



# DS453Q and DS455Q Quad Beam Photoelectric Detectors



- ▶ Quad beam detection
- ▶ Four mounting options using optional mounting poles
- ▶ Environmental discrimination circuit
- ▶ Beam power control to reduce cross-talk

The Detector Series consists of the DS453Q and DS455Q Detectors with separate transmitters and receivers each. The transmitter emits an invisible infrared beam to the receiver. If the beam is broken, the receiver signals an alarm.

The DS453Q and DS455Q use four pulsed infrared beams that are designed to activate an alarm only when all four beams are simultaneously blocked.

The DS453Q and DS455Q also feature interlocked upper and lower beams, signal voltage LED, and selectable environmental discrimination circuitry.

## Functions

### Environmental Discrimination Circuit

- Monitors gradual loss of signal due to dust, fog, rain, and snow. Normally closed output opens when signal loss reaches 90%. May be field configured to bypass alarm relay when activated.
- Field adjustable sensitivity, normally closed relay contacts rated 0.2 A, 30 VDC.

### Test Features

Externally visible alarm LED. Internal transmitter operation LEDs. Flashing LED and voltage output at receiver for alignment purposes.

## Certifications and Approvals

UL639, Intrusion Detection Units

## Installation/Configuration Notes

### Mounting Considerations

Mount these detectors on surfaces or poles. Pole mount to 4.1 cm to 4.5 cm (1.625 in. to 1.75 in) O. D. pole.

## Technical Specifications

### Photobeam

Outdoor Range DS453Q:	110 m (360 ft)
Outdoor Range DS455Q:	160 m (525 ft)
Environmental Discrimination Circuit (EDC):	Normally-closed switch for connection to normally-closed supervision circuit. Rated at 0.2 A at 30.0 VDC
Beam Interrupt Time:	50 ms to 500 ms (adjustable)

### Environmental Considerations

Operating Temperature:	-25°C to 60°C (-13°F to 140°F)
Storing Temperature:	-30°C to 70°C (-22°F to 158°F)

### Mounting Considerations

Internal Pointability:	180° horizontal, 20° vertical
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### Power Requirements

Power Supply:	10.5 VDC to 28.0 VDC
Current Draw DS453Q:	135 mA (maximum, transmitter and receiver total)
Current Draw DS455Q:	160 mA (maximum, transmitter and receiver total)
Alarm Output:	Form C relay rated at 0.2 A at 30.0 VDC
Tamper Output:	Normally-closed tamper switch rated at 0.1 A at 30.0 VDC
Beam Power Control:	Equipped

### Enclosure Design

Material:	High impact Lexan® enclosure
Dimensions:	39.8 cm x 10 cm x 10 cm (15.7 in. x 4 in. x 4 in.)

Weight (transmitter and receiver total): 2.4 kg (5.3 lb)

### Trademarks

Lexan® is either a trademark or registered trademark of General Electric Company in the United States and other countries.

## Ordering Information

DS453Q Photoelectric Detector Provides an outdoor range of 110 m (360 ft).	DS453Q
DS455Q Photoelectric Detector Provides an outdoor range of 160 m (525 ft).	DS455Q

### Hardware Accessories

PC1A Weather Enclosure Protects detectors when mounted outside. The enclosure's dimensions are 39.4 cm x 10.3 cm x 6 cm (15.5 in. x 4 in. x 2.4 in.).	PC1A
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## Ordering Information

PC3A Back-to-back Box Allows back-to-back mounting of detectors on a pole.	PC3A
PEH-2 Heater Reduces the effects of frost, intense fog, cold, and damp conditions on photoelectric beam detectors. Shipped in packages of four (two for transmitter and two for receiver).	PEH2
MP1 Metal Pole, 1 m (3 ft) Straight metal poles measuring 1 m (3 ft) for pole mounting photoelectric detectors. Shipped in packages of two.	MP1
MP2 Metal Pole, 1.2 m (4 ft) Straight metal poles measuring 1.2 m (4 ft) for pole mounting photoelectric detectors. Shipped in packages of two.	MP2
MP3 L-Curved Metal Pole Curved metal poles for mounting to vertical surfaces for pole mounting photoelectric detectors. Shipped in packages of two.	MP3

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