



CALIBRATION REPORT

ORDER No.

AUGUST 23, 2013

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MANUFACTURER: OHM-LABS, INC.
 DESCRIPTION: CURRENT SHUNT
 MODEL: CS-20
 SERIAL:

PROCEDURE: CS CAL
 LAB ENVIRONMENT: 22.7 °C / 51 %RH
 CALIBRATION DATE: 23/AUG/2013
 CALIBRATION DUE:

SEE PAGE 2 FOR MEASUREMENT DATA.

APPLIED CURRENT	MEASURED VALUE	RTD	UNCERTAINTY
5 A	49.999 624 mΩ	24.7 °C	4.6 μΩ/Ω
10	50.000 019	28.6	2.2
15	50.000 399	35.4	2.7
20	50.000 524	42.7	3.7

*NOTE: SHUNT WAS ALLOWED TO FULLY STABILIZE AT EACH CURRENT LEVEL.

* TEMPERATURE MEASUREMENTS ARE NOT ACCREDITED

STANDARDS USED

ID	Description	Make & Model	Cal Due
AS3012	RESISTANCE STANDARD	OHM-LABS 201	31/AUG/2013
AS3401	RESISTANCE BRIDGE	GUILDLINE 9975	11/FEB/2014
AS3405	RANGE EXTENDER	GUILDLINE 9923	10/FEB/2014
AS3322	RTD THERMOMETER	DIGI-SENSE 93400	31/AUG/2013

COMMENTS:

OHM-LABS, INC. CERTIFIES THAT THIS CALIBRATION IS TRACEABLE TO THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST), OR ANOTHER RECOGNIZED NATIONAL MEASUREMENT INSTITUTE, OR DERIVED BY A RATIO TYPE SELF-CALIBRATION TECHNIQUE, AND IS ACCREDITED TO ISO/IEC 17025. OHM-LABS' QUALITY CONTROL SYSTEM MEETS THE REQUIREMENTS OF ANSI/NC SL Z540-1-1994. THE REPORTED UNCERTAINTIES REPRESENT EXPANDED UNCERTAINTIES EXPRESSED AT A CONFIDENCE LEVEL OF APPROXIMATELY 95 %, USING A COVERAGE FACTOR OF K=2. THE REPORTED UNCERTAINTIES INCLUDE THE STANDARD DEVIATION OF MULTIPLE MEASUREMENTS PERFORMED ON SEPARATE DAYS. THIS UNCERTAINTY IS AT THE TIME OF TEST ONLY AND DOES NOT TAKE INTO ACCOUNT TRANSIT, USAGE, DRIFT OVER TIME, OR OTHER FACTORS AFFECTING STABILITY. UNLESS OTHERWISE NOTED, THE REPORTED MEASUREMENTS ARE CONSIDERED AS FOUND/AS LEFT. THIS CERTIFICATE SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT WRITTEN PERMISSION BY OHM-LABS, INC.

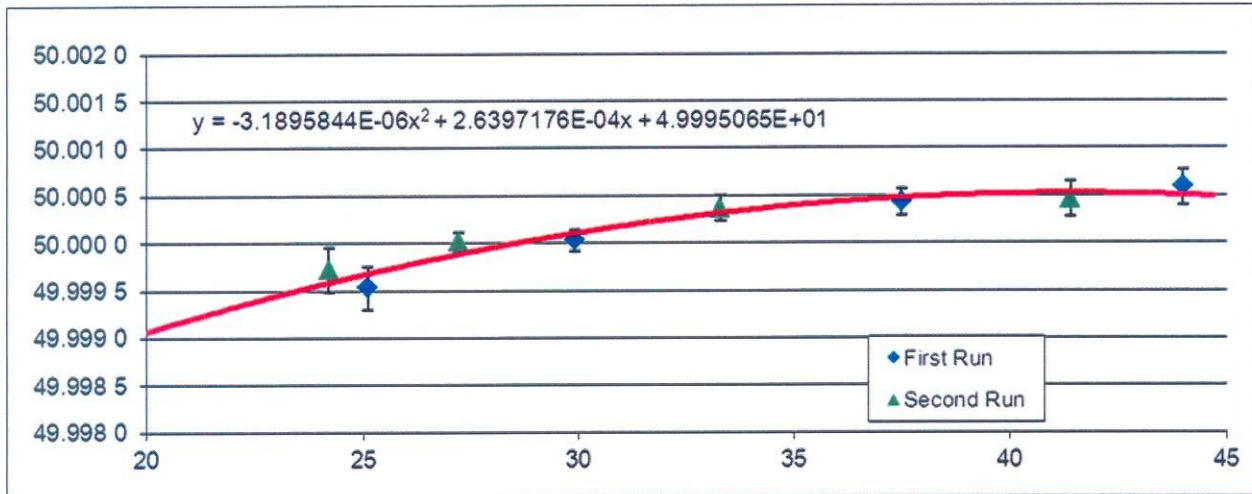
PERFORMED BY

REVIEWED BY: _



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MODEL:	CS-20	CALIBRATION DATE:	23/AUG/2013
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RESISTANCE IN MILLI-OHMS VS. TEMPERATURE IN °C



EQUATION IN ABOVE CHART WAS USED TO CALCULATE VALUES IN BELOW TABLE.

TABLE OF TEMPERATURE VS. RESISTANCE

°C	mΩ	°C	mΩ	°C	mΩ
20	49.999 069	30	50.000 114	40	50.000 521
21	49.999 202	31	50.000 183	41	50.000 526
22	49.999 329	32	50.000 246	42	50.000 525
23	49.999 449	33	50.000 303	43	50.000 518
24	49.999 563	34	50.000 353	44	50.000 505
25	49.999 671	35	50.000 397	45	50.000 485
26	49.999 772	36	50.000 434	46	50.000 459
27	49.999 867	37	50.000 465	47	50.000 426
28	49.999 956	38	50.000 490	48	50.000 387
29	50.000 038	39	50.000 509	49	50.000 341

END OF REPORT.