

# PEH-2



Security Systems

EN | Installation Instructions  
Heater

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## 1.0 General Description

### 1.1 Features

The PEH-2 Heater:

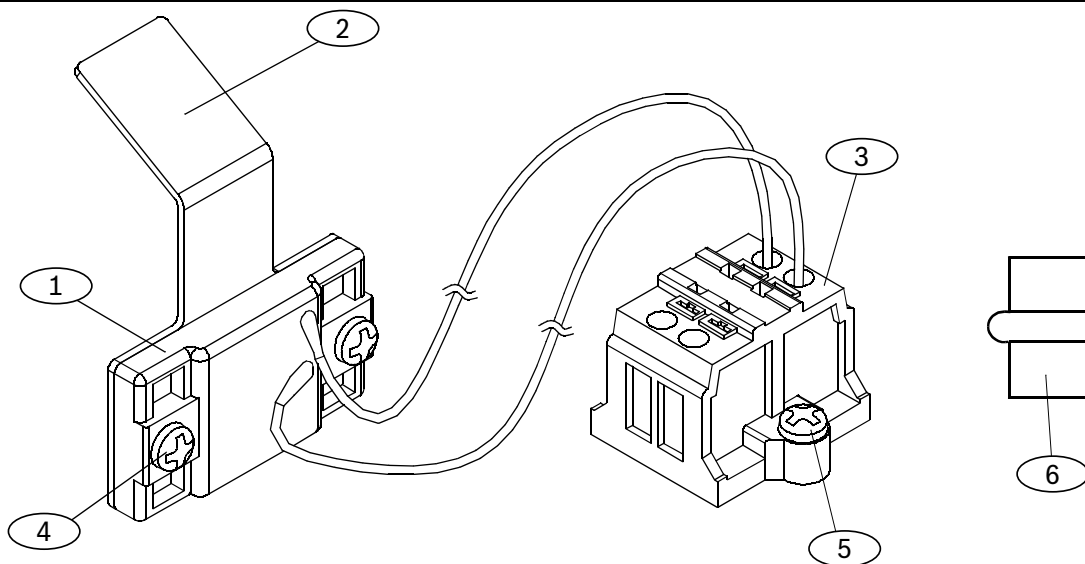
- is a heating device for the DS484Q, DS486Q, DS453Q, and DS455Q Photoelectric Beam Detectors
- helps to prevent frost build-up on beam covers for stable performance of detectors
- maintains constant temperature through automatic temperature control
- is made of ceramic to minimize the effects of aging
- has a horizontally adjustable radiator (*Figure 1*) to coordinate with the angle of the detector's optical module

### 1.2 Parts List

PEH-2 Heaters are shipped from the factory with the following parts (*Figure 1*):

- Heaters (2) – Each heater consists of a heating element, a radiator, and a terminal.
- Heater mounting screws (4)
- Terminal mounting screws (4)
- Stoppers (2)
- Installation instructions

**Figure 1: Components of the PEH-2 Heater**



1 - Heating element

2 - Radiator

3 - Terminal

4 - Heater mounting screw

5 - Terminal mounting screw

6 - Stopper

## 2.0 Wiring

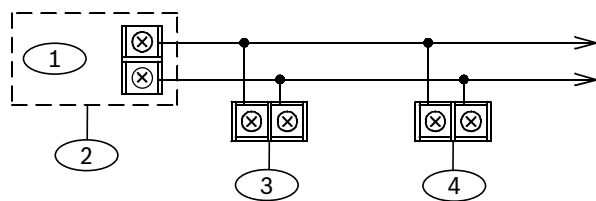


Apply power only **after** all connections are made and inspected.

The PEH-2 Heaters can be wired and installed in either of two configurations:

- AND gate, in which two beams must be blocked to initiate heater operation (*Figure 2*). The heater is connected to the upper module only.

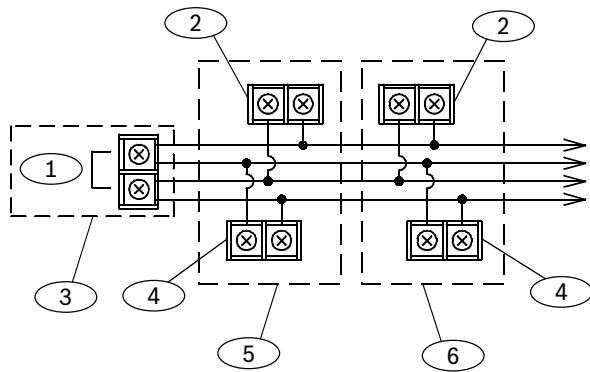
**Figure 2: AND Gate Wiring Configuration**



- 1 - Heater power terminals
- 2 - Power supply
- 3 - Transmitter heater power supply input
- 4 - Receiver heater power supply input

- OR gate, in which blocking one of the two beams initiates heater operation (*Figure 3*). The heater is connected to the upper and lower modules.

**Figure 3: OR Gate Wiring Configuration**



- 1 - Heater power terminals
- 2 - Upper detector power terminals
- 3 - Heater power supply
- 4 - Lower detector power terminals
- 5 - Transmitter
- 6 - Receiver

**Table 1: Wire Length/AWG Chart**

Wire Gauge [mm <sup>2</sup> (AWG)]	Maximum Distance [m (ft)]*			
	Upper only		Upper and Lower	
	24 VDC	28 VDC	24 VDC	28 VDC
0.9 (19)	250 (820)	500 (1640)	120 (394)	250 (820)
1.2 (16)	500 (1640)	1000 (3280)	250 (820)	500 (1640)
1.6 (14)	800 (2625)	1600 (5249)	400 (1312)	800 (2625)

\* Distances indicated are maximum one-way distances. When more than one set of heaters is connected to the power supply, divide the given distance by the number of detector sets.

## 3.0 Installation

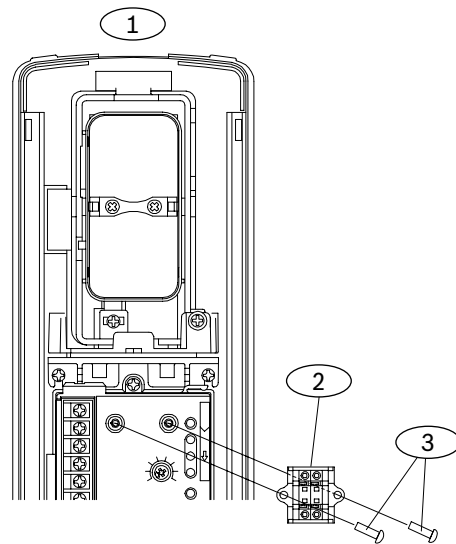
### 3.1 Installing a Heater – Upper Only



Use this procedure to connect a heater to an upper module only.

1. Use the two terminal mounting screws to attach the terminal to the upper beam detector (*Figure 4*).

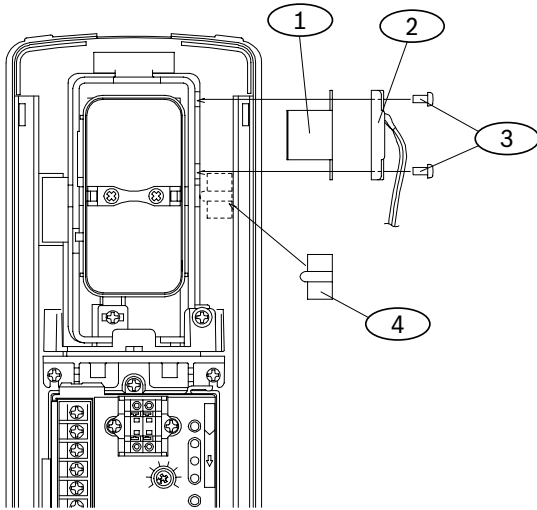
**Figure 4: Installing the Terminal – AND Gate Configuration**



- 1 - Upper beam detector
- 2 - Terminal
- 3 - Terminal mounting screws

2. Use the two heater mounting screws to attach the heater and radiator to the beam detector (*Figure 5*).
3. Attach the stopper (*Figure 5*).

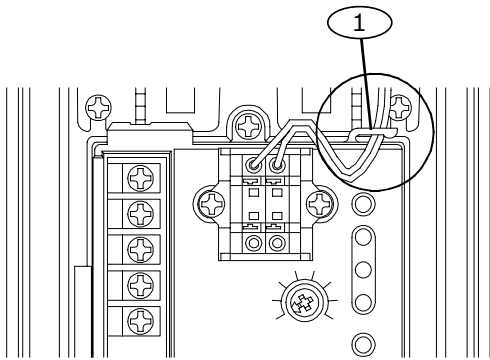
**Figure 5: Installing the Heater and Radiator**



- 1 - Heater
- 2 - Radiator
- 3 - Heater mounting screws
- 4 - Stopper

4. Use the clips on the stopper and the beam detector to secure the wiring (*Figure 6*).

**Figure 6: Wiring Secured by Detector Clip**



- 1 - Wiring Clip on Detector

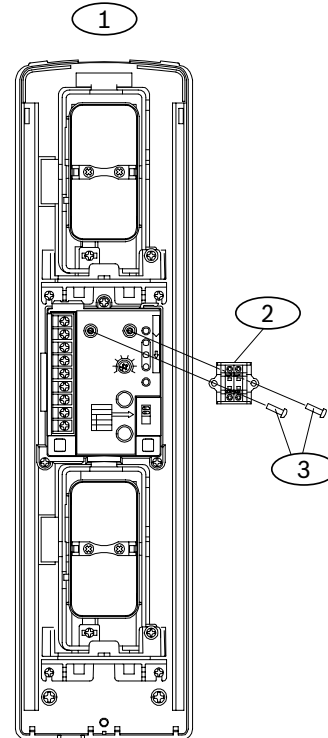
### 3.2 Installing Heaters – Upper and Lower



Use this procedure to connect heaters to an upper module and a lower module.

1. Use the two terminal mounting screws to attach the terminal to the upper beam detector (*Figure 7*).

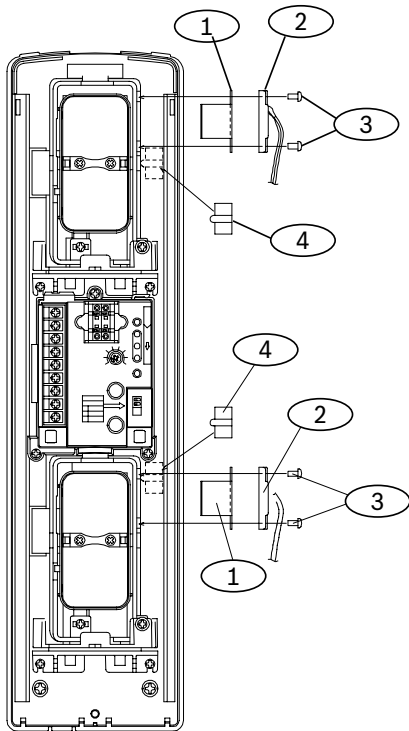
**Figure 7: Installing the Terminal – OR Gate Configuration**



- 1 - Upper beam detector
- 2 - Terminal
- 3 - Terminal mounting screws


2. Use the heater mounting screws to attach the heaters and radiators to the upper and lower beam detectors (*Figure 8*).
3. Attach the stoppers (*Figure 8*).


**Figure 8: Installing the Heater and Radiator on Upper and Lower Beam Detectors**



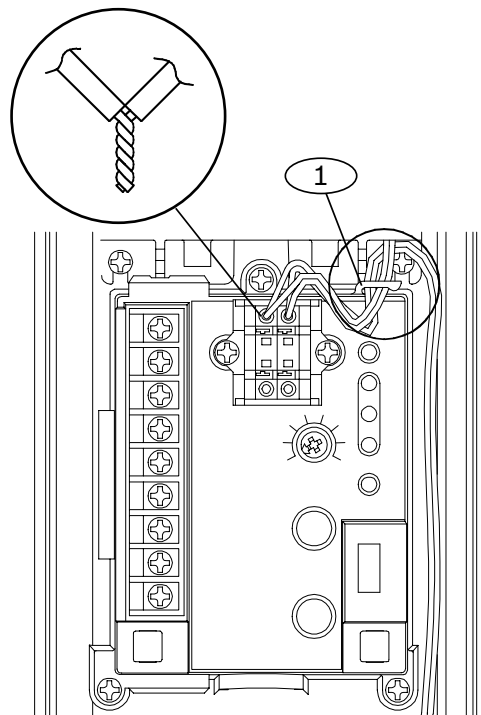
- 1 - Heater
- 2 - Radiator
- 3 - Heater mounting screws
- 4 - Stopper

4. Use the clips on the stopper and the beam detector to secure the wiring (*Figure 9*). The clips are located 1.3 cm (0.5 in.) back from the front of the operation panel

 When connecting the upper and lower heater wiring to the terminals, twist the ends of the wires together before inserting them.

 **Do not touch the heater after applying power.** The heater reaches 55°C (131°F).

**Figure 9: Wiring Secured by Detector Clip**



- 1 - Wiring Clip on Detector

## 4.0 Specifications

<b>Table 2: PEH-2 Heater Specifications</b>	
<b>Weight</b>	
<b>Total Weight</b>	15 g (0.03 lb)
<b>Environmental Considerations</b>	
<b>Operating Temperature</b>	-25° C to + 60° C (-13°F to + 140° F)
<b>Relative Humidity (RH)</b>	≤ 95%
<b>Surface Temperature</b>	+55°C (131°F)
<b>Power Requirements</b>	
<b>Power Supply Voltage</b>	20 VDC to 28 VDC non-polarized
<b>Current Draw</b>	350 mA maximum when power is applied 110 mA during operation (per heater)
<b>Backup Power Requirements</b>	4 hours (440 mAh) minimum required for UL Certificated Installations

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