



Ferroguard Assure Alarm Output Module User Manual

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Foreword

The equipment described in this guide is subject to continuous development and improvement. Consequently, there may be minor variations in specifications, facilities or operation that are not covered in this guide.

Every effort has been made to ensure that the information provided in this guide is accurate at the time of going to print. If any errors or omissions are noticed, please notify Metrasens Ltd.

The equipment must be operated and maintained only by suitably trained and qualified personnel.

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Patents

Metrasens screening technology used in Ferroguard® Assure is protected by the following patents and patent applications: US 7113092, GB 2395276, ZA 2005/03561, JP 4477503, IL 168467, US 2013-0307533 A1, WO 2013/171498 A2, and Euro Pat App 2 850 462 with other US and international patents pending.

About this guide

This guide describes the operation of the Alert Management Unit. It provides detailed information on the following tasks:

- Installing the system.
- Operating the system.

It is intended for use by all technical personnel and suitably trained operators who install and operate the system.

Document version: v2.0

Part No. 2550.

Original language

English is the original language of this guide. If you are reading a translated version of this guide and have a question about the intended meaning of any translated text, always consult the original English-language guide. If you do not have a copy, please request a copy directly from Metrasens.

Important Information

This equipment works safely and reliably if qualified, experienced, trained operators follow the installation, operating, and maintenance procedures described in this manual.

Always follow the instructions and information in the manual and do not modify the system. Metrasens accepts no liability for any unauthorized modifications to the system. Any unauthorized modification and damage resulting from improper use invalidates the warranty.

This manual pays particular attention to Health and Safety precautions. Appropriate safety icons are used and warning messages are given where you need to take special precautions because of the nature of the equipment or product.

In line with our policy of continuous research and development, we reserve the right to amend models and specifications without prior notice.

This manual is accurate at the date of printing, but will be superseded and should be disregarded if specifications or appearance are changed.

Introduction

The Sensor Unit is supplied with an Alarm Output Module which enables interfacing to external systems e.g. building security management & CCTV, via dry contacts.



Figure 1 - Alarm output module

This allows covert and/or remote alerting, notification and/or recording of detections.

The Alarm Output Module can be used in conjunction with Stealth Mode, so that only covert and/or remote indication of detections is provided, or the Module can be used in conjunction with visible or visible & audible indication of detections by the device.

The Module connects to the bottom charge socket of the sensor unit and is powered by the internal battery, or by the Battery Charger when connected.

The Module consumes little power, and does not significantly decrease runtime when operating the unit on battery power. Furthermore, selecting Stealth Mode, which disables the indicator lights and audible alarm, reduces power consumption and increases runtime on battery power.

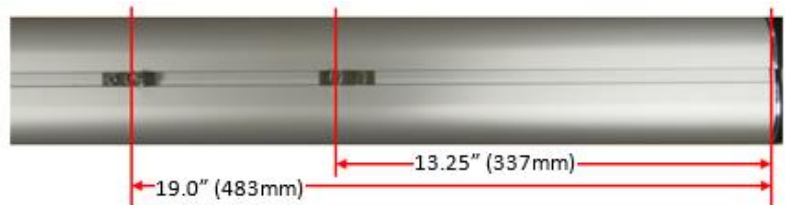
Physical Installation

There are several options for positioning the Alarm Output Module and the most suitable position will depend on the mode of use of the Sensor unit. The Module can be positioned either;

- screwed to the wall adjacent to the bottom of the Sensor unit using the fixing screws and wall-plugs provided, if the Sensor unit is to be wall-mounted itself
- placed or fixed inside the Sensor unit Base
- mounted on the back of Sensor unit, using the brackets provided as shown.



The Module should not be mounted any higher on the back of Sensor unit as this could result in false alarms, making it more difficult to set up and use the Sensor unit.



Measure from M6 stud centers to bottom of aluminum casing.

To mount the Module on the Sensor unit, insert the two brackets provided in the Fixing Kit into the T-slots on the back of Sensor unit, and secure in place by tightening the set screws. Remove the lid from the Module and slot onto the brackets.



Secure brackets by tightening set screws, then fit & secure AOM by tightening locking nuts.

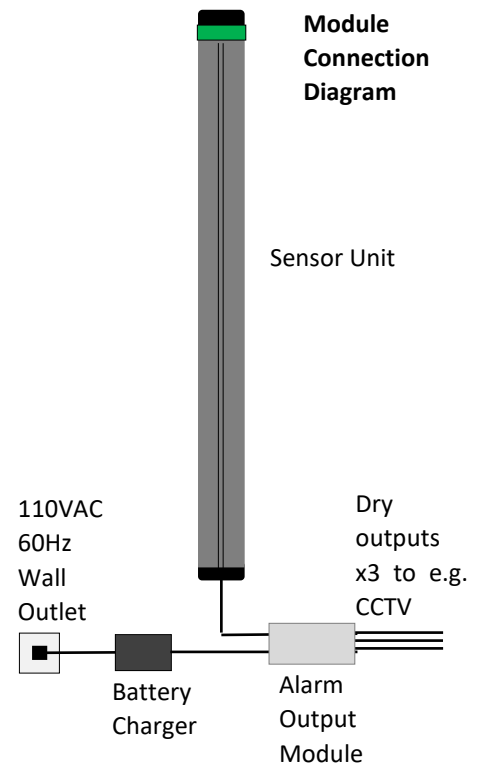
Alarm Output Manager connections

The Alarm Output Manager has a permanently attached 39" (1m) long cable with a plug which must be connected to the Sensor unit Lower Charge Socket (the Module cannot be connected to the Pole Front Charge Socket).

This cable carries alarm signals from Sensor unit to the Module and charge current from the battery charger to Sensor unit.

The Alarm Output Manager has a Battery Charger Socket which enables connection of the Battery Charger whilst the Module is still connected to the Pole.

This allows the Pole to be charged or operated continuously from a standard 110VAC 60Hz electrical wall outlet whilst the Module is connected without requiring use of the Sensor unit Front Charge Socket. This facilitates neater wall-mounted installation. (If preferred, the Charger can be connected to the Front Charge Socket and will still charge the battery and power the Module.)



Adapter output specification

The Alarm Output Module Outputs are of the type often referred to as "dry contacts" and consist of 3x identical, independent, isolated Single-Pole Single-Throw relays with the following characteristics:

Absolute Maximum Ratings (DO NOT EXCEED):

24 Volts AC 40 Volts DC 200mA each

Protected by internal fast-blow fuses.

Normally-open-circuit (NO) on all three outputs, simultaneously switched.

The two connections to each relay are on adjacent pins 1&2, 3&4, 5&6 as marked on the Module circuit board.

Any one, two or three of these outputs can be used as a control signal for interfacing to building security systems such as CCTV.

Connection details

The Alarm Output Module output connector is of the detachable screw terminal type for convenience when wiring connections.

When making connections between the building system (e.g. CCTV) and the Module, use twisted-pair cable and keep the twisted pairs twisted up close i.e. within ¼" (6mm) to the Module screw-terminal block.

Having connected the cable to the Module screw-terminal block, secure it using the cable grip to provide strain relief for the connections.

The cable(s) which connect to building systems can exit the Module either through the unused pierceable rubber grommet or out through the knockout which can be removed from the base of the Module housing.

Setup

NOTE on Sensor unit with Alarm Output, the first position (Position 1 = most anti-clockwise) of the Volume control settings, disables the Beacon display in addition to silencing the audible alarm, so that no visible or audible indication is given by the unit when an object is detected. The only alarm indication in this mode of operation is via the Alarm Output Module.

Setup and adjustment of sensitivity settings should be done as per usual with a standard sensor unit product as per the user manual, BUT with the Volume control set to any position OTHER than Position 1, so that the Beacon lights are operating and can be observed to determine what sensitivity setting is appropriate for the environment and for objects of interest to be detected.

Once a suitable location & sensitivity setting have been determined, and the sensor unit is operating as desired, the Alarm Output Module connections can be made, followed by a final check of correct behavior, then the visible & audible alarms can be suppressed if desired by setting the volume control to Position 1.

Hints & Troubleshooting

Mount the Alarm Output Module low down relative to the sensor unit; if the Module is any higher than the sensor unit Controls, magnetic interference may result in unstable behavior and reduced detection performance.

Do not route battery charger or alarm output cables close to the sensor unit e.g. running up the wall behind/adjacent to the Sensor Unit. If cables carrying electrical currents are routed near the magnetic sensors, then this creates the potential for magnetic interference and degraded performance.

Making the connection to each individual dry output using twisted pair cable will reduce the risk of magnetic interference from this cable. A cable with several internal twisted pairs will be suitable e.g. Ethernet cable.

Keep the twisted pairs twisted up close to the Module screw terminals – large loops of wire will generate magnetic interference, especially for larger current draw.

Do not exceed any of the maximum electrical ratings of the dry-contact outputs and if possible use the outputs to switch modest currents. For example, if a 20mA or 50mA current is adequate to ensure reliable communication, then this is preferable to using the maximum 200mA current as higher currents have more potential to cause magnetic interference and necessitate greater care in selecting, routing and connecting the cable.

In the event of queries or difficulties, please contact a Metrasens Field Service Engineer for advice and support.

