MODEL 821U – MICROPROCESSOR BASED SIGNAL ISOLATORS
(Fully configurable – Predefined or Universal)

Standard Technical Catalogue

(96*48, 4 digit)

(72*72, 4 digit)

(Euro Card format)

Introduction

Pantech's Universal Input Signal Isolator, model 821U is an ideal instrument for providing isolation between input, multiple outputs and power supply. The module is an ideal choice when fanning out of process signal is required. It provides up to max. 4 output signals, each capable of driving of 800 ohms. All these outputs are isolated from each other, input and power supply. This ensures isolation between various subsystems and protects the system from all grounding problems.
The isolators are designed such as to accept UNIVERSAL type of inputs. The high end programmed microcontroller allows the user to configure all the parameters of the instrument. All the calibrations, fine tuning of the output can be done without opening the instrument. All the types of inputs, acceptable by the instrument are mentioned further. The unique design of the module requires only one single positive barrier at the input from a two-wire transmitter for intrinsic safety and isolates the control room. The cold junction compensation is built in and up scale burn out is provided as standard features for thermocouple input ranges.
The model is equipped with a mandatory display of resolution 4 digit. All the settings, configurations etc. can be done with the help of 4 keys on the front.
The instruments are also facilitated with internal transmitter power supply of 24 V DC, to power up two-wire transmitters. Low drift precession components are used for long term accuracy of the instruments. All instruments undergo a burn-in for better reliability.
The instrument is available in different formats and sizes. Information regarding specification and size is given below.

Specifications

Inputs (& Display range)
1)Current, 4 – 20 mA DC/ 0 – 20 mA DC (-1999 to 9999)
2)Voltage, 1 – 5V/0 – 10V (-1999 to 9999)
3)RTD Pt 100 – 3 wire (-100.0 to 600.0)
4)T/C Type J (-100 – 800)
5)T/C Type K (0 – 1200)
6)T/C Type R (0 – 1760)
7)T/C Type S (0 – 1700)
8)T/C Type T (-100 – 400)
9)T/C Type B (450 to 1820)
10)T/C Type E (-100 to 1000)
11)T/C Type C
12)Ohms-0-10K ohms (-1999 to 9999)
13)mV DC
14)UNIVERSAL type 1 – 1…8 of above
15)UNIVERSAL type 2 – 1…13 of above
16)0-1 / 0-5 Ampere
17)Pulse train input. (open collector type) –
18)10 to 10 V DC / -mV to mV DC (-1999to9999)
19)RTD – Cu 53
20)Special type of inputs of any V/Current/Resistance
(However on factory confirmation only)
Decimal point configurable for linear inputs
T/C temperature displays without decimal point

Input impedance
200 K for Voltage, mV & T/C inputs
upto 250 ohms for current inputs

Display resolution
4 digit (-1999 to 9999)
Display to show input PV

Display accuracy
+/- 0.1% of span

Maximum no. of outputs
4 nos.

Analog output
1)Isolated / Non Isolated 4 – 20 mA DC
2)Isolated / Non Isolated 0-10 V DC
3)Other types on factory confirmations

Analog output load capability
800 maximum for current outputs

Output fine tune
By front keys only

Output accuracy
+/- 0.1% of span

Serial output with open protocol
1)RS232 With modbus RTU protocol
2)RS485 with modbus RTU protocol
Note: Any other protocol on demand

Transmitter power
24 V DC for current inputs
10/12 V DC (in case of Load cell / Proximity application)

Power supply
1)24 V DC
2)110 V AC, 50 Hz, +/- 10%
3)230 V AC, 50 Hz, +/- 10%
4)90-270 V AC, 50 Hz. – SMPS
5)Specials on factory confirmations

Security
Single level Password protected

Power consumption
3 VA max.

Cold junction compensation
Built in for T/C input.

Ambient temperature
0 – 50 C.

Storage temperature
0 – 70 C.

Humidity
90% RH (non-condensing)

Enclosures
Weatherproof, Flameproof and all other standard types

Mounting
Panel / Wall / Field / Dinrail / Eurocard / Specials

Dimensions
Standard and Specials

***All config/calibration from front keys only**

PANTECH INSTRUMENTS

Following table describes the availability of several models with the company right now. A general preview is only presented to the user. The dimensional and display sizes are the relational virtues of each other and hence the user is always requested to clarify the specifications of instrument with the factory prior to placement of the order.
On confirmation with factory, changes of all types in all specifications is possible.

Model	Mounting & Dimension in mm (H * W * D)		Inputs	Power	Isolated outputs		Indication Options		Display size
					Type of o/p	No. of o/p	Display resolution		
821	Panel	96*48*110 96*96*110	All	All	All	Max. 4	4 digit		¼“ size or ½” size
	Din rail	70*60*110	All	24 V DC	All	Max. 2	4 digit		¼”
		70*100*110	All	All	All	Max. 4	4 digit		¼“ size or ½” size
	Wall	Optimum	All	All	All	Max. 4	4 digit		¼“ size or ½” size
	Euro	Optimum or standard	All	All	All	Max. 2	4 digit		¼“ size or ½” size

** Special dimensions / Enclosures / specifications subject to factory confirmations.

Note :

For any temperature inputs, the output signal can be configured for any subset range of the input temperature ranges. For eg. With RTD Pt. 100 inputs (-100 to 600 deg. Full scale ragne), the isolated output signal of 4-20 mA DC can be configured for a temperature range of 100-200 deg. C also at inputs.

Above type and All other type of configurations, possible by front keys only.

Ordering Information (12 digits)

Please confirm the availability of the model by cross checking the table mentioned on the backside.

Basic Model No. (Specified by first 3 digits)
821U-Microprocessor based Signal Isolator
Fully configurable – Predefined / Universal

Enclosure / Mounting (Specified by letter following 3 digits)
P-Weatherproof - Panel
R-Weatherproof -Din Rail
E-Weatherproof - Euro card
W-Weatherproof - Wall
F-Flame proof – Wall / Field
I-IP65 grades – Wall / Field
S-Specials

Input (Specified by first digit following the letter)
1-mA DC signal input
2-V/mV DC signal input
3-RTD type
4-Thermocouple
5-Resistances
U-UNIVERSAL1 type
V-UNIVERSAL2 type
S-Specials

Power Option (Specified by the second digit)
1-24 V DC
2-110 V AC
3-230 V AC
4-90-270 V AC – SMPS
S-SPECIALS

No. of outputs option (Specified by the third digit)
1-1 no. of output
2-2 no. of output
3-3 no. of output
4-4 no. of output

Type of Analog O/P Option (Specified by the fourth digit)
1-mA/V DC isolated
2-mA/V DC non-isolated
3-Any other type of outputs

Bargraph Option (Specified by next digit)
0-none / NA
1-Yes
Communication output
0-None
1-YES

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