

JOERGER ENTERPRISES, INC.

MODEL ADC-64

64 CHANNEL SCANNING ADC

FEATURES:

- 64 SINGLE ENDED ANALOG INPUTS IN A SINGLE WIDTH CAMAC MODULE
- INTERNAL 64 WORD DATA MEMORY
- 12 BIT RESOLUTION
- SAMPLE AND HOLD INPUT
- INSTRUMENTATION AMPLIFIER INPUT, OPTIONAL
- Q SCAN READOUT MODE

OPTIONS:

MODEL ADC-32, 32 DIFFERENTIAL INPUTS

MODEL ADC-16, 16 DIFFERENTIAL INPUTS

The Joerger Enterprises, Inc. Model ADC-64 offers the highest density, lowest cost CAMAC ADC available. It can accept up to 64 single ended analog inputs, convert them in a high speed ADC with 12 bits resolution, and place the converted output into a 64 word 12 bit memory. It operates as a complete functional block taking in analog information, converting it and storing the data in memory where it can be read out on demand. The internal memory greatly simplifies system operation, providing data from any channel on command. A Q scan readout mode is also provided to read the module. In response to read command F2 the scanner is stopped and subaddress zero is brought up and read out. Each successive F2 command will read out the next channel until all the channels are read out. After the last channel is read out the scanner is restarted. The next F2 command (#65 for the ADC-64) will return a Q=0 to indicate all the channels were read out. Logic is provided to insure that the dataway read cycle and the module write cycle never interfere. A sample and hold input amplifier is used to improve accuracy. It can acquire a signal in 10 useconds to 12 bit accuracy and has a 200nsec aperture time. This sample and hold feature helps eliminate the problem of variations in the analog input during conversion. As an option an instrumentation amplifier input is available. This offers an input impedance in excess of 100M ohms at some sacrifice in total conversion time. The input uses voltage protected multiplexers in addition to input resistors to provide a high degree of input protection. The input can accept +35 volts with the module powered and up to +20 volts with the module power off without damage. This last condition is very common but often overlooked. To further improve accuracy the analog section is powered by a tracking +15 volt regulator. This module is also offered with an analog input capability of 32 differential inputs, the Model ADC-32 and for 16 differential inputs the Model ADC-16. All other specifications are identical to the Model ADC-64.

SPECIFICATIONS

ANALOG INPUTS

Channels, Model ADC-64	64 Single Ended Inputs
Model ADC-32	32 Differential Inputs
Model ADC-16	16 Differential Inputs
Ranges	0 to +10 volts standard 0 to 5v, +2.5v, +5v and +10v are strap selectable
Resolution	12 Bits

ANALOG INPUTS CONT'D.

Input Impedance 1M ohm
100M ohms with instrument amplifier option

Maximum Operating Voltage +15 volts
Range +10 volts with instrument amplifier

Input Protection +35 volts D.C. Power On
+20 volts D.C. Power Off

Conversion Time 50usec./Channel
150usec./Channel with instrument amplifier

CAMAC COMMANDS

$N \cdot F0 \cdot A_i$ Reads Channels 1-16 onto Read lines 1-12 (ADC-16,32,64)

$N \cdot F1 \cdot A_i$ Reads Channels 17-32 (ADC-32,64)

$N \cdot F4 \cdot A_i$ Reads Channels 33-48 (ADC-64)

$N \cdot F6 \cdot A_i$ Reads Channels 49-64 (ADC-64)

$N \cdot F2 \cdot A(0-15)$ Reads out all channels in a Q Scan mode. First command sets address to zero, after last channel is read a Q=0 is returned.

Q Response A Q=1 is generated for all valid commands.

X Response An X=1 is generated for all valid commands.

(Z+C)S2 & Power Up Initializes module and starts scanner.

DISPLAYS

N An N light is provided to indicate when the module is addressed.

Active An active light is provided to indicate that the module is scanning.

POWER REQUIREMENTS

+6v, 950ma; +24v, 50ma; -24v, 45ma

TEMPERATURE RANGE

0°C to 50°C

SIZE

Single width CAMAC module

CONNECTORS

AMP 552118-1, mating connector AMP 229974-1 or equivalent

OPTIONS

1. Instrumentation input amplifier, provides input impedance greater than 100M ohms.
2. High speed digital to analog converter, reduces conversion time to 35usec. per channel.

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