

How to Select and Use MPD IR Safety Sensor Beams

A practical guide for equipment designers and installers

MPD HB series pairs a transmitter and receiver to detect a blocked infrared path. Start with the application and control input, then select the receiver output and connection style. Verify the installation against the current model datasheets and equipment requirements.



MPD TRANSMITTER HBTX15



MPD RECEIVER HBRXNO15

1 Confirm the application

- Define the opening or detection zone, mounting position, and clear line of sight. The listed sensing range is up to 15 m (about 49 ft).
- The snap-in enclosure mounts in a 12 mm diameter hole. The housing is rated IP65; review the full system and installation for exposure, wiring, and maintenance.
- For a motorized gate, garage door, or window shade, verify applicable UL 325 requirements. For machinery proximity sensing, check the relevant UL 60947 classification and the equipment risk assessment.

2 Choose one transmitter and one receiver

Choose HBTX15 for loose wires or HBTX15CON for a 3 pin connector. Select the receiver by the voltage behavior your controller expects when the beam is clear or blocked. “N” switches toward ground; “P” switches toward supply. “O” and “C” describe the output when the beam is clear.

Receiver	Clear path	Blocked path
HBRXNO15	Open circuit	Driven to ground
HBRXNC15	Driven to ground	Open circuit
HBRXPO15	Open circuit	Driven to power input
HBRXPC15	Driven to power input	Open circuit

Add CON to any receiver part number for its connector version. Confirm mating connector, controller input, power supply, load, and wiring from the exact datasheet before ordering.



Where MPD beams can be used

Motorized gates and garage doors: detect an obstruction across a travel opening, subject to the complete system's UL 325 design and installation requirements. Window shades and entrances: sense a blocked path before a controller completes a movement. Elevator and escalator equipment: use proximity or obstruction detection where the equipment design calls for a discrete IR input. Automated machinery: detect objects at a station or conveyor opening as a proximity input. The equipment designer must determine the required safeguards for each application.

3 Mount and align the pair

1. Set transmitter and receiver opposite one another across the opening. Keep the faces clean and the beam path free of fixed obstructions.
2. Prepare the specified 12 mm mounting holes and snap each unit into place. Protect and route cable connections as required by the application.
3. Wire the supply and receiver output to the controller according to the selected model datasheet. Do not assume that the illustrated output behavior alone specifies the complete wiring circuit.
4. Power the system and align the faces. The receiver's visible yellow ring illuminates when the path is clear and aligned; it goes out if the path is blocked or significantly misaligned.

4 Test the installed system

- With an unobstructed path, confirm the yellow receiver ring is on and the controller reads the expected clear state.
- Block the beam at representative locations. Confirm the ring goes out and the controller detects the blocked state and responds as designed.
- Check the response to loss of power, disconnection, and misalignment as required by your system design. Record commissioning results and retest after service.

Why specify MPD

Compared with receivers that put a status LED on the side, MPD's front-facing yellow ring remains visible after the receiver is mounted in a door jamb. That makes alignment and blocked-path checks easier at the installation point. MPD also cites patented reflection rejection for sunny conditions, RF noise shielding, and operation with up to 5° of misalignment in its advantages sheet. Compare the exact competing model and installation conditions before making a performance claim. The HB series offers a 12 mm snap-in housing, IP65 rating in the current datasheet, and loose-wire or connector versions.

Need another configuration

Need a custom beam or MPD substitute? Send your range, voltage, controller input, mounting, connection, and application requirements. Samples are available on demand: email sales@memoryprotectiondevices.com or call MPD at (631) 249-0001.

Application and certification note

MPD lists UL 325 file E325114 for obstruction detection and UL 60947 file E517822 for proximity sensing. The UL 60947 listing is category NRKH, not injury prevention light curtain certification (category NIOZ). Confirm current approvals and suitability for the complete equipment.