

interface

ADVANCED FORCE MEASUREMENT

7401 E. Butherus Dr. / Scottsdale, Arizona 85260 / 1-800-947-5598 / www.interfaceforce.com

DMA SET UP & SCALING

The Excitation Voltage and Output of the DMA are Jumper selectable. The Excitation voltage default jumper is set to 10 VDC and the output default jumper is set to ± 10 VDC. If these settings need to be changed:

- Remove the bottom panel by carefully prying up on the side retention tabs.
- Slide the PCB from the case.
- For jumper pins in the upper center of board: (Output Setting)
 - ± 10 VDC Range = the left and center pins are jumpered
 - ± 5 VDC Range = the right and center pins are jumpered
- For jumper pins in the lower left of board: (Excitation Setting)
 - 10 V Excitation = the bottom and center pins are jumpered
 - 5 V Excitation = the top and center pins are jumpered

Once the jumper settings have been selected, the DIP switch (SW2) on the side of the unit must be set. Based upon the output of the load cell at full scale (in mV/V) and the excitation voltage of the load cell, set the four positions of SW2 using the settings table on the DMA or at the bottom of this page.

EXAMPLE: A load cell with 3mV/V output and excitation voltage of 10 V = SW2 setting of 0010.

- Connect a 10-28 VDC power supply to terminals #1 and #2.
- Connect the -Excitation wire of the load cell to terminal #3.
- Connect the +Excitation wire of the load cell to terminal #4.
- Connect the -Signal wire of the load cell to terminal #7.
- Connect the +Signal wire of the load cell to terminal #8
- If the desired analog out from the DMA is 4-20 mA, then connect the appropriate voltmeter or instrumentation to terminals #1 (Ground) and # 5 (Iout 4-20 mA)
- If the desired analog out from the DMA is ± 5 VDC or ± 10 VDC, then connect the voltmeter or instrumentation to terminals #1 (Ground) and #6 (Vout ± 5 or ± 10)

SCALING

For the 4-20 mA out setting, with NO load on the transducer, check the instrument or voltmeter and adjust the 4 MA adjustment screw on the top of the DMA until 4mA shows on the instrumentation. Apply the full scale load to the transducer and adjust the 20 MA adjustment screw until 20 mA shows on the instrumentation. Remove the load from the transducer and if necessary, adjust the 4 MA screw again. Apply the full load to the transducer and adjust the 20 MA screw until 20 mA is shown on the instrumentation. Repeat this process until the desired readings are achieved.

For the ± 5 VDC or ± 10 VDC setting, with NO load on the transducer, check the instrument or voltmeter and adjust the COARSE ZERO or FINE ZERO adjustment screw on the top of the DMA until 0 VDC shows on the instrumentation. Apply the full scale load to the transducer and adjust the FINE SPAN adjustment screw until 5 VDC or 10 VDC shows on the instrumentation. Remove the load from the transducer and if necessary, adjust the FINE ZERO until 0VDC shows on the instrumentation. Apply the full scale load to the transducer again and adjust the FINE SPAN adjustment screw to 5 VDC or 10 VDC shows. Repeat this process until the desired readings are achieved.



Vexc = 5 V	Sensitivity (mV/V) Vexc = 10 V	SW2			
		1	2	3	4
7.0-11.0	3.5-5.5	0	0	0	1
4.6-7.0	2.3-3.5	0	0	1	0
3.0-4.6	1.5-2.3	0	1	0	0
2.0-3.0	1.0-1.5	1	0	0	0
1.5-2.0	0.75-1.0	1	0	1	0
1.0-1.5	0.50-0.75	1	1	0	1
0.90 - 1.0	0.45-0.50	1	1	1	1



ADVANCED FORCE MEASUREMENT

7401 E. Butherus Dr. / Scottsdale, Arizona 85260 / 1-800-947-5598 / www.interfaceforce.com

Model DMA DIN RAIL MOUNT AMPLIFIER For Strain Gage Transducer Bridge Input

SPECIFICATIONS

POWER

DC 10-28 VCD

EXCITATION

Voltage Jumper selectable 5 or 10 VDC (default = ± 10 VDC)
Current 30 mA max

OUTPUT

Output 1 Jumper selectable, bipolar, ± 5 or ± 10 VDC Full Scale (default = ± 10 VDC)
Output 2 4-20 mA, unipolar

PERFORMANCE

Input Range 5 to 50 mV for Full Scale Output using coarse and fine adjust
Dynamic Response DC to 1000 Hz
Zero Adjust Range $\pm 50\%$ Full Scale Output using coarse and fine adjust
Nonlinearity 0.01% Full Scale
Operating Temp. -32 to 158 °F, 0 to 70 °C
Temp. effect on span 0.004%/°F

DIMENSIONS

Width .70 inch (17.5 mm)
Height 3.90 inch (99 mm)
Depth 2.30 inch (58 mm)

TO CHANGE JUMPER SETTINGS:

1. Remove rear panel by carefully prying up on retention slots.
2. Slide PCB from case.
3. For jumper pins in upper center of board:
 ± 10 VDC Range = left and center pins jumpered
 ± 5 VDC Range = right and center pins jumpered
4. For jumper pins in lower left of board:
10 V Excitation = bottom and center pins jumpered
5 V Excitation = top and center pins jumpered