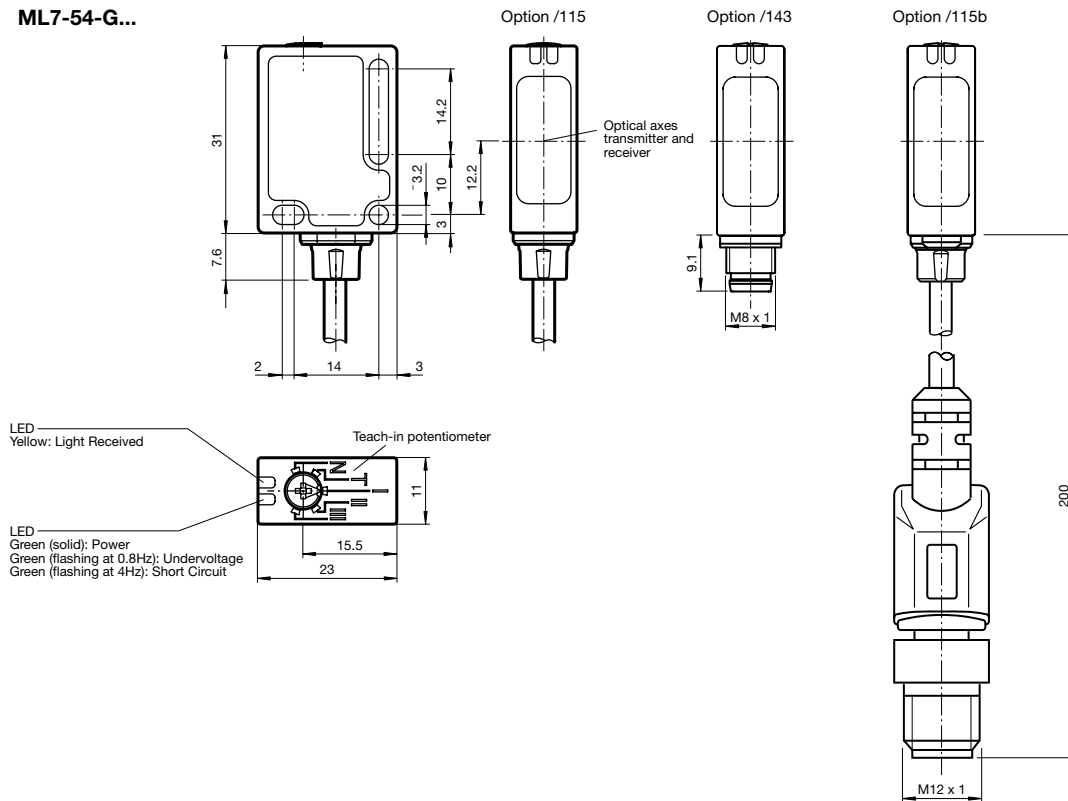
The default setting for this series is maximum sensitivity. If resetting the sensitivity to default is desired, repeat steps 1 through 3 but with no target, reflector, or thru-beam alignment.

Dimensions (mm)

ML71...



ML7-54-G...



M7/MV7...



476