

# *ISIMET* SMC Controller

## Seismic Monitoring Controller

### Installation, Operations, Start-up and Maintenance Instructions



Meets all Standards for Canadian Industrial Control Panels



#### **Application:**

The Seismic Monitoring Controller monitors for seismic activity and transmits signals to turn OFF services to a facility that if left ON after a seismic event with potential breakage in piping or circuits may cause damage to the facility.

This unit incorporates a adjustable delay-timing device that allows for brief seismic or similar activity resulting in an unwarranted shutdown of vital activities.

A low current low voltage backup battery is included with all units where 12-VDC latching solenoids are incorporated into the system. This backup battery insures that services controlled by one of these solenoids will be turned OFF in the event of seismic activity even when electrical power has been disrupted.

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**ISIMET SMC Series Utility Controller**

Installation, Maintenance, Operations, and Startup Instructions

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Although the material contained herein has been carefully reviewed, **ISIMET** does not warrant it to be free of errors or omissions. **ISIMET** reserves the right to make corrections, updates, revisions, or changes to the information contained herein.

**Warranty:**

**ISIMET will repair or replace any defective parts or workmanship of this product for a period of one year from date of installation. The Primary Operating P.C. Board has a two year limited warranty. Damage caused by incorrect installation or improper usage is not warranted. Failure to follow recommended installation, operation, and/or maintenance procedures listed in this manual may void product warranty. Recovery rights shall be limited to the total sum of the amounts paid for the product by the purchaser.**

**Limits of Liability:**

**ISIMET's liability shall be limited to costs of repair or replacement parts. The Laboratory Service Panel and Utility Controller are not intended for usage other than those expressly described in this manual. ISIMET shall not be liable for damage or injury caused by the improper use of the product.**

**ISIMET does not warrant against or assume liability for failure of operation or lack of notification to secondary integrated monitoring systems. The system should be thoroughly tested and adjustments made at time of initial operation. Periodic testing should be conducted by the user to assure that all components function and operate according to specifications.**

**Care should be taken in the installation of this product. ISIMET shall not be liable for damage or injury caused from the improper installation of the product.**

**Warranty is Subject to Compliance with Specific Installation Requirements.**

**EXTENDED WARRANTY:**

**ISIMET will extend the warranty period of the products when installation complies with all start up procedures and that a factory authorized agent either performs or is in attendance during start-up of the system(s). Controllers, Companion and Accessory Panels will be extended to a period of five years from date of installation. Except for ISIMET FLA, DLA, RLA and other Units where automation systems are not common, Control System(s) must be interfaced with a building automation system or other ISIMET approved time sequencing control for "non-use" system shutdown. All operating components of the system must be ISIMET provided. Prescribed routine maintenance procedures must be performed per ISIMET recommendations.**

**All Start-up and Routine Maintenance Documentation shall be per Factory Recommendation.**

**Further, required start-up and maintenance procedures must be performed as directed upon all affected systems. This warranty shall only become enforceable upon issuance of application specific Extended Warranty Document. A copy of this document should be maintained at all times at the location of the warranted systems.**

**DISCLAIMER OF IMPLIED WARRANTY:**

**THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION HEREIN. SELLER DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OF THE GOODS OR OF THE FITNESS OF THE GOODS FOR ANY PURPOSE, AND BUYER AGREES THAT THE GOODS ARE SOLD "AS IS."**

**NOTE: Only qualified craftsmen licensed within the governing jurisdiction to perform the work associated with this installation should install and/or service this equipment.**

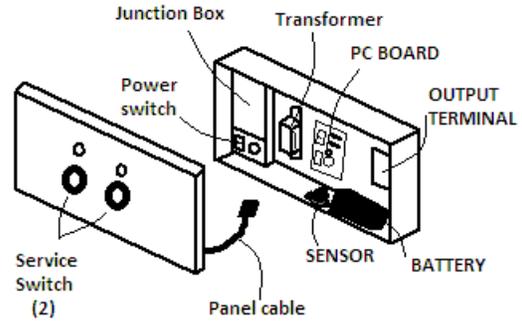
Printed in the United States

**Specifications:**

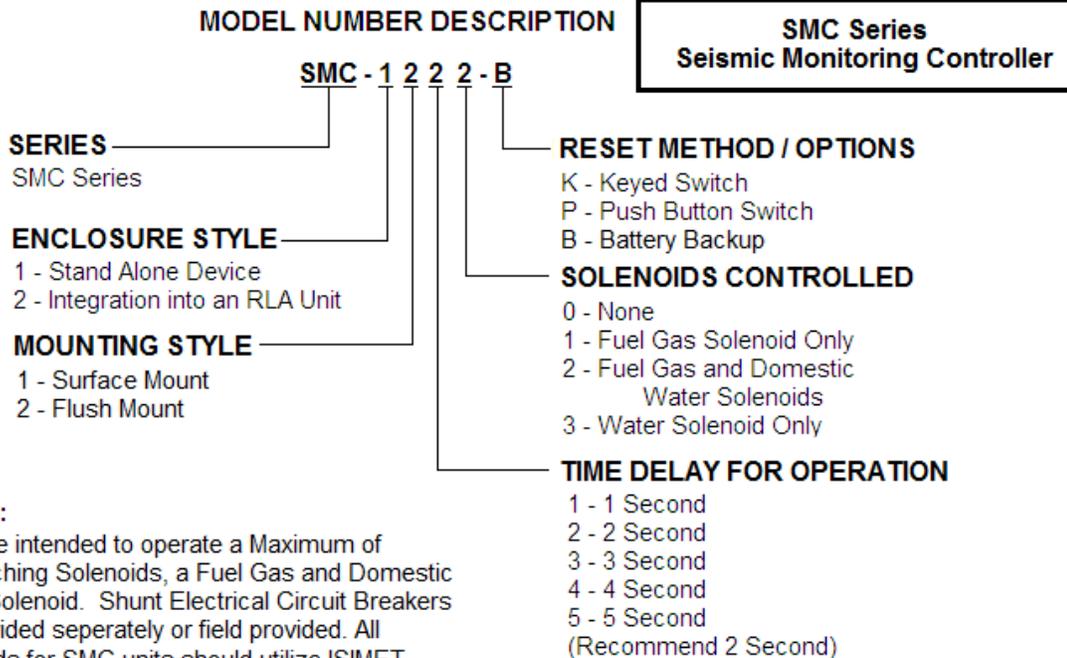
Control Panel - Stainless Steel 16 gauge  
11.875 X 18.0

Wall Box – 16 gauge powder coated sheet metal  
8.0 X 14.25 X 4.0

\* all dimensions are in inches



Style	# Output Circuits	Transformer	Switch\ Breaker	pcb Fuse 1	Output Rating (standard)	Pulse Output
SMC-1	1 @ 24 vac	2 amp	5 amp	2 amp	2 amp @ 24 vac	2 @ 12 vdc



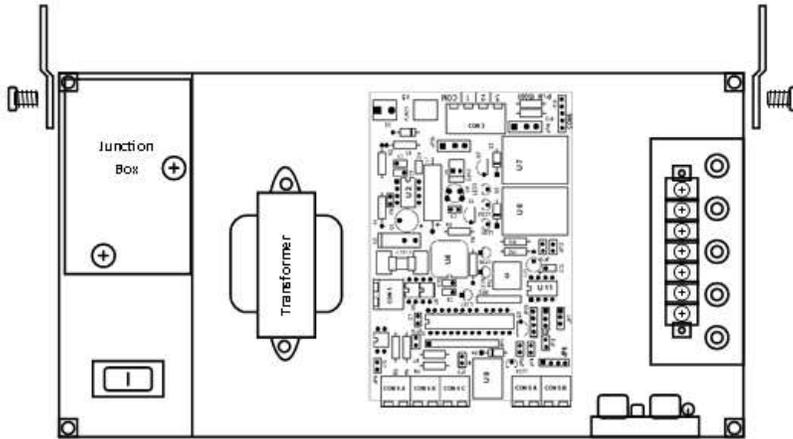
**NOTES:**

Units are intended to operate a Maximum of two Latching Solenoids, a Fuel Gas and Domestic Water Solenoid. Shunt Electrical Circuit Breakers are provided separately or field provided. All Solenoids for SMC units should utilize ISIMET 12-VDC Latching or Manual Reset Coils.

## Mounting Instructions: Flush Wall Mount

Two mounting flanges with screws are provided with the unit. Attach flanges as shown. Flanges can be affixed to any two corners of the unit. Then, fasten unit between two (2) wall studs. The face of the box should be even with the face of finished wall surface. After mounting unit, protect interior of box from construction debris.

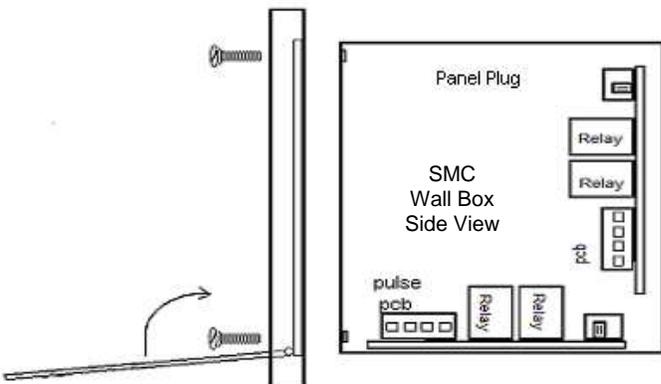
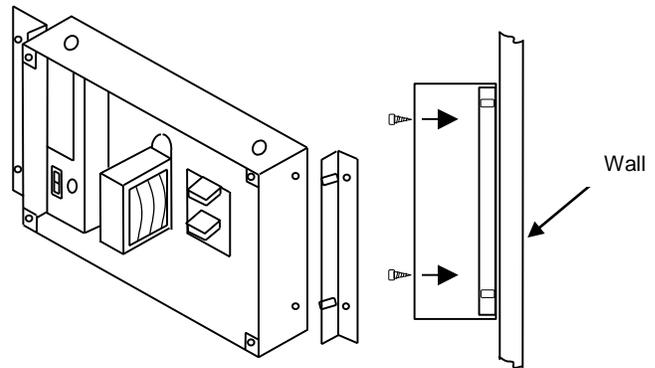
CAUTION: Provided mounting hardware must be used.



## Mounting Instructions: Surface Mount

In order to surface mount the unit, it is necessary to attach the provided brackets to the rear of the housing. Care should be taken to verify that the mounting means securely fastens the unit to the wall surface. A stainless skirt is provided in order to conceal the wall box from view. Skirt installation instructions are provided with the skirt.

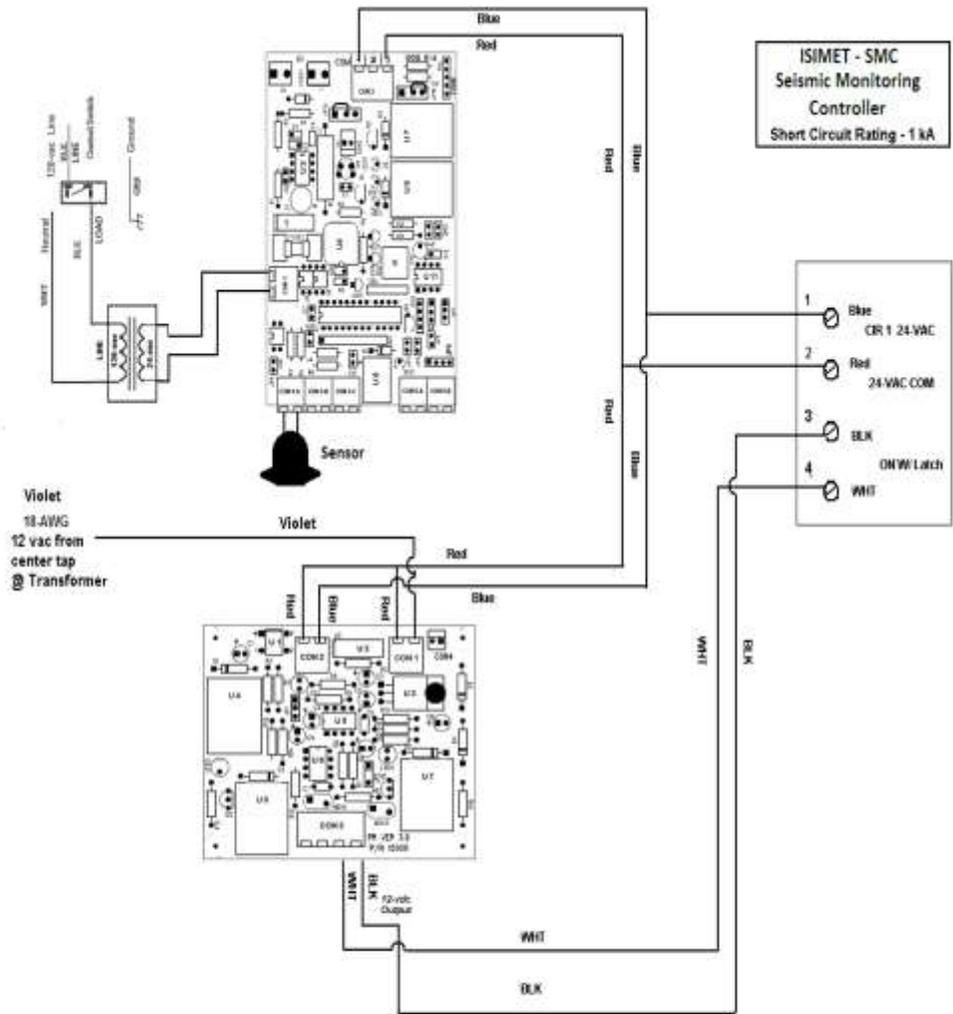
CAUTION: Provided mounting hardware must be used



## Mounting the Wall Panel:

- Verify that Unit is wired with Junction box cover in place.
- With the Door open, position the Wall Panel over the Wall Box as shown.
- Holding panel in front of box, affix panel to box using four (4) 8-32 stainless screws
- Insert the cable connector into the socket on the pcb and tighten the screws.
- Close the panel and lock.

**CAUTION!** Do not install the panel until all wall finishes are complete.



### Output Circuit Terminal:

If optional shunt electrical is utilized, make connections at output circuit terminal on 1 and 3. Must use single pole relay with N/O and N/C contacts to shunt electrical.

The solenoids provided are ISIMET S-300 Series Gas Service Valves with 12 vdc coils.

These coils are polarized and must be connected correctly to the Output Terminal in order to function as intended.

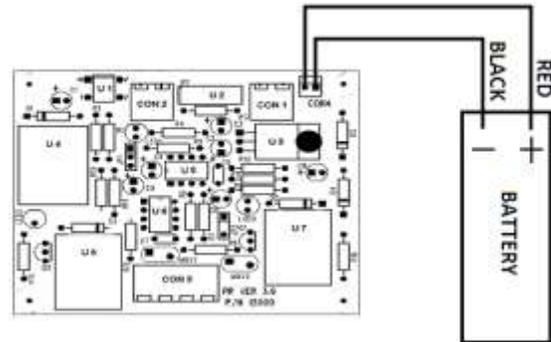
Connect Supply Solenoid to the 'ON w/Latch Terminals.

Make connections to 'BLK' and 'WHT' pins to match instructions provided with the solenoids that are similarly color coded.

Piping and wiring for solenoids should follow details provided with the solenoids.

### BATTERY BACK UP CONNECTION:

This unit has been shipped with the battery disconnected to prevent discharge during shipment. Connect the RED battery backup wire to the positive (+) terminal, and the BLACK backup wire to the negative (-) terminal. If power is lost for an extended period, it is normal for the battery to need recharging. This is done by the ISIMET system, but as the battery is a sealed type, it MUST be trickle-charged. This charging may take as long as eight hours. The system may be used as normal during this time.



### Installing the Electrical Conduit:

Knockout holes for connecting the electrical conduits are located at the top left and right of the Wall Box.

- Connect rigid conduit for the required 120-vac electrical service.
- Connect conduit for the operating power to the upper left top of the enclosure at the junction box.
- Connect conduit for the operating power for the output to the upper right top of the enclosure.

### Wiring the Unit:

#### Important!

Verify that the electrical supply is disconnected prior to connecting wiring to the SMC Controller.

To wire the Controller:

1. Remove the junction box cover.
2. Make final connections to the 120-vac electrical service to wiring within the junction box. Verify that line wiring (Black), neutral (White), and ground wire (Green) are correctly connected. Minimum recommended wire size is 14 AWG.
3. Replace the junction box cover before activating or testing the unit.

### Connection of the Wall Panel Plug:

The Unit is equipped with a 5 pin polarized connector

- Turn counter-clockwise the two retaining clips at the top of the Panel, and open.
- Insert plug onto circuit header on PCB.
- Turn Power ON.
- Close the panel and lock.

**CAUTION!** Do not install the panel until all wall finishes are complete. Verify that the plug is configured correctly. Incorrect insertion will prevent operation of unit.

#### Important!

All local codes must be followed when installing this unit and when connecting the conduit to the service panel and making wiring connections. Do not install wiring or cable for integrated systems, remote panic assemblies or other interface wiring within conduit for either 24-vac control or 120-vac line voltage. Each wiring system including outputs should be housed in independent conduit and not bundled with wiring for other systems. Failure to comply with these wiring specifics may create transient voltage at the pc board and cause system malfunction and/or failure.

### Principle of Operation:

The SMC Controller will monitor for seismic activity and will transmit a signal to turn OFF services to a facility that if left on after a seismic event with potential breakage in piping or circuits may cause damage to the facility. Integral time delay circuit boards insure that brief seismic or similar activity will not affect services. Upon OFF of the Unit, a 12-vac signal is

transmitted to a latching solenoid located on the main service to the facility in order to un-latch the solenoid. To turn ON the services once any issues have been resolved, if manual solenoids are used then manually reset the solenoid, then turn the OPERATE switch off, then back on.

### **Operation of the Unit:**

Engage or press the OPERATE Switch. The circuit will activate and the panel Green LED above that switch will illuminate to indicate that the Unit is actively monitoring the facility solenoid(s). To turn OFF the Monitoring function of the unit, press the SERVICE switch. Once the Unit is in the OFF mode, it will be necessary to re-engage the SERVICE switch, then the OPERATE switch in order to reactivate the services.

The RED LED will illuminate if the remote PANIC button is depressed.

### **Equipment Maintenance:**

- ❑ The SMC Series Controller should have annual inspections.
- ❑ **ISIMET** recommends that you periodically conduct a brief test of the system to verify that the output circuit performs as intended.
- ❑ If examination of the unit indicates tampering, **ISIMET** recommends that you first review the installation and wiring portions of this manual prior to placing the unit in service.
- ❑ **ISIMET** recommends that piping systems be thoroughly flushed and cleaned and tested for leaks prior to placing the system into use. Periodic testing of these solenoids will assure that the piping system continues to function properly.
- ❑ **Battery** should be replaced every three to five years. Periodic testing to insure proper performance should be performed by opening the door to the unit and turning off the power switch. Insure that the solenoid closes, then reset the solenoid and restore power to the unit.

**NOTICE:** If the unit requires service and it is necessary to disconnect the power supply, then prior to turning power supply OFF, you should engage the SERVICE ON switch in order to insure that the supply solenoid is open. To close the solenoid for maintenance purposes of the water service, engage the OPERATE ON switch.

If you have any questions regarding the operation and maintenance of the SMC Controller, please contact an **ISIMET** Service Representative.

The enclosure has a NEMA 1 rating. It is not intended for use in wet areas. Exercise caution to prevent exposure of the interior compartment of the enclosure to moisture. If moisture is present within the enclosure, **ISIMET** recommends that the control switch be turned OFF, power be disconnected from the unit until the source of the moisture is determined, and all moisture is removed from the compartment.

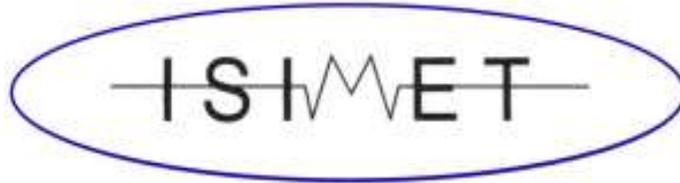
The electronic controller (PCB) is sensitive to dust and other air-borne particles. Do not expose the interior compartment of the enclosure to dust. During the semi-annual inspection, if dust or other material is present, **ISIMET** recommends that you remove all foreign matter before operating the unit.

If the Unit fails to operate, **ISIMET** recommends that you check the power supply to the unit. With the control switch in the ON position, LED Fuse 1 should illuminate. If not, check the service breaker and PCB fuses.

If the fuse is not damaged and the unit still does not function, contact **ISIMET** or your local Service Representative.

**CAUTION:**

ISIMET DOES NOT recommend that service to emergency and/or safety devices, such as emergency showers and eyewashes, be controlled by the SMC Controller System or Solenoids. Such devices are intended to operate independent of restrictive authority operation, as is the case with the design of this unit. ISIMET makes available components for the monitoring of such safety devices. Please contact ISIMET regarding any questions regarding this type of application.



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