

# INSTALLATION INSTRUCTIONS

## BULLETIN 871L AC/DC LIMIT SWITCH STYLE INDUCTIVE PROXIMITY SENSOR

Head Size	Nominal Sensing Distance mm (inches)	Shielded	Output Configuration	Switching Frequency (Hz)	Part Number		
					Conduit Opening	Mini Style QD	Micro Style QD
40	20 (0.79)	Y	Programmable N.O. or N.C.	15	871L-B20E40-T2	871L-B20E40-N3	871L-B20E40-R3
	40 (1.57)	N			871L-B40E40-T2	871L-B40E40-N3	871L-B40E40-R3

### Specifications

Load Current	400mA
Minimum Load Current	2mA
Leakage Current	≤2mA
Operating Voltage	20-250V AC/DC
Voltage Drop	≤5V
Repeatability	≤5%
Hysteresis	≤20%
False Pulse Protection	Incorporated
Transient Noise Protection	Incorporated
Short Circuit Protection	Incorporated
Overload Protection	Incorporated
Enclosure	NEMA 3, 4, 6, 12 and 13 IP67 (IEC 529) Polyloy
Connections	Conduit Opening: 1/2-14 NPT internal thread with screw terminals Quick Disconnect: 3-pin mini style 3-pin micro style
2 LEDs	Green: Power (Blinks in SCP/Overload) Orange: Output Energized
Operating Temperature	-25°C to +70°C (-13°F to +158°F)
Shock and Vibration	30G, 10-55Hz

### Correction Factors

Target Material	Correction Factor
Steel	1.0
Stainless Steel	0.90
Brass	0.50
Aluminum	0.45
Copper	0.40

### Description

Bulletin 871L inductive proximity sensors are self-contained, general purpose, solid state devices. These devices are designed for most industrial applications where it is required to sense the presence of metal objects (ferrous and non-ferrous) without touching them.

The 871L limit switch style provides mounting interchangeability, easy to wire terminations, rugged construction, and superior sealing. The 25 (twenty-five) position sensing head allows for twenty-four side views and one top view.

### Diagnostics

Green **on** indicates power **on**.  
Orange **on** indicates output is energized.  
Green **flashing** indicates short circuit or overload.

### Accessories

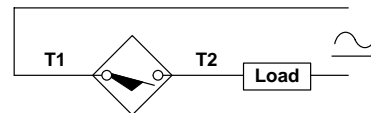
#### Optional Mating Cables

Part Number	Length	Description
871A-CS3-R2	2M (6.56 ft.)	3-pin, micro-style straight
871A-CS3-R4	4M (13.1 ft.)	3-pin, micro-style straight
871A-CS3-R5	5M (16.4 ft.)	3-pin, micro-style straight
871A-CS3-N1	1M (3.28 ft.)	3-pin, mini-style straight
871A-CS3-N2	2M (6.56 ft.)	3-pin, mini-style straight
871A-CS3-N4	4M (13.1 ft.)	3-pin, mini-style straight
871A-CRL3-N1	1M (3.28 ft.)	3-pin, mini-style right angle LED
871A-CRL3-N2	2M (6.56 ft.)	3-pin, mini-style right angle LED
871A-CRL3-N4	4M (13.1 ft.)	3-pin, mini-style right angle LED

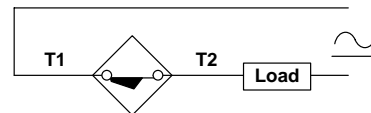
### Wiring Diagrams

#### Conduit Opening

##### Normally Open



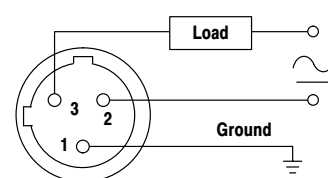
##### Normally Closed



Note: Load can be switched to terminal 1.

#### Micro QD

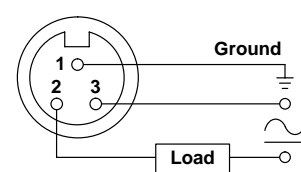
##### Normally Open or Normally Closed



Note: Load can be switched to pin 2.

#### Mini QD

##### Normally Open or Normally Closed

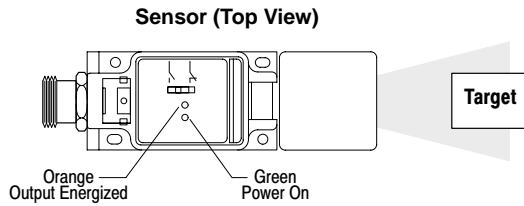


Note: Load can be switched to pin 3.

## Installation

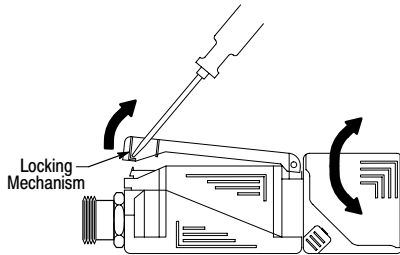
### Alignment

When power is applied to the sensor, the green (power on) indicator will turn **on**. Visually sight the sensing head at the object to be detected until the orange (output energized) indicator turns **on** when the sensor is set for normally open or turns **off** when the control is set for normally closed.



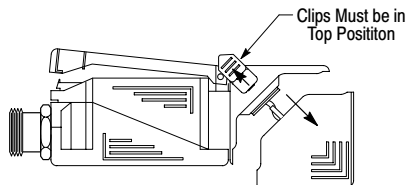
### Rotation of Sensing Head

Insert screwdriver in slot located at the bottom of the clear plastic cover, gently pull upward. This will release the locking mechanism and enable rotation of the sensing head. The sensing head can be rotated in 15° increments.



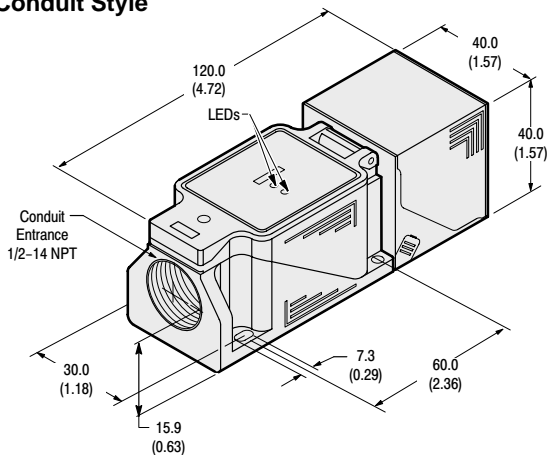
### Sensing Head Position

Unlock plastic cover and rotate sensing head so that clips are in the top position. To change from side sensing to top sensing, simply snap back the two clips located on either side of the sensing head. Release and rotate the head to the top or side position, return clips to locking position to secure head.



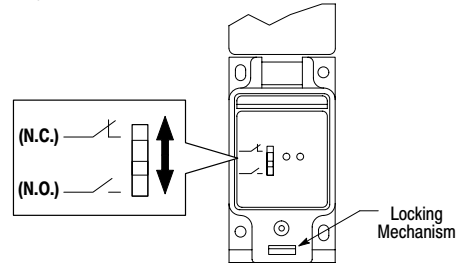
## Dimensions — mm (inches)

### Conduit Style



### Selecting Output

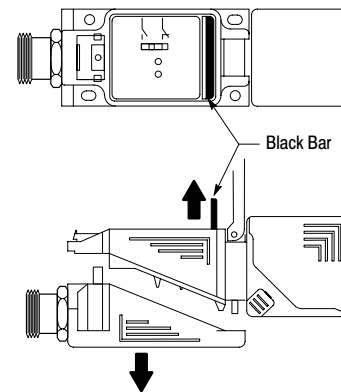
Insert screwdriver in slot located at the bottom of the clear plastic cover, gently pull upward. This will release the locking clip and allow access to the selectable output. The switch is supplied in the normally open position. Simply move the switch to the normally closed position; re-wiring is not necessary.



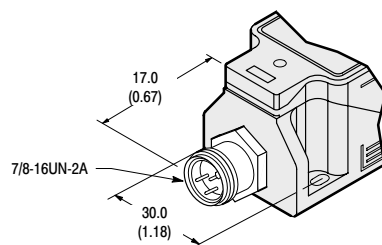
### Wiring of Terminal Base

Unlock the plastic cover to access the black bar. To release the base, simply lift the black bar located inside the body. This will release the locking mechanism. Gently pull the terminal base from the sensor body to access the screw terminals.

**Note:** All external wiring should conform to the National Electric Code and applicable local codes. See wiring diagrams for external connections.



### Mini Style Quick-Disconnect



### Micro Style Quick-Disconnect

