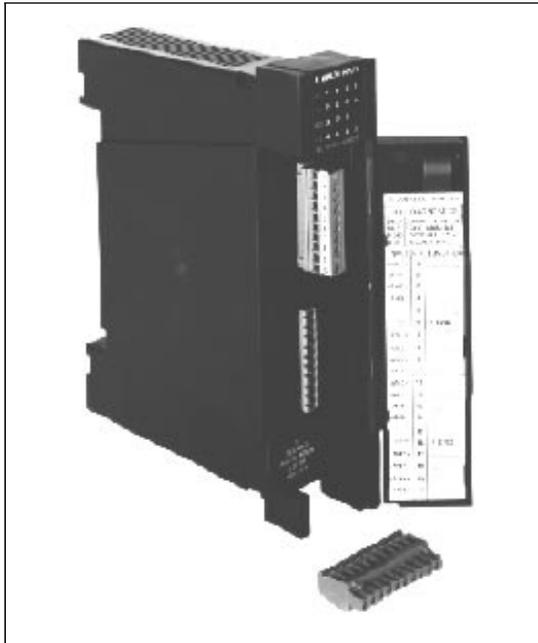


8AI Analog Input Module

for the MOSCAD RTU

FEATURES

The 8AI Analog Input module is an accessory to the MOSCAD RTU family that allows up to 8 dc voltages or currents, from other on-site equipment, to be connected to the RTU. Examples include tank level sensors, flow-rate sensors, and RPM sensors.



Data Input

The analog voltages or currents applied to the module are multiplexed to an on-module analog-to-digital converter (ADC), all under the control of an on-module microprocessor.

◆ *Under the control of the defined Application Program, the CPU module will read the current instantaneous value of one or more of these inputs, and move that data from the 8AI module into the CPU module via the motherboard. This data may then be used by the Application Program to perform the desired functions.*

Self-Calibrating

The 8AI module also multiplexes two additional on-module inputs to the ADC, namely logic ground and a temperature sensor.

◆ *These digitized signals are used by the on-module microprocessor to:*

◆ *Eliminate any ADC offset (drift), thereby stabilizing the ADC output.*

◆ *Minimize the effects of ambient temperature on the output accuracy of the ADC.*

Optical Isolated Inputs

All inputs are protected by optical isolators that also function as the multiplex switches.

◆ *Surge Withstand Capability (SWC) conformance is assured for the safety of the equipment and technicians.*

Packaging

The module is packaged in a plastic housing that plugs and locks into the motherboard. Wire connections (up to 14 ga. wire) are made to removable connectors on the face of the module. An earth-ground connection is also provided. No jumpers, calibration pots, etc. are located on the module (any calibration is done electronically via software from the ToolBox program.)

◆ *Modularity allows the MOSCAD RTU to be easily expanded as system wants and needs change and makes field module replacement quick and easy.*

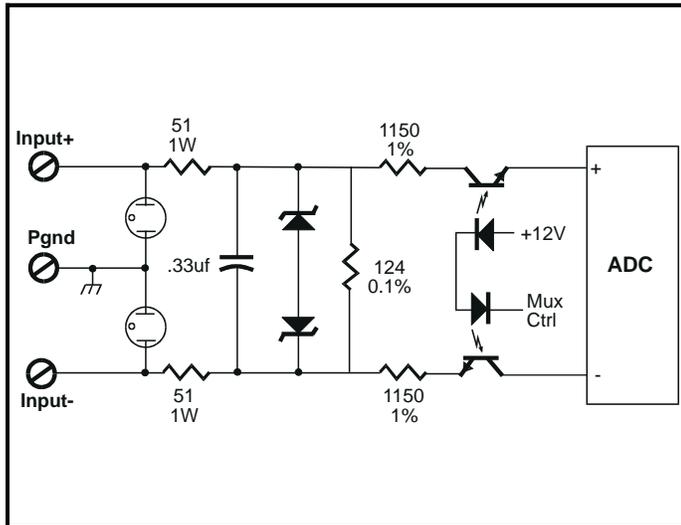


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Specifications

Order	4-20 ma Inputs: Plant installed: V278; Field installed: FRN1421 1 ma Inputs: Plant installed: V459; Field installed: FRN1972 2 ma Inputs: Plant installed: V461; Field installed: FRN1981 1 Vdc Inputs: Plant installed: V462; Field installed: FRN1973 2.5 Vdc Inputs: Plant installed: V460; Field installed: FRN1980 5 Vdc Inputs: Plant installed: V437; Field installed: FRN1940
Input Resistance	4-20 ma: $R_{in} = 226 \Omega$ 1 ma: $R_{in} = 2,592 \Omega$ 2 ma: $R_{in} = 1,342 \Omega$ 1 Vdc: $R_{in} = 11.1 \text{ k}\Omega$ 2.5 Vdc: $R_{in} = 11.1 \text{ k}\Omega$ 5 Vdc: $R_{in} = 21.1 \text{ k}\Omega$
Resolution	13 bits (including sign)
Overall Accuracy	0.05% of FS, 1 bit
Conversion Time	<1.5 millisecond per input
Input Isolation	On-board DC/DC converter; Optical isolation
Input Protection	5 kV fast-transient surge and 2.5 kV oscillatory SWC per ANSI C37.90.1-1989
Diagnostic	20 LEDs: 16 for overflow & underflow, 1 each for Module Fail and No Clock
Power	5 Vdc: 15 ma 12 Vdc: 25 ma (65 ma when LEDs are on)
Environment	Humidity: 0 to 90% @ +50°C Temperature: -30 to +60°C

4-20 ma Input Circuit



Connections Chart

Term	Function	Term	Function
1	AN1 (+)	11	AN5 (+)
2	AN1 (-)	12	AN5 (-)
3	AN2 (+)	13	AN6 (+)
4	AN2 (-)	14	AN6 (-)
5	n/c	15	n/c
6	Prot. Gnd	16	Prot.Gnd
7	AN3 (+)	17	AN7 (+)
8	AN3 (-)	18	AN7 (-)
9	AN4 (+)	19	AN8 (+)
10	AN4 (-)	20	AN8 (-)



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