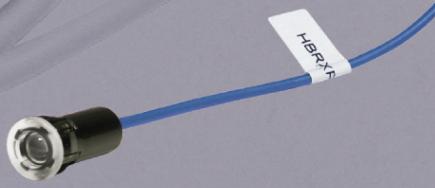




**MPD**  
MEMORY PROTECTION DEVICES

## IR Safety Sensor Beams



IR Safety Sensor Beams are general purpose IR sensors, with particular uses in entrance, elevator, and escalator applications. They effectively reduce the risk of accidental harm that results from obstructing a mechanical device. With a quick and easy install and an emphasis on safety the IR sensor beams are suitable for a wide variety of both indoor and outdoor applications.

# Index

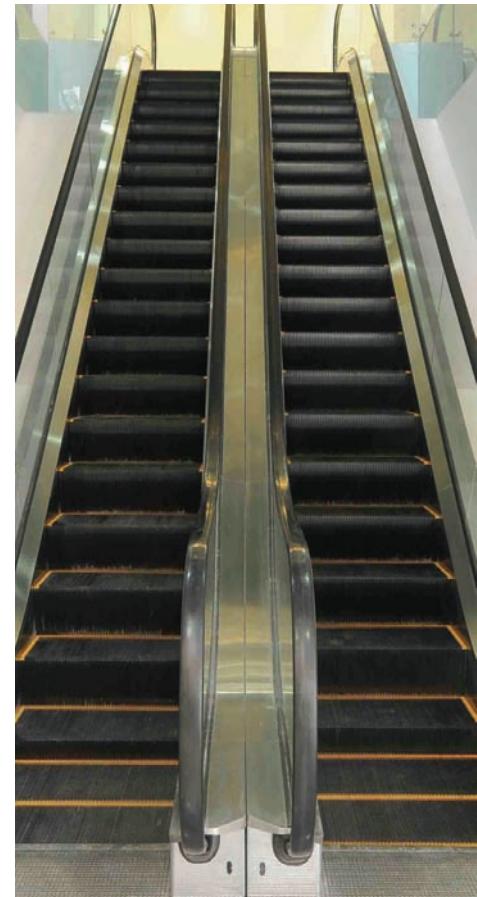
IR Safety Sensor Beams Series	3
Available Configurations	4
General Specifications	5
Wiring Schematics	6

## Product Overview

Overview	7
IR Safety Sensor Features	8

## Closed Beam IR Receivers

HBRXPC15CON – NPN Normally Closed Hold Beam Receiver	10
Wiring Schematics	11
HBRXNC15 – NPN Normally Closed Hold Beam Receiver	12
Wiring Schematics	13
HBRXNC15CON – PNP Normally Closed Hold Beam Receiver	14
Wiring Schematics	15
HBRXPC15 – PNP Normally Closed Hold Beam Receiver	16
Wiring Schematics	17



## Open Beam IR Receivers

HBRXPO15CON – PNP Normally Open Hold Beam Receiver	18
Wiring Schematics	19
HBRXNO15 – NPN Normally Open Hold Beam Receiver	20
Wiring Schematics	21
HBRXNO15CON – NPN Normally Open Hold Beam Receiver	22
Wiring Schematics	23
HBRXPO15 – PNP Normally Open Hold Beam Receiver	24
Wiring Schematics	25

## IR Transmitters

HTBX15 – Hold Beam Transmitter	26
Wiring Schematics	27
HTBX15CON – Hold Beam Transmitter	28
Wiring Schematics	29

## New Products

Recent Additions to MPD's Product Lines	30
-----------------------------------------	----

## Distributors

Distributors	31
Distributors	Back Cover

# IR Safety Sensor Beams Series

**MPD**  
MEMORY PROTECTION DEVICES

The hold beams act as an obstruction or proximity detection sensors for a machine or system. Example applications include motorized garage door, gate, or window shade obstruction detection. These applications typically require UL325 compliance. The hold beams have UL325 compliance in UL File E325114. Manufacturers of equipment or machines that would use the hold beams in a UL325 application would need to know the UL "E" File number.

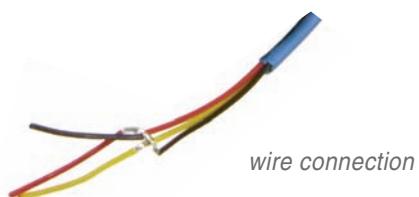
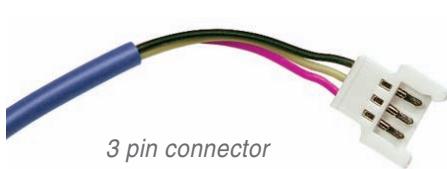
Other applications include proximity sensing in machinery or automated production line equipment. Machinery may be required to comply with safety standard NFPA-79, The Electrical Standard for Industrial Machinery. The hold beams comply with UL60947-1 and UL60947-5-2 which demonstrate compliance with the requirements of NFPA-79. The UL File number is E517822. Manufacturers of equipment or machines that would use the beams in an NFPA 79 factory automation or machinery application would need to know the UL "E" File number.



\*\*\*Note that at this time the hold beams are certified by UL to UL60947 in **category NRKH** as a proximity detection sensor. The hold beams are **not currently certified** in NFPA 79 safety applications where a risk of personal injury could occur, such **as a light curtain** (category NIOZ.)

Transmitter Models: Emits Infrared Light

HBTX15, HBTX15CON. The only difference between the transmitters is that the HBTX15CON part has a 3 pin connector and HBTX15 has loose wires to connect to.



# Through-beam Infrared Sensors

## Hold Beam Series, TX and RX



- **Entrance, elevator, and escalator controls**
- **Range: 0-15m**
- **Supply voltage: 9 to 30 VDC**
- **Output: 30 mA**
- **Operating temperature: -30°C to 70°C**
- **NPN or PNP types available**
- **Patented LED ring indicator**
- **Patented adaptive power technology**
- **Noise immunity**
- **Available with or without cable connector**
- **UL325 approved**

### Product Description

The MPD HB series beams are a family of general purpose IR sensors, with particular applications in entrance, elevator, and escalator applications. The "quick install" enclosure makes setup simple - just push the beam into a 12mm diameter hole drilled into the wall and it will snap into place. The IP65 housing makes the beams suitable for a wide variety of both indoor and outdoor applications.

### Available Configurations

Part #	Tx/Rx	Output	Contact	Termination
HBTX15	Transmitter	N/A	N/A	Wire Leads
HBTX15CON	Transmitter	N/A	N/A	Connector
HBRXNO15	Receiver	NPN	Normally Open	Wire Leads
HBRXNO15CON	Receiver	NPN	Normally Open	Connector
HBRXNC15	Receiver	NPN	Normally Closed	Wire Leads
HBRXNC15CON	Receiver	NPN	Normally Closed	Connector
HBRXPO15	Receiver	PNP	Normally Open	Wire Leads
HBRXPO15CON	Receiver	PNP	Normally Open	Connector
HBRXPC15	Receiver	PNP	Normally Closed	Wire Leads
HBRXPC15CON	Receiver	PNP	Normally Closed	Connector

**NOTE: Transmitter and Receiver ordered separately**

## General Specifications

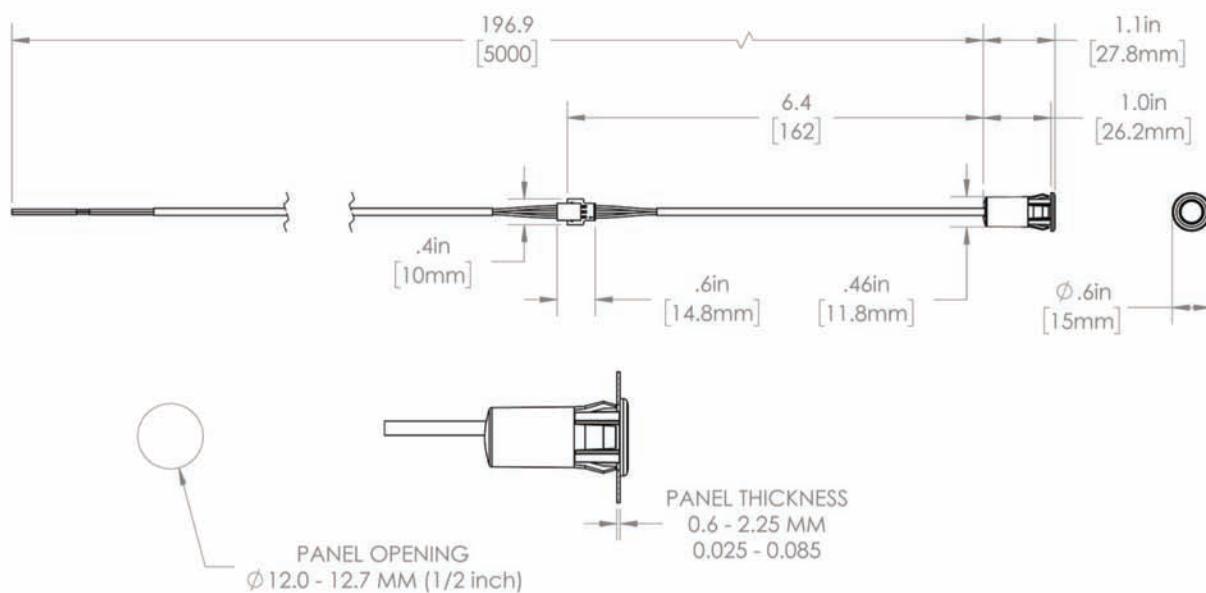
<b>Environment</b>	
Overvoltage Capacity	Category III
Pollution degree	3
Degree of protection	IP65 (IEC60529)
<b>Temperature</b>	
Operating	-25° to 60° C
Storage	-40° to 60° C
<b>Voltage Protection</b>	
Rated Insulation Voltage	75 VDC
Dielectric Test Voltage	500 VAC RMS (EN60947-1)
<b>ESPE</b>	Type 2
<b>Electrostatic Discharge</b>	
Contact	≥ 4KV (IEC61000-4-2)
Air	≥ 8KV (IEC61000-4-2)
<b>Impact</b>	
Drop Test	4 foot drop test
Side Impact	Swinging Ball (UL746 sec 57)
<b>Certifications</b>	UL325: E325114 UL60947-1 / 5-2: E517822 CSA C22.2 No. 60947-1-13 CSA C22.2 No 60947-5-2-14 RoHS, REACH Compliant
<b>Patents</b>	#10,386,226 #10,627,286

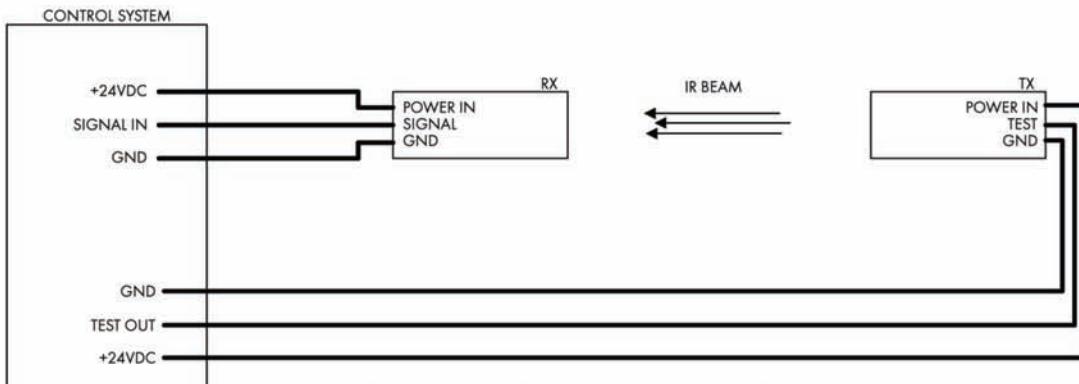
## Emitter Specifications

<b>Rated Operating Voltage</b>	10-30 VDC
<b>Supply Current</b>	≤ 20 mA
<b>Light</b>	Source: IR LED, 950nm Type: IR, Modulated Spot: 950 mm @ 10m
<b>Ring Indicator</b>	Normal operation: Green, on continuous Mute function: Green flash

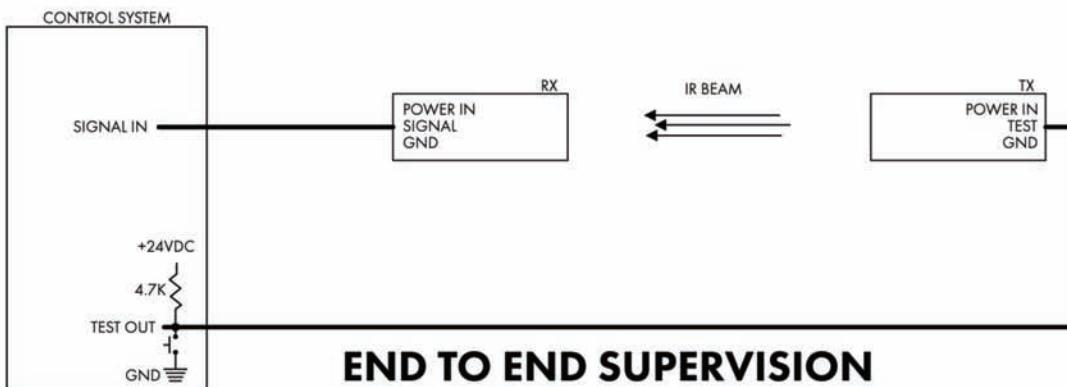
## Receiver Specifications

<b>Rated Operating Distance</b>	15m
<b>Blind Zone</b>	None
<b>Rated Operating Voltage</b>	10-30 VDC
<b>Supply Current</b>	No load: ≤ 10 mA Continuous: ≤ 38 mA
<b>Protection</b>	Reverse Polarity ESD
<b>Utility Categories</b>	DC12 DC13
<b>Detection</b>	±4° @ 6.5m
<b>Ring Indicator</b>	Receiving Signal: Amber, on continuous Signal Loss: Off



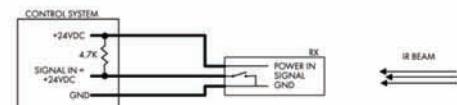
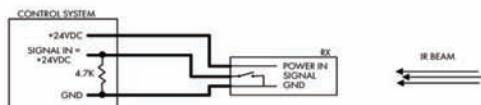


## SYSTEM WIRING SCHEME



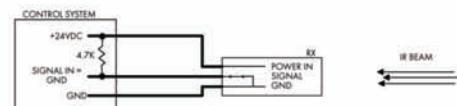
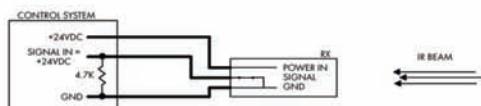
## END TO END SUPERVISION

- STEP 1: TEST OUT = FLOATING OR 24VDC, TURNS ON TX IR BEAM.
- STEP 2: CONTROL SYSTEM DETECTS SIGNAL IN ENABLED.
- STEP 3: TEST OUT = GND, TURNS OFF TX IR BEAM.
- STEP 4: CONTROL SYSTEM DETECTS SIGNAL IN DISABLED.



P TYPE - NORMALLY CLOSED

N TYPE - NORMALLY CLOSED



P TYPE - NORMALLY OPEN

N TYPE - NORMALLY OPEN

# Safety Sensor IR Beams Advantages

**MPD**  
MEMORY PROTECTION DEVICES



## Application Features:

- UL 325 Tested (garage door and pedestrian gate applications)
- 15M Long Range Sensing Distance (large opening applications)
- Weather insulated design (IP67 and potted for outdoor applications)
- Patented Reflection Rejection technology (excellent in sunny applications)
- Noise Immunity (RF shielding)

## Functional Features:

- Patented LED alignment identification (makes installation easier)
- Quick-connect wires (makes field replacement easy)
- Can be mis-aligned up to 5 degrees and still function
- NPN, PNP, NO, and NC options
- 15m Sensing distance
- 10-30 VDC Modulated Infrared

## Mechanical Features:

- Impact resistant plastic (less breakage in the field)
- UL2547 Wires (Suitable to install in aluminum frame)
- Quick install design features (plastic features on housing for press fit installation)
- 15ft in cable length
- Cylindrical Polycarbonate housing
- Optional Connector
- Mounting Bracket options available

## Unique Features:

The hold beams we have developed employ a unique feature as compared to that of our competitors:

When the hold beams are aligned, and there is no obstruction, the receiver emits a continuous amber light to indicate that status to the installer. If there is a signal loss due to an obstruction, or if the beams are misaligned, the amber light will be turned off. This is a troubleshooting aid. Conversely, the emitter utilizes a green light that is continuously on during normal operations. When the "mute" function is engaged the green light will flash.

Competitors' receivers illuminate an LED in the side of the receiver, that is in a plane perpendicular to the front cover. This means that after installation in a door jamb, an installer cannot see the light and must either remove the receiver from the door jamb or troubleshoot in a different, more difficult way. MPD's units alleviate any such line-of-sight complications.



## IR (Infrared) Receiver Safety Sensors (detect infrared light)



### HBRXPC15CON

PNP Normally Closed Hold Beam Receiver with 3 Pin Connector

*closed beam*



### HBRXNC15

NPN Normally Closed Hold Beam Receiver with Wire Connection

*closed beam*



### HBRXNC15CON

NPN Normally Closed Hold Beam Receiver with 3 Pin Connector

*closed beam*



### HBRXPC15

PNP Normally Closed Hold Beam Receiver with Wire Connection

*closed beam*



## IR (Infrared) Transmitters (emit infrared light)



### HBTX15

Hold Beam Transmitter with Wire Connection



### HBTX15CON

Hold Beam Transmitter with 3 Pin Connector



## IR (Infrared) Receiver Safety Sensors (detect infrared light)



### HBRXPO15CON

PNP Normally Open Hold Beam Receiver with 3 Pin Connector

open beam



### HBRXNO15

NPN Normally Open Hold Beam Receiver with Wire Connection

open beam



### HBRXNO15CON

NPN Normally Open Hold Beam Receiver with 3 Pin Connector

open beam



### HBRXPO15

PNP Normally Open Hold Beam Receiver with Wire Connection

open beam

The MPD HBRX series is a family of general purpose IR Sensors and Receivers. The "quick install" enclosure makes setup simple – just push the beam into a 12mm diameter hole drilled into the wall and it will snap into place. The IP65 housing makes the beams suitable for a wide variety of both indoor and outdoor applications.

### IR Safety Sensors Features:

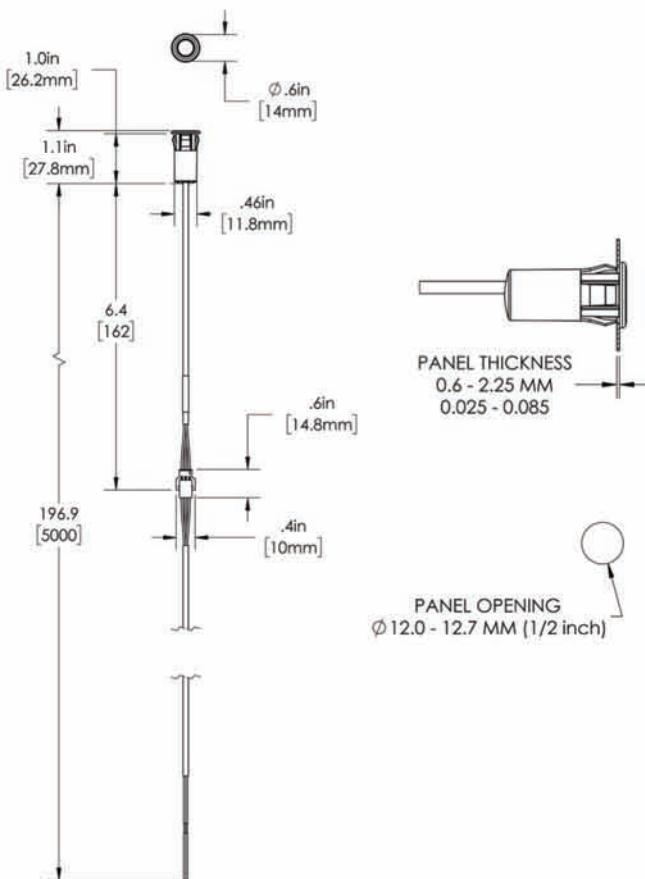
- Entrance, elevator and escalator controls
- Range: 0-15m
- Supply voltage: 9 to 30 VDC
- Output: 30 mA
- Operating temperature: -30°C to 70°C
- NPN or PNP types available
- Patented LED ring indicator
- Patented adaptive power technology
- Noise immunity
- Available with or without cable connector
- UL325 approved
- Ship qty.: 500 or 1,000 (in 100 pc. bags)



- Entrance, elevator, and escalator controls
- Range: 0-15m
- Supply voltage: 9 to 30 VDC
- Output: 30 mA
- Operating temperature: -30°C to 70°C
- NPN or PNP types available
- Patented LED ring indicator
- Patented adaptive power technology
- Noise immunity
- Available with or without cable connector
- UL325 approved

## Product Description

The MPD HB series beams are a family of general purpose IR sensors, with particular applications in entrance, elevator, and escalator applications. The "quick install" enclosure makes setup simple - just push the beam into a 12mm diameter hole drilled into the wall and it will snap into place. The IP65 housing makes the beams suitable for a wide variety of both indoor and outdoor applications.



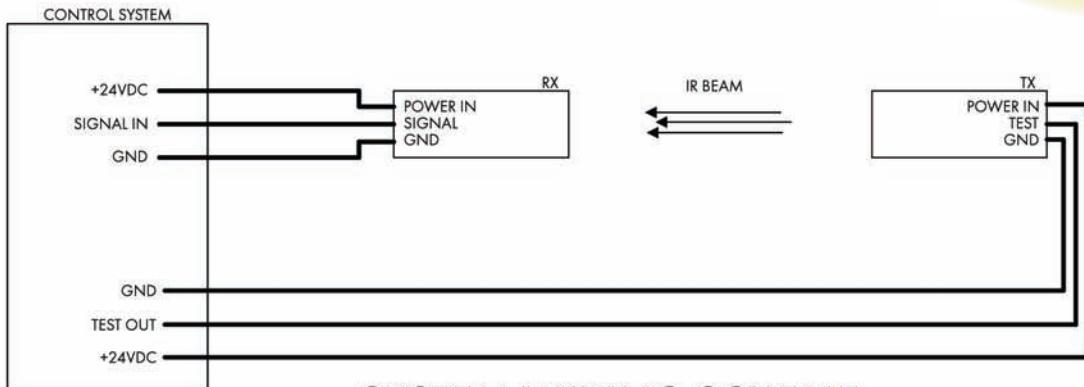
## General Specifications

<b>Environment</b>	Overvoltage Capacity Pollution degree Degree of protection	Category III 3 IP65 (IEC60529)
<b>Temperature</b>	Operating Storage	-25° to 60° C -40° to 60° C
<b>Voltage Protection</b>	Rated Insulation Voltage Dielectric Test Voltage	75 VDC 500 VAC RMS (EN60947-1)
<b>ESPE</b>	Type 2	
<b>Electrostatic Discharge</b>	Contact Air	≥ 4KV (IEC61000-4-2) ≥ 8KV (IEC61000-4-2)
<b>Impact</b>	Drop Test Side Impact	4 foot drop test Swinging Ball (UL746 sec 57)
<b>Certifications</b>	UL325: E325114 UL60947-1 / 5-2: E517822 CSA C22.2 No. 60947 RoHS and REACH Compliant	

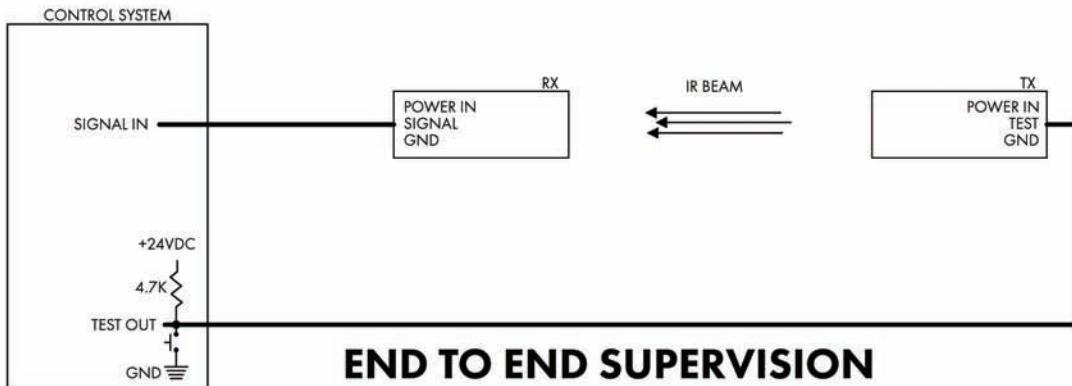
## Receiver Specifications

<b>Rated Operating Distance</b>	15m
<b>Blind Zone</b>	None
<b>Rated Operating Voltage</b>	10-30 VDC
<b>Supply Current</b>	No load Continuous
	≤ 10 mA ≤ 38 mA
<b>Protection</b>	Reverse Polarity ESD
<b>Utility Categories</b>	DC12 DC13
<b>Detection</b>	±4° @ 6.5m

Specifications subject to change without notice (9652-401 Rev 1)

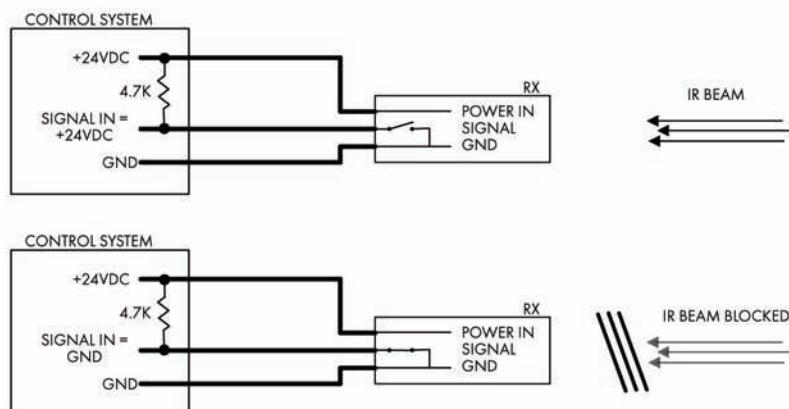


## SYSTEM WIRING SCHEME



## END TO END SUPERVISION

STEP 1: TEST OUT = FLOATING OR 24VDC, TURNS ON TX IR BEAM.  
 STEP 2: CONTROL SYSTEM DETECTS SIGNAL IN ENABLED.  
 STEP 3: TEST OUT = GND, TURNS OFF TX IR BEAM.  
 STEP 4: CONTROL SYSTEM DETECTS SIGNAL IN DISABLED.



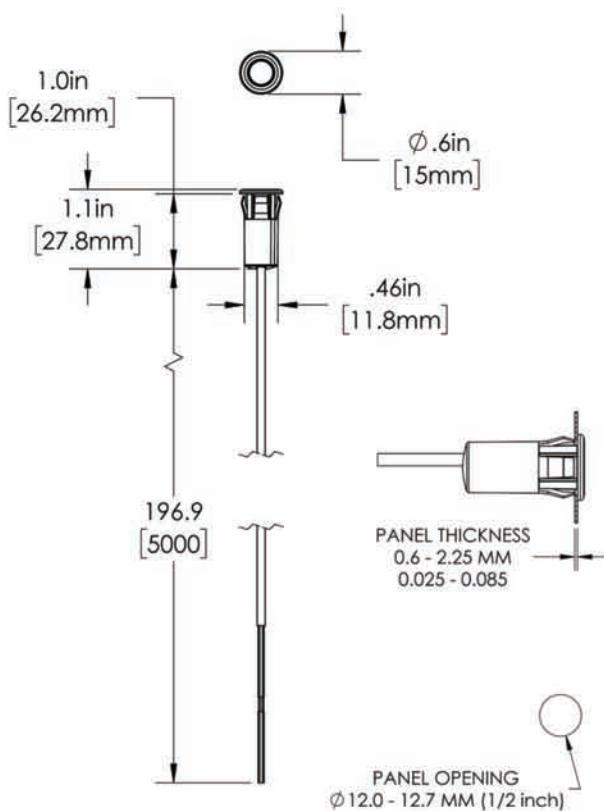
## N TYPE - NORMALLY CLOSED



- Entrance, elevator, and escalator controls
- Range: 0-15m
- Supply voltage: 9 to 30 VDC
- Output: 30 mA
- Operating temperature: -30°C to 70°C
- NPN or PNP types available
- Patented LED ring indicator
- Patented adaptive power technology
- Noise immunity
- Available with or without cable connector
- UL325 approved

## Product Description

The MPD HB series beams are a family of general purpose IR sensors, with particular applications in entrance, elevator, and escalator applications. The "quick install" enclosure makes setup simple - just push the beam into a 12mm diameter hole drilled into the wall and it will snap into place. The IP65 housing makes the beams suitable for a wide variety of both indoor and outdoor applications.



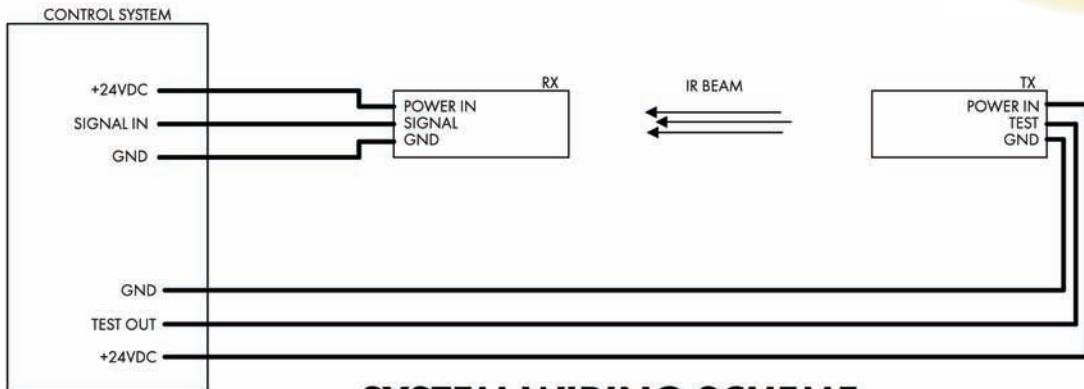
## General Specifications

<b>Environment</b>	Overvoltage Capacity Pollution degree Degree of protection	Category III 3 IP65 (IEC60529)
<b>Temperature</b>	Operating Storage	-25° to 60° C -40° to 60° C
<b>Voltage Protection</b>	Rated Insulation Voltage Dielectric Test Voltage	75 VDC 500 VAC RMS (EN60947-1)
<b>ESPE</b>	Type 2	
<b>Electrostatic Discharge</b>	Contact Air	≥ 4KV (IEC61000-4-2) ≥ 8KV (IEC61000-4-2)
<b>Impact</b>	Drop Test Side Impact	4 foot drop test Swinging Ball (UL746 sec 57)
<b>Certifications</b>	UL325: E325114 UL60947-1 / 5-2: E517822 CSA C22.2 No. 60947 RoHS and REACH Compliant	

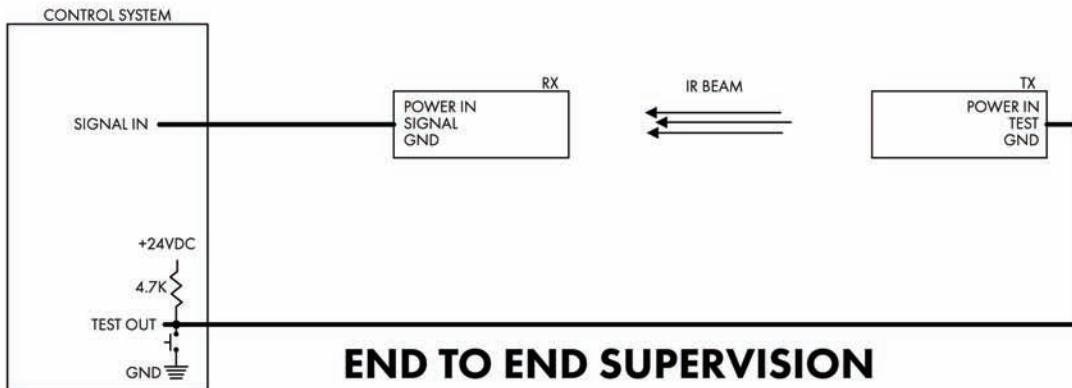
## Receiver Specifications

<b>Rated Operating Distance</b>	15m
<b>Blind Zone</b>	None
<b>Rated Operating Voltage</b>	10-30 VDC
<b>Supply Current</b>	≤ 10 mA ≤ 38 mA
<b>Protection</b>	Reverse Polarity ESD
<b>Utility Categories</b>	DC12 DC13
<b>Detection</b>	±4° @ 6.5m

Specifications subject to change without notice (9652-401 Rev 1)

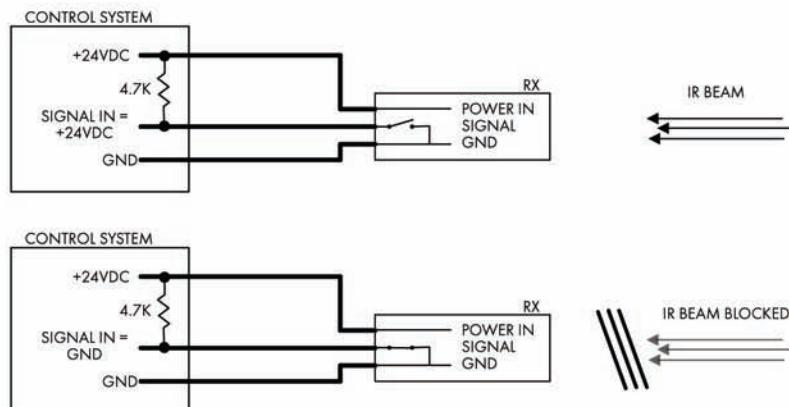


## SYSTEM WIRING SCHEME



## END TO END SUPERVISION

STEP 1: TEST OUT = FLOATING OR 24VDC, TURNS ON TX IR BEAM.  
 STEP 2: CONTROL SYSTEM DETECTS SIGNAL IN ENABLED.  
 STEP 3: TEST OUT = GND, TURNS OFF TX IR BEAM.  
 STEP 4: CONTROL SYSTEM DETECTS SIGNAL IN DISABLED.



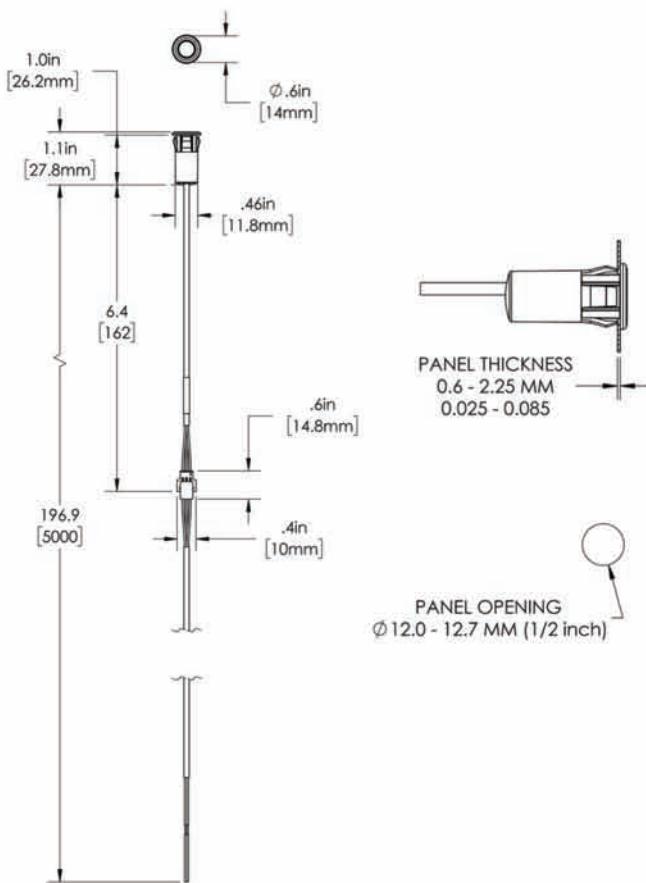
## N TYPE - NORMALLY CLOSED



- Entrance, elevator, and escalator controls
- Range: 0-15m
- Supply voltage: 9 to 30 VDC
- Output: 30 mA
- Operating temperature: -30°C to 70°C
- NPN or PNP types available
- Patented LED ring indicator
- Patented adaptive power technology
- Noise immunity
- Available with or without cable connector
- UL325 approved

## Product Description

The MPD HB series beams are a family of general purpose IR sensors, with particular applications in entrance, elevator, and escalator applications. The "quick install" enclosure makes setup simple - just push the beam into a 12mm diameter hole drilled into the wall and it will snap into place. The IP65 housing makes the beams suitable for a wide variety of both indoor and outdoor applications.



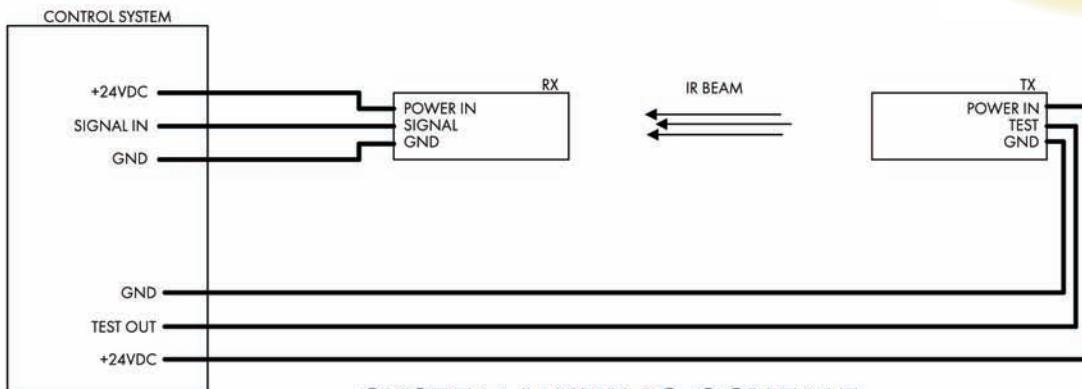
## General Specifications

<b>Environment</b>	Overvoltage Capacity Pollution degree Degree of protection	Category III 3 IP65 (IEC60529)
<b>Temperature</b>	Operating Storage	-25° to 60° C -40° to 60° C
<b>Voltage Protection</b>	Rated Insulation Voltage Dielectric Test Voltage	75 VDC 500 VAC RMS (EN60947-1)
<b>ESPE</b>	Type 2	
<b>Electrostatic Discharge</b>	Contact Air	≥ 4KV (IEC61000-4-2) ≥ 8KV (IEC61000-4-2)
<b>Impact</b>	Drop Test Side Impact	4 foot drop test Swinging Ball (UL746 sec 57)
<b>Certifications</b>	UL325: E325114 UL60947-1 / 5-2: E517822 CSA C22.2 No. 60947 RoHS and REACH Compliant	

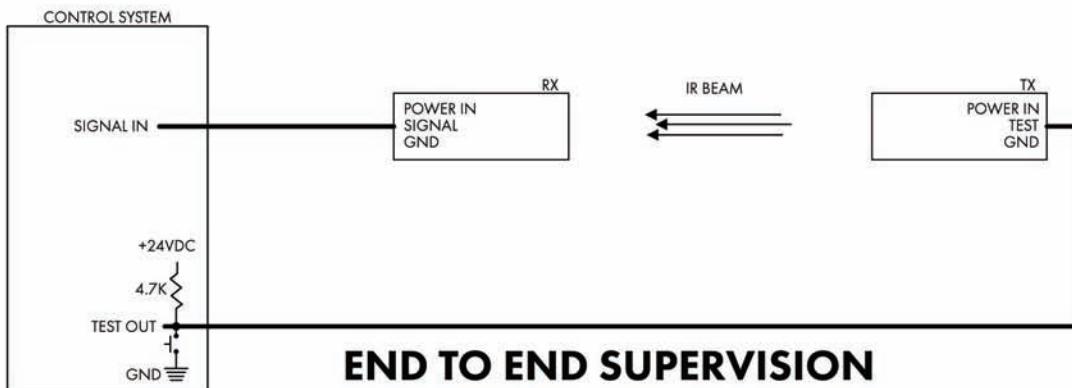
## Receiver Specifications

<b>Rated Operating Distance</b>	15m
<b>Blind Zone</b>	None
<b>Rated Operating Voltage</b>	10-30 VDC
<b>Supply Current</b>	No load Continuous
	≤ 10 mA ≤ 38 mA
<b>Protection</b>	Reverse Polarity ESD
<b>Utility Categories</b>	DC12 DC13
<b>Detection</b>	±4° @ 6.5m

Specifications subject to change without notice (9652-401 Rev 1)

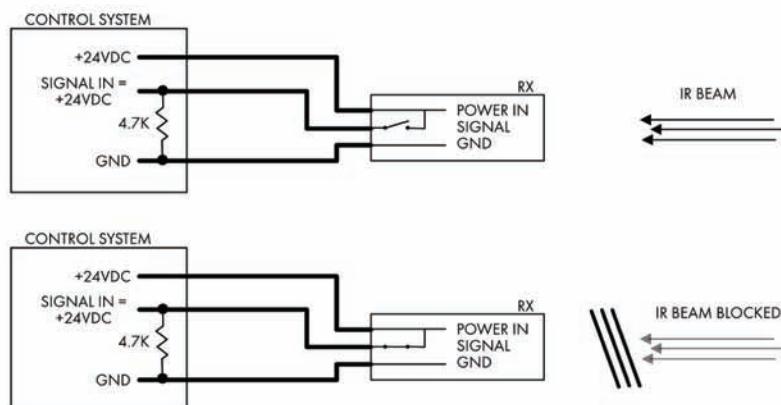


## SYSTEM WIRING SCHEME



## END TO END SUPERVISION

STEP 1: TEST OUT = FLOATING OR 24VDC, TURNS ON TX IR BEAM.  
 STEP 2: CONTROL SYSTEM DETECTS SIGNAL IN ENABLED.  
 STEP 3: TEST OUT = GND, TURNS OFF TX IR BEAM.  
 STEP 4: CONTROL SYSTEM DETECTS SIGNAL IN DISABLED.

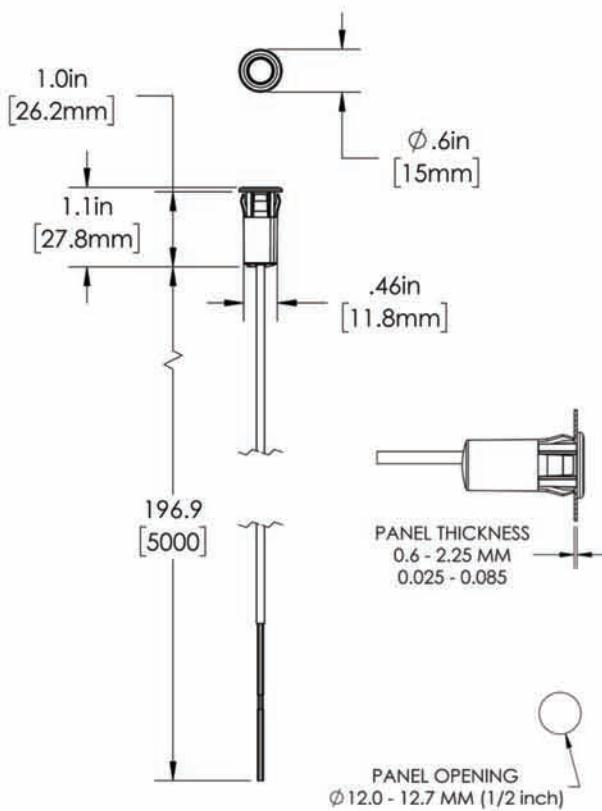


## P TYPE - NORMALLY CLOSED



## Product Description

The MPD HB series beams are a family of general purpose IR sensors, with particular applications in entrance, elevator, and escalator applications. The "quick install" enclosure makes setup simple - just push the beam into a 12mm diameter hole drilled into the wall and it will snap into place. The IP65 housing makes the beams suitable for a wide variety of both indoor and outdoor applications.



- Entrance, elevator, and escalator controls
- Range: 0-15m
- Supply voltage: 9 to 30 VDC
- Output: 30 mA
- Operating temperature: -30°C to 70°C
- NPN or PNP types available
- Patented LED ring indicator
- Patented adaptive power technology
- Noise immunity
- Available with or without cable connector
- UL325 approved

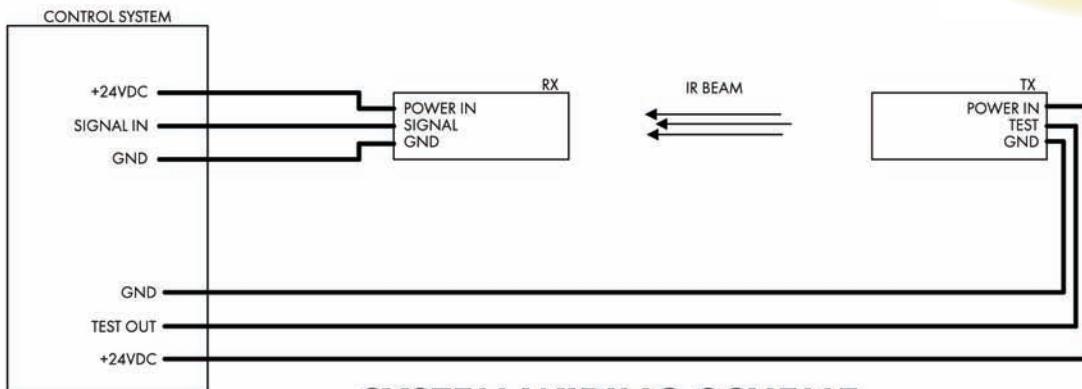
## General Specifications

<b>Environment</b>	Overvoltage Capacity Pollution degree Degree of protection	Category III 3 IP65 (IEC60529)
<b>Temperature</b>	Operating Storage	-25° to 60° C -40° to 60° C
<b>Voltage Protection</b>	Rated Insulation Voltage Dielectric Test Voltage	75 VDC 500 VAC RMS (EN60947-1)
<b>ESPE</b>	Type 2	
<b>Electrostatic Discharge</b>	Contact Air	≥ 4KV (IEC61000-4-2) ≥ 8KV (IEC61000-4-2)
<b>Impact</b>	Drop Test Side Impact	4 foot drop test Swinging Ball (UL746 sec 57)
<b>Certifications</b>	UL325: E325114 UL60947-1 / 5-2: E517822 CSA C22.2 No. 60947 RoHS and REACH Compliant	

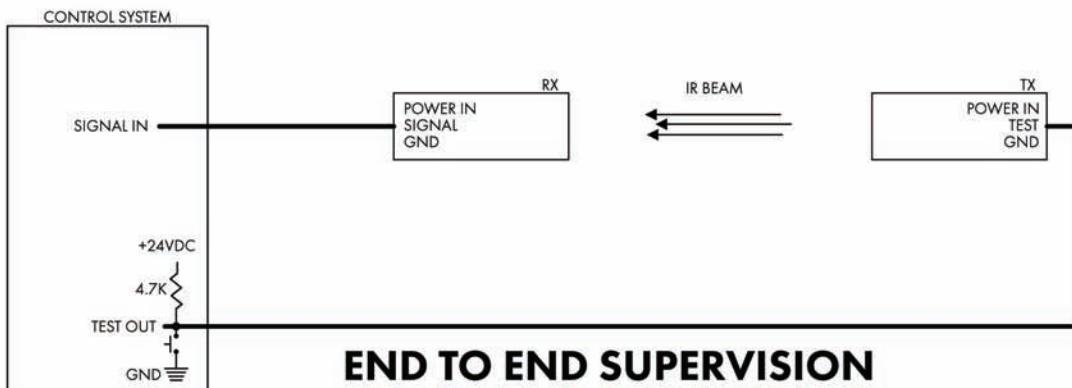
## Receiver Specifications

<b>Rated Operating Distance</b>	15m
<b>Blind Zone</b>	None
<b>Rated Operating Voltage</b>	10-30 VDC
<b>Supply Current</b>	≤ 10 mA ≤ 38 mA
<b>Protection</b>	Reverse Polarity ESD
<b>Utility Categories</b>	DC12 DC13
<b>Detection</b>	±4° @ 6.5m

Specifications subject to change without notice (9652-401 Rev 1)

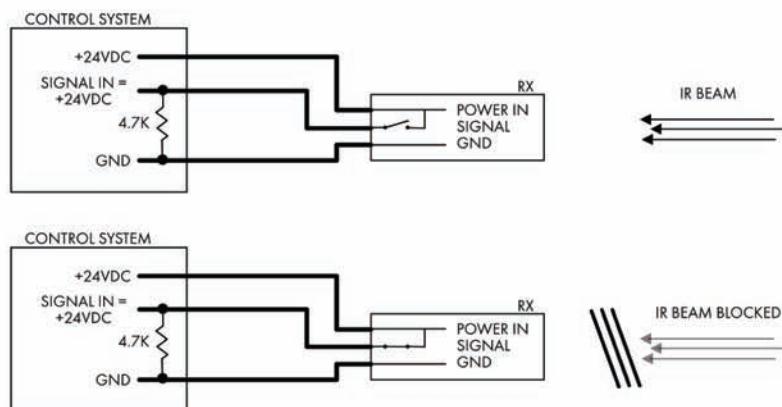


## SYSTEM WIRING SCHEME



## END TO END SUPERVISION

- STEP 1: TEST OUT = FLOATING OR 24VDC, TURNS ON TX IR BEAM.
- STEP 2: CONTROL SYSTEM DETECTS SIGNAL IN ENABLED.
- STEP 3: TEST OUT = GND, TURNS OFF TX IR BEAM.
- STEP 4: CONTROL SYSTEM DETECTS SIGNAL IN DISABLED.



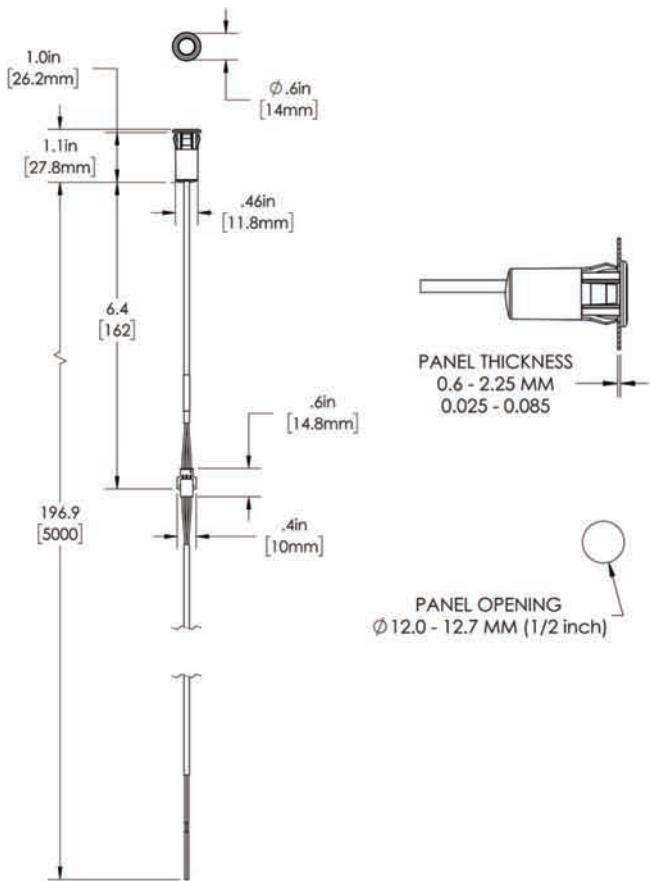
## P TYPE - NORMALLY CLOSED



- **Entrance, elevator, and escalator controls**
- **Range: 0-15m**
- **Supply voltage: 9 to 30 VDC**
- **Output: 30 mA**
- **Operating temperature: -30°C to 70°C**
- **NPN or PNP types available**
- **Patented LED ring indicator**
- **Patented adaptive power technology**
- **Noise immunity**
- **Available with or without cable connector**
- **UL325 approved**

## Product Description

The MPD HB series beams are a family of general purpose IR sensors, with particular applications in entrance, elevator, and escalator applications. The "quick install" enclosure makes setup simple - just push the beam into a 12mm diameter hole drilled into the wall and it will snap into place. The IP65 housing makes the beams suitable for a wide variety of both indoor and outdoor applications.



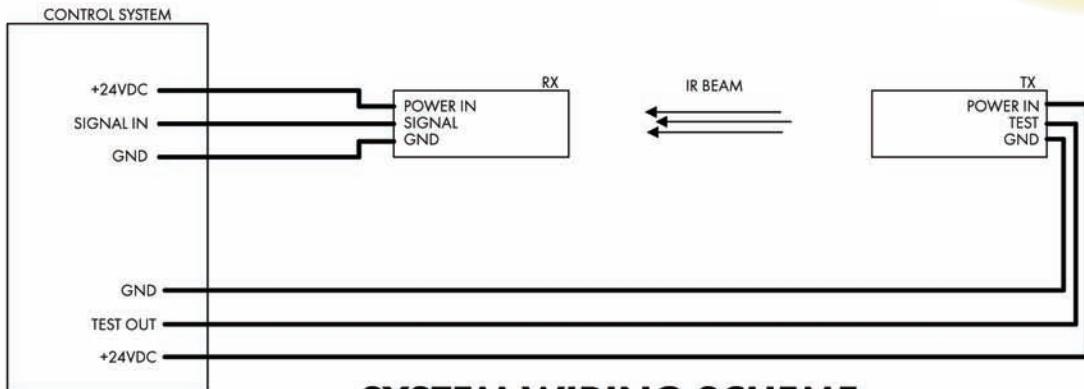
## General Specifications

<b>Environment</b>	Overvoltage Capacity Pollution degree Degree of protection	Category III 3 IP65 (IEC60529)
<b>Temperature</b>	Operating Storage	-25° to 60° C -40° to 60° C
<b>Voltage Protection</b>	Rated Insulation Voltage Dielectric Test Voltage	75 VDC 500 VAC RMS (EN60947-1)
<b>ESPE</b>	Type 2	
<b>Electrostatic Discharge</b>	Contact Air	≥ 4KV (IEC61000-4-2) ≥ 8KV (IEC61000-4-2)
<b>Impact</b>	Drop Test Side Impact	4 foot drop test Swinging Ball (UL746 sec 57)
<b>Certifications</b>	UL325: E325114 UL60947-1 / 5-2: E517822 CSA C22.2 No. 60947 RoHS and REACH Compliant	

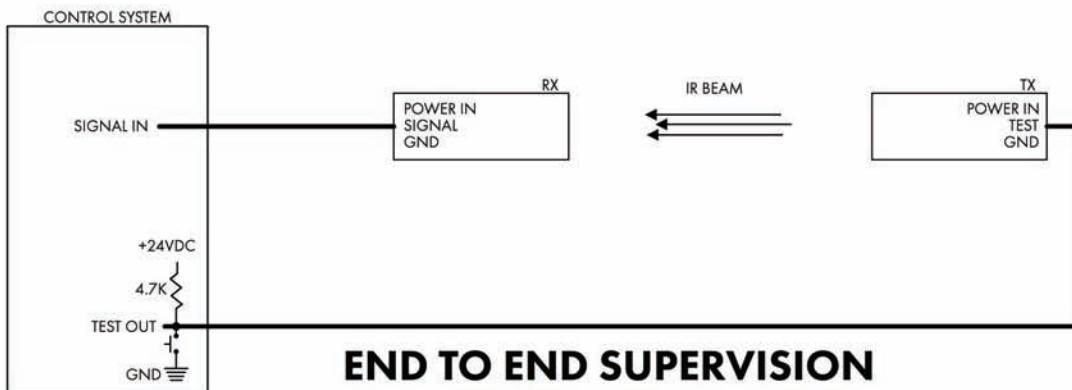
## Receiver Specifications

<b>Rated Operating Distance</b>	15m
<b>Blind Zone</b>	None
<b>Rated Operating Voltage</b>	10-30 VDC
<b>Supply Current</b>	No load Continuous
	≤ 10 mA ≤ 38 mA
<b>Protection</b>	Reverse Polarity ESD
<b>Utility Categories</b>	DC12 DC13
<b>Detection</b>	±4° @ 6.5m

Specifications subject to change without notice (9652-401 Rev 1)

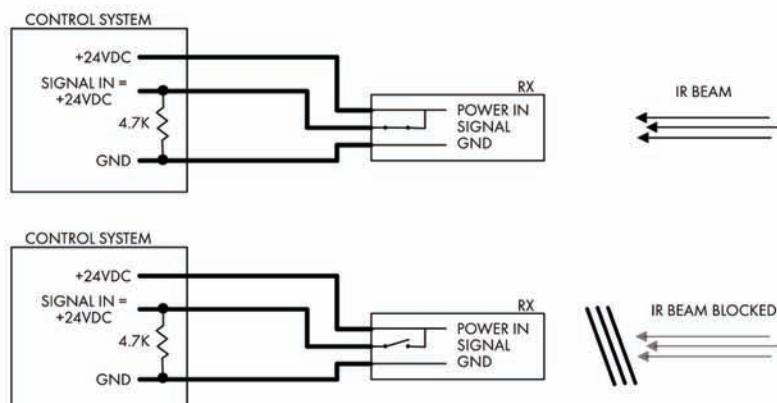


## SYSTEM WIRING SCHEME



## END TO END SUPERVISION

- STEP 1: TEST OUT = FLOATING OR 24VDC, TURNS ON TX IR BEAM.
- STEP 2: CONTROL SYSTEM DETECTS SIGNAL IN ENABLED.
- STEP 3: TEST OUT = GND, TURNS OFF TX IR BEAM.
- STEP 4: CONTROL SYSTEM DETECTS SIGNAL IN DISABLED.



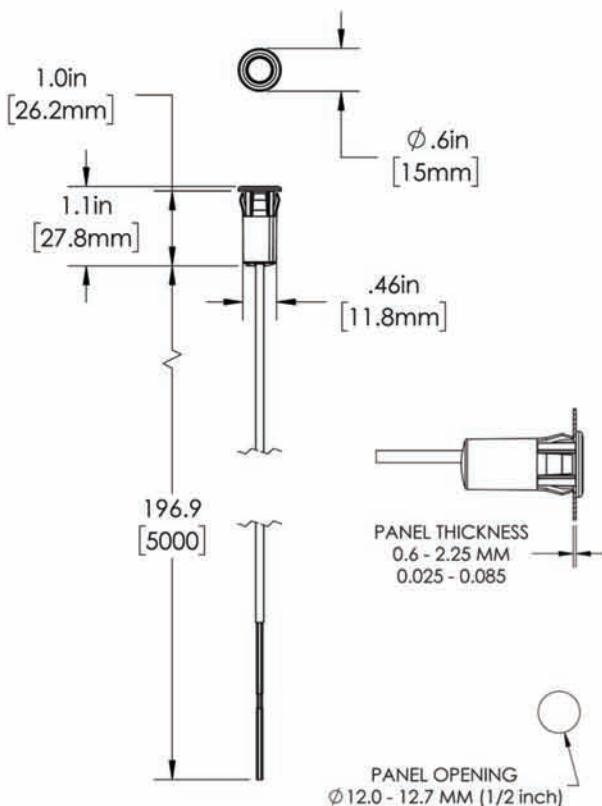
## P TYPE - NORMALLY OPEN



- Entrance, elevator, and escalator controls
- Range: 0-15m
- Supply voltage: 9 to 30 VDC
- Output: 30 mA
- Operating temperature: -30°C to 70°C
- NPN or PNP types available
- Patented LED ring indicator
- Patented adaptive power technology
- Noise immunity
- Available with or without cable connector
- UL325 approved

## Product Description

The MPD HB series beams are a family of general purpose IR sensors, with particular applications in entrance, elevator, and escalator applications. The "quick install" enclosure makes setup simple - just push the beam into a 12mm diameter hole drilled into the wall and it will snap into place. The IP65 housing makes the beams suitable for a wide variety of both indoor and outdoor applications.



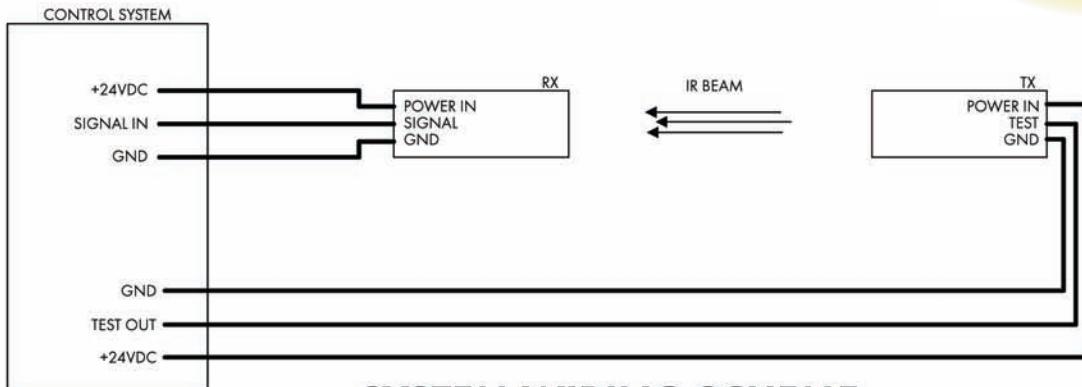
## General Specifications

<b>Environment</b>	Overvoltage Capacity Pollution degree Degree of protection	Category III 3 IP65 (IEC60529)
<b>Temperature</b>	Operating Storage	-25° to 60° C -40° to 60° C
<b>Voltage Protection</b>	Rated Insulation Voltage Dielectric Test Voltage	75 VDC 500 VAC RMS (EN60947-1)
<b>ESPE</b>	Type 2	
<b>Electrostatic Discharge</b>	Contact Air	≥ 4KV (IEC61000-4-2) ≥ 8KV (IEC61000-4-2)
<b>Impact</b>	Drop Test Side Impact	4 foot drop test Swinging Ball (UL746 sec 57)
<b>Certifications</b>	UL325: E325114 UL60947-1 / 5-2: E517822 CSA C22.2 No. 60947 RoHS and REACH Compliant	

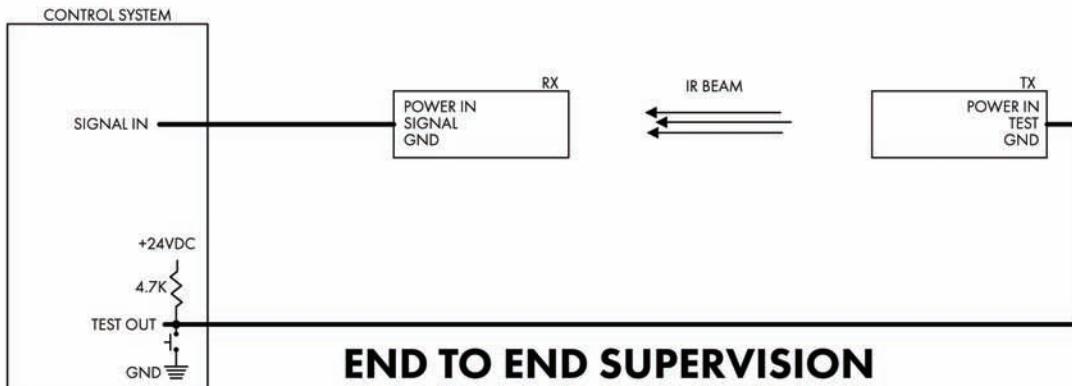
## Receiver Specifications

<b>Rated Operating Distance</b>	15m
<b>Blind Zone</b>	None
<b>Rated Operating Voltage</b>	10-30 VDC
<b>Supply Current</b>	≤ 10 mA ≤ 38 mA
<b>Protection</b>	Reverse Polarity ESD
<b>Utility Categories</b>	DC12 DC13
<b>Detection</b>	±4° @ 6.5m

Specifications subject to change without notice (9652-401 Rev 1)

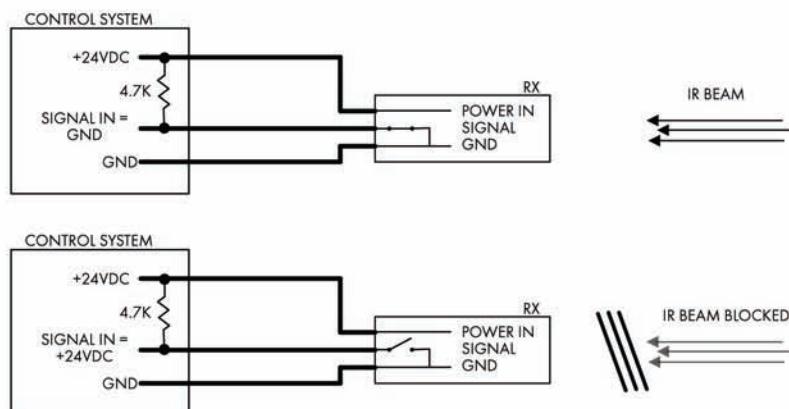


## SYSTEM WIRING SCHEME



## END TO END SUPERVISION

- STEP 1: TEST OUT = FLOATING OR 24VDC, TURNS ON TX IR BEAM.
- STEP 2: CONTROL SYSTEM DETECTS SIGNAL IN ENABLED.
- STEP 3: TEST OUT = GND, TURNS OFF TX IR BEAM.
- STEP 4: CONTROL SYSTEM DETECTS SIGNAL IN DISABLED.



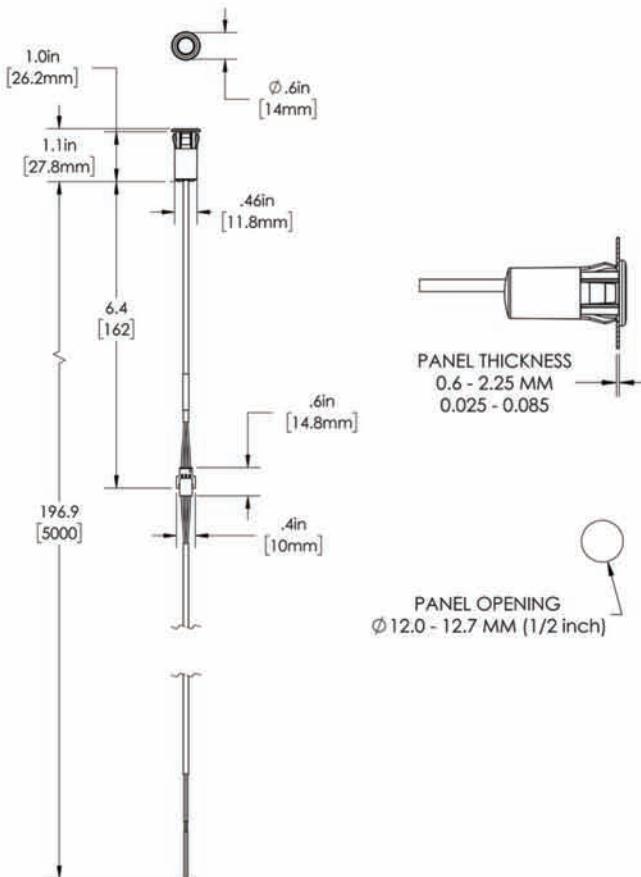
## N TYPE - NORMALLY OPEN



- Entrance, elevator, and escalator controls
- Range: 0-15m
- Supply voltage: 9 to 30 VDC
- Output: 30 mA
- Operating temperature: -30°C to 70°C
- NPN or PNP types available
- Patented LED ring indicator
- Patented adaptive power technology
- Noise immunity
- Available with or without cable connector
- UL325 approved

## Product Description

The MPD HB series beams are a family of general purpose IR sensors, with particular applications in entrance, elevator, and escalator applications. The "quick install" enclosure makes setup simple - just push the beam into a 12mm diameter hole drilled into the wall and it will snap into place. The IP65 housing makes the beams suitable for a wide variety of both indoor and outdoor applications.



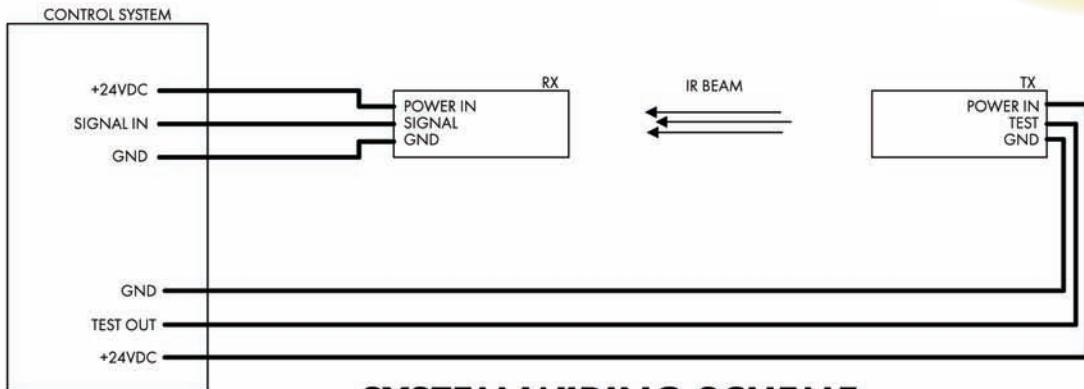
## General Specifications

<b>Environment</b>	Overvoltage Capacity Pollution degree Degree of protection	Category III 3 IP65 (IEC60529)
<b>Temperature</b>	Operating Storage	-25° to 60° C -40° to 60° C
<b>Voltage Protection</b>	Rated Insulation Voltage Dielectric Test Voltage	75 VDC 500 VAC RMS (EN60947-1)
<b>ESPE</b>	Type 2	
<b>Electrostatic Discharge</b>	Contact Air	≥ 4KV (IEC61000-4-2) ≥ 8KV (IEC61000-4-2)
<b>Impact</b>	Drop Test Side Impact	4 foot drop test Swinging Ball (UL746 sec 57)
<b>Certifications</b>	UL325: E325114 UL60947-1 / 5-2: E517822 CSA C22.2 No. 60947 RoHS and REACH Compliant	

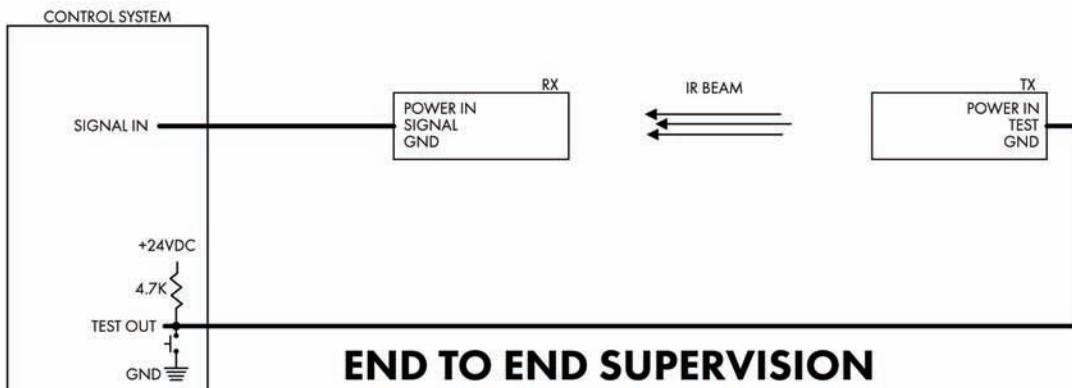
## Receiver Specifications

<b>Rated Operating Distance</b>	15m
<b>Blind Zone</b>	None
<b>Rated Operating Voltage</b>	10-30 VDC
<b>Supply Current</b>	No load Continuous
	≤ 10 mA ≤ 38 mA
<b>Protection</b>	Reverse Polarity ESD
<b>Utility Categories</b>	DC12 DC13
<b>Detection</b>	±4° @ 6.5m

Specifications subject to change without notice (9652-401 Rev 1)

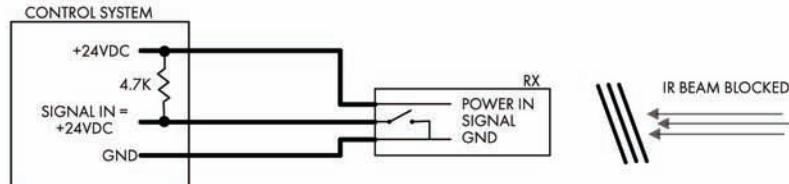
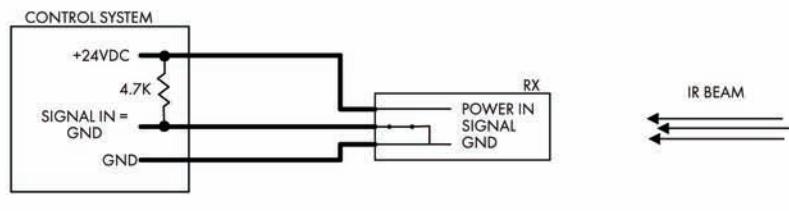


## SYSTEM WIRING SCHEME



## END TO END SUPERVISION

- STEP 1: TEST OUT = FLOATING OR 24VDC, TURNS ON TX IR BEAM.
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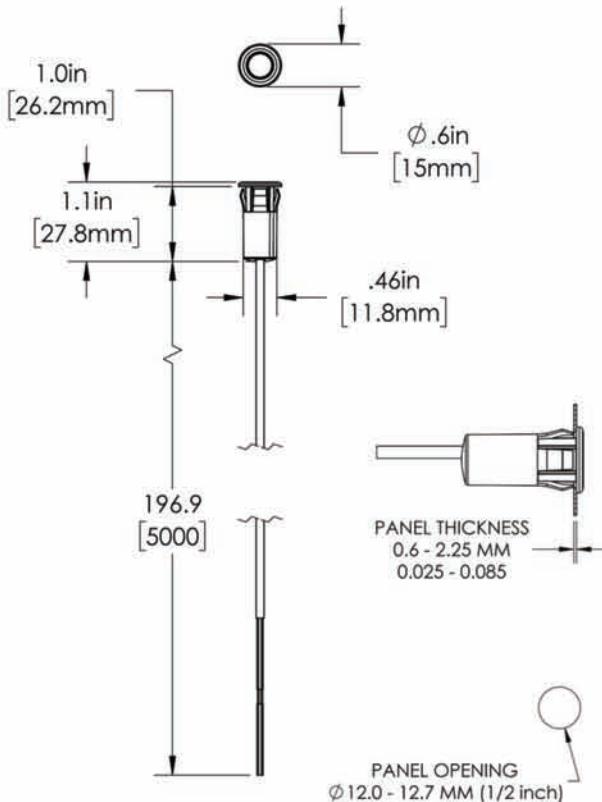
## N TYPE - NORMALLY OPEN



- Entrance, elevator, and escalator controls
- Range: 0-15m
- Supply voltage: 9 to 30 VDC
- Output: 30 mA
- Operating temperature: -30°C to 70°C
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- Patented adaptive power technology
- Noise immunity
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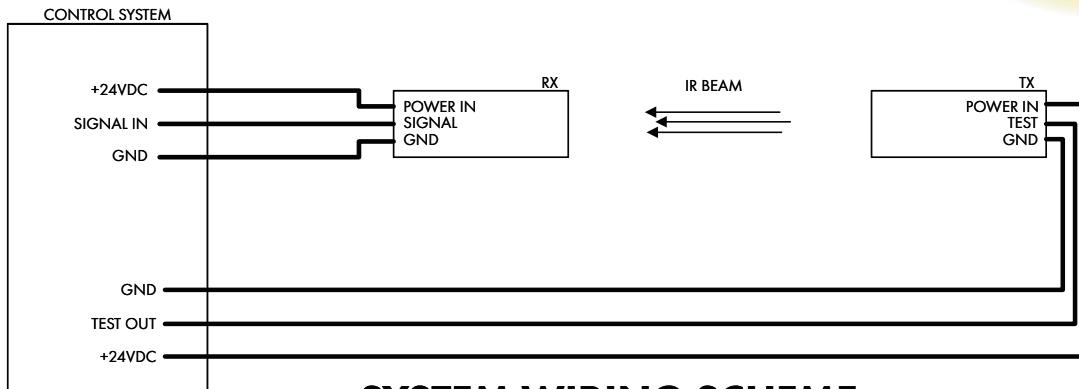
## General Specifications

<b>Environment</b>	Overvoltage Capacity Pollution degree Degree of protection	Category III 3 IP65 (IEC60529)
<b>Temperature</b>	Operating Storage	-25° to 60° C -40° to 60° C
<b>Voltage Protection</b>	Rated Insulation Voltage Dielectric Test Voltage	75 VDC 500 VAC RMS (EN60947-1)
<b>ESPE</b>	Type 2	
<b>Electrostatic Discharge</b>	Contact Air	≥ 4KV (IEC61000-4-2) ≥ 8KV (IEC61000-4-2)
<b>Impact</b>	Drop Test Side Impact	4 foot drop test Swinging Ball (UL746 sec 57)
<b>Certifications</b>	UL325: E325114 UL60947-1 / 5-2: E517822 CSA C22.2 No. 60947 RoHS and REACH Compliant	

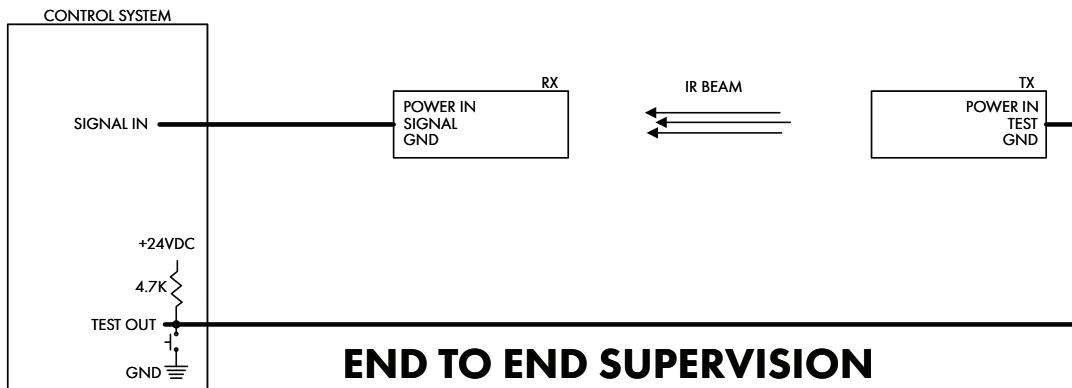
## Receiver Specifications

<b>Rated Operating Distance</b>	15m
<b>Blind Zone</b>	None
<b>Rated Operating Voltage</b>	10-30 VDC
<b>Supply Current</b>	≤ 10 mA ≤ 38 mA
<b>Protection</b>	Reverse Polarity ESD
<b>Utility Categories</b>	DC12 DC13
<b>Detection</b>	±4° @ 6.5m

Specifications subject to change without notice (9652-401 Rev 1)

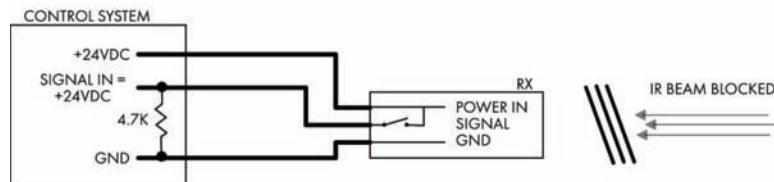
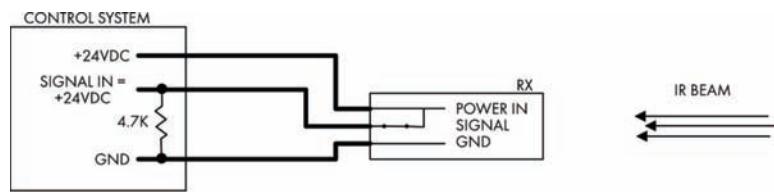


## SYSTEM WIRING SCHEME



## END TO END SUPERVISION

- STEP 1: TEST OUT = FLOATING OR 24VDC, TURNS ON TX IR BEAM.
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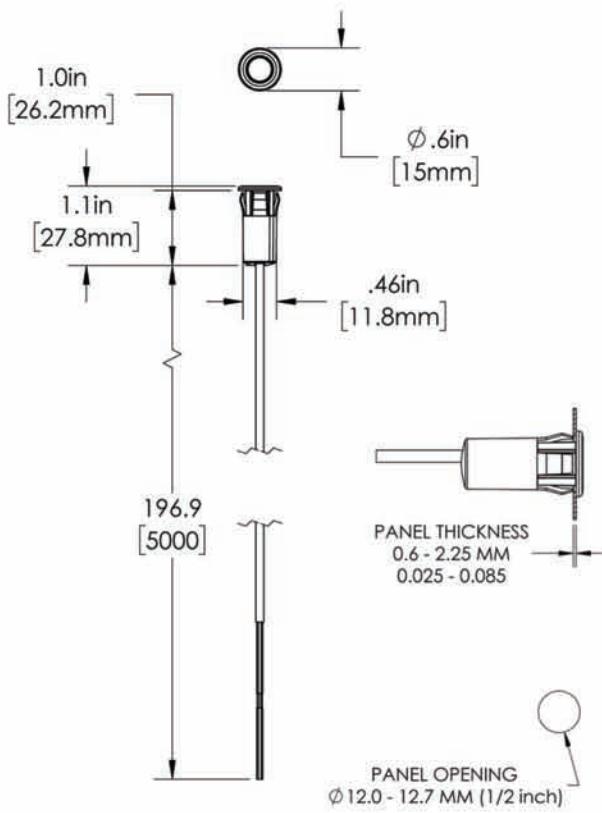
## P TYPE - NORMALLY OPEN



- **Entrance, elevator, and escalator controls**
- **Range: 0-15m**
- **Supply voltage: 9 to 30 VDC**
- **Output: 30 mA**
- **Operating temperature: -30°C to 70°C**
- **NPN or PNP types available**
- **Patented LED ring indicator**
- **Patented adaptive power technology**
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- **Available with or without cable connector**
- **UL325 approved**

## Product Description

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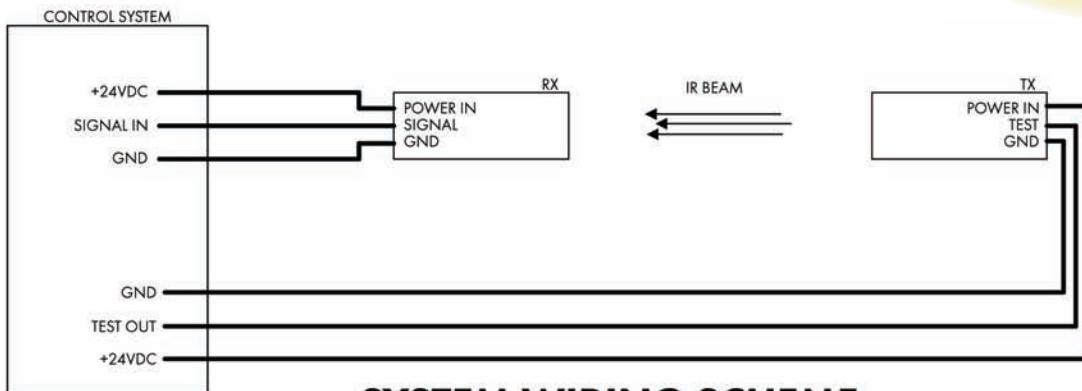


## General Specifications

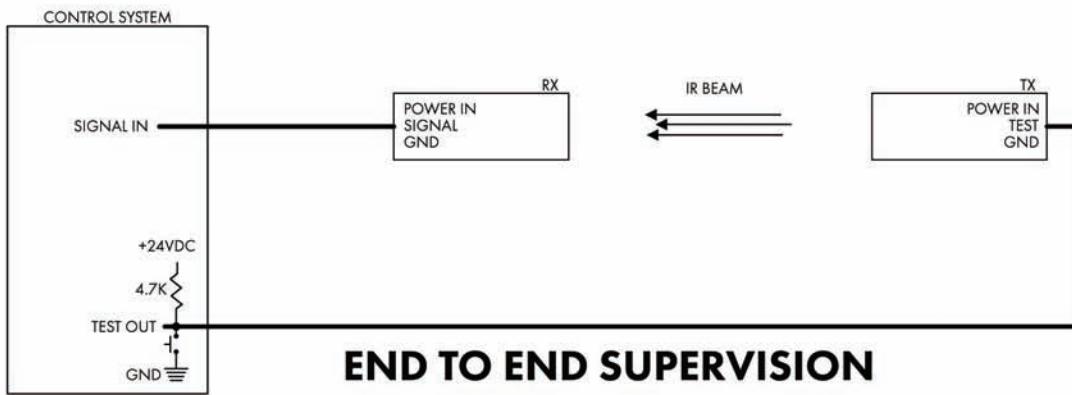
<b>Environment</b>	Overvoltage Capacity Pollution degree Degree of protection	Category III 3 IP65 (IEC60529)
<b>Temperature</b>	Operating Storage	-25° to 60° C -40° to 60° C
<b>Voltage Protection</b>	Rated Insulation Voltage Dielectric Test Voltage	75 VDC 500 VAC RMS (EN60947-1)
<b>ESPE</b>	Type 2	
<b>Electrostatic Discharge</b>	Contact Air	≥ 4KV (IEC61000-4-2) ≥ 8KV (IEC61000-4-2)
<b>Impact</b>	Drop Test Side Impact	4 foot drop test Swinging Ball (UL746 sec 57)
<b>Certifications</b>	UL325: E325114 UL60947-1 / 5-2: E517822 CSA C22.2 No. 60947 RoHS and REACH Compliant	

## Emitter Specifications

<b>Rated Operating Voltage</b>	10-30 VDC
<b>Supply Current</b>	≤ 20 mA
<b>Light</b>	Source Type Spot
<b>Ring Indicator</b>	Normal operation Mute function

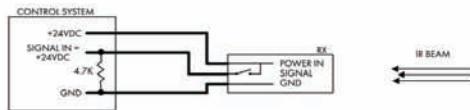


## SYSTEM WIRING SCHEME

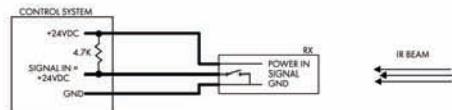


## END TO END SUPERVISION

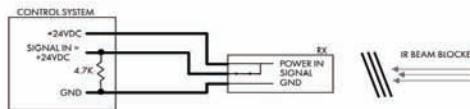
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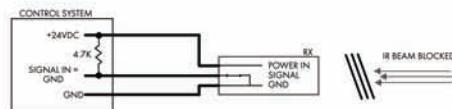
P TYPE - NORMALLY CLOSED



N TYPE - NORMALLY CLOSED



P TYPE - NORMALLY OPEN



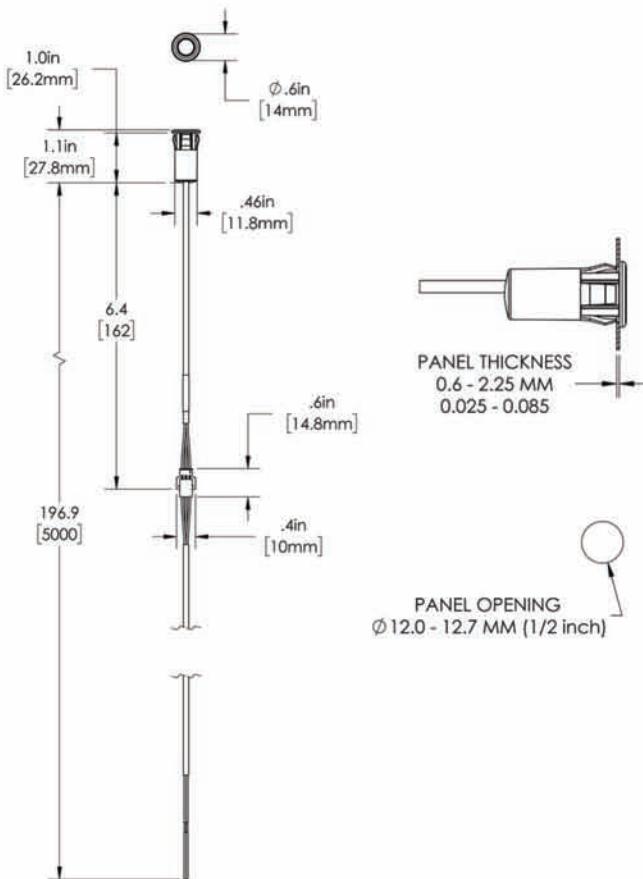
N TYPE - NORMALLY OPEN



- **Entrance, elevator, and escalator controls**
- **Range: 0-15m**
- **Supply voltage: 9 to 30 VDC**
- **Output: 30 mA**
- **Operating temperature: -30°C to 70°C**
- **NPN or PNP types available**
- **Patented LED ring indicator**
- **Patented adaptive power technology**
- **Noise immunity**
- **Available with or without cable connector**
- **UL325 approved**

## Product Description

The MPD HB series beams are a family of general purpose IR sensors, with particular applications in entrance, elevator, and escalator applications. The "quick install" enclosure makes setup simple - just push the beam into a 12mm diameter hole drilled into the wall and it will snap into place. The IP65 housing makes the beams suitable for a wide variety of both indoor and outdoor applications.



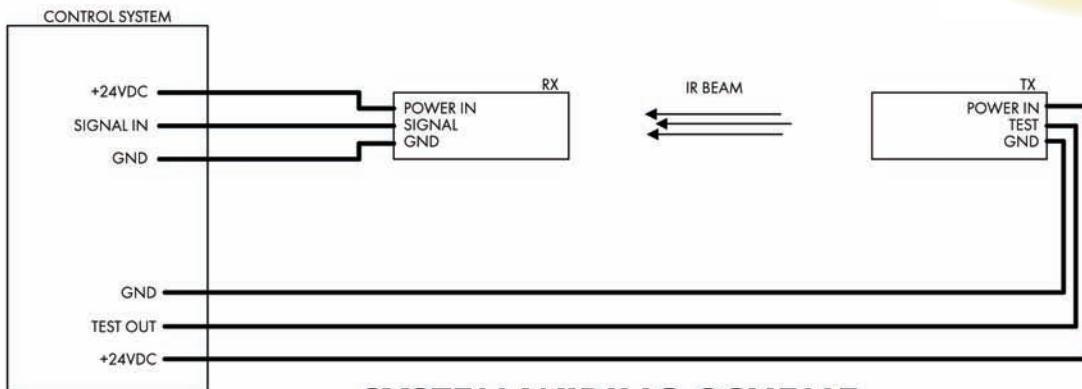
## General Specifications

<b>Environment</b>	Overvoltage Capacity Pollution degree Degree of protection	Category III 3 IP65 (IEC60529)
<b>Temperature</b>	Operating Storage	-25° to 60° C -40° to 60° C
<b>Voltage Protection</b>	Rated Insulation Voltage Dielectric Test Voltage	75 VDC 500 VAC RMS (EN60947-1)
<b>ESPE</b>	Type 2	
<b>Electrostatic Discharge</b>	Contact Air	≥ 4KV (IEC61000-4-2) ≥ 8KV (IEC61000-4-2)
<b>Impact</b>	Drop Test Side Impact	4 foot drop test Swinging Ball (UL746 sec 57)
<b>Certifications</b>	UL325: E325114 UL60947-1 / 5-2: E517822 CSA C22.2 No. 60947 RoHS and REACH Compliant	

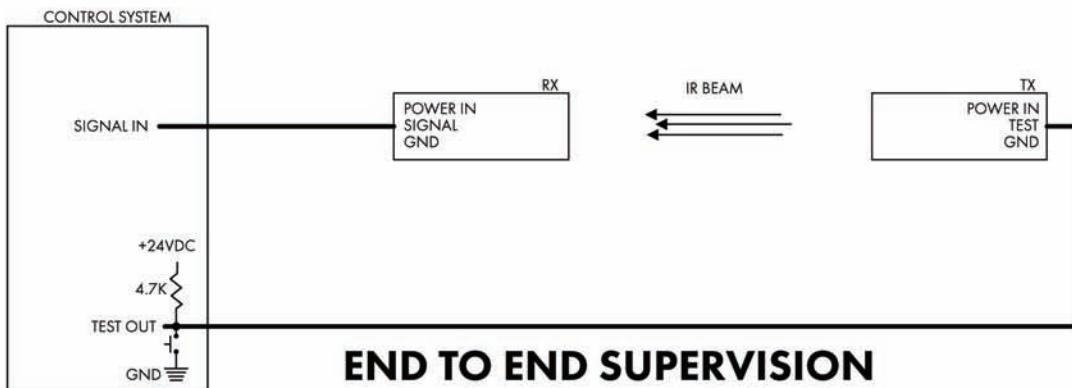
## Emitter Specifications

<b>Rated Operating Voltage</b>	10-30 VDC
<b>Supply Current</b>	≤ 20 mA
<b>Light</b>	Source: IR LED, 950nm Type: IR, Modulated Spot: 950 mm @ 10m
<b>Ring Indicator</b>	Normal operation: Green, on continuous Mute function: Green flash

Specifications subject to change without notice (9652-401 Rev 1)

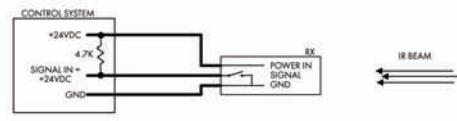
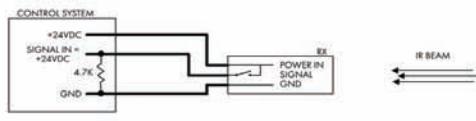


## SYSTEM WIRING SCHEME



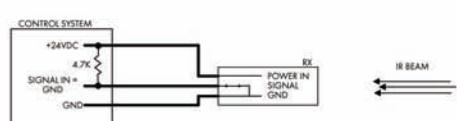
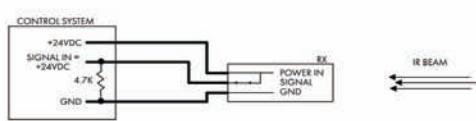
## END TO END SUPERVISION

STEP 1: TEST OUT = FLOATING OR 24VDC, TURNS ON TX IR BEAM.  
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 STEP 4: CONTROL SYSTEM DETECTS SIGNAL IN DISABLED.



P TYPE - NORMALLY CLOSED

N TYPE - NORMALLY CLOSED



P TYPE - NORMALLY OPEN

N TYPE - NORMALLY OPEN

# Recent Additions to Our Standard Product Lines

**MPD**  
MEMORY PROTECTION DEVICES

SALES@12V-PARTS.COM



AE602-15



AP-113



AS212-G



BF308



BF308-C



BF357  
BF357S



AS216

SALES@FUSEHOLDERS.COM



BF101



BF102



BF103B



BF104



BF110

Panel Mount Fuse Holders

SALES@BATTERYHOLDERS.COM



BK-110



BK-112



BK-118



BK-120



BK-122

New Leaf Spring Contact Line

# Distributors



## Asian Distributors

Digi-Key	Worldwide	(800) 344-4539	<a href="http://www.digikey.com/us/en/international/global.html">www.digikey.com/us/en/international/global.html</a>
Online Components	Online	(888) 906-8217	<a href="http://www.onlinecomponents.com">www.onlinecomponents.com</a>
AddCom	China (Shanghai)	(86) 2154357506	<a href="http://www.addcom.com.sg">www.addcom.com.sg</a>
AddCom	China (Shenzhen)	(86) 75583864328	<a href="http://www.addcom.com.sg">www.addcom.com.sg</a>
AddCom	China (Hong Kong)	(852) 29470728	<a href="http://www.addcom.com.sg">www.addcom.com.sg</a>
Gagner	China (Shanghai)	(86) 2154315716	<a href="http://www.gagnerproducts.com">www.gagnerproducts.com</a>
Gagner	China (Shen Zhen City)	(86) 75583662671	<a href="http://www.gagnerproducts.com">www.gagnerproducts.com</a>
QuadRep	China (Beijing)	(86) 1062123833	<a href="http://www.quadrep.com.cn">www.quadrep.com.cn</a>
QuadRep	China (Shanghai)	(86) 2163175445	<a href="http://www.quadrep.com.cn">www.quadrep.com.cn</a>
QuadRep	China (Beijing)	(86) 2425621468	<a href="http://www.quadrep.com.cn">www.quadrep.com.cn</a>
Gagner	Hong Kong (Hong Kong)	(852) 28927311	<a href="http://www.gagnerproducts.com">www.gagnerproducts.com</a>
Master Electronics	HongKong (Tsuen Wan)	(852) 35911701	<a href="http://www.masterelectronics.com">www.masterelectronics.com</a>
AddCom	Indonesia (Singapore)	(65) 68442788	<a href="http://www.addcom.com.sg">www.addcom.com.sg</a>
AddCom	India (Faridabad)	(91) 01294000408	<a href="http://www.addcom.com.sg">addcom.com.sg</a>
Tamuz Electronics Ltd.	Israel (Kfar-Saba)	(972) 97633000	<a href="http://www.tamuz-ele.com">www.tamuz-ele.com</a>
AddCom	Japan	(65) 68442788	<a href="http://www.addcom.com.sg">www.addcom.com.sg</a>
Kaztech	Japan (Tokyo)	(81) 0333877611	<a href="http://www.kaztech.co.jp">www.kaztech.co.jp</a>
AddCom	South Korea (Seoul)	(65) 68442788	<a href="http://www.addcom.com.sg">www.addcom.com.sg</a>
AddCom	Malaysia (Bayan Lepas Penang)	(60) 46469223	<a href="http://www.addcom.com.sg">www.addcom.com.sg</a>
Gagner	Malaysia (Puchong, Selangor)	(60) 45075088	<a href="http://www.gagnerproducts.com">www.gagnerproducts.com</a>
Master Electronics	Malaysia (Penang)	(604) 530-1128	<a href="http://www.masterelectronics.com">www.masterelectronics.com</a>
QuadRep	Malaysia (Penang)	(60) 46581771	<a href="http://www.quadrep.com.sg">www.quadrep.com.sg</a>
AddCom	Philippines (Singapore)	(65) 68442788	<a href="http://www.addcom.com.sg">www.addcom.com.sg</a>
QuadRep	Philippines (Las Piñas City)	(63) 28052879	<a href="http://www.quadrep.com.sg">www.quadrep.com.sg</a>
AddCom	Singapore (Singapore)	(65) 68442788	<a href="http://www.addcom.com.sg">www.addcom.com.sg</a>
Gagner	Singapore (TechPark)	(65) 68489430	<a href="http://www.gagnerproducts.com">www.gagnerproducts.com</a>
QuadRep	Singapore (Singapore)	(65) 63461933	<a href="http://www.quadrep.com.cn">www.quadrep.com.cn</a>
AddCom	Thailand (Laksi Bangkok)	(66) 25761988	<a href="http://www.addcom.com.sg">www.addcom.com.sg</a>
Gagner	Thailand (Bangkok)	(66) 267548146	<a href="http://www.gagnerproducts.com">www.gagnerproducts.com</a>
AddCom	Taiwan (New Taipei City)	(886) 921128259	<a href="http://www.addcom.com.sg">www.addcom.com.sg</a>
QuadRep	Taiwan (Bangkok)	(886) 226989933	<a href="http://www.quadrep.com.cn">www.quadrep.com.cn</a>
QuadRep Electronics (Hsinchu office)	Taiwan (Taipei)	(886) 35737853	<a href="http://www.quadrep.com.tw">www.quadrep.com.tw</a>
AddCom	Vietnam (Ho Chi Minh City)	(08) 38107677	<a href="http://www.addcom.com.sg">www.addcom.com.sg</a>
Quadrep Vietnam (Ho Chi Minh)	Vietnam (Ho Chi Minh City)	(84) 87262981	<a href="http://www.quadrep.com.sg">www.quadrep.com.sg</a>
Quadrep Vietnam Office Hanoi	Vietnam (Hanoi)	(84) 0936484282	<a href="http://www.quadrep.com.sg">www.quadrep.com.sg</a>

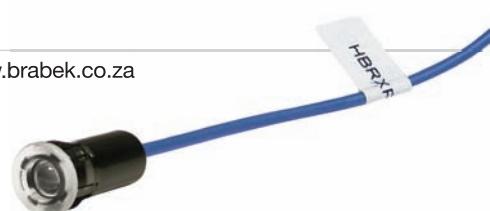
## Australian/Oceanic Distributors

Digi-Key	Worldwide	(800) 344-4539	<a href="http://www.digikey.com/us/en/international/global.html">www.digikey.com/us/en/international/global.html</a>
Online Components	Online	(888) 906-8217	<a href="http://www.onlinecomponents.com">www.onlinecomponents.com</a>
Master Instruments	Australia (Sydney)	(61) 295191200	<a href="http://www.master-instruments.com.au">www.master-instruments.com.au</a>
Active Components	New Zealand (Auckland)	(64) 94439500	<a href="http://www.activecomponents.com">www.activecomponents.com</a>

## Africa

Brabek PTY	South Africa (Cape Town)	(27) 021 706-3162	<a href="http://www.brabek.co.za">www.brabek.co.za</a>
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Our list of distributors continues on the following page.



# Distributors (continued from previous page)

## Global Catalog Distributors

Digi-Key Online Components	Worldwide Online	(800) 344-4539 (888) 906-8217	<a href="http://www.digikey.com/us/en/International/global.html">www.digikey.com/us/en/International/global.html</a> <a href="http://www.onlinecomponents.com">www.onlinecomponents.com</a>
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## North American Distributors

ElectroSonic	Canada (Montreal QC)	514-748-7942	<a href="http://www.e-sonic.com">www.e-sonic.com</a>
ElectroSonic	Canada (Markham, ON)	905-946-0500	<a href="http://www.e-sonic.com">www.e-sonic.com</a>
ElectroSonic	Canada (Vancouver, BC)	604-273-2911	<a href="http://www.e-sonic.com">www.e-sonic.com</a>
Inventus Power	Mexico (Tijuana)	(52) 6642314832	<a href="http://www.inventuspower.com">www.inventuspower.com</a>
Master Electronics	Mexico (Zapopan)	(33) 21534181	<a href="http://www.masterelectronics.com">www.masterelectronics.com</a>
Custom Power LLC	USA (Fountain Valley, CA)	1-800-432-3385	<a href="http://www.custompower.com">www.custompower.com</a>
Excel Components & Supply	USA (Holtsville, NY)	1-631-475-1100	<a href="http://www.excelcomp.com">www.excelcomp.com</a>
Inventus Power	USA (Woodridge IL)	1-630-410-7900	<a href="http://www.inventuspower.com">www.inventuspower.com</a>
Master Electronics	USA (Phoenix AZ)	1-602-267-1111	<a href="http://www.masterelectronics.com">www.masterelectronics.com</a>
Master Electronics	USA (Eden Prairie, MN)	1-952-944-2151	<a href="http://www.masterelectronics.com">www.masterelectronics.com</a>
Master Electronics	USA (Tampa, FL)	1-813-814-2900	<a href="http://www.masterelectronics.com">www.masterelectronics.com</a>
Master Electronics	USA (Santa Clara, CA)	1-408-970-8090	<a href="http://www.masterelectronics.com">www.masterelectronics.com</a>
Master Electronics	USA (Bohemia, NY)	1-631-434-9394	<a href="http://www.masterelectronics.com">www.masterelectronics.com</a>
Master Electronics	USA (Redmond, WA)	1-425-821-5454	<a href="http://www.masterelectronics.com">www.masterelectronics.com</a>
Master Electronics	USA (Santa Monica, CA)	1-310-452-1229	<a href="http://www.masterelectronics.com">www.masterelectronics.com</a>
Master Electronics	USA (Miami, FL)	1-305-638-2000	<a href="http://www.masterelectronics.com">www.masterelectronics.com</a>
Source Research	USA (Schaumburg, IL)	1-800-356-0259	<a href="http://www.sourceresearch.com">www.sourceresearch.com</a>
Taylor/Master Electronics	USA (Germantown, WI)	1-414-365-6335	<a href="http://www.taylorwisconsin.com">www.taylorwisconsin.com</a>

## European Distributors

Digi-Key	Worldwide	(800) 344-4539	<a href="http://www.digikey.com/us/en/International/global.html">www.digikey.com/us/en/International/global.html</a>
Online Components	Online	(888) 906-8217	<a href="http://www.onlinecomponents.com">www.onlinecomponents.com</a>
Ineltrö	Austria (Wien)	(43) 0161062136	<a href="http://www.ineltrö.eu">www.ineltrö.eu</a>
Ineltrö	Switzerland (Regensdorf)	(41) 433437300	<a href="http://www.ineltrö.ch">www.ineltrö.ch</a>
Rossmann Electronic	Germany (Dießen am Ammersee)	(49) 8807949940	<a href="http://www.rossmannweb.de/index.php?lang=de">www.rossmannweb.de/index.php?lang=de</a>
RC Microelectronica	Spain (Barcelona)	(34) 932602166	<a href="http://www.rcmicro.es">www.rcmicro.es</a>
Sorelec Electronics	France (Cesson-Sevigne)	(33) 299837854	<a href="http://www.sorelec.com/l-actu/87-sorelec-distribue-les-solutions-mdp.html">www.sorelec.com/l-actu/87-sorelec-distribue-les-solutions-mdp.html</a>
Dissios SA Batteries	Greece (Paiania)	(30) 2106647333	<a href="http://www.batteries.gr/en/rechargeable/accessories/holders.html">www.batteries.gr/en/rechargeable/accessories/holders.html</a>
HT Componenti Elettronici srl	Italy (Firenze)	(39) 055430310	<a href="http://it.kompass.com/c/ht-componenti-elettronici-srl/it0179298/">it.kompass.com/c/ht-componenti-elettronici-srl/it0179298/</a>
Nedelko	Netherlands (Barendrecht)	(31) 180645400	<a href="http://www.nedelko.nl">www.nedelko.nl</a>
OEM Electronics AB	Denmark (Allerød)	(46) 087328560	<a href="http://www.oemelectronics.se/leverantorer/mpd">www.oemelectronics.se/leverantorer/mpd</a>
OEM Electronics AB	Norway (Drammen)	(46) 087328560	<a href="http://www.oemelectronics.se/leverantorer/mpd">www.oemelectronics.se/leverantorer/mpd</a>
OEM Electronics Poland	Poland (Warszawa)	(48) 22-86 32 722	<a href="http://www.oemelectronics.pl/">www.oemelectronics.pl/</a>
OEM Electronics AB	Sweden (TRANÅS)	(46) 087328560	<a href="http://www.oemelectronics.se/leverantorer/mpd">www.oemelectronics.se/leverantorer/mpd</a>

## South American Distributors

Inventus Power	Brazil (Manus)	(55) 92 2126 6400	<a href="http://www.inventuspower.com">www.inventuspower.com</a>
Power Circuit EletrônicaLtda.	Brazil (São Paulo)	(55) 11-3981-3965	<a href="http://www.powercircuit.com.br">www.powercircuit.com.br</a>



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