IM-10
Ten Input Monitor Module

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SPECIFICATIONS

Normal Operating Voltage:	15-29 VDC
Stand-By Current:	3.75 mA @ 24V
Alarm Current:	60 mA (assumes all ten LEDs solid on)
Temperature Range:	32°F to 120°F (0°C to 49°C)
Humidity:	10 to 93% Non-condensing
Dimensions:	6.8˝H x 5.8˝W x 1.25˝D
Accessories:	CH-6 Chassis; BB-6 Cabinet; BB-2 Cabinet
Wire Gauge:	12-18 AWG
Maximum IDC Wiring Resistance:	1500 Ohms
Maximum SLC Wiring Resistance:	40 Ohms
Maximum IDC Voltage:	12 VDC
Maximum IDC Current:	1 mA

BEFORE INSTALLING

This information is included as a quick reference installation guide. Refer to the appropriate control panel installation manual for detailed system information. If the modules will be installed in an existing operational system, inform the operator and local authority that the system will be temporarily out of service. Disconnect the power to the control panel before installing the modules. This system contains static sensitive components. Always ground yourself with a proper wrist strap before handling any circuits so that static charges are removed from the body. The housing cabinet should be metallic and suitably grounded.

NOTICE: This manual should be left with the owner/user of this equipment.

GENERAL DESCRIPTION

The IM-10 Ten Input Monitor Module is intended for use in an intelligent alarm system. Each monitor module is intended to interface between a control panel and normally open contact devices, such as pull stations. A common SLC input is used for all modules, and the initiating device loops share a common supervisory supply and ground. Otherwise, each monitor operates independently from the others. Each module has its own unique address.

A pair of rotary code switches is used to set the address of the first module from 01 to 150 (01 to 90 on panels that support up to 99 addresses). The remaining modules are automatically assigned to the next nine higher addresses. Provisions are included for disabling a maximum of six unused modules in Class B installations and three unused modules in Class A installations to release the addresses to be used elsewhere. Each module also has panel controlled green LED indicators. The panel can cause the LEDs to blink, latch on, or latch off.

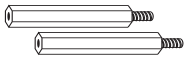
The module also provides short circuit isolators to prevent shorts on the fire detection and alarm system loop from disabling more than one device on the intelligent loop

INCLUDED:

(6) 1 x 4 Terminal Blocks



(2) 1¼" (32mm) Stand offs



(4) Machine Screws



(2) Nuts



(10) 47k Ohm End of Line Resistors



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COMPATIBILITY REQUIREMENTS

To ensure proper operation, this module shall be connected to a listed compatible system control panel.

COMPONENTS

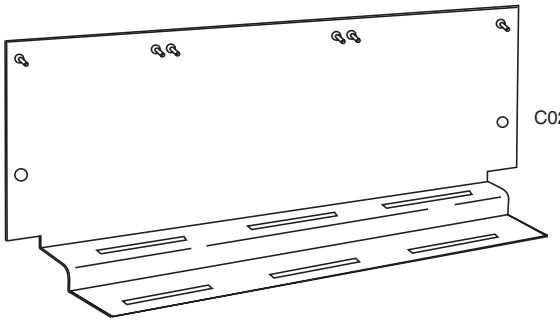
Following are descriptions of the IM-10 mounting frameworks. There are two mounting options for IM-10 modules:

- Up to six IM-10 modules can be installed on a CH-6 in a BB-6 cabinet
- One or two IM-10 modules can be installed in a BB-2 cabinet

CHASSIS

The CH-6 chassis is used to mount IM-10 modules in a BB-6 cabinet. It accommodates up to six IM-10 modules in a single cabinet row three modules wide and two modules deep.

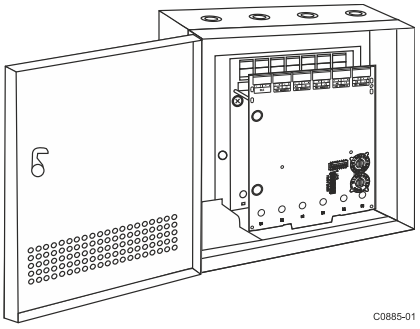
FIGURE 1. CH-6 CHASSIS:



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The BB-2 cabinet has a built-in chassis that will accommodate one or two IM-10 modules.

FIGURE 2. BB-2 CABINET:



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The front IM-10 module positions of each chassis are offset below the rear IM-10 module positions so that all of the status indicators are visible.

CABINETS

A BB-6 cabinet will house the CH-6 chassis with up to six IM-10 modules installed on it. Refer to cabinet installation documents for dimensions.

The BB-2 cabinet houses one or two IM-10 modules on the internal chassis that is part of the cabinet. Refer to cabinet installation documents for dimensions.

INSTALLATION STEPS

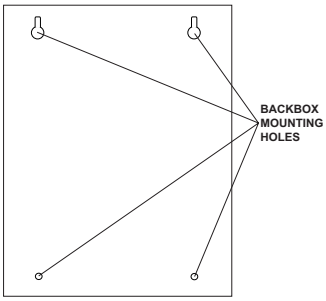
1. Cabinet Mounting

   In a clean, dry area, mount the backbox using the four holes provided in the back surface of the cabinet (Figure 3).

2. Chassis Installation

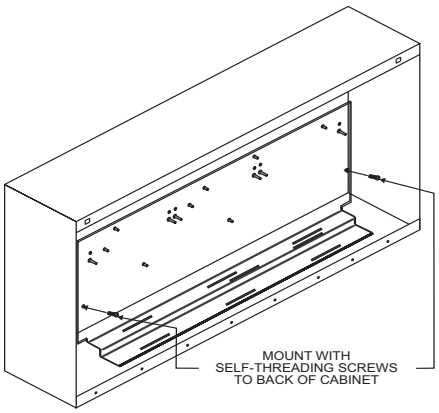
   The CH-6 chassis is mounted in the BB-6 cabinet. It is shipped with two self-threading screws, which are used to fasten the chassis to the back wall of the cabinet (see Figure 4).

FIGURE 3. TYPICAL MOUNTING HOLE LOCATIONS:



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FIGURE 4. MOUNTING THE CH-6 CHASSIS:



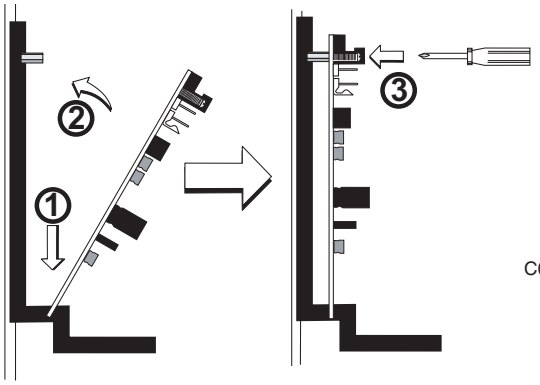
C0236-00

The BB-2 cabinet comes with the chassis already installed, so no mounting is necessary.

3. Module Installation

   There are two methods for installing a module in the rear position of a chassis. Method one is for installation of a rear module only, when no module will be installed in front of it. Refer to Figure 5 for instructions. Method two is for installation of a rear module when another module will be installed in the chassis position in front of it. Refer to Figures 6a and 6b for method two. All necessary screws and standoffs are supplied with the modules.

FIGURE 5. INSTALLATION OF REAR MODULE ONLY, METHOD ONE:



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Step 1: Insert the bottom of the IM-10 module down into a rear slot on the chassis.

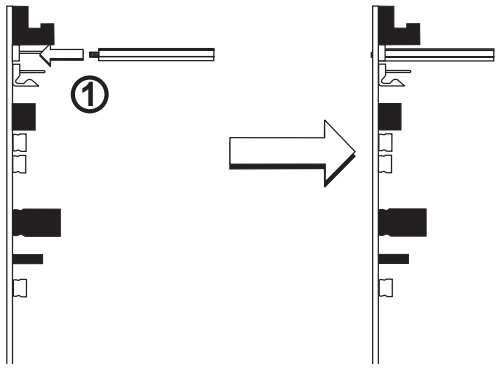
Step 2: Carefully swing the upper edge of the board back towards the back of the chassis until it touches the two standoffs.

Step 3: Align two 4-40 screws with the two standoffs and tighten.

Step 4: Address and wire the modules according to the instructions in this manual.

The steps in Figures 6a and 6b describe and illustrate module installation when the rear chassis position and the position in front of it will be filled. Front position installation is possible only if the rear position is filled with another module.

FIGURE 6A. INSTALLATION OF IM-10 MODULE IN A REAR CHASSIS POSITION, METHOD TWO:



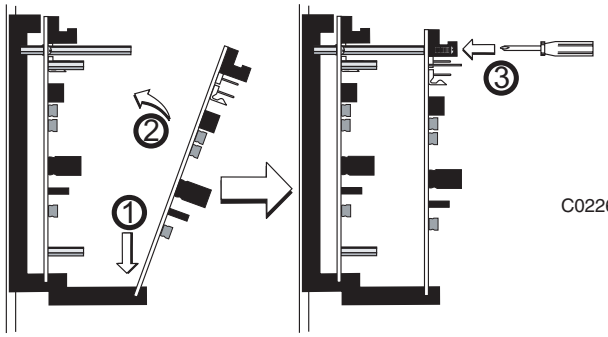
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Step 1: Insert the bottom edge of the IM-10 module down into a rear slot of the chassis.

Step 2: Carefully swing the upper edge of the board towards the back of the chassis until it touches the short standoff attached to the chassis.

Step 3: Align the long standoff with the short standoff and tighten.

FIGURE 6B. INSTALLATION OF IM-10 MODULE IN FRONT CHASSIS POSITION:



C0226-00

Step 1: Insert the bottom edge of the IM-10 module down into a front slot of the chassis.

Step 2: Carefully swing the upper edge of the board towards the back of the chassis until it touches the 1¼″ (31.75mm) standoffs installed on the rear module.

Step 3: Align two 4-40 screws with the two standoffs and tighten.

Step 4: Address and wire the modules according to the instructions in this manual.

WIRING

NOTE: All wiring must conform to applicable local codes, ordinances, and regulations.

1. Install module wiring in accordance with the job drawings and appropriate wiring diagrams.
2. All wiring to the IM-10 is done via terminal blocks. In order to properly make electrical connections strip approximately ¼″ of insulation from the end of wire, sliding the bare end of the wire under the clamping plate screw.
3. Set the address on the modules per the job drawing. Use the rotary code switches to set the address of the first module between 01 and 90 (or 01 and 150 for panels that support 159 addresses).

   In Class B operation, the remaining modules are automatically assigned to the next nine higher addresses. For example, if the base address

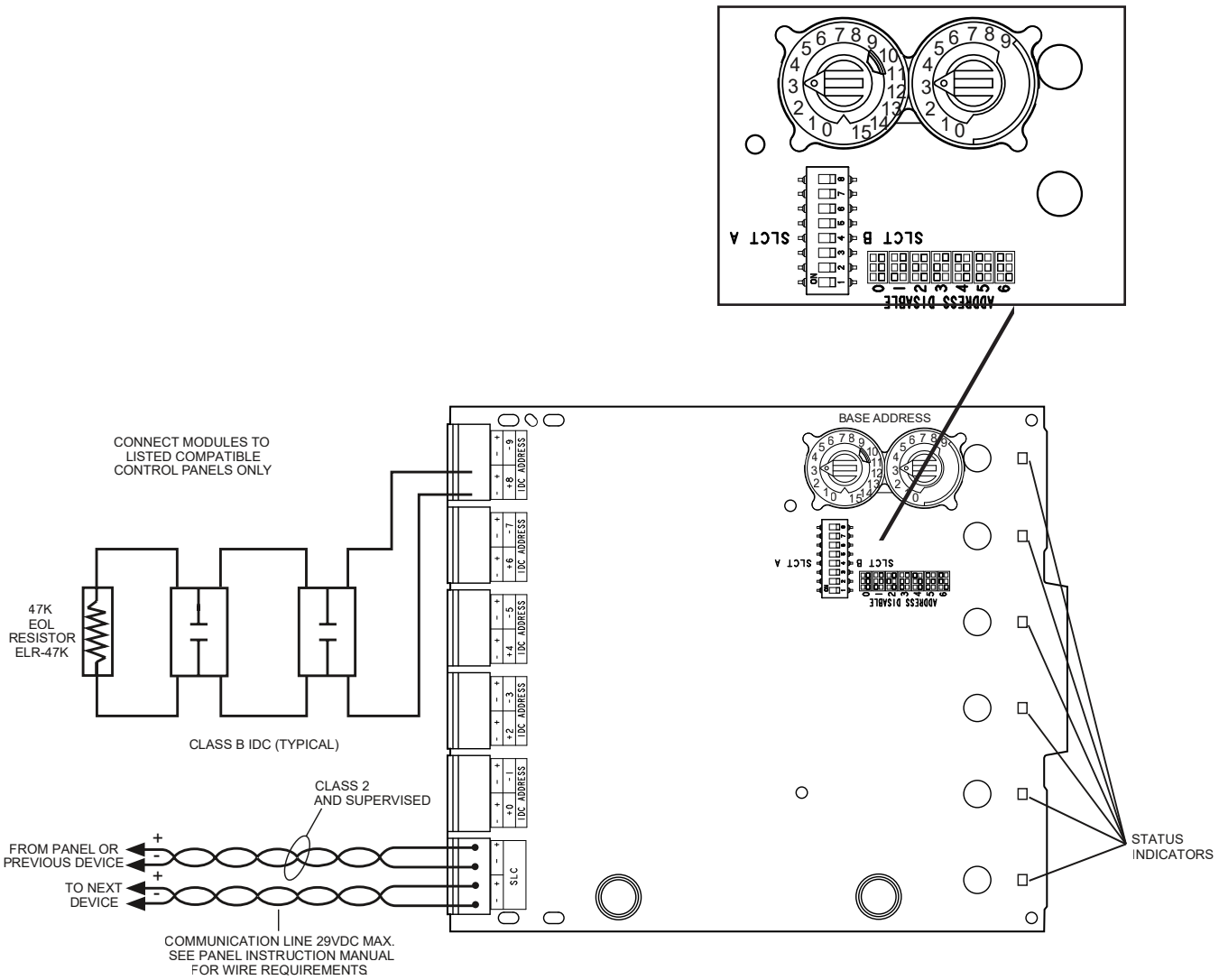
switch is set to 28, the next nine modules will be addressed to 29, 30, 31, 32, 33, 34, 35, 36, and 37.

When operating in Class A, alternate modules are paired together (+0/+1, +2/+3, +4/+5, +6/+7, +8/+9), resulting in a total of five modules. For example, if the base address switch is set to 28, then 30, 32, 34 and 36 will be automatically assigned to the modules while 29, 31, 33, 35 and 37 are available to be used for other modules on the SLC. For Class A and B operation, DO NOT set the lowest address above 90 (or 150 for panels that support 159 addresses), as the other modules will be assigned to nonexistent addresses.

4. A dip switch is provided to disable a maximum of six unused modules in Class B operation and three unused module in Class A operation. Modules are disabled from the highest address and work downward. If two modules are disabled, the lowest eight addresses will be functional, while the highest two will be disabled. For example, in Class B operation, if the dip switch for Address Disable is placed on “two” and the base switch is set to 28, the modules will be assigned to 28, 29, 30, 31, 32, 33, 34 and 35 while disabling the highest two positions.
5. A communications loss feature is available on some panels. Upon a communication loss, due to a microprocessor failure at the control panel, the IM-10 will send a signal to the control panel to activate the notification device circuits upon initiating of an alarm on the IM-10. A single dip switch is used to enable or disable this feature for all modules on the board.

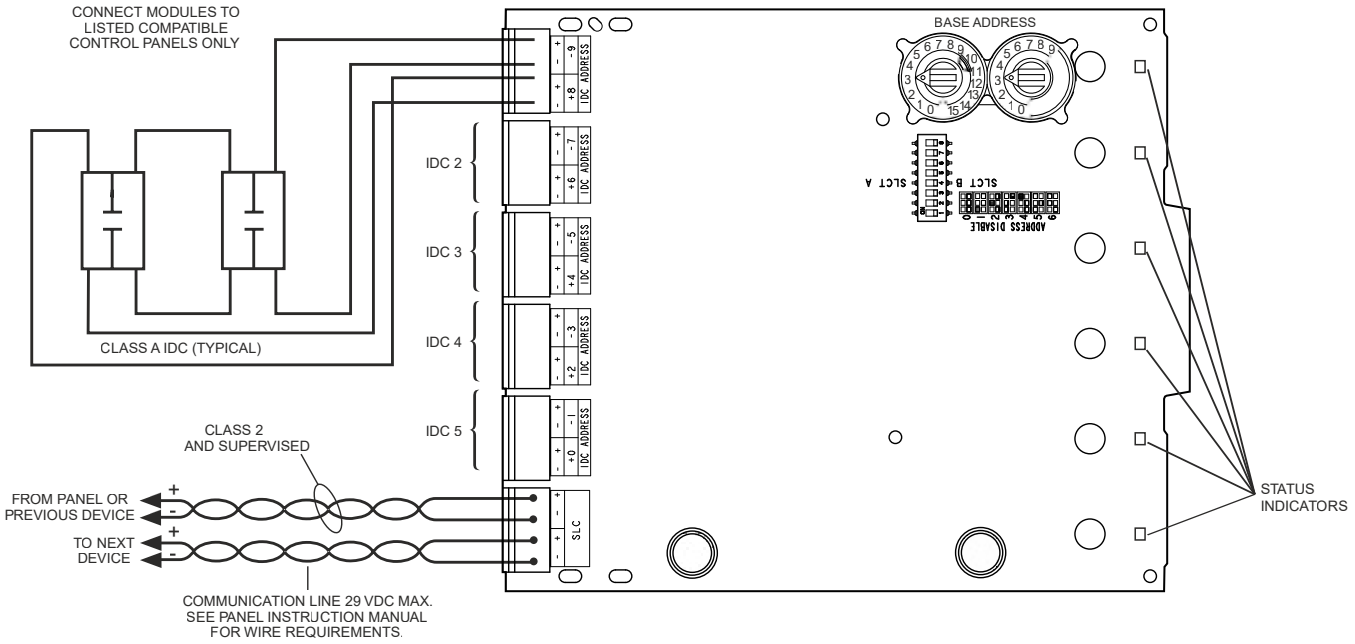
NOTE: All references to power limited represent “Power Limited (Class 2)”.

FIGURE 7. TYPICAL INITIATING DEVICE CIRCUIT CONFIGURATION – CLASS B



NOTE: Any number of UL listed contact closure devices may be used. DO NOT mix fire alarm initiating and supervisory devices on the same initiating device circuit. Install contact closure devices per manufacturer's installation instructions.

FIGURE 8: TYPICAL FAULT TOLERANT INITIATING DEVICE CIRCUIT CONFIGURATION – CLASS A



NOTE: Any number of UL listed contact closure devices may be used. DO NOT mix fire alarm initiating and supervisory devices on the same initiating device circuit. Install contact closure devices per manufacturer's installation instructions.

Please refer to insert for the Limitations of Fire Alarm Systems

FCC STATEMENT

This device complies with part 15 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.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

DEVICE AND SYSTEM SECURITY

Before installing this product ensure that the tamper seal on the packaging is present and unbroken and the product has not been tampered with since leaving the factory. Do not install this product if there are any indications of tampering. If there are any signs of tampering the product should be returned to the point of purchase.

It is the responsibility of the system owner to ensure that all system components, i.e. devices, panels, wiring etc., are adequately protected to avoid tampering of the system that could result in information disclosure, spoofing, and integrity violation.

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