

PIB-AD

Analogue input board with differential inputs.

The analogue input board measures analogue input voltages of 10 mV up to 2 V FS. The board has seven differential input channels. An extra (internal) channel is used to measure the zero level. This gives the board excellent specifications for zero stability and temperature drift. The reference used on the board is of high quality so that the range accuracy and stability are very good. Each board is calibrated individually. The calibration factors are stored in an EEPROM on the board.

A differential input stage allows a common voltage on both inputs. The signal that is measured is the difference between the 'LO' and the 'HIGH' inputs. However, small differences in the input circuit make the 'LO' and 'HIGH' input slightly different and therefore the common input voltage causes an output as well. The output due to the common input voltage is specified as a factor by which the common input voltage is suppressed.

The PIB-AD board has 7 LEDs that flash when an input is sampled and the input voltage is higher than 20% of the range. The LEDs can be used to see if a signal is present on the input and if an input is commissioned. The LEDs have some influence on the accuracy of the readings and should be switched off when the board is in regular use.

The input impedance of each of the input channels the inputs can be changed to 100 Ohm with a jumpers on the board. A 100 Ohm input impedance is used to measure 0...20 mA or 4...20 mA signals.

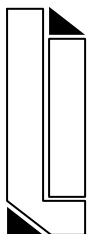
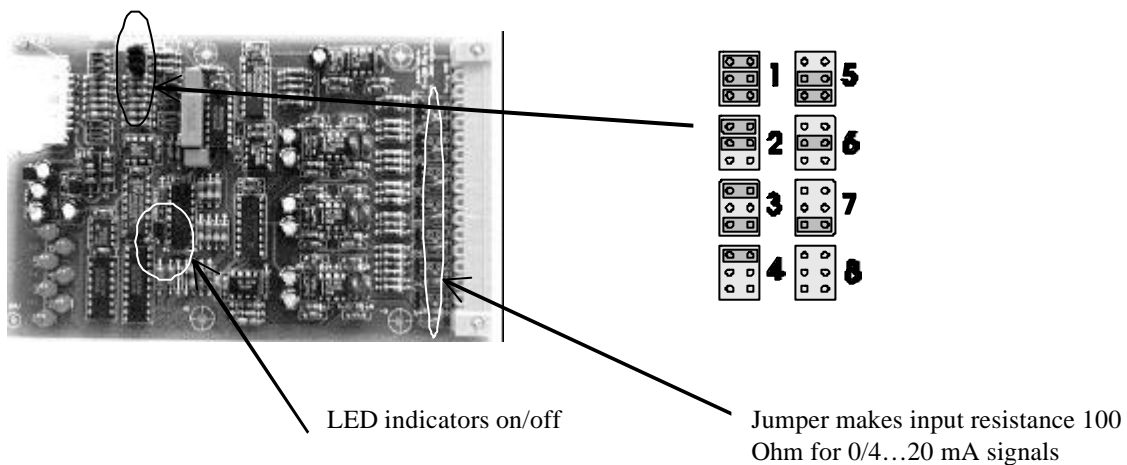
The technical specifications are:

Width in TE's (see PRW)	4
Power requirements:	+/- 15VDC, 50mA (LEDs off)
Measuring channels: #1 through 7	Analogue differential inputs
Input type:	differential, bipolar
Input impedance:	500 kOhm
Jumpers:	station number LEDs on/off Input impedance = 100 Ohm for 0/4...20 mA signals
Operating temperature:	-10...+50°C
Storage temperature:	-20...+70°C
Accuracy:	0.5%
Common mode rejection:	60 dB (1000x)
Sensitivity settings:	+/- 2 V, +/- .2 V, +/-40 mV, +/- 10 mV
Zero stability:	<1 $\mu\text{V}/^\circ\text{C}$
Resolution:	32.000 counts
A/D type:	dual slope integrating with 50 Hz suppression

The signal connections are:

Connector pin number	Signal
1	0 V (system)
2	0 V (system)
3	- signal input 7
4	+ signal input 7
5	- signal input 6
6	+ signal input 6
7	- signal input 5
8	+ signal input 5
9	- signal input 4
10	+ signal input 4
11	- signal input 3
12	+ signal input 3
13	- signal input 2
14	+ signal input 2
15	- signal input 1
16	+ signal input 1

The jumpers are set as follows:



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