



## Intelligent Rack Extinguisher Module. For Data & Fire Protection



### DETECTION - ALARM – EXTINGUISH

## Introduction

Loss of data is perhaps one of the most feared aspects of business. Losing internal records, employee records and sales records alone could cripple even the largest company to the point of collapse. If the company also then relies on these technologies to provide a sales outlet, be it through POS terminals or Internet trading, losing these for any length of time will affect the ability to continue trading in times of crisis.

Enterprises with computer networks, IT communications and those who rely on large banks of data, house their computers, network devices and ancillary equipment in 19" floor standing racks/cabinets, i.e. a "Computer room in a Cabinet". The data is protected against viruses, the computers against power fluctuations with UPS, the excess heat by air conditioning, the security by the latest devices, but the fire protection is often left to the room Fire Protection System. Each individual cabinet is not separately protected.

So why not let your computer room fire system handle the fire? The answer is simply the down time and disruption to business involved in doing so. Your building fire system is perfect for protecting the occupants of the building and the building itself, but generally has little regard for the consequences of dealing with a small fire. Even if you have expensive computer room fire extinguishing capability, this system will still flood the room with agent and close down all the equipment inside the room, requiring your staff to leave the room, until the agent is vented, before returning to deal with the problem.

If you have 20 racks containing data servers, this shuts 95% more of your business than need be affected by a localised fire in one rack. Cooper B-Line can now supply the i-REM, this unit is designed to protect data and equipment sited in closed separate 19" racks from the effects of a smoke threat originating within the periphery of the rack. Installed in the top 2U of the cabinet the i-REM's microprocessor will monitor the rack for smoke, using two optical smoke detectors. Power from the rack will be removed at 3% / meter smoke obscuration. The cause of the smoke will be extinguished by filling the rack with FM200 extinguishant with a zero oxygen depletion potential.

Because this affects only the rack with the smoke, the room is safe for your staff to continue working and the rack is immediately available for engineers to repair or replace the faulty equipment, and business is resumed in the shortest possible time.



## Unit Overview.

### 1. Input

- Worldwide operation 90-264Vac (50/60Hz)
- 10 Amp, 16 Amp or 20 Amp IEC inlet

### 2. Output

- 10 Amp, 16 Amp or 20 Amp IEC socket outlet corresponding to input
- UPS power shut down contacts
- Remote system alarm contacts
- Remote fire alarm contacts
- Visual and Audible warning indicators

### 3. Function

- The on board i-REM unit microprocessor monitors all functions and indicates faults on 4 LED's. Twin smoke detectors continuously monitor the cabinet for smoke at > 3%/m obscuration
- On smoke detection and alarm, i-REM fire extinguisher is operated automatically i-REM cuts power to the outlet socket. UPS-off contact operates, Alarm indicator and remote alarm contacts operate.

### 4. Dimensions

- 2U high (87mm) x 345mm deep x 19" mounted
- Weight of 6kg or less

### 5. Environment

- Ozone Depleting Potential (ODP) is zero
- Minimal atmospheric warming effect
- Extinguishant is non toxic FM200TM or FE36TM



### Features

- Automatic smoke detection, alarm and extinguish with immediate power off to cabinet**
- Extendible with additional units up to 8 bayed cabinets**
- Supplied fully assembled. 2U 19" mounted**
- Visual, audible and electronic alarms**
- Worldwide universal AC voltage input (96-264VAC)**
- Option of gauge or pressure switch monitoring of canister**
- Inbuilt microprocessor with battery backup for i-REM**





## Options and Part Numbers.

Order Code	Description
<i>IREMX101x800</i>	<i>Master 10amp: 1 x 800grm Extinguishing Canister Fills 1.4M<sup>3</sup></i>
<i>IREMX101x1000</i>	<i>Master 10amp: 1 x 1000grm Extinguishing Canister Fills 1.8M<sup>3</sup></i>
<i>IREMX102x1000</i>	<i>Master 10amp: 2 x 1000grm Extinguishing Canister Fills 3.6M<sup>3</sup></i>
<i>IREMX161x1000</i>	<i>Master 16amp: 1 x 1000grm Extinguishing Canister Fills 1.8M<sup>3</sup></i>
<i>IREMX162x1000</i>	<i>Master 16amp: 2 x 1000grm Extinguishing Canister Fills 3.6M<sup>3</sup></i>
<i>IREMX201x1000</i>	<i>Master 20amp: 1 x 1000grm Extinguishing Canister Fills 1.8M<sup>3</sup></i>
<i>IREMX202x1000</i>	<i>Master 20amp: 2 x 1000grm Extinguishing Canister Fills 3.6M<sup>3</sup></i>
<i>IREMXS1x800</i>	<i>Slave 1 X 800grm Extinguishing Can. + connect cables. Fills 1.4M<sup>3</sup></i>
<i>IREMXS1x1000</i>	<i>Slave 1 X 1000grm Extinguishing Can. + connect cables. Fills 1.8M<sup>3</sup></i>
<i>IREMXS2x1000</i>	<i>Slave 2 X 1000grm Extinguishing Can. + connect cables. Fills 3.6M<sup>3</sup></i>
<i>IREMXEPS800</i>	<i>Extinguisher canister only 800grms FM200 w/- Pressure-Switch.</i>
<i>IREMXEPS1000</i>	<i>Extinguisher canister only 1000grms FM200 w/- Pressure-Switch.</i>
<i>IREMCBLD3</i>	<i>Multi-Bay connecting cable for 3 / 4 Bayed Racks.</i>
<i>IREMCBLD4</i>	<i>Multi-Bay 5 - 8 Bayed Racks. Connect Box+ Cables. Specify No. of racks.</i>
<i>IREMADPD1</i>	<i>Adapter: Power Off APC-UPS on Smoke alert REPO</i>
<i>IREMCBLP1</i>	<i>Cable Power 10amp C13F&gt;C14M =3Mtr. UPS to DFP power in.</i>
<i>IREMCBLP2</i>	<i>Cable Power 16amp C19F&gt;C20M =2.5Mtr. UPS to DFP power in.</i>
<i>IREMCBLP3</i>	<i>Cable Power 16amp C19F&gt;Free end =2.5Mtr. UPS to DFP power IN.</i>
<i>IREMCBLP4</i>	<i>Cable Power 16amp C20M&gt;Free end =2.5Mtr. UPS to DFP power OUT.</i>
<i>IREMCBLP5</i>	<i>Power 16amp Connector C19F Rewireable To DFP power IN.</i>
<i>IREMCBLP6</i>	<i>Power 16amp Connector C20M Rewireable From DFP power OUT.</i>
<i>IREMPDPP1</i>	<i>Power Distribution 16A C20 Input +2m 5 x13amp sockets OUT, Horizontal Mount</i>
<i>IREMPDPP1</i>	<i>Power Distribution 16A C20 Input +2m 9 x13amp sockets OUT, Vertical Mount</i>
<i>IREMADPD6</i>	<i>APC UPS Power Off w/- EPO ( Emergency Power Off )</i>
<i>IREMX10M</i>	<i>Master Unit 10amp: (drives 1 slave)</i>
<i>IREMX16M</i>	<i>Master Unit 16amp: (drives 1 slave)</i>
<i>IREMX20M</i>	<i>Master Unit 20amp: (drives 1 slave)</i>
<i>IREMXS</i>	<i>Slave Unit With 3 connecting cables</i>









## Product Service, Warranty and Safety.

### 1.2 Guarantee

This unit is guaranteed for a period of 24 months from date of purchase against faulty components or workmanship. The warranty is subject to certain conditions being met by you in the installation and use of this unit, your supplier will honour this warranty only if;

-  Only personnel authorized by the manufacturer have carried out any modifications or repairs on the unit.
-  The installation complies with the general requirements according to IEC.
-  The unit is located in office conditions, class 3K2 according to EN 60721. Other requirements may be necessary if pollution levels exceed these limits.
-  The unit is not subjected to an ambient temperature greater than 40°C, and humidity greater than 80% non-condensing.

Please refer to the manufacturers' terms of business for further warranty details.

### 1.3 Copyright

The manufacturer retains all copyright on the unit and this manual and no part of either may be reproduced in part or in whole without express written permission from the manufacturer. In addition to this copyright the manufacturer has patents pending on one or more aspects of the unit. In the pursuit of technical excellence the manufacturer reserves the right to change the design of both the product and this manual without prior notice.

### 1.4 Liability





The greatest of care has been exercised in the compilation of this manual. However the manufacturer accepts no liability for any errors or omissions to this manual or any information given on this unit either verbally or in writing. In particular, no liability whatsoever is accepted for damage or injury or loss caused as a result of the use of this product.

### 1.5 Disposal







This product contains a Sealed Lead Acid Battery, disposal of this item should be in accordance with the EEC directive. Please dispose of the rest of the unit in an environmentally friendly manner, many components within the product may be recycled or reused. If in any doubt about disposal of this unit, please contact your supplier for advice.

### 1.6 Safety

In order to achieve a safe working environment with the i-REM please adhere to the information contained within this manual. Observe documentation by manufacturers of connected devices. Follow the following points;

-  Always keep this manual in a safe place.
-  Keep the quick reference card inside the rack.
-  Inspect the unit on arrival, should any damage be found DO NOT USE. Contact your supplier for a replacement immediately.
-  Do not pull cables to remove leads.



-  Never touch the unit with wet hands.
-  Do not remove covers of unit. There are no user serviceable parts inside the i-REM. Breaking seals on the unit will invalidate warranty.
-  Use only original accessories.
-  Isolate the device if and liquid is spilt over the unit. Contact your supplier for service.
-  Protect from extreme temperature and humidity as these can damage the unit.
-  Clean with a clean dry cloth. Do not use alcohol, thinners or any similar chemicals, as they will damage the unit.

### **1.8 Contacts**

The i-REM has been designed to make installation as easy as possible. If you have a problem or question after purchasing this unit contact your supplier by one of the following methods:

E-mail : [edp@eldeco.be](mailto:edp@eldeco.be) Website: [www.eldeco-edp.eu](http://www.eldeco-edp.eu) T. 0032/(0)51.25.06.10 F. 0032/(0) 24.02.57

#### ***Please include the following information in your message:***

1. Your name address and contact details.
2. Unit serial number.
3. Date installed.
4. Company who installed unit.
5. Description of problem

### **1.9 Standards**

The manufacturer has built and tested the i-REM in accordance with relevant available guidelines. In connection with installation in a rack environment, any additional measures to comply with IEC60950 are the users responsibility and these must be observed and complied with.

The i-REM conforms to the safety requirements of the EU Directives 89/336/EWG and 73/23/EWG.



## **i-REM Unit Quick Reference Guide**

### ***Contents of delivered product and Installation into Rack.***

i-REM will be delivered assembled. Take care when unpacking the unit. A fixing kit is supplied to fit the i-REM into a 19" electronic rack. i-REM **MUST** be fitted in the **TOP 2U** of the rack since the extinguishant is 1.5 times heavier than air and therefore sinks to the rack base.

The Giant Paperclip operates the Front Panel Switches via small holes near the LED's

### ***i-REM Cabling to Rack***

***It is imperative that the i-REM initiates Rack Mains Power Switch Off at "Smoke Alert". See full Users Manual section: 5.4***

Ensure you have the correct Circuit beaker and cabling for the load in the rack you are protecting. The i-REM can be supplied with IEC worldwide plugs and sockets at 10 amps or 16 amps. A unit is supplied with provision for hard wiring for up to 20 amp loaded racks.

For racks with greater than 20 amps loads, separately mounted circuit breakers can be controlled from the i-REM. Advice is available.

### ***Operation***

Supplying mains to the i-REM Input Socket initiates its operation. (Red circuit breaker button must be IN). If no damage since product test prior to shipment all four LED's will light green. If not green consult Owners Manual trouble shooting.

### ***Containment of Extinguishant***

The switch off at smoke alert stops all fans and so the cloud of extinguishant will fall from the top of the Rack towards the base of the rack. Precautions should be taken to minimise any gaps in the base of the rack so the extinguishant is not lost quickly.

A little will be lost through perforated front and back doors but with no fans the Extinguishant takes the least resistance and mixes with the air in the rack, giving a > 7% mixture which extinguishes the source of the smoke.

### ***Testing***

The i-REM tests regularly all it's relevant parameters (see manual for frequency).

A visual test can be performed with a dummy canister load (light Bulb). To avoid damage to the electronics, only the dummy loads available from Cooper B-Line may be used.

### ***Alarms***

The unit performs various tests on switch on and these can take up to 30 seconds and until finished all LED's may not be green.

A reset after 30 second will confirm a red LED or give all green LED's.



**LED & Push Button Functions (all green = OK at normal operation)**

- LED Unit Set Status of the electronics in the unit.
- LED Battery Status of battery circuits and battery condition.
- LED Extinguisher Status of canister firing heads.
- LED Pressure Status of the canister pressure
- Switch Mute Pressing this button temporarily mutes the sounder
- Switch Test / Fault Pressed in normal mode checks the battery.
- Switch Test / Fault Pressed in fault mode initiates fault diagnostics.
- Switch Reset Press to reset the unit when mains power is present.
- Switch Reset Press to switch off unit when mains power is absent.

**DIP Switch Settings (Remove LED Panel for Access)**

**OPEN Switch bank**

**Covered Switch bank**

- |   |   |
|---|---|
| <b>1</b> Master Pressure Switch Fitted = On     | <b>9</b> Fan Fitted Yes = On              |
| <b>2</b> Master Canister Head Check Enable = On | <b>10</b> 10 Sec Delay before Firing = ON |
| <b>3</b> Enable Slave Operation Yes = On        | <b>11</b> Standard Version = Off          |
| <b>4</b> Slave Pressure Switch Fitted Yes = On  | <b>12</b> Test Mode Yes = On              |
| <b>5</b> Slave Canister Head Check Enable = On  | <b>13</b> HeartBeat Tick Yes = On         |
| <b>6</b> Enable as Multiple Unit Yes = On       | <b>14</b> N/A                             |
| <b>7</b> One or Two Canisters 1 = Off 2 = On    | <b>15</b> N/A                             |
| <b>8</b> Maintenance Reset Mode Yes = On        | <b>16</b> N/A                             |

**Fault Diagnostic Code Index (Add up Green LED's)**

- 1** Canister Bulb Failure
- 2** Pressure Switch Failure
- 3** Unit In TEST MODE
- 4** Battery Low Warning (11.5v)
- 5** Master Smoke Detectors Fitted Wrong / Not Fitted
- 6** Battery Connection Open
- 7** Firing Transistor Fault
- 8** Power fault, unit will turn off after 4 hours
- 9** Fan Fault.
- 10** Slave Connection / Smoke Detectors Fault
- 11** Multiple Unit Connection Fault
- 12** Maintenance Reminder Alarm
- 13** Not Used
- 14** Not Used
- 15** Fault Now Corrected

