



Isolation Relay / Totalizer

SENTRY 70 Isolation Relay / Totalizer



The Sentry 70 is a microcontroller-based isolation relay designed for electric metering applications that require multiple inputs. It 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 output serve as excellent interface devices between hard bounce, dry contact and newer end devices that need clean bounce less input for proper operation.

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:
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:
500 mA (protected with fuse)

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:

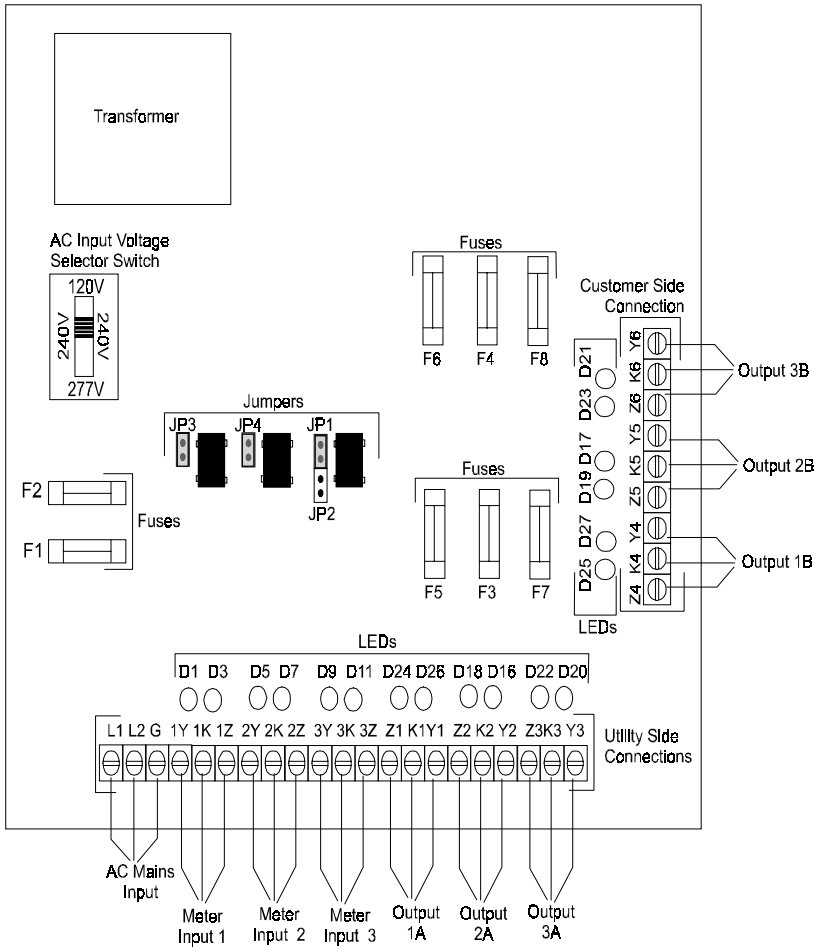
5 to 95% relative humidity (Non-condensing)

Approximate Dimensions (Including Plate):

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

All of our sentry 70 are version 4 unless otherwise specified by the costumer.

Sentry 70



Jumpers

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

LEDs

Item	Function
D1	Y-K LED Input 1
D3	Z-K LED Input 1
D5	Y-K LED Input 2
D7	Z-K LED Input 2
D9	Y-K LED Input 3
D11	Z-K LED Input 3
D24	Z-K LED Output 1A
D26	Y-K LED Output 1A
D18	Z-K LED Output 2A
D16	Y-K LED Output 2A
D22	Z-K LED Output 3A
D20	Y-K LED Output 3A
D25	Z-K LED Output 1B
D27	Y-K LED Output 1B
D19	Z-K LED Output 2B
D17	Y-K LED Output 2B
D23	Z-K LED Output 3B
D21	Y-K LED Output 3B

Fuses

Item	Function
F1	AC Input Fuse, 0.25A/250V SLO-BLO
F2	AC Input Fuse, 0.25A/250V SLO-BLO
F3	Fuse for Output 3A, 0.1A/250V SLO-BLO
F4	Fuse for Output 1B, 0.1A/250V SLO-BLO
F5	Fuse for Output 1A, 0.1A/250V SLO-BLO
F6	Fuse for Output 2A, 0.1A/250V SLO-BLO
F7	Fuse for Output 2B, 0.1A/250V SLO-BLO
F8	Fuse for Output 3B, 0.1A/250V SLO-BLO

Firmware Versions

All of our sentry 70 are version 4 unless otherwise specified by the costumer.

The Sentry 70 offers 4 firmware versions as follows:

Version 1 (S70-3/6+T): With **JP2 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 **JP2 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 JP2.

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.

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