SPECIFICATIONS

CIO-EXP-GP

Bridge Signal Conditioning

MEASUREMENT COMPUTING™

Revision 2, January, 2001

Power Consumption

+5V	380 mA typical, 533 mA maximum

Analog Input Section

Input amplifier type	INA102
Number of channels	8 differential
Gains	Each channel individually switch selectable for X1, X10, X100 or custom and board gain switch selectable for X1 or X2.5
Gain Error	
Gain = 1, 2.5	0.01% FS typical, 0.15%FS maximum
Gain = 10, 25	0.02% FS typical, 0.35%FS maximum
Gain = 100, 250	0.05% FS typical, 0.40%FS maximum
Gain = 1000, 2500	0.20% FS typical, 0.90%FS maximum
Linearity	
Gain = 1, 2.5	0.045% FS typical
Gain = 10, 25	0.045 FS typical
Gain = 100, 250	0.075% FS typical
Gain = 1000, 2500	0.15% FS typical
Input Offset	Each channel adjustable to zero
Gain TC	
Gain = 1	10 ppm/°C typical
Gain = 100	15 ppm/°C typical
Gain = 1000	20 ppm/°C typical
Input Offset TC	
Gain = 1, 2.5	20 µV/°C typical
Gain = 10, 25	6 µV/°C typical
Gain = 100, 250	5.1µV/°C typical
Gain = 1000, 2500	5.1µV/°C typical
Common Mode Range	±10V
CMRR	
Gain = 10, 25, 100, 250, 1000, 2500	100 dB typical
Gain = 1, 2.5	94 dB typical
Input	±50V absolute maximum
Channel to channel settling time	
5V step to .01%	50 µs
MUX switching time	
5V step to .01%	5 µs typical
Miscellaneous	Each input channel has a 79Hz low pass filter X2.5 gain is adjustable for zero error Jumper selects compatibility with DAS08 or DAS16 series Locations provided for bridge completion resistors for each channel. Locations provided for bridge nulling pots and resistors for each channel

Analog Output Section

Output Amplifier type	OP07
Number of channels	1
Maximum Output Range	±10V
Current Drive	±5 mA
Output short-circuit duration	25 mA indefinite

Output coupling	DC
Output impedance	100 Ohms maximum
Miscellaneous	Output jumper-selectable for one of 16 channels (P1 & P2 Output 0 to Output 15)

Digital Input / Output Section

Digital type	
DIn 0 through 2	HI508A multiplexer
DIn 3	2N2222 transistor inverter
Configuration	3 digital inputs for selecting multiplexer channel 1 digital input for controlling calibration relay
Input low voltage	
DIn 0 through 2	0.8V maximum, –4V absolute minimum
DIn 3	1.0V maximum, –4V absolute minimum
Input high voltage	
DIn 0 through 2	2.4V min, 9V absolute maximum
DIn 3	1.27V min, 9V absolute maximum

Voltage Excitation Section

Excitation voltages	10V, 4V, 2V, 1V, 0.5V
Sources for excitation voltage	5V from PC, 5V from MOLEX, 12V from PC, external (±PEXT screw terminal)
Current	
5V source from P1, 4V VEXC	100 mA
5V source from P19, 4V VEXC	275 mA
12V source, 10V VEXC	350 mA
15V external source, 10 VEXC	670 mA
Miscellaneous	Output jumper selectable for one of 16 channels (P1 & P2 Output - to Output 15) Voltage adjustable for zero error

Current Excitation Section

Excitation	1 mA
Channels	8
Voltage compliance	4.6V typical, 2V minimum
Accuracy	Adjustable for zero error

CJC Section

Conversion ratio	24.4mV/°C (0mV @ 0°C)

Environmental

Operating temperature range	0 to 60°C
Storage temperature range	–40 to 100°C
Humidity	0 to 90% non-condensing

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