Through the Roller Sensor Family

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A DIVISION OF RAMCO INNOVATIONS

BANNER
more sensors, more solutions

Datasheet

- Reliable leading edge detection of letters, thin packages, poly bags, totes, boxes or other product on roller conveyors
- Mounts between conveyor roller gap to standard hex or round side rail holes with no extra hardware required or on the T-Slot with customer supplied bracket and hardware
- Spring loaded end caps reduce installation and alignment time for reduced labor costs
- Built to order with specified length and beam spacing: 200 mm to 965 mm (8 in to 38 in) with 2 to 7 sensors for maximum flexibility
- Robust aluminum housing, ambient light and ESD resistance for enhanced durability

WARNING:

- **Do not use this device for personnel protection**
- Using this device for personnel protection could result in serious injury or death.
- This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A device failure or malfunction can cause either an energized (on) or de-energized (off) output condition.

Models

Model Name	Between Frame Distance (mm)	Output Type	Special Feature	Beam Spacing	No. of Beams	End Cap Style		Cable Length (m)	Connector Style	First Beam Distance from Cable End Cap (mm)
TTR	384	AP	S	A	6	T	-	2.0	FL	- CTR
	200 mm - 965 mm	BM = Bimodal AP = Light Operate PNP AN = Light Operate NPN RP = Dark Operate PNP RN = Dark Operate NPN	S = Standard G = Ground Strap	A = 54 mm B = 93.1 mm C = 108 mm D = 162 mm E = 186.2 mm	1,2,3,4,5,6,7	A,B,C,D,E,F,G,T		0.5 m, 1.0 m, 2.0 m	FL = Flying Leads RJ = RJ11 Q5 = M12 Q3 = M8	CTR = Beams centered between frames 059-200 = First beam distance from cable end cap

Model Name = TTR 384 AP S A 6 T - 2.0 FL - CTR

Note: For definition of the End Cap Styles, see Table 1 on p. 2.

Configurations

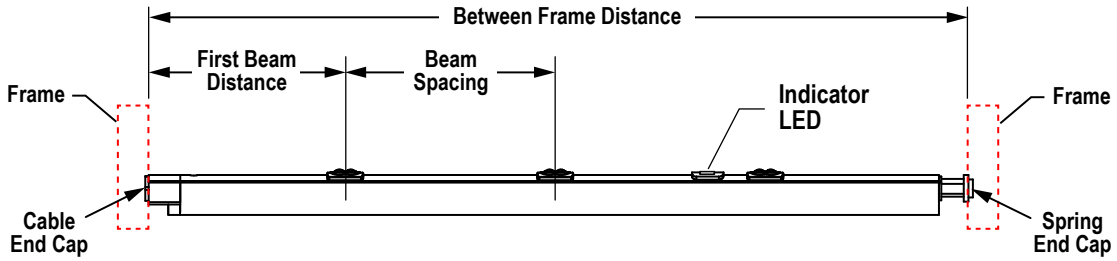


Figure 1. Spring End Cap Configuration

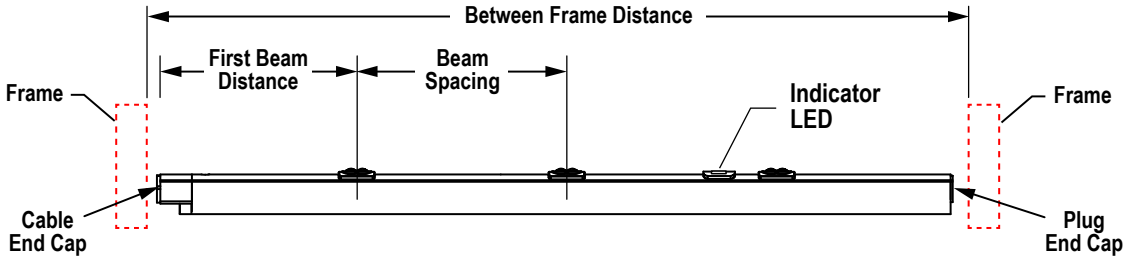
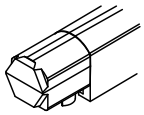
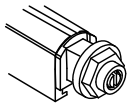
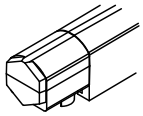
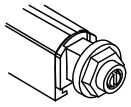
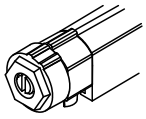
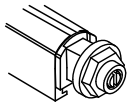
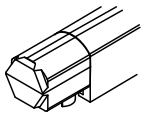
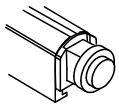
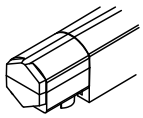
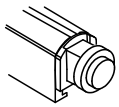
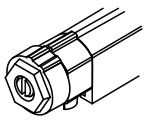
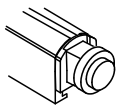
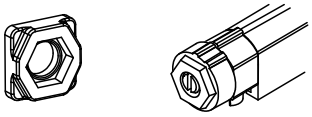
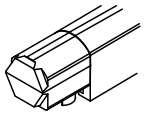
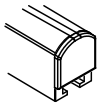


Figure 2. T-Slot Configuration

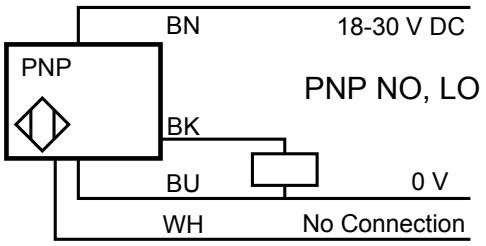
Table 1: End Cap Styles

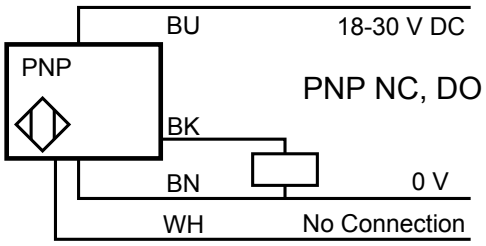
End Cap Style	End 1		End 2	
A	11 mm Hex, flat side up		Spring 11 mm hex / 8 mm round	
B	11 mm Hex, point up		Spring 11 mm hex / 8 mm round	
C	Adjustable 11 mm Hex, can be positioned in 10 degree increments		Spring 11 mm hex / 8 mm round	
D	11 mm Hex, flat side up		Spring 8 mm round	
E	11 mm Hex, point up		Spring 8 mm round	
F	Adjustable 11 mm Hex, can be positioned in 10 degree increments		Spring 8 mm round	
G	Adjustable 11 mm Hex, can be positioned in 10 degree increments / adhesive backed bracket		Spring 11 mm hex / 8 mm round / adhesive backed bracket	
T	11 mm Hex, flat side up		Plug	

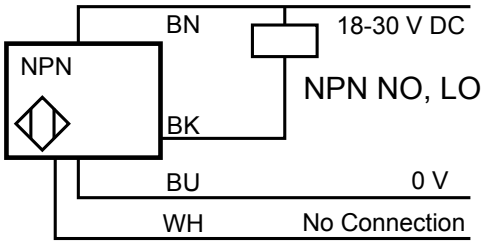
Note: T-Slot mounted sensors with the **T** End Cap Style are 6 mm shorter than the specified Between Frame Distance.

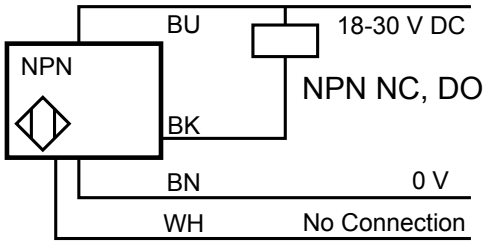
Wiring

Bimodal Output Wiring Diagrams

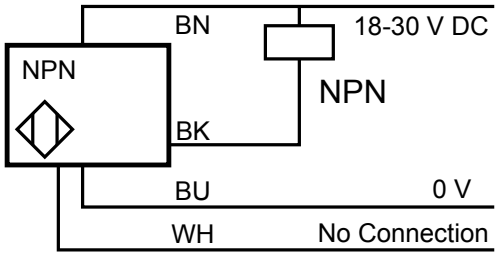


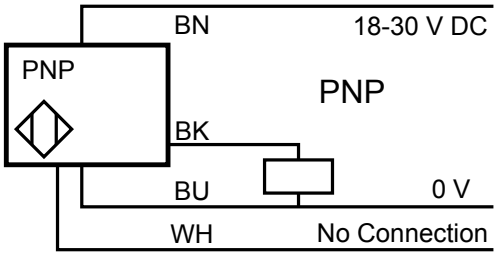




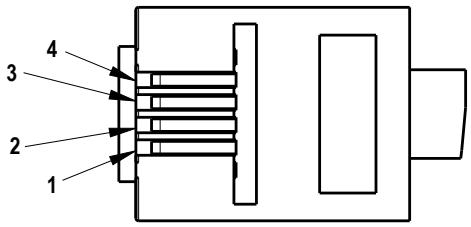


Fixed NPN and PNP Output Wiring Diagrams: Light and Dark Operate by Model Number





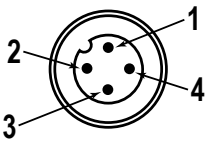
RJ-11 Pinout



RJ-11 Key

1. Brown
2. Black
3. White
4. Blue

M12 Pinout

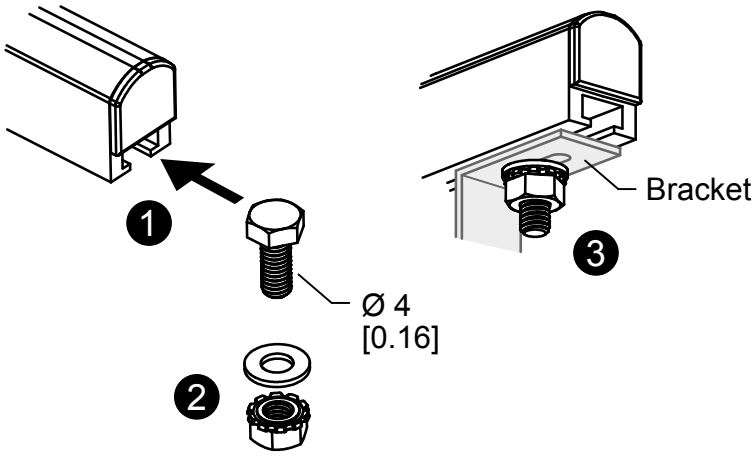


M12 Key

1. Brown
2. White
3. Blue
4. Black

M8 Pinout	M8 Key
	1. Brown 2. White 3. Blue 4. Black

T-Slot Installation



Specifications

Supply Voltage
18 V DC to 30 V DC (24 V nominal with 10% maximum ripple)
Use only with a suitable Class 2 power supply (UL) or SELV power supply (CE)

Supply Current
45 mA

Supply Protection Circuitry
Protected against reverse polarity and transient voltages

Wavelength
Infrared LED, 940 nm

Output Response
1 ms on/off

Output Configuration
Rating: 100 mA max output at 25 °C
Output Voltage High: Greater than Vsupply – 2.5 V
Output Voltage Low: Less than 2.5 V
For loads less than 1 Meg Ohm
Protected against false pulse on power-up and continuous overload or short-circuit of output

Indicators
Amber on: Light sensed

Sensing Mode
Diffuse, Infrared, 940 nm

Range
0 to ≥ 120 mm on 90% white card
0 to ≥ 50 mm on 18% gray card
≤ 3 to ≥ 30 mm on 6% black card

Operating Conditions
–10 °C to +55 °C (+14 °F to +131 °F)

Environmental Rating
IEC IP50

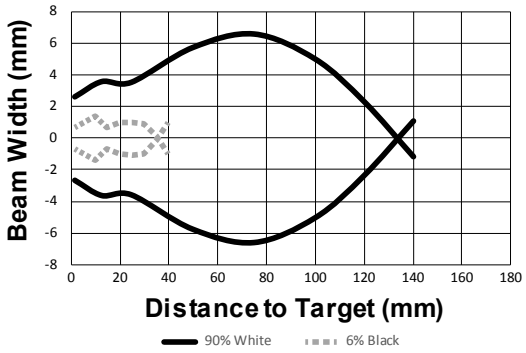
Vibration and Mechanical Shock
All models meet IEC 60068-2-6, IEC 60947-5-2, UL491 Section 40, MIL-STD-202F, Method 201A (Vibration: 10 Hz to 60 Hz, 0.5 mm peak-to-peak)
Shock: 30G 11 ms duration, half sine wave per IEC 60068-2-27

Certifications

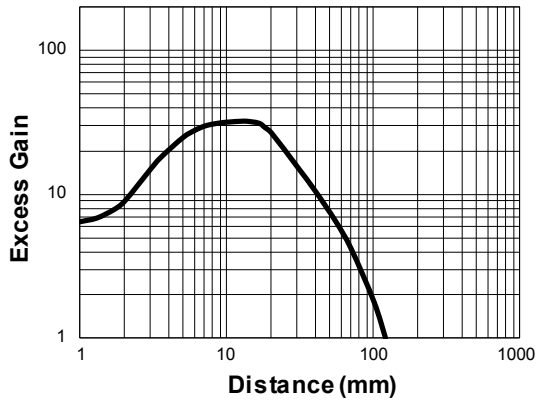
Performance Curves

Average Sensor Beam Pattern
Parallel to Conveyor Axis

Average Sensor Beam Pattern
Perpendicular to Conveyor Axis

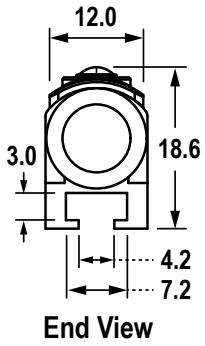


90% Reflectivity White Card



Dimensions

All measurements are listed in millimeters, unless noted otherwise.



End View

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