MiniRaQ 4G Secure Series

EAT•N

ISO 9001:2008 REGISTERED

MADE IN USA

Installation Guide

- Manual #: **90-091**
- Revision: **1**
- MiniRaQ --- Part Number **ETN-MRQ3X1S10, S12, S14, and S16**

Black Hawk Labs®

MiniRaQ 4G Secure Series · Installation Guide

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Contact Information

Eaton Corporation

8609 Six Forks Road

Raleigh, NC 27615

- Phone: (800) 356-5737
- Website: **www.eaton.com/miniraq**

Operators Safety Summary

The general safety information is designed for installation and operating personnel.

Safety and Handling

Use all proper safety and handling practices when installing and operating this product.

Grounding the Product

A dedicated ground stud is provided at the left of the product, near the bottom. To ensure safety to all installation and operational personnel, connect a ground wire from this stud to earth ground using a minimum 14AWG.

Equipment Marking and Safety Terms

WARNING

Highlights an operating procedure, practice, condition, statement, etc., which, if not strictly observed, could result in injury to or death of personnel, or is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Change History

The table below lists the changes to the MiniRaQ 4G Secure Installation Guide.

Table 0-1 Change History

Rev	Date	DOC#	Description	Approved By
1	9/27/19	90-091	MiniRaQ 4G Secure	JCK

What's In the Box?

- Assembled MiniRaQ Secure 4G
- Installation Guide (90-091)
- Hardware Kit (12-24 screws, Qty. 15)
- Hardware Kit (18-8 screws. Qty. 10)
- Keys (Qty. 2)

Table of Contents

1. Introduction

How to Use This Guide

How to Use This Guide

This section provides important tips for locating this Installation Guide in its electronic "PDF" form.

Navigating

To navigate to the desired location, go to our website, www.eaton.com/miniraq. Therein, the MiniRaQ 4G Secure Installation Guide may be found in two ways:

- Click on the hyperlink of the specific MiniRaQ 4G Secure product you are researching. Follow through to the Documentation tab. There you will find a hyperlink to the "90-091 Rev.1" Installation Guide.
- Simply type "90-091" in the search field and you will immediately be taken to the hyperlink to the 90-091 Rev. 1 Installation Guide.

About the MiniRaQ 4G Secure

Overview

The MiniRaQ 4G Secure from Eaton literally stands alone as the ultimate enclosure solution for installing wall-mount or rack-mount equipment in a telecom closet, classroom, IDF, or remote data-com equipment room. This vertical mounting system allows for all shapes and sizes of IT equipment to be safely deployed in areas previously considered impossible for placement. One person can safely perform the installation without assistance or complications. The cabinet design is capable of supporting up to 400 pounds. It offers a rigid architecture that supports numerous components in a vertical fashion. Within the cabinet, venting is provided for a full complement of rack-mounted equipment. For increased airflow and ventilation, an optional fan tray accessory may be added (see page 12).

1. Introduction

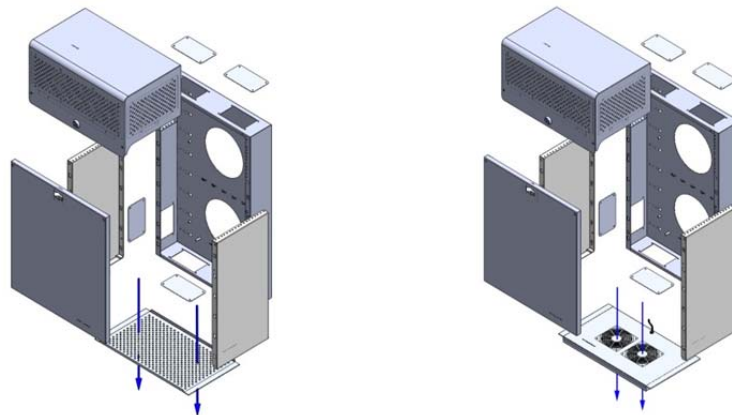About the MiniRaQ 4G Secure

Please note:

- To ensure trouble-free installation of your MiniRaQ 4G Secure, please review the following sections:
    - Chapter 2, "**Hardware Orientation**" on page 8.
    - Chapter 3, "**Installation**" on page 11.
- Should you have any questions regarding the installation of the MiniRaQ 4G Secure, please consult with the factory. Refer to Appendix B, "**Contact Information**" on page 17 for details.

Features

Major features of the MiniRaQ 4G Secure system are listed below:

- Modular construction allows for single tech installation.
- Equipment mounts vertically to allow placement in relatively tight quarters.
- Supports 4U of dedicated space for patch panel or other shallow rack-mounted equipment in the backplate.
- Supports 2U of equipment in the backplate.
- Supports an additional 4U to 10U of equipment mounted on the side panels (included).
- Provides a dedicated ground stud.
- Locking cover to ensure your equipment remains secure.
- Six removable access plates for cable entry and communication management options.
- Integrated level to facilitate installation.
- Customizable with an array of optional accessories (see page 12).
- Ventilated top and bottom design to dissipate heat. Please note: for proper ventilation and air flow, using either the vent tray or optional fan tray, do not block bottom of unit. (See below)
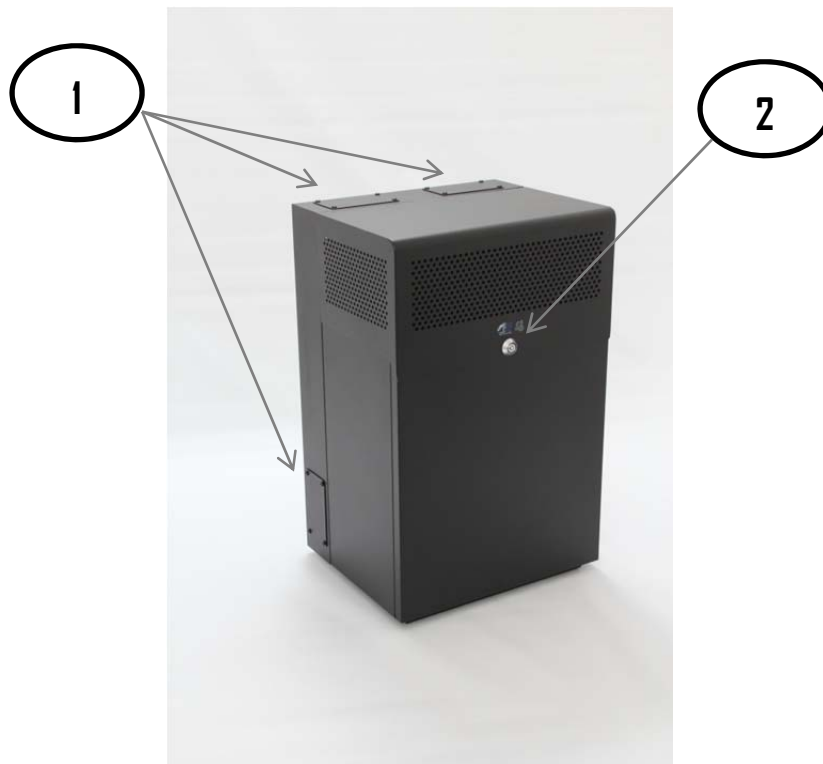
2. Hardware Orientation

MiniRaQ 4G Secure Description

MiniRaQ 4G Secure Description

The figure below illustrates the MiniRaQ 4G Secure's external features:

1) Six removable Access Panels (2 top, 2 bottom, and 2 lower sides), for cable entry and communication management options.
2) Locking cover allows for maximum security, even in an unsecure environment.

1. Hardware Orientation

The figure below illustrates the MiniRaQ 4G Secures' internal features:
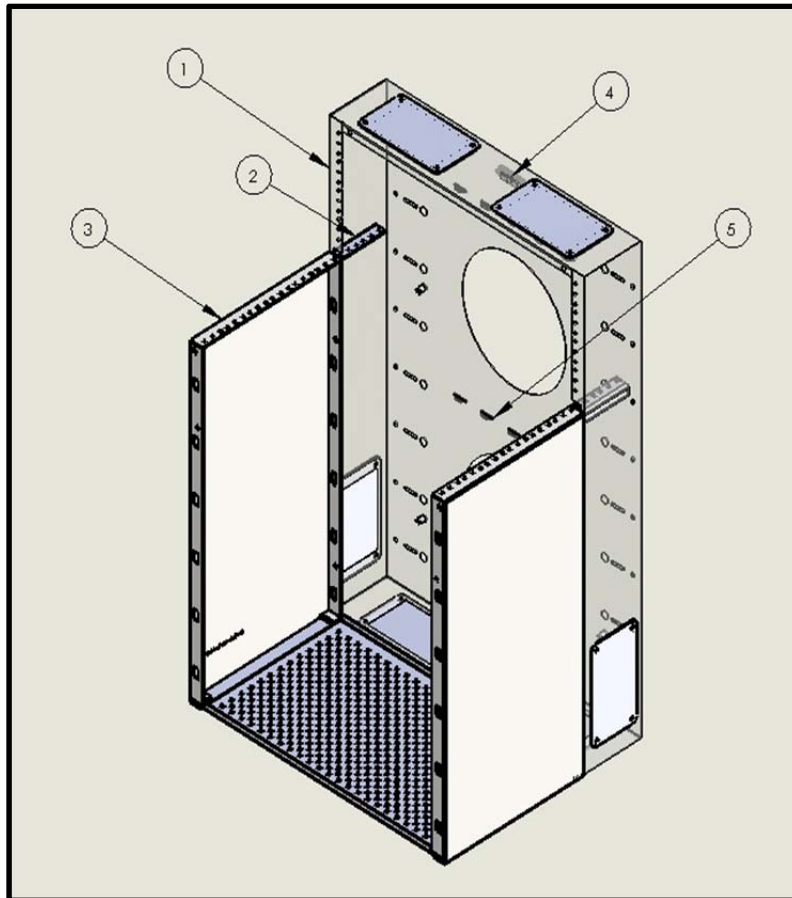
1) 4U of dedicated horizontal space for patch panel or other shallow rack-mounted equipment.
2) Bonus 2U internal-to backplate vertical equipment space.
3) 4U to 10U side panel vertical equipment space.
4) Integrated level to facilitate installation.
5) Integrated bridge lances for wire management.

2. Hardware Orientation

MiniRaQ 4G Secure Description

Product Overview

This vertical rack system is available with 4U, 6U, 8U, and 10U side panels allowing a maximum U space utilization of 10U to 16U when using the internal 2U equipment flanges and 4U patch panel space. The internal 2U combines with the U spacing provided with the side panels to enable deployment of deeper rack-mounted equipment.

The MiniRaQ 4G Secure is designed from heavy gauge steel and finished to last a lifetime. It is designed to hold up to 400 pounds when properly installed, for your most demanding needs such as: extended runtime battery back-up systems, low profile power distribution transformers, POE equipment and any other 19" rack mountable products.

The backplate is equipped with 6 removable access panels which can be used for routing solid or metal flexible conduit or data and fiber in the most optimized placement for your configuration. Optional panels include brush strip assemblies and RJ45 and DB9 data couplers.

The MiniRaQ 4G Secure can be mounted on a variety of vertical substrates including: wooden framing studs (16" on center), solid or block concrete walls, and approved plywood used for NEC panel mounting. An integrated level is incorporated to facilitate installation.

3. Installation

Safety Precautions

Safety Precautions

For all MiniRaQ 4G Secure installation procedures, observe the following safety and handling rule to avoid damage to yourself and the equipment:

Important

A dedicated ground stud is provided at the bottom left of the backplate. To ensure safety to all installation and operational personnel, connect a ground wire from this stud to earth ground using a minimum 14AWG in size. **Cabinets must be mounted and wired per applicable sections of the National Electrical Code (NEC).**

Unpacking and Inspection

1. Inspect the shipping box for damage. If you find any damage, notify the shipping carrier immediately for all claims adjustments.
2. Once you have removed the unit from the box, disassemble all the components, as per the Quick Reference Guide, and compare these components to the parts list in **Appendix C (page 18)**.
3. Visually inspect all parts to ensure there was no damage during shipping. If there is damage, notify the shipping carrier immediately for all claims adjustments.
4. If you find any shortages, contact your Eaton sales representative.
5. Save the box and foam inserts in the event the unit must be returned.

Accessory Information

Accessory	Description	Quantity
ETN-BH1001	Hardware Kit #12-24 PH Screw Black	25
ETN-BH1002	Hardware Kit #12-24 PH Screw Black	100
ETN-BH1003	1U x 3" Riser Bracket Set (w/ screws)	2
ETN-BH1004	1U x 6" Riser Bracket Set (w/ screws)	2
ETN-BH1010	2U x 3" Riser Bracket Set (w/ screws)	2
ETN-BH1011	2U x 6" Riser Bracket Set (w/ screws)	2
ETN-BH1005	1U Blanking Panel 19" x 1.75" Black	1
ETN-BH1006	Uniquely Keyed Barrel Lock	1
ETN-BH1007	Additional Pair Standard MRQ Keys	2
ETN-BH1008	Toggler Set ¼"-20 w/ bolt and washers	8
ETN-BH1009	TapCon Set ¼" x 2 ¼" Hex w/ washers	10
ETN-BH2001	Console Plate RJ45 and DB9M	2
ETN-BH2002	Console Plate RJ45 Couplers	4
ETN-BH2003	Powerplate NEMA 5-15/20 Outlets	2
ETN-BH2025	Filter Set 4U	1 Front/2 Side
ETN-BH2026	Filter Set 6U	1 Front/2 Side
ETN-BH2027	Filter Set 8U	1 Front/2 Side
ETN-BH2028	Filter Set 10U	1 Front/2 Side
ETN-BH2029	Fan Tray 4U	1
ETN-BH2030	Fan Tray 6U	1
ETN-BH2031	Fan Tray 8U	1
ETN-BH2032	Fan Tray 10U	1

ETN-BH2019	16" x 16" x ¾" Plywood Insert	1
ETN-BH2020	Brush Cover Access Plate	2
ETN-BH2021	Backplate Pouch w/ Shelf	1

3. Installation

Installation and Setup

Be sure to follow hardware manufacturer's recommended procedures for installing equipment in the MiniRaQ 4G Secure.

Backplate Installation

For Stud Mount

Locate solid studs, 16" on center, before marking top two locations for pilot holes. Drill .156" holes for #10 coarse screws (supplied) into the backplate slots, spaced nominally at 16" at the top. Use the integrated level to locate proper mounting pattern. When level, tighten the first two screws, and then drill the remaining locations; a minimum of 10 locations for full payload rating of 400 pounds.

For Other Approved Surfaces

The same process should be used for installing to other approved surfaces, using the ½" clearance holes for toggle bolts into a ¾" plywood-backed wall or fender washers and concrete tapping screws (3/16" x 2-1/4" minimum) into cinder block.
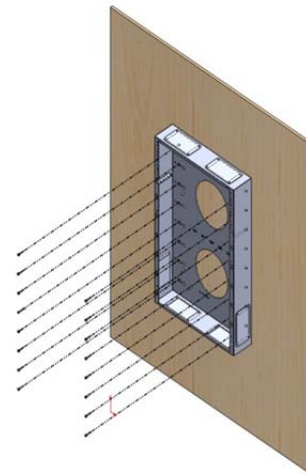
2 Post Rack Mount

Designed for use in communication data centers and telecommunication rooms, 2-Post Open Frame Racks satisfy basic functional requirements for structuring cable. The MiniRaQ 4G Secure is integrated with a 2 post rack-mount hole-pattern, which matches industry standards for ease of installation.
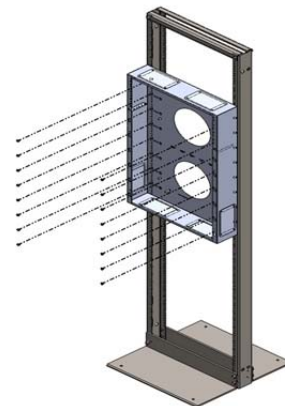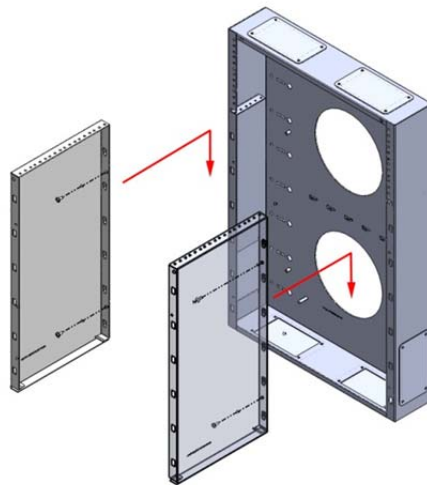
Side Panel Installation

After ensuring the backplate has been properly and completely fastened to the wall, install the side panels by inserting the side panel hooks into the rectangular cutouts in the backplate. The smooth surface of the side panels are to face away from each other. All hooks must be engaged for proper assembly; apply downward pressure as required to seat panels fully.

When the side panels are fully seated, the top surface will be flush with the internal 2U flanges in the backplate and the bottom of the side panels will be flush with the bottom of the backplate. Two holes for each side panel will align. **Use four (4) of the supplied #12-24 screws for the two holes in each of the left and right side panels. Ensure screws are installed before continuing installation.**


Vent Tray Installation

Slide vent tray into the lower channel of the side panels. The right angle flanges of the vent tray should be oriented upward, toward the interior of the cabinet. **Temporarily install front panel (see "Equipment Installation" on next page).**
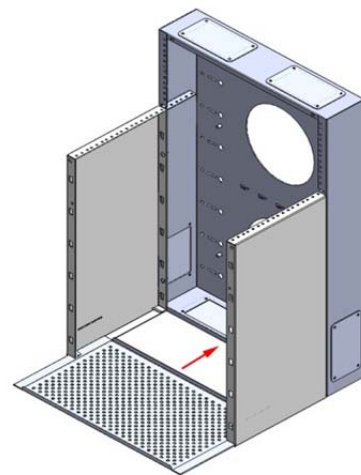
Equipment Installation

Your equipment can now be installed and configured. **Screws used to mount your hardware should not be tightened until either the vented panel (supplied) or fan tray (optional accessory) has been installed and the front panel temporarily slid in place.** This allows uniform spacing of the side panels and will insure proper seating of the locking cover. Also this allows for easy removal of the front panel and vent tray during any servicing of your equipment. **Follow these guidelines: After side panels are installed, slide vent/fan tray in position and temporarily install front cover. This procedure squares and aligns the cabinet. The first piece of equipment may be installed and screws tightened. Remove front panel and vent/fan tray as necessary, install all remaining equipment and tighten all screws.**
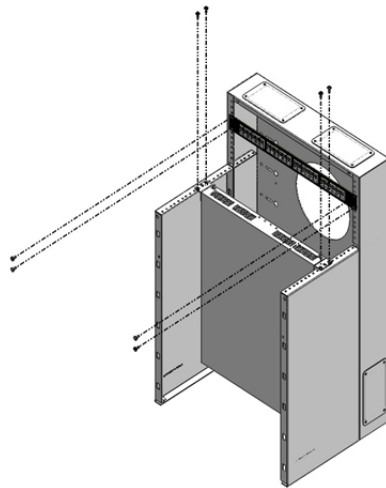

Front Panel Installation

Insert the front panel hooks into the rectangular cutouts in the side panels. All hooks must be engaged for proper assembly; apply downward pressure as required to seat panel fully.
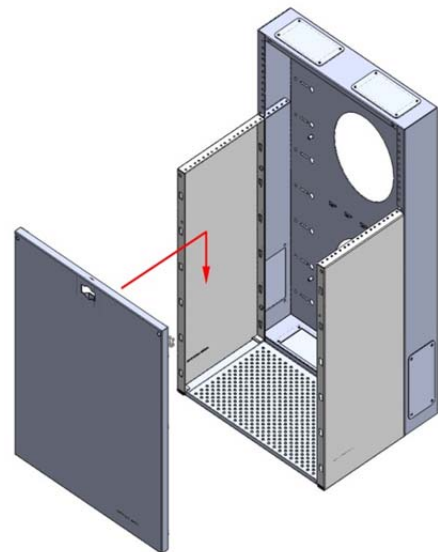
Cover Installation

Place cover onto the side panels and slide toward the backplate. When properly seated, the cover should be flush against the backplate and level with the top of the backplate. The cover may then be locked with either of the two (2) keys provided.
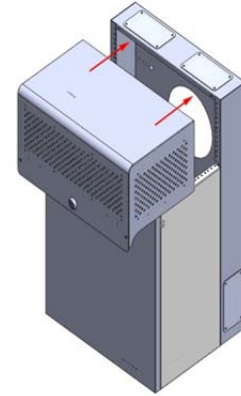
A. Physical Specifications

Specifications								
Model #	ETN-MRQ351S10	ETN-MRQ351S12	ETN-MRQ351S14	ETN-MRQ351S16	ETN-MRQ301S10	ETN-MRQ301S12	ETN-MRQ301S14	ETN-MRQ301S16
Configuration	Compact	Compact	Compact	Compact	Tall	Tall	Tall	Tall
Side Panel U Space	4U	6U	8U	10U	4U	6U	8U	10U
Bonus Rack Units Internal to Backplate	2U	2U	2U	2U	2U	2U	2U	2U
Rack Units for Patch Panel at Top of Backplate	4U	4U	4U	4U	4U	4U	4U	4U
Total Rack Units Available	10U	12U	14U	16U	10U	12U	14U	16U
Backplate Depth	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"
Overall Height	31.0"	31.0"	31.0"	31.0"	38.1"	38.1"	38.1"	38.1"
Overall Width	19.6"	19.6"	19.6"	19.6"	19.6"	19.6"	19.6"	19.6"
Overall Depth	12.7"	16.2"	19.7"	23.2"	12.7"	16.2"	19.7"	23.2"
Net Weight	47 lbs.	55 lbs.	60 lbs.	66 lbs.	54 lbs.	63 lbs.	69 lbs.	76 lbs.
Shipping Weight	54 lbs.	62 lbs.	67 lbs.	73 lbs.	63 lbs.	72 lbs.	78 lbs.	85 lbs.
Color	Black	Black	Black	Black	Black	Black	Black	Black
Maximum Equipment Depth without Standoffs	22"	22"	22"	22"	29"	29"	29"	29"
Maximum Equipment Depth with Standoffs	28"	28"	28"	28"	35"	35"	35"	35"
Cooling Fan Tray	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Integrated Grounding Stud	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Integrated Cable Management	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Proudly Made in the USA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

B. Contact Information

In This Appendix

The following topics are discussed in this Appendix:

- <u>Warranty</u>
- <u>Return Material Authorization (RMA)</u>
- <u>Contact Information</u>

Warranty

All MiniRaQ 4G Secure products are designed and tested to the highest quality standards and are backed by a full 5-year parts and labor warranty. Warranties are effective upon delivery date to customer and are non-transferrable. Black Hawk Labs warranties are only valid to the original purchaser/owner and do not cover faults resulting from user negligence, special modifications, abuse, and/or other unusual damage. The customer shall pay shipping charges when unit is returned.

Return Material Authorization (RMA)

In the unlikely event that a product is required to return for repair or replacement, please call Eaton customer service and ask to receive a Return Merchandise Authorization (RMA) number.

- (800) 356-5737

Sales RMAs will be issued for new, unused equipment that is:

1. Within 30 days of original shipment date
2. Returned in original sealed packaging
3. Returned in unmodified, untampered, original condition
4. A current design

For additional details and product warranty please reference the Eaton Sales Returned Merchandise (RMA Policy)

B. Contact Information

Contact Information

Contact Information

Eaton Corporation

8609 Six Forks Road

Raleigh, NC 27615

- Phone: (800) 356-5737
- Website: **www.eaton.com/miniraq**

C. Parts List

Parts List								
Model #	**ETN**-MRQ351S10	**ETN**-MRQ351S12	**ETN**-MRQ351S14	**ETN**-MRQ351S16	**ETN**-MRQ301S10	**ETN**-MRQ301S12	**ETN**-MRQ301S14	**ETN**-MRQ301S16
Backplate (Assembly)	20-232	20-232	20-232	20-232	20-255	20-255	20-255	20-255
Side Panels (Left and Right)	20-224/20-225	20-226/20-227	20-228/20-229	20-230-20-231	20-247/20-248	20-249/20-250	20-251-20-252	20-253/20-254
Front Panel	20-233	20-233	20-233	20-233	20-256	20-256	20-256	20-256
Hardware (2 Keys / 15 #12-24 Screws)	64-007	64-007	64-007	64-007	64-007	64-007	64-007	64-007
Hardware (10 #18-8 SS Screws)	64-017	64-017	64-017	64-017	64-017	64-017	64-017	64-017
Cover (Assembly)	20-234	20-235	20-236	20-237	20-234	20-235	20-236	20-237
Vent Tray	20-202	20-203	20-204	20-205	20-202	20-203	20-204	20-205

MiniRaQ Limited Factory Warranty (USA and Canada)

Warrantor: Eaton hereby passes all BlackHawk Labs, LLC Limited Factory Warranty through to the end-user. Company shall not be responsible for any charges for testing, checking, remove or installation of Warranted Items. This Warranty is not valid if the Product's serial numbers have been removed or are illegible.

The limited warranty provided by BlackHawk Labs, LLC (BHL) in this Statement of Limited Factory Warranty applies only to Products purchased for commercial or industrial use in the ordinary course of your business.

Terms of Warranty: BHL warrants its products to be free from defects in materials and workmanship for a period of five years from the date of purchase. Its obligation under this warranty is limited to repairing or replacing, at its sole discretion, any such defective products. This warranty does not apply to equipment that has been damaged by accident, negligence, or misapplication or has been altered or modified in any way. Repair or replacement of a defective product or part thereof does not extend the original warranty period. Any parts furnished under this warranty may be new or factory-reconditioned.

Non-transferable Warranty: This warranty applies only to the original purchaser who must have properly registered the product. Product may be registered at http://www.eaton.com/PQ/Register

Exclusions: BHL shall not be liable under the warranty if its testing and examination disclose that the alleged defect in the product does not exist or was caused by end user's or any third person's misuse, negligence or improper installation. Further BHL shall not be liable under the warranty for unauthorized attempts to repair or modify inappropriate on-site operating conditions, corrosive atmosphere, installation, a change in location or operating use, exposure to the elements, acts of God, fire, theft, or installation contrary to BHL recommendations or specifications or in any event if the BHL serial number has been altered, defaced, or removed, or any other cause beyond the range of the intended use.

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BHL WILL IN NO WAY BE LIABLE FOR ANY FORM OF INDIRECT, SPECIAL, CONSEQUENTIAL OR PUNITIVE DAMAGES, ARISING OUT OF THE USE, SERVICE OR INSTALLATION, OF THE PRODUCTS, WHETHER SUCH DAMAGES ARISE IN CONTRACT OR TORT, IRRESPECTIVE OF FAULT, NEGLIGENCE OR STRICT LIABILITY OR WHETHER BHL HAS BEEN ADVISED IN ADVANCE OF THE POSSIBLY OF SUCH DAMAGES. SPECIFICALLY, BHL IS NOT LIABLE FOR ANY COSTS, SUCH AS LOST PROFITS OR REVENUE, LOSS OF EQUIPMENT, LOSS OF USE OF EQUIPMENT, LOSS OF SOFTWARE, LOSS OF DATA, COSTS OF SUBSTITUTES, CLAIMS BY THIRD PARTIES, OR OTHERWISE. NO SALESMAN, EMPLOYEE OR AGENT OF BHL IS AUTHORIZED TO ADD TO OR VARY THE TERMS OF THIS WARRANTY: WARRANTY TERMS MAY BE MODIFIED, IF AT ALL, ONLY IN WRITING SIGNED BY A BHL OFFICER AND LEGAL DEPARTMENT.

Warranty Claims: In the USA, call the Customer Reliability Center 7x24 at 800.356.5737. Outside of the USA, contact your local Eaton product sales or service representative for units purchased from those countries, or call the Customer Reliability Center in the USA at 919.845.3683 for units purchased in the USA that were shipped overseas. For comments or questions about this Warranty, write to the Customer Quality Representative, 8609 Six Forks Road, Raleigh, North Carolina 27615 USA.

• Visit http://www.eaton.com/miniraq Web site to access documents and to submit customer support requests.

• www.eaton.com (Corporate Headquarters) Customer Support Line: (1)(800)356-5737 (toll free)

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