



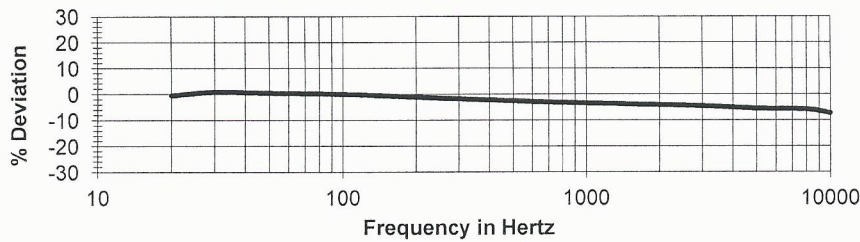
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CALIBRATION CERTIFICATE VOLTAGE MODE ACCELEROMETER

CUSTOMER: ESTEQ TEST & MEAS. (PTY) LTD.			TEST REPORT #: 16113		
PURCHASE ORDER #: TMO0870		SALES ORDER #: 162546		PROCEDURE: TP3002	
MODEL: 3225M24		SERIAL #: 16113		RANGE, F.S. (g's): +/- 50	
NEW UNIT	X	RE-CALIBRATION [1]		AS RECEIVED CODE	
REF. SENSITIVITY (mV/g) [2]: 98.47			TEMP (°C): 23		HUMIDITY (%): 45
FREQUENCY RESPONSE [3]					
FREQUENCY (Hz)		SENSITIVITY (mV/g)		FREQUENCY (Hz)	
20		97.98		500	
30		99.31		1000	
50		98.92		3000	
100		98.47		5000	
300		96.70		8000	
TRANSVERSE SENSITIVITY (%): 1.9			10000		91.34
DISCHARGE TIME CONSTANT (sec): 0.2			BIAS VOLTAGE (VDC): 12.4		

Amplitude Response



REMARKS:

TEST EQUIPMENT LIST - CALIBRATION STATION # 4

DII #	MANUFACTURER	MODEL	SERIAL #	DESCRIPTION	CAL DATE	DUE DATE
686	DYTRAN INST.	3010M14	1684	ACCELEROMETER	03/13/13	03/13/14
1684	NATIONAL INST.	PCI-4461	1814F5B	DATA ACQUISITION CARD	02/21/13	02/21/14

[1] AS RECEIVED / AS RETURNED CODES:

- | | | |
|----------------------------------|-----------------------------|--|
| 1 = IN TOLERANCE, NO ADJUSTMENTS | 4 = OUT OF TOLERANCE > 5% | 7 = UNIT NON-REPAIRABLE, RECOMMEND REPLACEMENT |
| 2 = IN TOLERANCE, BUT ADJUSTED | 5 = REPAIR REQUIRED | 8 = UNIT SERVICEABLE WITH CURRENT CALIBRATION DATA |
| 3 = OUT OF TOLERANCE < 5% | 6 = REPAIRED AND CALIBRATED | |

[2] THE REFERENCE SENSITIVITY IS MEASURED AT 100 Hz, 1G RMS.

[3] THIS CALIBRATION WAS PERFORMED IN ACCORDANCE WITH ANSI/NCSL Z540-1-1994, ISO 10012-1, ISO/IEC17025 USING THE

BACK-TO-BACK COMPARISON METHOD PER ISA RP37.2 AND IS TRACEABLE TO THE NIST THROUGH TEST REPORT # 0444 DUE 03-13-2014.

ESTIMATED UNCERTAINTY OF CALIBRATION: 2% FROM 20-100 Hz, 1.5% FROM 100-2500 Hz, 2.8% FROM 2.5KHZ-10 kHz. APPLIES TO FREQUENCY RESPONSE ONLY.

THIS CERTIFICATE SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN PERMISSION FROM DYTRAN INSTRUMENTS, INC.

CALIBRATION TECHNICIAN:

HUNG LE

TEST DATE: 11/21/13

RECOMMENDED RECALL DATE: 11/21/14