
Actual size

ML4.1 Series
Sub-Miniature Style Sensors

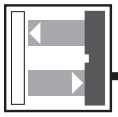
- Space-saving 14mm (9/16") wide housing
- Dual selectable outputs, PNP or NPN
- Light on/dark on mode determined by wiring
- LED indication of switch status and signal strength

Diffused Mode with Background Suppression
See pages 332-333

Features:
- Ignores background machine surfaces
- Consistent detection of light and dark objects

Sensing Ranges: 20mm, 40mm, 60mm, 80mm

Output: Push-pull

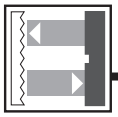


Diffused Mode
See page 333

Features:
- Visible red alignment aid
- Adjustable sensing range

Sensing Range: 400mm

Output: Push-pull

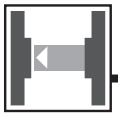


Retro-Reflective Mode
See page 334

Features:
- Reliable detection of even the shiniest materials
- Single lens allows for close placement of reflector

Sensing Range: 400mm

Output: Push-pull



Thru-Beam Mode
See page 334

Features:
- Test input on transmitter for added control
- Detects 9mm (3/8") diameter targets

Sensing Range: 2.5m

Output: Push-pull

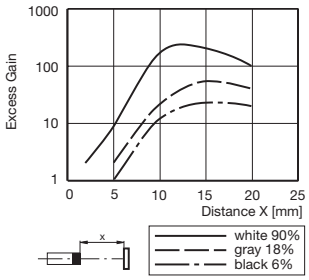
Diffused Mode with Background Suppression

Specifications

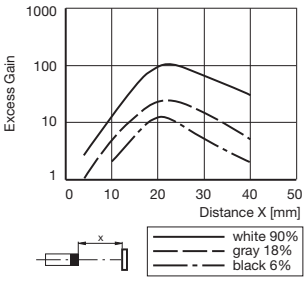
SENSING RANGE		7-20mm	10-40mm	10-60mm	10-80mm
SENSITIVITY ADJUSTMENT		No	No	No	No
BACKGROUND SUPPRESSION		from 25mm	from 50mm	from 80mm	from 100mm
MODEL NUMBER(S)		ML4.1-8-H-20-RT/95/110	ML4.1-8-H-40-RT/95/110	ML4.1-8-H-60-RT/95/110	—
		ML4.1-8-H-20-IR/95/110	ML4.1-8-H-40-IR/95/110	ML4.1-8-H-60-IR/95/110	ML4.1-8-H-80-IR/95/110
OUTPUT: Transistor, Normally Open or Normally Closed		Push-pull	Push-pull	Push-pull	Push-pull
		—	—	—	—
SUPPLY VOLTAGE		10-30VDC	10-30VDC	10-30VDC	10-30VDC
LIGHT SPOT DIAMETER		3mm	4mm	6mm (-RT)/5mm (-IR)	6mm
LIGHT BEAM ANGLE		≈8°	≈6°	≈6°	≈6°
LIGHT SOURCE	-RT	Visible red LED 635nm	Visible red LED 635nm	Visible red LED 635nm	—
	-IR	Infrared LED 880nm	Infrared LED 880nm	Infrared LED 880nm	Infrared LED 880nm
AMBIENT LIGHT RESISTANCE		≤100,000 lux	≤100,000 lux	≤100,000 lux	≤100,000 lux
ELECTRICAL CONNECTION		Quick disconnect type V31	Quick disconnect type V31	Quick disconnect type V31	Quick disconnect type V31
ADDITIONAL DATA		*See pages 335-336*			

Sensing Characteristics

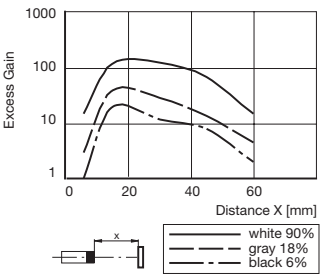
Excess Gain vs. Sensing Range
ML4.1-8-H-20-RT



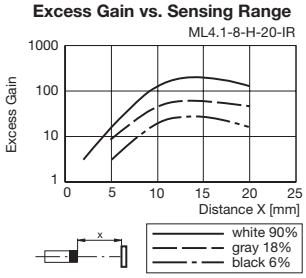
Excess Gain vs. Sensing Range
ML4.1-8-H-40-RT



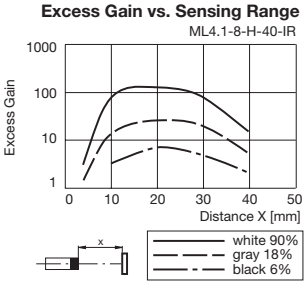
Excess Gain vs. Sensing Range
ML4.1-8-H-60-RT



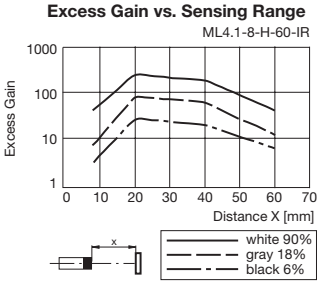
Excess Gain vs. Sensing Range
ML4.1-8-H-20-IR



Excess Gain vs. Sensing Range
ML4.1-8-H-40-IR



Excess Gain vs. Sensing Range
ML4.1-8-H-60-IR



Excess Gain vs. Sensing Range
ML4.1-8-H-80-IR