

Technical Catalogue

AIL 821R - SIGNAL ISOLATOR ANALOGUE BASED DIGITAL ELECTRONICS

Introduction

Signal Isolator, AIL 821R 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 four 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 module accepts any one out of variety of inputs. It accepts a current/voltage/temperature input or 4 – 20mA DC from two wire transmitters "or" sensor. 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 module also accepts T/C and RTD signals. The cold junction compensation is built in and up scale burn out is provided as standard features for thermocouple input ranges. As well as it can be equipped with an intrinsically safe current output.

AIL 821R is also equipped with an optional 3-½ digit seven segments LED display for process indication in percentage or engineering units. It is 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

Input (Predefined type)

- 1)Current, 4 – 20 mA DC/ 0 – 20 mA DC
0-1 Amp. / 0-5 Amp. / others
- 2)Voltage, 1 – 5 V DC/ 0 – 10 V DC / others
- 3)RTD Pt 100 / Resistances
- 4)T/C Type J, K, R, S, T
- 5)0-1 / 0-5 Ampere
- 6)Specials (on factory confirmations)

Input impedance

200 K for Voltage, mV & T/C inputs
250 for current inputs

Cold junction compensation

Built in for T/C input.

Analog output

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

Isolation type

Opto and Galvanic .. @ 1500 V DC minimum

Analog output load capability

800 maximum for current outputs

Output fine tune

By front fascia potentiometers

Output accuracy

+/- 0.1% of span

Display resolution

3.5 digit type

Display accuracy

+/- 0.15% of span

Transmitter power

24 V DC for current inputs

Display accuracy

+/- 0.15% of span

Transmitter power

24 V DC for current inputs

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 – SMPS
- 5)Specials on factory confirmations

Power consumption

6 VA max.

Ambient temperature

0 – 50 C.

Storage temperature

0 – 70 C.

Humidity

90% RH (non-condensing)

Enclosures

Weatherproof Panel mounted
Field mounted – WP/IP65/Flameproof

Mounting

Panel / Wall / Field / Dinrail / Eurocard

· 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	Bargraph	
821	Panel	96*48*110 96*96*110	All	All	All	Max. 1	3 ½ digit	21 LED's	¼" size or ½" size
	DIN	75*22*110	All	24 V DC	All	Max. 1	-	-	-
		75*45*110	All	24 V DC	All	Max. 2	3 ½ digit	-	¼" size
		75*70*110	All	24 V DC	All	Max. 4	-	-	-
		70*60*110	All	All	All	Max. 2	-	-	-
		70*100*110	All	All	All	Max. 4	-	-	-
	Wall	195*70*115	All	All	All	Max. 4	3 ½ digit	-	¼"
	Euro	130*20*120	All	24 V DC	All	Max. 2	-	-	-



(Dual output, Din rail)



(4 Output, Din rail)



(Single output, Din rail)



(Single output, Din rail)



(Din output, Din rail)

Note :

- 1) The user should opt for this model only if there remains LEAST possibility of change in INPUT / OUTPUT and other related specifications of the instrument. These instruments are of the type : FIT IT and FORGET IT. The stable electronics assures years of consistent run, once preliminary specification cares are taken for.
- 2) The user cannot configure the instrument IN ANY MEANS to change its input types. This can be done at factory only.
- 3) Calibration, Display range etc – are the configurations that the user can perform by POTENTIOMETERS on PCB level. The instrument has to be definitely opened up for this purpose and this has to be done by a trained technician.
- 4) Output isolated signal can be fine tuned with the help of front fascia potentiometers.

Ordering Information

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

Basic Model No. (Specified by first 3 digits)

AIL 821R -Signal Isolator

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 // current inputs
2-V DC // voltage inputs
3-RTD Pt. 100
4-T/C J type
5-T/C K type
6-T/C R type
7-T/C S type
8- T/C T type
9- Special/others

NOTE: Please specify the i/p ranges for T/C & RTD.

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 output 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 output 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 the fifth digit)

0-none / N.A.
1-yes

Display option (Specified by the sixth digit)

0-None
1-3 ½ digit



(Dual output, Display)



(Dual O/P, Display & Bargraph)



(Euro Card format)



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