

RAEPoint

DC-Powered Wireless Alarm Bar Installation Guide



RAEPoint DC-Powered Wireless Alarm Bar Installation Guide

Special Servicing Note

If the instrument needs to be serviced, contact either:
The RAE Systems distributor from whom the instrument was purchased; they will return the instrument on your behalf.

or

The RAE Systems Technical Service Department. Before returning the instrument for service or repair, obtain a Returned Material Authorization (RMA) number for proper tracking of your equipment. This number needs to be on all documentation and posted on the outside of the box in which the instrument is returned for service or upgrade. Packages without RMA Numbers will be refused at the factory.



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RAEPoint DC-Powered Wireless Alarm Bar Installation Guide

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RAEPoint DC-Powered Wireless Alarm Bar Installation Guide

IMPORTANT! **Read Before Installing**

This Installation Guide is for wiring and installation of the DC-Powered Alarm Bar only. It must be used in conjunction with the RAEPoint User's Guide for safe calibration and operation. The RAEPoint User's Guide is available at www.raesystems.com.

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Read Before Operating

This manual must be carefully read by all individuals who have or will have the responsibility of using, maintaining, or servicing this product. The product will perform as designed only if it is used, maintained, and serviced in accordance with the manufacturer's instructions. The user should understand how to set the correct parameters and interpret the obtained results.

CAUTION!

To reduce the risk of electric shock, turn the power off before opening this instrument or performing service. Never operate the instrument when the instrument is open. Use and service this product only in an area known to be non-hazardous.

WARNINGS

For safety reasons, this equipment must be operated and serviced by qualified personnel only. Read and understand instruction manual completely before operating or servicing.

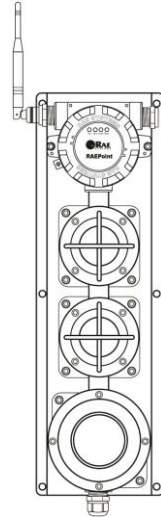
AVERTISSEMENT

Pour des raisons de sécurité, cet équipement doit être utilisé, entretenu et réparé uniquement par un personnel qualifié. Étudier le manuel d'instructions en entier avant d'utiliser, d'entretenir ou de réparer l'équipement.

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1 General Information

As part of a wireless mesh network, the RAEPoint DC-Powered Wireless Alarm Bar communicates with wireless detectors and controllers and can direct any of its five internal relays to trigger audible and visible alarms. Remote alarm notifications are critical for many applications where local device alarms are simply not visible enough or loud enough to alert a wide area. RAEPoint relay settings can be fully configured wirelessly via the system controller. RAEPoint can also be configured as a wireless host, and communicate directly with detectors, providing a localized alarm notification solution that does not require a controller. The RAEPoint DC-Powered Wireless Alarm Bar is suitable for use in ATEX Zone 1 hazardous area locations.



Key Features

- Mounted and pre-wired with two 5J xenon lights and a 110dB horn.
- Five internal SPDT relays
- Wireless transmission distance of 1000 ft (300m), line of sight. Range can be extended by using wireless routers.
- Suitable for use in ATEX Zone 1 hazardous locations
- Explosion-proof enclosure for hazardous environment applications
- LEDs indicate status

Applications

- Oil and gas exploration
- Refineries and petrochemical plants
- Fenceline monitoring

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2 Purpose Of This Guide

This guide is designed to provide information on installing and wiring the RAEPoint DC-Powered Wireless Alarm Bar. Refer to the RAEPoint User's Guide for testing and operation information (all functions of the RAEPoint DC-Powered Wireless Alarm Bar are controlled through the RAEPoint that is integrated with the horn and strobe lights).

3 Proper Product Disposal At End Of Life



The Waste Electrical and Electronic Equipment (WEEE) directive (2002/96/EC) is intended to promote recycling of electrical and electronic equipment and their components at end of life. This symbol (crossed-out wheeled bin) indicates separate collection of waste electrical and electronic equipment in the EU countries.

4 FCC Part 15 Statement

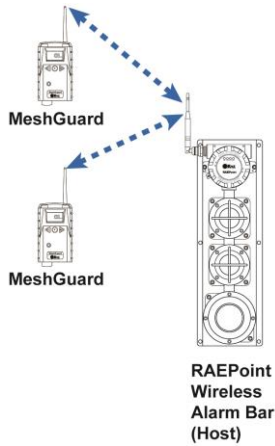
This device complies with Part15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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5 Flexible Configurations

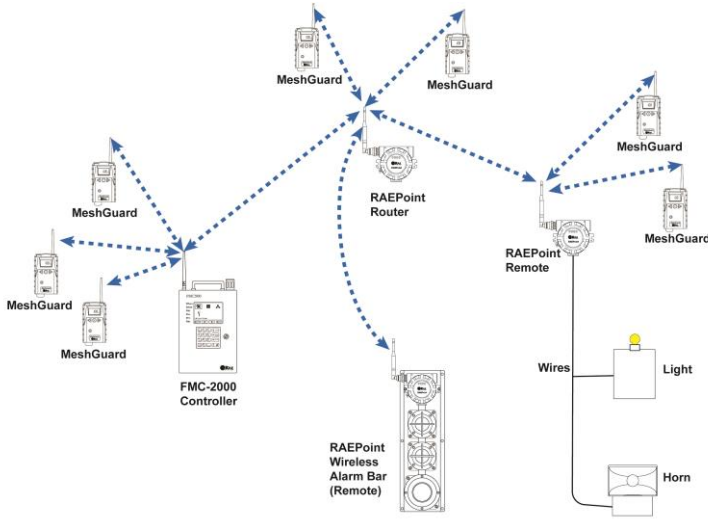
RAEPoint, including the RAEPoint DC-Powered Wireless Alarm Bar, can be configured for large or small systems, and the network can be expanded or units removed, depending on the facility or facilities being monitored.

Simple configuration that uses MeshGuard sensors and a RAEPoint DC-Powered Wireless Alarm Bar host



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Large network, including externally controlled devices



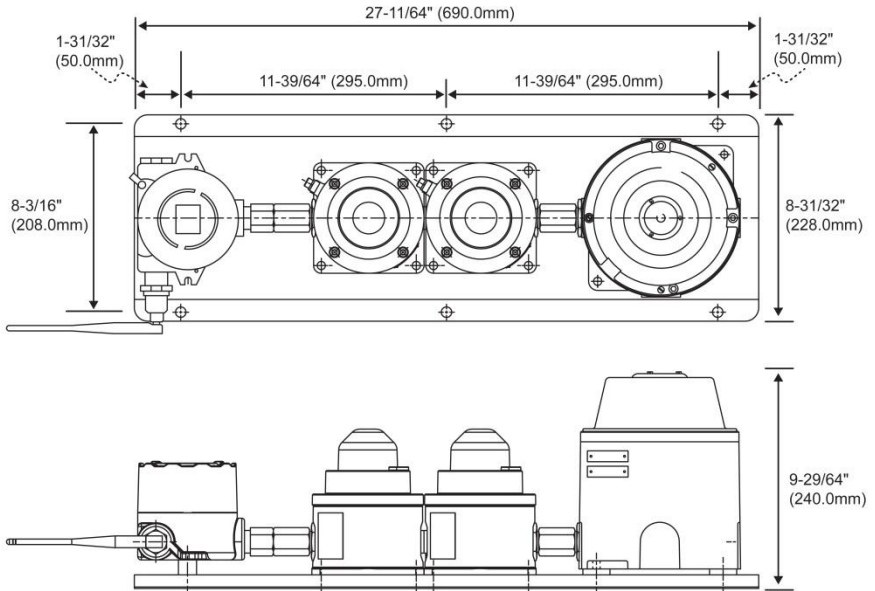
6 RAEPoint DC-Powered Wireless Alarm Bar Mounting

Make sure that there is approximately 12" (30 cm) of clearance on all sides of the RAEPoint DC-Powered Wireless Alarm Bar so that the horn's sound is not attenuated and to ensure clear view of the two visible alarm lights.

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6.1 Drilling Chart & Dimensions

When mounting the RAEPoint on a wall, make sure to use heavy-duty steel screws spaced as indicated below.



Follow these steps:

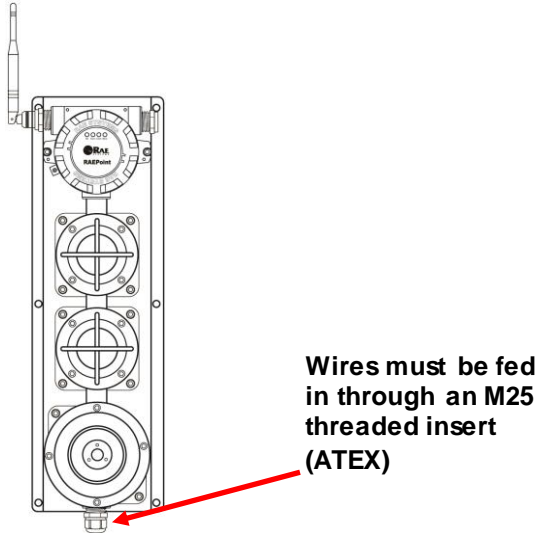
1. Locate the RAEPoint DC-Powered Wireless Alarm Bar on a wall or other flat surface and mark the six holes' locations.
2. Remove the RAEPoint DC-Powered Wireless Alarm Bar.
3. Drill the six holes.
4. Hold the RAEPoint DC-Powered Wireless Alarm Bar firmly against the wall and insert and tighten the screws.

The RAEPoint DC-Powered Wireless Alarm Bar is now ready for electrical wiring and testing.

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6.2 DC-Powered Wireless Alarm Bar Wiring

The RAEPoint DC-Powered Wireless Alarm Bar already has most wiring done at the factory. It is only necessary to connect the positive and negative DC power supply wires and grounding (according to local requirements). Power and internal grounding wires must be fed through a connector at the bottom of the unit.



Note: Ensure that only the correct listed or certified cable glands (not included) are used and that the assembly is correctly grounded (earthed). All cable glands should be of an equivalent IP rating to that of the unit and integrated with the unit so that this rating is maintained.

IMPORTANT!

Prior to factory shipment, the RAEPoint is tested. However, the instrument should be tested after installation.

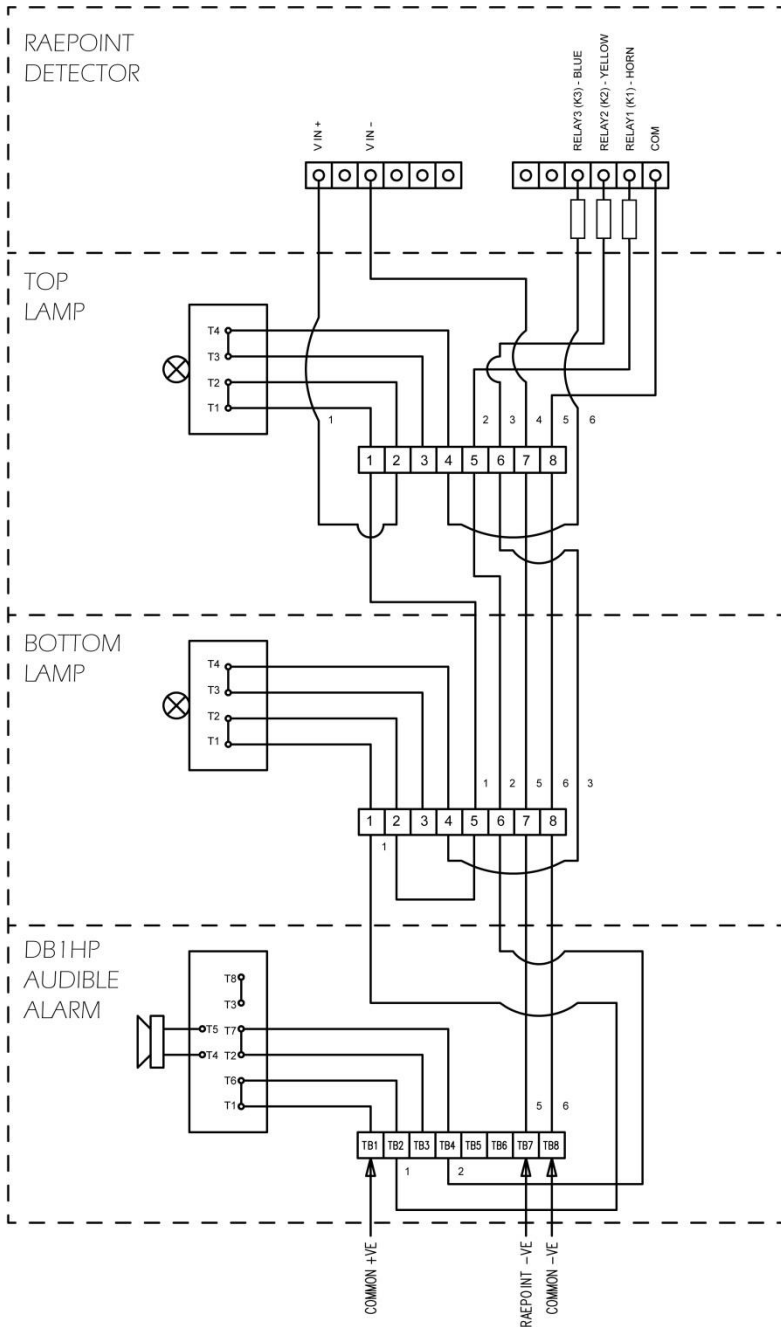
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6.2.1 Complete RAEPoint DC-Powered Wireless Alarm Bar Wiring Diagram

The diagram on the next page shows how the RAEPoint DC-Powered Wireless Alarm Bar is wired.

Refer to the diagram on page 12 for power connections.

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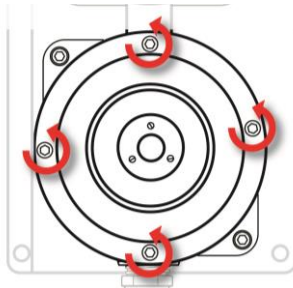


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6.2.2 Opening The Horn

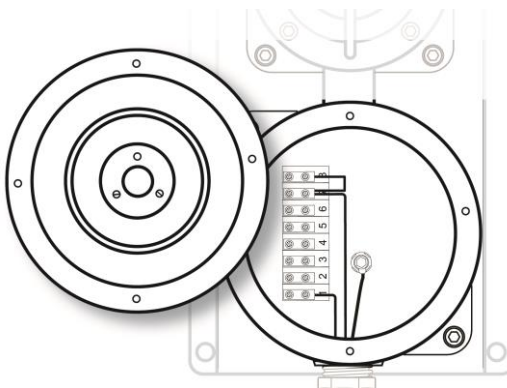
You must remove the cover assembly from the front of the horn in order to connect wires to the terminal block.

Unscrew the four M6 screws (5.0mm hex key) holding the cover assembly to the base. Keep these screws in a safe, accessible place; they are not retained in the cover.



Before lifting the cover, gently twist the cover assembly clockwise and then counterclockwise to break the seal.

Continue to gently twist the cover clockwise and counterclockwise while gently lifting the cover assembly away from the base of the enclosure to gain access to the interior.

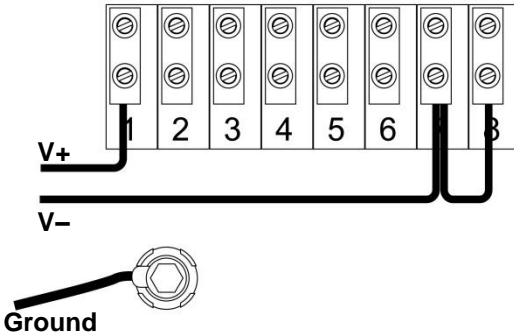


Note: The cover assembly is connected to the cover by a nylon restraining strap.

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6.2.3 Connecting Power Wiring

This diagram shows the factory wiring for DC power to the RAEPoint DC-Powered Wireless Alarm Bar. The internal ground point is also shown:



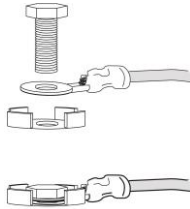
Note: This diagram only shows the connection points for external power and ground. For clarity, other wires for the RAEPoint DC-Powered Wireless Alarm Bar are not shown. Refer to the schematic drawing on page 6.2.19 for comprehensive wiring.

Other wires are connected to the RAEPoint and the rest of the Wireless Alarm Bar. Do not alter them or their connections.

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6.2.4 Internal Grounding

If internal grounding is required, connect the ground wire's connector to the location shown in the wiring diagram, and tighten it down using the nut and washer:



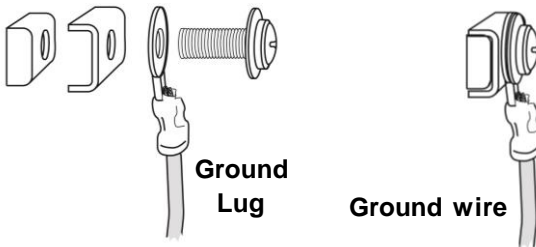
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6.2.5 Reassembly

Once wiring is completed, ensure that the mating surfaces of both the cover and body are well covered with a suitable anti-seize compound. Carefully lower the cover assembly back onto the base, avoiding damage to the mating surfaces, ensuring the O-ring is correctly seated in its groove during reassembly. Replace the four M6 screws into the holes in the cover assembly and tighten evenly. Ensure the required gap (0.2mm maximum) is maintained between the cover and the base.

6.2.6 External Grounding

If external or redundant grounding is required, a lug is located on each light and the horn. There are also two points on the exterior of the RAEPoint. Screw the ground wire's connector onto the lug and run it to the appropriate grounding location.



7 Powering And Programming

Refer to the RAEPoint User's Guide for information on how to power, test, and program the RAEPoint. The horn and lights are prewired, so all operations are controlled by the RAEPoint.

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7.1 RAEPoint DC-Powered Wireless Alarm Bar Individual Component Specifications

The RAEPoint DC-Powered Wireless Alarm Bar includes the RAEPoint, as specified in the RAEPoint User's Guide, plus two strobe lights and a horn, as detailed below:

Alarm Bar	
Input Voltage	24 VDC
Peak Current Consumption	1.5A @ 24 VDC
IP Rating	IP-65
Back Plate Material	316 stainless steel
Dimensions	27-11/64" (690 mm) x 9" (229 mm) x 9.5" (241 mm)
Weight	31 lbs (14 kg)
5-Joule Xenon Strobes (Each)	
Peak Intensity	Yellow: 19,103 Cd 2,665 Cd (Blue)
Material	LM25 TF Marine-Grade Alloy
Horn	
Peak Decibels	110 dBA at 10 feet (3.05m)
Material	LM25 TF Marine-Grade Alloy with ABS Flare

Specifications subject to change

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Brazil Radio Specifications

Radio model: RM900A

Frequency range: Within 902 to 907.5 MHz and 915 to 928 MHz, use IEEE 802.15.4 channel 1, 6, 7, 8, 9 and 10

Modulation: 802.15.4 DSSS BPSK

RF power(Tx): 20dBm

Data rate: 40kbps

Radio model: RM2400A

Frequency range: 2.400 to 2.4835GHz

Modulation: 802.15.4 DSSS BPSK

RF power(Tx): 20dBm

Data rate: 250kbps

RAEPoint Alarm Bar Hazardous Location Classification

The RAEPoint DC-Powered Wireless Alarm Bar includes multiple components (RAEPoint, two strobe lights, and one horn). The table below shows suitable application based on the components for the combined system.

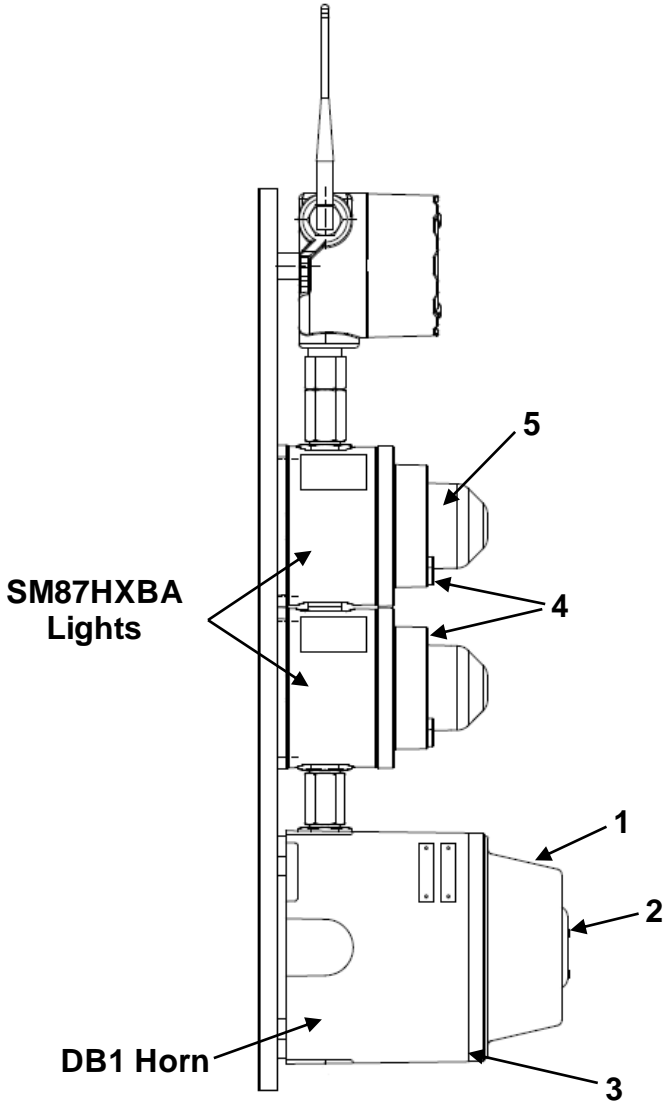
ATEX
Ex II 2G IIB T5 Gb

Temperature range: $-20^{\circ}\text{C} < T_{\text{amb}} < 55^{\circ}\text{C}$

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8 Replacement parts

Refer to next page for part numbers and descriptions.



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Part Numbers and Descriptions

Item Number	RAE Systems Part Number	RAE Systems Description	Component Quantity	Component unit of measure
1	F08-2101-000	TOP HORN FLARE, DB1 HORN, AC/DC WIRELESS ALARM BAR	1	Ea.
2	F08-2102-000	FLARE SCREW (RED), DB1 HORN (PACK OF 3), AC/DC WIRELESS ALARM BAR	3	Pack
3	F08-2103-000	O-RING, DB1 HORN, AC/DC WIRELESS ALARM BAR	1	Ea.
	F08-2104-000	PC BOARD, DB1 HORN, AC/DC WIRELESS ALARM BAR	1	Ea.
4	F08-2114-000	YELLOW LENS AND LENS GUARD W/O-RING, SM87HXBA, DC WIRELESS ALARM BAR	1	Ea.
4	F08-2115-000	BLUE LENS AND LENS GUARD W/O-RING, SM87HXBA, DC WIRELESS ALARM BAR	1	Ea.
4	F08-2116-000	RED LENS AND LENS GUARD W/O-RING, SM87HXBA, DC WIRELESS ALARM BAR	1	Ea.
4	F08-2117-000	GREEN LENS AND LENS GUARD W/O-RING, SM87HXBA, DC WIRELESS ALARM BAR	1	Ea.
5	F08-2118-000	XENON STROBE BULB, SM87HXB, DC WIRELESS ALARM BAR	1	Ea.

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9 Technical Support

To contact RAE Systems Technical Support:

Monday through Friday, 7:00AM to 5:00PM Pacific (US)
Time

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Phone: +1 408-952-8461

Email: tech@raesystems.com

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