OPTO 22

DATA SHEET

Form 443-070914

Connections

Each Opto 22 **AD3, AD3T,** and **AD2T** analog input module provides a single channel of optically-isolated current-to-digital conversion. The AD3T and AD2T modules offer additional channel-to-channel isolation. For the AD3 and AD3T modules, the nominal input range is 4 to 20 mA with an under/over range capability from less than 3 mA to greater than 35 mA. The AD2T module has a nominal input range of 0 to 20 mA with an under/over range capability from less than -1.25 mA to greater than 35 mA. The "T" modules also provide 4,000 V_{rms} channel-to-channel isolation which eliminates any loop problems. These modules plug into a Classic Standard analog I/O rack and are secured by a captive screw.

Part Numbers	Description
AD3	4 to 20 mA Input
AD3T	4 to 20 mA Input Isolated
AD2T	0 to 20 mA Input Isolated

I/O MODULES
STANDARD
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Specifications

	AD3	AD3T	AD2T
Input Impedance	249 Ohms	249 Ohms	50 Ohms
Nominal Input Range	4 to 20 mA	4 to 20 mA	0 to 20 mA
Over/under Range	3 to 35 mA	3 to 35 mA	-1.25 to 35 mA
Accuracy*	16 µA (0.1% of span)	16 µA (0.1% of span)	20 µA (0.1% of span)
Resolution	12 bits (3.9 µA)	12 bits (3.9 µA)	12 bits (4.9 µA)
Response Time	Full-scale step change in 3 ms		
Isolation Transient Input-to-Output	4,000 Vrms n/a	4,000 Vrms 4,000 Vrms	4,000 Vrms 4,000 Vrms
Power Requirements	13 mA at +15 VDC 7.5 mA at -15 VDC	35 mA at +15 VDC 35 mA at -15 VDC	35 mA at +15 VDC 35 mA at -15 VDC
Ambient Temperature: Operating Storage	0 to 70 °C - 25 to 85 °C		

*Accuracy figures assume use of Gain and Offset commands.

Connections

AD3 MODULES USING SHARED LOOP SERVICE

NOTE: For connecting the **AD2T** module, use AD3T module diagrams and instructions.

TRANSMITTER − +

AD3T: All of the lower A terminals on the mounting rack are tied together. These provide a convenient tie point for shared loop source return. To use the AD3T module with a common loop power supply, connect any one lower A terminal to the shared loop source "-", then jumper upper A to lower A for each AD3T.

NOTE: WHEN USING AD3T, THIS TERMINAL MUST BE CONNECTED TO ANALOG COMMON TO COMPLETE THE CURRENT LOOP PATH.

AD3 INTERNALLY CONNECTS THIS TERMINAL TO ANALOG COMMON SO NO EXTERNAL CONNECTION IS REQUIRED.

LOWER UPPER

INSTALL 1/8 AMP FUSE HERE TO USE 24 VDC SHARED LOOP SOURCE. WITH FUSE INSTALLED, SHARED LOOP SOURCE + 24 VDC IS AVAILABLE AT LOWER B TERMINAL.