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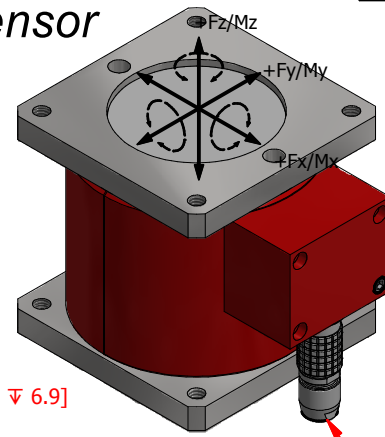
# FUTEK MODEL QMA135

## Custom Triaxial Multicomponent Load and Torque Sensor

ITEM NUMBER: QSH01644

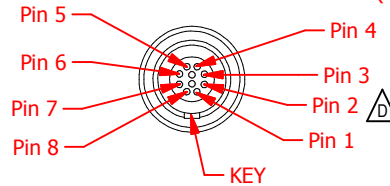
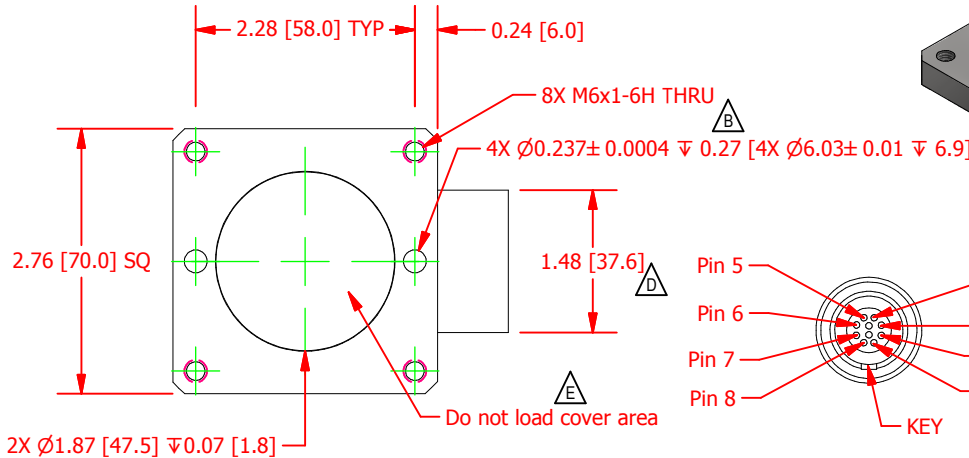
INCH [mm] | R.O.= Rated Output

A B C

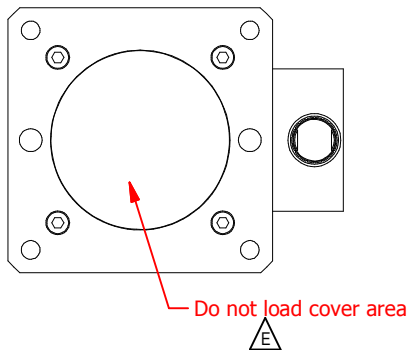
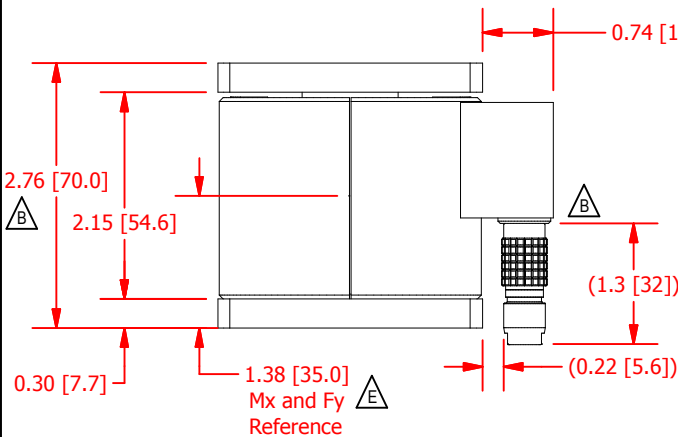


+F (Tension) = +Output  
Moment (CW) = +Output

LEMO MATING CONNECTOR NOT INCLUDED



Pin #	Code	Channel
1	+E	Fy, Fz, Mz
2	-E	Fy, Fz, Mz
3	+S	Fy
4	-S	Fy
5	+S	Fz
6	-S	Fz
7	+S	Mz
8	-S	Mz



### SPECIFICATIONS:

RATED OUTPUT	Fy, Fz 1 mV/V, Mz 2 mV/V
CAPACITY	Fy: 1200 N, Fz: 300 N, Mz: 50 Nm
SAFE OVERLOAD	150% of R.O.
MOMENT LOAD	Mx: 150 Nm (nonmeasurement)
ZERO BALANCE	±3% of R.O.
EXCITATION (VDC OR VAC)	18 MAX
OUTPUT BRIDGE RESISTANCE	350/700 Ω nom
NONLINEARITY	±1% of R.O.
HYSTERESIS	±1% of R.O.
NONREPEATABILITY	±0.25% of R.O.
STIFFNESS*	Fy: 47,000 N/mm, Fz: 39,000 N/mm, Mz: 19,000 Nm/rad
TEMP. SHIFT ZERO	±0.02% of R.O./°F (±0.036 of R.O./°C)
TEMP. SHIFT SPAN	±0.02% of LOAD/°F (±0.036 of LOAD/°C)
COMPENSATED TEMP.	60 to 160 °F (16 to 71 °C)
OPERATING TEMP.	-40 to 180 °F (-40 to 82 °C)
MATERIAL	17-7ph S.S. Flexure, Red Anodized Aluminum (Cover)
CONNECTOR: 10 PIN LEMO RECEPTACLE, EGG. 1B.310.CLL	

\* Values derived from simulation analysis (FEA)

CUSTOMER APPROVAL- COMPANY:

CUSTOMER APPROVAL- NAME / DATE:

REVISIONS: (Refer to dwg # revision sheet)

REV	DATE
A	05/20/2013
B	5/24/2013
C	5/31/2013
D	6/20/2013
E	10/03/2013

## OUTLINE DRAWING

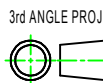
STANDARD NOTES: (Unless Otherwise Specified)

ALL DIMENSIONS ARE IN INCHES  
DRAWING INTERPRETATION DIMS. PER ASME-Y14.5M  
REMOVE BURRS AND BREAK SHARP EDGES .005 - .015  
THREADS PER HANDBOOK H-28  
DIMENSIONS ARE SHOWN AFTER PLATING

ANGLE:  
± 1/2°

CHAMFER:  
± 5°

TOLERANCE:  
.X ± 0.1"  
.XX ± 0.01"  
.XXX ± 0.005"



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MODEL: <b>QMA135</b>	DWG No.: <b>FO1347-E</b>
DRAWN BY: R. Walker	CREATED DATE: 4/30/2013
APPROVED BY: _____	APPROVED DATE: _____
CHECKED BY: E. Pano	CAGE: 1X8M6 SHEET: 1 OF 1