



ADVANCED MECHANICAL TECHNOLOGY INC.
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Multi-axis Force Transducer Calibration Data
Model: OR6-7-4000 Serial Number: 8187M

Calibration Filed under 8187M.1
Calibrated on: 8/28/2012

GENERAL USE (Only main sensitivity terms)

The 'Sensitivities' (output/input) for each channel are:

----- Forces -----

----- Moments -----

	$\mu\text{V/V} \times \text{N}$	$\mu\text{V/V} \times \text{lb}$		$\mu\text{V/V} \times \text{N-m}$	$\mu\text{V/V} \times \text{in-lb}$
Fx	.17224	.76610	Mx	.38756	.04379
Fy	.17089	.76013	My	.38741	.04377
Fz	.03986	.17729	Mz	.88375	.09985

Location of the center of the top plate relative
to the effective XYZ center of the transducer.

$x_o = -0.916$ $y_o = 0.114$ $z_o = -40.205$ [millimeters]
 $x_o = -0.036$ $y_o = 0.004$ $z_o = -1.583$ [inches]

ADVANCED USE (Sensitivity Matrix Analysis) 8187M

SI Units: SENSITIVITY MATRIX S(i, j)
Output of channel i (uV/Vex) is S(i,j) times the
mechanical input j (N, N-m)

j i	Fx	Fy	Fz	Mx	My	Mz
Vfx	.17224	-.00092	-.00041	.00057	.00525	.00030
Vfy	.00047	.17089	.00006	-.00099	-.00062	-.00559
Vfz	-.00007	-.00002	.03986	-.00042	.00073	-.00143
Vmx	.00025	.00013	.00004	.38756	-.00336	.00456
Vmy	.00013	-.00003	.00035	-.00188	.38741	-.00093
Vmz	-.00240	-.00161	-.00030	.00341	.00206	.88375

SI Units: INVERTED SENSITIVITY MATRIX B(i, j)
Input to channel i (N, N-m) is B(i,j) times the
electrical output j (uV/Vex)

j i	VFx	VFy	VFz	VMx	VMy	VMz
fx	5.80601	.03127	.06109	-.00883	-.07883	-.00174
fy	-.01559	5.85191	-.00946	.01470	.00955	.03691
fz	.01045	.00309	25.08917	.02646	-.04741	.04053
mx	-.00397	-.00209	-.00320	2.58047	.02254	-.01332
my	-.00193	.00045	-.02299	.01250	2.58139	.00262
mz	.01573	.01075	.00870	-.00999	-.00631	1.13166

USC Units: SENSITIVITY MATRIX S(i, j)
Output of channel i (uV/Vex) is S(i,j) times the
mechanical input j (lb/in-lb)

j i	Fx	Fy	Fz	Mx	My	Mz
Vfx	.76610	-.00410	-.00185	.00006	.00059	.00003
Vfy	.00210	.76013	.00029	-.00011	-.00007	-.00063
Vfz	-.00030	-.00008	.17729	-.00005	.00008	-.00016
Vmx	.00112	.00057	.00020	.04379	-.00038	.00052
Vmy	.00057	-.00013	.00158	-.00021	.04377	-.00011
Vmz	-.01066	-.00716	-.00133	.00039	.00023	.09985

USC Units: INVERTED SENSITIVITY MATRIX B(i, j)
Input of channel i (uV/Vex) is B(i,j) times the
electrical output j (uV/Vex)

j i	VFx	VFy	VFz	VMx	VMy	VMz
fx	1.30531	.00703	.01373	-.00199	-.01772	-.00039
fy	-.00350	1.31563	-.00213	.00330	.00215	.00830
fz	.00235	.00070	5.64055	.00595	-.01066	.00911
mx	-.03514	-.01854	-.02836	22.83978	.19951	-.11789
my	-.01707	.00398	-.20352	.11060	22.84790	.02317
mz	.13926	.09511	.07702	-.08838	-.05586	10.01636