

Technical note

Connecting Motion Lab System EMG device Analog Output to Kistler 64ch DAQ

(Kistler 5695B...)

Kistler has used an MCC-2533 ADC for their Data Acquisition system. The 64 channel Analog Input (AI) of MCC-2533 has been organized in eight female D-Sub25 (figure 1).

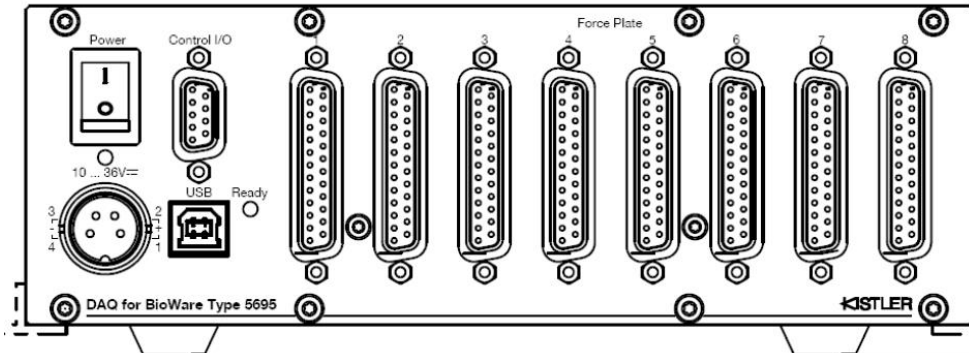


Figure 1. Front View of Kistler 5695B... DAQ System.

This box enables connecting 8 forceplates with integral charge amplifiers to be controlled by BioWare® software of Kistler. However, you are also able to connect MA-400 or MA-300 EMG Systems Analog Output (AO) to this unit and record the data in EGRET software.

To do so, you will need to make a cable with one end connecting to the male D-Sub25 at the back of the Desktop Unit of Motion Lab Systems and the other end connecting to one, two or three female D-Sub25 of Kistler DAQ (depending on how many channels you have on your MLS system). Remember that when you are making the cable, you have to use the opposite type of the D-Sub25 in your cable (male/female).

There are 8 signal channels in each Forceplate 25-pol female on Kistler DAQ that you will need to use. The pinout of Kistler DAQ for the 25-pol female Sub is shown in figure 2.

One of the Signal GND (pin 5 or 10) are needed to be connected to the Signal Return of MLS.

On next page, we show a suggestion for connecting the pins together for the cable to work.

Force Plate 1 ... 8

Pin	Function	Pin	Function
1	A (Range x,y select)	14	B (Range x,y select)
2	Operate	15	Control GND
3	Fy 2+3	16	Fx 3+4
4	Fx 1+2	17	Fy 1+4
5	Signal GND	18	n.u.
6	n.u.	19	n.u.
7	A' (Range z select)	20	B' (Range z select)
8	Fz 1	21	Fz 4
9	Fz 3	22	Fz 2
10	Signal GND	23	Test / no Test
11	n.u.	24	Overload (n.u.)
12	n.u.	25	Exct. 12 VDC
13	Exct. GND		

Figure 2. Kistler 25-Pol Pinout

Suggested cable to connect MLS to Kistler DAQ system

Motion Lab Systems AO		Kistler (64ch DAQ)	
Pin	Description	Pin#	Description
1	EMG Ch_01	4	25-pol Female (Forceplate 1)
2	EMG Ch_02	16	
3	EMG Ch_03	17	
4	EMG Ch_04	3	
5	EMG Ch_05	8	
6	EMG Ch_06	22	
7	EMG Ch_07	9	
8	EMG Ch_08	21	
9	EMG Ch_09	4	25-pol Female (Forceplate 2)
10	EMG Ch_10	16	
11	EMG Ch_11	17	
12	EMG Ch_12	3	
13	EMG Ch_13	8	
14	EMG Ch_14	22	
15	EMG Ch_15	9	
16	EMG Ch_16	21	
17	Analog Signal Return	5 or 10	
18	Analog Event (Left)	4	25-pol Female (Forceplate 3)
19	Analog Event (Right)	16	
20	Data Parity	-----	
21	Low Speed Ch A	3	
22	Low Speed Ch B	8	
23	Low Speed Ch C	22	
24	Low Speed Ch D	9	
25	Case	-----	

Note that the data parity signal (pin 20) is not generally required and should not be connected to your data collection system. The case/chassis ground (AC line ground) is usually not connected unless you have ground loop problems – under these circumstances some careful investigation of the available ground sources may be required.

In the I/O Manager of EGRET software, open the appropriate channels to view and record MLS signals.

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