

OPERATION MANUAL

SPI Series Smart Programmable Isolator

Thank You for selecting **ABUSTEK** products! before operating this instrument, please read this manual carefully and fully understand its contents. In case of any problems, please contact our sales Deptt. or distributors from whom the instrument has been supplied. The manual contents is subject to change without prior notice.

Introduction



The Smart Isolator being programmable through Handheld communicator Model 1001 can be fit into major of industrial applications operating with different signals. It can be ordered to accept up to 2 inputs and provide up to 3 outputs.

The input signals can be non-linear input such as resistance temperature detector, thermocouple or linear current or voltage. Signal of one-way, two-way or three-way current or voltage, isolated by transmitting output provides good electric isolation between input, output and power. It can be used as a temperature transmitter, convertor, signal isolator or signal conditioner according to the application.

Technical Specification

System Accuracy Class	: $\pm 0.25\% \times \text{F.S.}$
Temperature Drift	: $\leq 0.0015\% \text{ F.S } ^\circ\text{C}$
Operation Temperature	: Industry-class standard $-10 \sim 55^\circ\text{C}$
Input Impedance: Current	: $\leq 250 \Omega$; Voltage: $\geq 500 \text{ K}\Omega$
Current Outputs the Load Impedance Allowing Outside Connection	: At $4 \sim 20\text{mA}$ output: $\geq 750 \Omega$; At $0 \sim 10\text{mA}$ output: $\geq 1.5 \text{ K}\Omega$;

If load is needed, please enclose additional illustration.

Inside Load at Outputting

Voltage : $\leq 1 \Omega$

Input/ Output/ Power/ Communication/ Insulation

Strength between Two-Way : $\geq 1500 \text{ V AC}$.

Ambient Temperature for

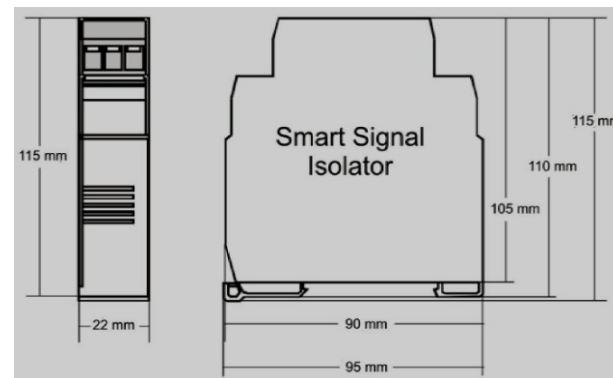
Storage and Transportation: $-40 \sim +80^\circ\text{C}$.

Power Supply : AC: $85\text{V} \sim 260\text{V}$
DC: $18\text{V} \sim 36\text{V}$ (opposing protection)

Dimensions : $22.5 \times 100 \times 115\text{mm}$

Weight : $130\text{g} \pm 10\text{g}$.

Dimensions



Panel Instruction

1. Five-core Communication Interface: For

communication connection through private data wire Handheld Configurator ABUSTEK USI-C.

2. Indicating Light:

Power: indicating light (continuously lighted) in power condition indicating light (communicating, fast flickering) in communication condition indicating light (trouble, slow flickering) in trouble condition.

ALM1: At satisfying alarm conditions, indicating light lights for long time

ALM2: At satisfying alarm conditions, indicating light lights for long time

Under trouble of input/ output signal, indicating light flickers.

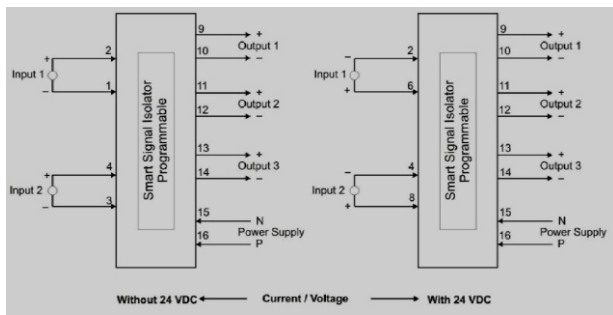
Installation

1. First Input: EXT2 (-), EXT6 (+24) to connect wire. At this time smart signal processor doesn't have the function of protecting of protecting outside short circuit.

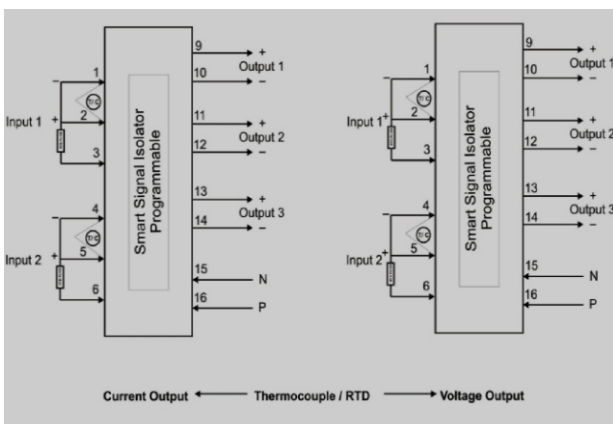
2. Second Input: EXT4 (-), EXT8 (+24V) to connect wire. At this time smart signal processor doesn't have the function of protecting outside short circuit.

3. Mounting Way: Please use guide-way type mounting. At mounting make sure the card position is stable and firm. In order to make instruments have good heat dissipation please vertically installs and reserve drought room as possible as you can.

■ Connections



Connection Diagram: Current & Voltage



Connection Diagram: Thermocouple & RTD

Illustration of Instruments Wiring:

- | | | |
|------------------------------|---|------------------------|
| 1. First Way Input | : | EXT1 (-), EXT2 (+) |
| 2. Second Way Input | : | EXT3 (-), EXT4 (+) |
| 3. First Way Output | : | EXT10 (-), EXT9 (+) |
| 4. Second Way Output | : | EXT12 (-), EXT11 (+) |
| 5. Third Way Output | : | EXT14 (-), EXT13 (+) |
| 6. Power (220V AC or 24VDC): | : | EXT15 (-), EXT ** (+). |

Remarks: If smart signal transmitter directly connects with two-wire system transmitter, then press first way input.

■ Maintenance

1. Calibration

The operation can be realized through ABUS USI-C configurator. The set parameters use the same calibration way as that of 585 and support automatic calibration.

2. Operating Environment

At mounting position strong vibration or strong electromagnetic impact from signal terminal, power terminal, power terminal and room is not allowed. In operation environment, poisonous or harmful matters which will corrode metals and plastics are not allowed to exist. Please keep the operation environment dry for the precise output.

3. Troubleshooting

There are two kinds of trouble in input signals: input trouble (open circuit, short circuit) and beyond span trouble.

Output ways at input trouble: Instruments can select beyond-span gain output and general output.

> Gain Output

At the condition of beyond upper limit, output signal has a gain exceeding 5% of normal output value;

At the condition of beyond lower limit, output signal has an output lower than 5% of lower limit; if lower limit is zero (i.e. 0 ~ 5 V) then output is 0 V.

> General Output

At the condition of beyond upper limit, output maximum value or setting value;

At the condition of beyond lower limit, output minimum value or setting value;

At the condition of trouble, keep output value or setting value before output trouble;

Under trouble of input signal, trouble light of instrument flickers to indicate signal trouble.

■ Limited Warranty

The products are warranted to be free from defects in materials and workmanship for a period of one (1) year from the date of shipment, subject to the following terms and conditions: Without charge, they will repair, replace, or refund the purchase price at option products found to be defective in materials or workmanship within the warranty period; provided that:

- the product has not been subjected to abuse, neglect, accident, incorrect wiring not our own, improper installation or servicing, or use in violation of labels or instructions;
- the product has not been repaired or altered by anyone except us;
- the maximum ratings label and serial number or date code have not been removed, defaced, or otherwise changed;
- examination discloses, in the judgment of us, the defect in materials or workmanship developed under normal installation, use and service; and
- Our system is notified in advance of and the product is returned to us transportation prepaid before expiration of the warranty period.

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