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CERTIFICATE OF CALIBRATION

Certificate No.: 27728
 Date of issue: November 8, 2011
 Manufacturer: Eurotherm Chessell (Sure Controls)
 Model No: 6100A
 Serial No: LJ390036G
 Description: Graphic recorder
 Customer: Red-D-Arc Ltd.

The Calibration Laboratory Assessment Service (CLAS) of the National Research Council of Canada (NRC) has assessed and certified specific calibration capabilities of Miller Instruments Ltd. and its traceability to the International System of Units (SI) or to the standards acceptable to the CLAS program. This certificate of calibration is issued in accordance with the conditions of certification granted by CLAS, Certification number 94-03, and the conditions of accreditation granted by the Standards Council of Canada (SCC), Accreditation number No. 156. The ISO/IEC 17025:2005 Standard was used in the above assessment carried out by CLAS.

Date Calibrated: November 8, 2011
 Calibration due date: November 8, 2012⁽⁴⁾
 Temperature: 23±1 °C
 Relative Humidity: 31±10 %RH

Calibrated by: M. Mohsenin
 (Mahkameh Mohsenin, B.Sc.)

Authorized by: S. Nishie
 (S. Nishie, P. Eng., Calibration Manager)



Instrument received: <input checked="" type="checkbox"/> in-specifications* <input type="checkbox"/> out-of-specifications*	Instrument when returned: <input checked="" type="checkbox"/> meets test specifications* <input type="checkbox"/> meets limited specifications*
<input checked="" type="checkbox"/> Data supplied	<input type="checkbox"/> Data available upon request
Comments:	The instrument was calibrated after a 30-minute warm-up period.

* The tolerance limits used in this calibration were those defined by the customer.

For measurement results associated with the conformance to a tolerance, the uncertainty in the measurement system did not exceed 25% (4:1 test uncertainty ratio) of the acceptable tolerance for each characteristic calibrated, unless otherwise noted in the report.

Calibration Procedure: CP-SP23439

Calibration Equipment Used:

ID #	Model	Description	Serial Number	Calibration due date
163	Fluke 5500A	Multi-Product Calibrator	8855014	Apr 7, 2012
141	Agilent 34401A	DMM	MY41002493	Oct 3, 2012

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Calibration data (as found and as returned)

Channel No.	Applied voltage (VDC)	Expected DUT reading (°F)	DUT reading (°F)	Measurement Uncertainty (°F)	Tolerance Limits \pm (°F)	Pass/fail
1	0.000	-51	-50	2	7	p
1	2.787	382	382	2	7	p
1	6.013	882	882	2	7	p
1	9.239	1382	1383	2	7	p
2	0.000	-51	-50	2	7	p
2	2.787	382	382	2	7	p
2	6.013	882	882	2	7	p
2	9.239	1382	1383	2	7	p
3	0.000	-51	-50	2	7	p
3	2.787	382	382	2	7	p
3	6.013	882	882	2	7	p
3	9.239	1382	1383	2	7	p
4	0.000	-51	-50	2	7	p
4	2.787	382	382	2	7	p
4	6.013	882	882	2	7	p
4	9.239	1382	1382	2	7	p
5	0.000	-51	-50	2	7	p
5	2.787	382	382	2	7	p
5	6.013	882	882	2	7	p
5	9.239	1382	1383	2	7	p
6	0.000	-51	-50	2	7	p
6	2.787	382	382	2	7	p
6	6.013	882	883	2	7	p
6	9.239	1382	1383	2	7	p

Note 1: DUT: Device under test.

Note 2: The DUT was powered by a 120 V AC (60 Hz) line and was calibrated after a 30-minute warm-up period.

Note 3: The uncertainty of this calibration, assuming normally distributed data, was derived from effective standard deviations and has been expanded to obtain a coverage factor of $k=2$ at a level of confidence of approximately 95%.

Note 4: The calibration due date is shown as requested by the customer.

Note 5: The memory battery was replaced before the above calibration.