Excellence in Resistance

CALIBRATION REPORT

ORDER NO.

DECEMBER 30, 2014

MANUFACTURER:	OHM-LABS, INC.	PROCEDURE:	HV CAL
DESCRIPTION:	HIGH VOLTAGE DIVIDER	LAB ENVIRONMENT:	20 °C / 29 %RH
MODEL:	HVS	CAL DATE:	30/DEC/2014
SERIAL:		CAL DUE:	

CALIBRATED WITH OHM-LABS MODEL 104 SERIAL AS OUTPUT RATIO RESISTOR

SEE PAGE 2 FOR MEASUREMENT DATA

STANDARDS USED

ID	DESCRIPTION	MAKE & MODEL	CAL DUE
AS3507	DC METER	AGILENT 34401A	09/APR/2015
AS3518	DC METER	AGILENT 34401A	19/SEP/2015
AS3526	AC METER	FLUKE 8506A	03/JAN/2015
AS3527	AC METER	FLUKE 8506A	15/AUG/2015
AS3714	HIGH VOLTAGE DIVIDER	OHM-LABS HVS	26/MAY/2015
AS3730	INDUCTIVE DIVIDER	HI-VOLT PFT1003	10/APR/2018

COMMENTS:

CALIBRATION WAS PERFORMED WITH 14054-1 STACK ON THE BOTTOM, 14054-2 IN THE MIDDLE AND 14054-3 STACK ON TOP.
ACTUAL APPLIED VOLTAGES WERE WITHIN 1 % OF NOMINAL VALUES LISTED
DIVIDER WAS ALLOWED TO STABILIZE A MINIMUM OF 15 MINUTES AT EACH APPLIED VOLTAGE.
FANS WERE POWERED ON DURING TESTS.

DC MEASUREMENTS WERE WITH A HIGH VOLTAGE WHEATSTONE CIRCUIT WHICH DOES NOT SIGNIFICANTLY BURDEN THE DC OUTPUT OF THE DIVIDER UNDER TEST. IF A METER IS USED, A CORRECTION MAY NEED TO BE APPLIED FOR THE METER INPUT IMPEDANCE. METER INPUT IMPEDANCE SHOULD BE >10 G TO MINIMIZE ERRORS. A DUAL BANANA PLUG WAS CONNECTED TO THE BLACK AND RED MAIN OUTPUT BINDING POSTS FOR DC MEASUREMENTS.

AC RATIOS WERE AVERAGED FROM A SERIES OF METER READINGS. THE AC VOLTMETER BURDEN ON THE AC OUTPUT OF THE DIVIDER WAS 1 MΩ, SHUNTED BY <180 PF METER AND CABLE. A COAXIAL CABLE WAS CONNECTED TO THE BNC OUTPUT FOR AC READINGS.

GUARD VOLTAGE MEASUREMENTS WERE MADE FROM THE BLACK AND WHITE GUARD POSTS.

A 4" FLEXIBLE ALUMINUM TUBE CONNECTED THE UUT TO THE STANDARD. THIS TUBE EXTENDED UPWARDS ABOVE THE UUT FOR APPROXIMATELY 12" BEFORE ANGLING ACROSS TO THE STANDARD. THE UUT WAS PLACED ON A GROUND PLANE APPROXIMATELY 4" OFF OF THE FLOOR. A MINIMUM OF 24" CLEARANCE ON ALL SIDES WAS ALLOWED TO REDUCE GROUND PLANE COUPLING.

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/NCSL Z540-1-1994. THE REPORTED UNCERTAINTIES REPRESENT EXPANDED UNCERTAINTIES EXPRESSED AT A CONFIDENCE LEVEL OF APPROXIMATELY 95 %, USING A COVERAGE FACTOR OF K=2. 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. THIS DOCUMENT CERTIFIES THAT THE ITEMS IDENTIFIED HEREIN COMPLY WITH ALL REQUIREMENTS OF THE ABOVE PURCHASE ORDER, AND THAT THE CALIBRATION PERFORMED WAS IN ACCORDANCE WITH THE CURRENT REVISION LEVEL OF OHM-LABS' QUALITY CONTROL SYSTEM. TRAINED AND QUALIFIED PERSONNEL PERFORMED THE CALIBRATIONS IN ACCORDANCE WITH THE REQUIREMENTS OF ISO/IEC 17025. THIS CERTIFICATE SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT WRITTEN PERMISSION BY OHM-LABS, INC.

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MANUFACTURER: OHM-LABS, INC. MODEL: HVS SERIAL:

MEASUREMENT DATA				
APPLIED kV DC	DC RATIO	DC RATIO UNCERTAINTY	DC GUARD RATIO	DC GUARD RATIO UNCERTAINTY
25	15,009.9 : 1	0.7 : 1	149,603 : 1	21 : 1
50	15,009.8	0.8	149,638	38
75	15,009.8	0.7	149,672	34
100	15,009.8	0.7	149,702	40
125	15,010.1	1.2	149,743	60
150	15,010.1	1.2	149,814	97
DC GUARD VOLTAGES WERE MEASURED WITH METER SET TO >10 GΩ INPUT IMPEDANCE				
APPLIED kV AC 60 Hz	AC RATIO	AC RATIO UNCERTAINTY	AC GUARD RATIO	AC GUARD RATIO UNCERTAINTY
25	16,122 : 1	17 : 1	139,137 : 1	225 : 1
50	16,129	11	139,228	239
75	16,125	10	139,215	178
100	16,130	11	139,148	175
AC RATIOS REFLECT LOADING EFFECT OF 1 MΩ AC VOLTMETER IMPEDANCE ON HVS OUTPUTS				

PERFORMED BY:

REVIEWED BY:

Calibration
ACCREDITED
Cert #2481.01