

Vision Metering's Sentry 70 is a microcontroller-based Isolation Relay/Totalizer designed for electric metering applications that require multiple inputs.

Sentry 70 Isolation Relay/ Totalizer

The Sentry 70 Isolation Relay offers 3 independent Inputs and 6 isolated Outputs. The Inputs can accept either 2-wire Form A, or 3-wire Form C open collector or relay contact outputs from the utility meters. The Outputs are grouped into 3 pairs with each pair controlled by the corresponding Input.

Isolation between the output of the utility meter and the electronic measuring equipment, like data recorders, is achieved with the use of optocouplers. The input signal conditioning circuit combined with the digital processing of the microcontroller prevents contact-bounce generated during the opening/closing of mechanical relay outputs from triggering false pulse counts in metering applications. Also, all Inputs are protected against harmful voltage spikes and transients with the use of surge suppression devices. The Outputs are fuse-protected against excessive current.

On-board LEDs are provided on each Input and all Output circuits for verification and visual indication and identification of signals.

Sentry 70 does not require the use of any electro-mechanical or mercury-wetted relays. Thus, it offers no constraints in the mounting position or orientation

of the unit during installation. Wiring connections are easily made with on-board screw-type terminal blocks.

Customer and utility connections are conveniently located on separate sides of the board.

The unit provides jumpers for configuration. Four Jumpers are available on-board for Input Type and Mode selection.

The Outputs serve as excellent interface devices between hard bounce, dry contact and newer end devices that need clean bounce less input for proper operation.

Sentry 70 Isolation Relays are shipped with Version 4 Firmware unless otherwise specified by the customer.

Technical Specifications

Operating Voltage:

120/240/277 VAC +/- 10%, 60 Hz
 Switch-Selectable voltage range
 AC input fuse (.25 amp slow-blow)

Burden:

1.8 VA Maximum from 120 to 277 VAC

AC Input Surge Suppression:

320 VAC/420 VDC continuous, 90 Joules, 4500 Amps

Signal Input:

Number of Inputs:

For Form A input use (Y-K)
 Three Form A (2-wire) or Form C (3-wire)

Jumper Selectable

Signal Conditioning Voltage:

12 VDC Open Circuit (supplied)

Input Current:

10 mA short circuit (supplied)

Input Surge Suppression:

14 VAC/18VDC continuous, 0.9 Joule, 250 Amps

Maximum Pulse Rate:

15 pulses per second maximum

Signal Output:

Number of Outputs

(Arranged in 3 independent output pairs):

Six Form C (3-wire) or Six Form A (2-wire)

Contact Type:

Solid-State PhotoMOS Relay

Output Voltage Ratings:

350 Volts DC or peak AC

Output Current Ratings:

100 mA (protected with Output Fuses)

This fuse current rating may not be appropriate for the load current rating of your device. Austin international accepts no responsibility for equipment damage or improper system operation caused by inappropriate sized output fuse.

Life Expectancy

Unlimited Operations

OTHER SPECIFICATIONS

Operating Temperatures:

-40° to +85° Celsius

Operating Humidity:

5 to 95% relative humidity (Non-condensing)

Approximate Dimensions (Including Plate):

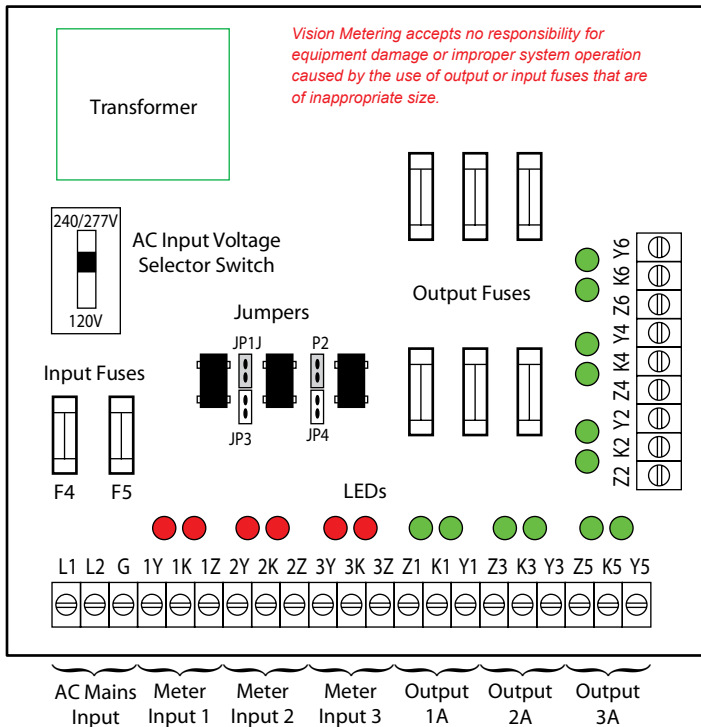
5" (L) x 6.38" (W) x 1.69" (H)

Fuses

Item	Function	
F4	AC Input Fuse	0.25A/250V slow blow
F5	AC Input Fuse	0.25A/250V slow blow

Jumpers

Item	Function	Installed	Open
JP3	Input Type Select Jumper for Input 1	Form A	Form C
JP1	Input Type Select Jumper for Input 2	Form A	Form C
JP2	Input Type Select Jumper for Input 3	Form A	Form C
JP4	Totalizer Mode Select (see Firmware Version)		



Vision Metering accepts no responsibility for equipment damage or improper system operation caused by the use of output or input fuses that are of inappropriate size.

Sentry 70

Isolation Relay/

Totalizer

Firmware Versions

Sentry 70 Isolation Relays are shipped with Version 4 Firmware unless otherwise specified by the customer.

Version 1 (S70-3/6+T): With JP4 NOT installed, this version provides a full isolation relay function with three channels of pulse isolation, each of which has two Outputs. Input 1 activates Outputs 1A and 1B, Input 2 activates Outputs 2A and 2B and Input 3 activates Outputs 3A and 3B.

With JP4 installed, this version becomes a two input totalizer. Input channels 1 and 2 are totalized and the result is used to activate Output channels 1A, 1B, 2A and 2B. The operation of Channel 3 is unaffected by JP4.

Version 2 (S70-1/6): Pulses connected to Input channel 1 are used to activate all six Outputs. Input channels 2 and 3 are unused, and totalization is not provided.

Version 3 (S70-2/1+2): Pulses connected to Input 1 activate Outputs 1A and 1B; pulses connected to Input 2 activate Outputs 2A, 2B, 3A and 3B. Input 3 is not used and totalization is not provided.

Version 4 (S70-3/6): This version is the same as Version 1 except that totalization is not provided.