

Manufacturer	HEWLETT-PACKARD	Calibration date	July 31 2018
Model Number	3458A	Ambient Temperature	27.88 °C
Serial	SECHP	Relative Humidity	36.00 %
ID Number	XD5720A	Pressure	1001.86
Notes	Post-caltest	Test type	HLK5720

This note is test dummy text block for further use. It allow to include user information for further reference

Reference standard	Mfg	Model	Options	Serial / Unc	CEID	Calibration date	Due date
MFC	HULK	5720A	None	E2E6	XD10	08/01/2018	09/01/2018
STDR	ESI	SR104	10000.0012 KΩ	±1.00 ppm	XR04	06/30/2018	12/30/2018
STDR	xDevs.com/Fluke	SL935	1.00005942 Ω	±0.17 ppm	XR03	05/31/2018	05/31/2019
STDR	xDevs.com/Fluke	SL935	9999.9755 kΩ	±0.33 ppm	XR02	05/31/2018	05/31/2019
DC STD	Wavetek	7000	10.0000007 VDC	±0.9 ppm	XD02	06/07/2018	12/08/2018
DC STD	xDevs.com	792X[2]	10.000009 VDC	±2.2 ppm	XD01	02/16/2018	08/16/2018

MFC last calibrated	0.0 days ago	MFC since DCV ZERO	0.0 days ago
MFC since WBFLAT	11169.0 days ago	MFC since WBGAIN	129.0 days ago
MFC Confidence level	<b>24h 95% REL</b>	MFC Calibrate date	2018-08-01 00:00:00
MFC Calibrate date Zero	2018-08-01 00:00:00	Calibrate date WB Flatness	1988-10-01 00:00:00
Calibrate date WB Gain	2018-03-25 00:00:00	CAL CONST 6.5V reference voltage	6.95748640608
CAL CONST 13V reference voltage	13.8553097902	CAL CONST 22V range positive zero	398.18054
CAL CONST 22V range negative zero	398.18004	CAL CONST DAC Linearity	0.0
CAL CONST 10KOHM true output resistance	9999.77557112	CAL CONST 10KOHM standard resistance	9998.74079464
CAL CONST, Zero calibration temperature	27.0	CAL CONST, All calibration temp	27.0

This note is test MFC dummy text block for further use.  
Calibrator was warmed up >8 hours.

Meter Info	HP3458A	Last calibration date	7/24/2018
CALSTR?	"MM-JAN-4-2017,TEMP? 36.5,A=24.7"	Test date	31 July 2018 23:15
DUT Internal TEMP?	36.2	DUT Calibrations number?	181
Self-test result?	103,"SYNTAX -- * Expected command header."	ACAL ALL result?	0,"NO ERROR"
Firmware	9,2	Options	0,0
CAL? 72	0.982325713	CAL? 1,1	39999.2704
CAL? 2,1	7.07031717	CAL? Res 73	0.98249167
CAL 0 TEMP	35.99	CAL 10V TEMP	35.44
CAL 10KOhm TEMP	36.41	CAL? DCI	0.981128804

Service information

CAL DUMP

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(1, -4.40413767e-05), (1, -4.40413767e-05), (1, -9.21503336e-05), (1, -9.21503336e-05), (1, 0.29631652), (1, 0.296711163), (1, 0.296503414), (1, 0.296917637), (1,
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50.0), (1, 12.0)]
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Destructive overloads?

285, DESTRUCTIVE OVERLOADS valid 2941

Reference

Short-Belden, Pomona LT for AUX1

DUT Condition

PostCal 2-meter

Test procedure : \$Id: hp3458a.py | Rev 786 | 2018/07/31 23:13:20 tin\_fpga \$

Source procedure : \$Id: f5720a.py | Rev 786 | 2018/07/31 23:13:20 tin\_fpga \$

Main DC Voltage ranges performance test.

Checks zero offset and +/-FS calibration on all ranges

The following test for the offset voltage specification using MFC 0V source in 4-wire ext sense mode as reference.

DCV gain range points verify gain of the DC voltage function, using uncorrected 24-hour MFC output. DC voltage offset of DUT is nulled before FS tests.

Test Description	Expected Value	Measured Value	Measurement Uncertainty	Lower Limit	Upper Limit	Deviation	DUT Spec	Test Status
Short 0 mVDC	0.0000000E+00	<b>-0.58 µV</b>	0.75 µV	-0.910 µV	0.910 µV	N/A	0.16 µV	PASS
Short 0.0 VDC	0.0000000E+00	<b>-0.24 µV</b>	0.75 µV	-0.900 µV	0.900 µV	N/A	0.15 µV	PASS
Short 00.0 VDC	0.0000000E+00	<b>0.37 µV</b>	0.75 µV	-1.070 µV	1.070 µV	N/A	0.32 µV	PASS
Short 000.0 VDC	0.0000000E+00	<b>8.93 µV</b>	0.75 µV	-14.750 µV	14.750 µV	N/A	14.00 µV	PASS
Short 0000.0 VDC	0.0000000E+00	<b>87.56 µV</b>	0.75 µV	-41.750 µV	41.750 µV	N/A	41.00 µV	FAIL
DCV Test	0.1V-1000V	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
0.1 VDC (0.10 Range)	0.1000000	<b>0.10000021</b>	7.27 ppm	0.099998723	0.10000128	2.129 ppm	5.50 ppm	PASS 16.67 %
-0.1 VDC (0.10 Range)	-0.1000000	<b>-0.10000025</b>	7.27 ppm	-0.10000128	-0.099998723	2.521 ppm	5.50 ppm	PASS 19.74 %
0.1 VDC (1.00 Range)	0.1000000	<b>0.1000006</b>	7.27 ppm	0.099999093	0.10000091	6.029 ppm	1.80 ppm	PASS 66.47 %
0.2 VDC (1.00 Range)	0.2000000	<b>0.20000067</b>	3.86 ppm	0.19999887	0.20000113	3.365 ppm	1.80 ppm	PASS 59.45 %
1.0 VDC (1.00 Range)	1.0000000	<b>1.000002</b>	3.86 ppm	0.99999434	1.0000057	1.962 ppm	1.80 ppm	PASS 34.67 %
-0.1 VDC (1.00 Range)	-0.1000000	<b>-0.099999902</b>	7.27 ppm	-0.10000091	-0.099999093	-0.976 ppm	1.80 ppm	PASS 10.76 %
-0.2 VDC (1.00 Range)	-0.2000000	<b>-0.19999994</b>	3.86 ppm	-0.20000113	-0.19999887	-0.291 ppm	1.80 ppm	PASS 5.14 %
-1.0 VDC (1.00 Range)	-1.0000000	<b>-1.000001</b>	3.86 ppm	-1.0000057	-0.99999434	1.039 ppm	1.80 ppm	PASS 18.36 %
1.0 VDC (10.00 Range)	1.0000000	<b>1.0000025</b>	3.86 ppm	0.99999559	1.0000044	2.464 ppm	0.55 ppm	PASS 55.87 %
2.0 VDC (10.00 Range)	2.0000000	<b>2.0000034</b>	2.77 ppm	1.9999934	2.0000066	1.710 ppm	0.55 ppm	PASS 51.51 %
10.0 VDC (10.00 Range)	10.0000000	<b>10.000011</b>	2.73 ppm	9.9999672	10.000033	1.112 ppm	0.55 ppm	PASS 33.89 %
-1.0 VDC (10.00 Range)	-1.0000000	<b>-1.0000006</b>	3.86 ppm	-1.0000044	-0.99999559	0.564 ppm	0.55 ppm	PASS 12.79 %
-2.0 VDC (10.00 Range)	-2.0000000	<b>-2.0000014</b>	2.77 ppm	-2.0000066	-1.9999934	0.692 ppm	0.55 ppm	PASS 20.86 %
-10.0 VDC (10.00 Range)	-10.0000000	<b>-10.000006</b>	2.73 ppm	-10.000033	-9.9999672	0.551 ppm	0.55 ppm	PASS 16.78 %
10 VDC (100.00 Range)	10.0000000	<b>10.000038</b>	2.77 ppm	9.9999443	10.000056	3.834 ppm	2.80 ppm	PASS 68.83 %
20 VDC (100.00 Range)	20.0000000	<b>20.000033</b>	3.73 ppm	19.999869	20.000131	1.661 ppm	2.80 ppm	PASS 25.44 %
100 VDC (100.00 Range)	100.0000000	<b>99.99997</b>	3.73 ppm	99.999347	100.00065	-0.304 ppm	2.80 ppm	PASS 4.65 %
-10 VDC (100.00 Range)	-10.0000000	<b>-9.9999914</b>	2.77 ppm	-10.000056	-9.9999443	-0.862 ppm	2.80 ppm	PASS 15.47 %
-20 VDC (100.00 Range)	-20.0000000	<b>-19.999999</b>	3.73 ppm	-20.000131	-19.999869	-0.066 ppm	2.80 ppm	PASS 1.01 %
-100 VDC (100.00 Range)	-100.0000000	<b>-99.999947</b>	3.73 ppm	-100.00065	-99.999347	-0.530 ppm	2.80 ppm	PASS 8.12 %
100 VDC (1000.00 Range)	100.0000000	<b>100</b>	3.73 ppm	99.999367	100.00063	0.003 ppm	2.60 ppm	PASS 0.05 %
200 VDC (1000.00 Range)	200.0000000	<b>199.99985</b>	3.73 ppm	199.99873	200.00127	-0.738 ppm	2.60 ppm	PASS 11.67 %
1000 VDC (1000.00 Range)	1000.0000000	<b>1000.0026</b>	5.45 ppm	999.97995	1000.02	2.566 ppm	2.60 ppm	PASS 12.80 %
-100 VDC (1000.00 Range)	-100.0000000	<b>-99.999991</b>	3.73 ppm	-100.00063	-99.999367	-0.092 ppm	2.60 ppm	PASS 1.45 %
-200 VDC (1000.00 Range)	-200.0000000	<b>-199.99979</b>	3.73 ppm	-200.00127	-199.99873	-1.037 ppm	2.60 ppm	PASS 16.38 %
-1000 VDC (1000.00 Range)	-1000.0000000	<b>-1000.003</b>	5.45 ppm	-1000.02	-999.97995	3.036 ppm	2.60 ppm	PASS 76.87 %

Additional test for **combined DUT+MFC** DC Voltage Integral Linearity (INL) using fixed 10V range. Integral linearity is a measure of the device's deviation from ideal linear behaviour.

DCV Linearity	1V Range	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
1.0999999	1.0999999	<b>1.1000015</b>	2.73 ppm	1.099996	1.100004	1.45 ppm	0.55 ppm	PASS 44.19 %
0.9999999	0.9999999	<b>1.0000016</b>	2.73 ppm	0.9999966	1.000003	1.67 ppm	0.55 ppm	PASS 51.04 %
0.9000000	0.9000000	<b>0.9000016</b>	2.73 ppm	0.899997	0.900003	1.73 ppm	0.55 ppm	PASS 52.67 %
0.8888888	0.8888888	<b>0.8888904</b>	2.73 ppm	0.8888859	0.8888917	1.79 ppm	0.55 ppm	PASS 54.58 %
0.8000000	0.8000000	<b>0.8000016</b>	2.73 ppm	0.7999974	0.8000026	1.97 ppm	0.55 ppm	PASS 59.95 %
0.7777777	0.7777777	<b>0.7777792</b>	2.73 ppm	0.7777751	0.7777803	1.96 ppm	0.55 ppm	PASS 59.89 %
0.7000000	0.7000000	<b>0.7000014</b>	2.73 ppm	0.6999977	0.7000023	2.05 ppm	0.55 ppm	PASS 62.45 %
0.6666666	0.6666666	<b>0.6666680</b>	2.73 ppm	0.6666644	0.6666688	2.15 ppm	0.55 ppm	PASS 65.49 %
0.6000000	0.6000000	<b>0.6000013</b>	2.73 ppm	0.599998	0.600002	2.19 ppm	0.55 ppm	PASS 66.77 %
0.5555555	0.5555555	<b>0.5555567</b>	2.73 ppm	0.5555537	0.5555573	2.20 ppm	0.55 ppm	PASS 67.02 %
0.5000000	0.5000000	<b>0.5000012</b>	2.73 ppm	0.4999984	0.5000016	2.30 ppm	0.55 ppm	PASS 70.22 %
0.4444444	0.4444444	<b>0.4444455</b>	2.73 ppm	0.4444429	0.4444459	2.43 ppm	0.55 ppm	PASS 74.10 %
0.4000000	0.4000000	<b>0.4000010</b>	2.73 ppm	0.3999987	0.4000013	2.53 ppm	0.55 ppm	PASS 77.02 %
0.3333333	0.3333333	<b>0.3333342</b>	2.73 ppm	0.3333322	0.3333344	2.58 ppm	0.55 ppm	PASS 78.66 %
0.3000000	0.3000000	<b>0.30000080</b>	2.73 ppm	0.299999	0.300001	2.67 ppm	0.55 ppm	PASS 81.41 %
0.2222222	0.2222222	<b>0.22222288</b>	2.73 ppm	0.2222215	0.2222229	3.07 ppm	0.55 ppm	PASS 93.70 %
0.2000000	0.2000000	<b>0.20000063</b>	2.73 ppm	0.1999993	0.2000007	3.17 ppm	0.55 ppm	PASS 96.74 %
0.1234567	0.1234567	<b>0.1234572</b>	2.73 ppm	0.1234563	0.1234571	3.91 ppm	0.55 ppm	FAIL 119.22 %
0.1111111	0.1111111	<b>0.1111116</b>	2.73 ppm	0.1111107	0.1111115	4.07 ppm	0.55 ppm	FAIL 124.12 %
0.1000000	0.1000000	<b>0.1000004</b>	2.73 ppm	0.0999967	0.1000003	4.27 ppm	0.55 ppm	FAIL 130.20 %
0.0987654	0.0987654	<b>0.0987658</b>	3.86 ppm	0.09876496	0.09876584	4.49 ppm	0.55 ppm	FAIL 101.88 %
0.0111111	0.0111111	<b>0.0111114</b>	7.27 ppm	0.0111101	0.0111119	25.62 ppm	0.55 ppm	FAIL 327.60 %
-0.0111111	-0.0111111	<b>-0.0111107</b>	7.27 ppm	-0.0111119	-0.0111101	-32.35 ppm	0.55 ppm	FAIL 413.62 %
-0.0987654	-0.0987654	<b>-0.0987652</b>	3.86 ppm	-0.09876584	-0.09876496	-1.86 ppm	0.55 ppm	PASS 42.18 %
-0.1000000	-0.1000000	<b>-0.0999998</b>	2.73 ppm	-0.1000003	-0.0999967	-1.91 ppm	0.55 ppm	PASS 58.35 %
-0.1111111	-0.1111111	<b>-0.1111109</b>	2.73 ppm	-0.1111115	-0.1111107	-1.56 ppm	0.55 ppm	PASS 47.69 %
-0.1234567	-0.1234567	<b>-0.1234565</b>	2.73 ppm	-0.1234571	-0.1234563	-1.37 ppm	0.55 ppm	PASS 41.88 %
-0.2000000	-0.2000000	<b>-0.1999999</b>	2.73 ppm	-0.2000007	-0.1999993	-0.38 ppm	0.55 ppm	PASS 11.44 %
-0.2222222	-0.2222222	<b>-0.2222222</b>	2.73 ppm	-0.2222229	-0.2222215	-0.09 ppm	0.55 ppm	PASS 2.62 %
-0.3000000	-0.3000000	<b>-0.3000001</b>	2.73 ppm	-0.300001	-0.299999	0.25 ppm	0.55 ppm	PASS 7.76 %
-0.3333333	-0.3333333	<b>-0.3333334</b>	2.73 ppm	-0.3333344	-0.3333322	0.41 ppm	0.55 ppm	PASS 12.57 %
-0.4000000	-0.4000000	<b>-0.4000002</b>	2.73 ppm	-0.4000013	-0.3999987	0.59 ppm	0.55 ppm	PASS 17.84 %
-0.4444444	-0.4444444	<b>-0.4444448</b>	2.73 ppm	-0.4444459	-0.4444429	0.89 ppm	0.55 ppm	PASS 27.13 %
-0.5000000	-0.5000000	<b>-0.5000005</b>	2.73 ppm	-0.5000016	-0.4999984	0.91 ppm	0.55 ppm	PASS 27.84 %
-0.5555555	-0.5555555	<b>-0.5555560</b>	2.73 ppm	-0.5555573	-0.5555537	0.94 ppm	0.55 ppm	PASS 28.55 %
-0.6000000	-0.6000000	<b>-0.6000006</b>	2.73 ppm	-0.600002	-0.599998	0.95 ppm	0.55 ppm	PASS 28.89 %
-0.6666666	-0.6666666	<b>-0.6666673</b>	2.73 ppm	-0.6666688	-0.6666644	1.02 ppm	0.55 ppm	PASS 31.13 %
-0.7000000	-0.7000000	<b>-0.7000007</b>	2.73 ppm	-0.7000023	-0.6999977	1.03 ppm	0.55 ppm	PASS 31.32 %
-0.7777777	-0.7777777	<b>-0.7777785</b>	2.73 ppm	-0.7777803	-0.7777751	1.04 ppm	0.55 ppm	PASS 31.69 %
-0.8000000	-0.8000000	<b>-0.8000009</b>	2.73 ppm	-0.8000026	-0.7999974	1.12 ppm	0.55 ppm	PASS 34.07 %
-0.8888888	-0.8888888	<b>-0.8888898</b>	2.73 ppm	-0.8888917	-0.8888859	1.07 ppm	0.55 ppm	PASS 32.73 %
-0.9000000	-0.9000000	<b>-0.9000010</b>	2.73 ppm	-0.900003	-0.899997	1.06 ppm	0.55 ppm	PASS 32.26 %
-0.9999999	-0.9999999	<b>-1.0000010</b>	2.73 ppm	-1.000003	-0.9999966	1.06 ppm	0.55 ppm	PASS 32.40 %
-1.0999999	-1.0999999	<b>-1.1000010</b>	2.73 ppm	-1.100004	-1.099996	1.03 ppm	0.55 ppm	PASS 31.49 %
DCV Linearity	10V Range	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
10.999999	10.999999	<b>11.0000113</b>	2.73 ppm	10.99996	11.00004	1.12 ppm	0.55 ppm	PASS 34.01 %
10.101010	10.101010	<b>10.1010222</b>	2.73 ppm	10.10098	10.10104	1.20 ppm	0.55 ppm	PASS 36.70 %
10.000000	10.000000	<b>10.0000123</b>	2.73 ppm	9.999967	10.00003	1.23 ppm	0.55 ppm	PASS 37.49 %
9.999999	9.999999	<b>10.0000111</b>	2.73 ppm	9.999966	10.00003	1.21 ppm	0.55 ppm	PASS 37.02 %
9.000000	9.000000	<b>9.0000112</b>	2.73 ppm	8.99997	9.00003	1.24 ppm	0.55 ppm	PASS 37.88 %
8.888888	8.888888	<b>8.8888991</b>	2.73 ppm	8.888859	8.888917	1.24 ppm	0.55 ppm	PASS 37.95 %
8.000000	8.000000	<b>8.0000098</b>	2.73 ppm	7.999974	8.000026	1.23 ppm	0.55 ppm	PASS 37.52 %
7.777777	7.777777	<b>7.7777864</b>	2.73 ppm	7.777751	7.777803	1.21 ppm	0.55 ppm	PASS 36.99 %
7.000000	7.000000	<b>7.0000085</b>	2.73 ppm	6.999977	7.000023	1.22 ppm	0.55 ppm	PASS 37.10 %
6.666666	6.666666	<b>6.6666741</b>	2.73 ppm	6.666644	6.666688	1.21 ppm	0.55 ppm	PASS 36.90 %
6.000000	6.000000	<b>6.0000072</b>	2.73 ppm	5.99998	6.00002	1.20 ppm	0.55 ppm	PASS 36.70 %
5.555555	5.555555	<b>5.5555616</b>	2.73 ppm	5.555537	5.555573	1.19 ppm	0.55 ppm	PASS 36.28 %
5.000000	5.000000	<b>5.0000060</b>	2.73 ppm	4.999984	5.000016	1.20 ppm	0.55 ppm	PASS 36.68 %
4.444444	4.444444	<b>4.4444494</b>	2.73 ppm	4.444429	4.444459	1.22 ppm	0.55 ppm	PASS 37.15 %
4.000000	4.000000	<b>4.0000050</b>	2.73 ppm	3.999987	4.000013	1.24 ppm	0.55 ppm	PASS 37.88 %
3.333333	3.333333	<b>3.3333371</b>	2.73 ppm	3.333322	3.333344	1.23 ppm	0.55 ppm	PASS 37.54 %
3.000000	3.000000	<b>3.0000038</b>	2.73 ppm	2.99999	3.00001	1.27 ppm	0.55 ppm	PASS 38.60 %

2.222222	2.222222	2.2222248	2.73 ppm	2.222215	2.222229	1.24 ppm	0.55 ppm	PASS 37.78 %
2.000000	2.000000	2.0000024	2.73 ppm	1.999993	2.000007	1.21 ppm	0.55 ppm	PASS 36.94 %
1.111111	1.111111	1.1111122	2.73 ppm	1.111107	1.111115	1.10 ppm	0.55 ppm	PASS 33.57 %
1.000000	1.000000	1.0000010	3.86 ppm	0.9999956	1.000004	1.01 ppm	0.55 ppm	PASS 22.97 %
0.555555	0.555555	0.5555554	7.27 ppm	0.5555507	0.5555593	0.66 ppm	0.55 ppm	PASS 8.38 %
-0.555555	-0.555555	-0.5555554	7.27 ppm	-0.5555593	-0.5555507	0.64 ppm	0.55 ppm	PASS 8.23 %
-1.000000	-1.000000	-1.0000007	3.86 ppm	-1.000004	-0.9999956	0.72 ppm	0.55 ppm	PASS 16.43 %
-1.111111	-1.111111	-1.1111118	2.73 ppm	-1.111115	-1.111107	0.70 ppm	0.55 ppm	PASS 21.21 %
-2.000000	-2.000000	-2.0000016	2.73 ppm	-2.000007	-1.999993	0.79 ppm	0.55 ppm	PASS 24.08 %
-2.222222	-2.222222	-2.2222238	2.73 ppm	-2.222229	-2.222215	0.79 ppm	0.55 ppm	PASS 24.01 %
-3.000000	-3.000000	-3.0000025	2.73 ppm	-3.00001	-2.99999	0.83 ppm	0.55 ppm	PASS 25.16 %
-3.333333	-3.333333	-3.3333357	2.73 ppm	-3.333344	-3.333322	0.82 ppm	0.55 ppm	PASS 24.93 %
-4.000000	-4.000000	-4.0000031	2.73 ppm	-4.000013	-3.999987	0.78 ppm	0.55 ppm	PASS 23.74 %
-4.444444	-4.444444	-4.4444474	2.73 ppm	-4.444459	-4.444429	0.77 ppm	0.55 ppm	PASS 23.52 %
-5.000000	-5.000000	-5.0000037	2.73 ppm	-5.000016	-4.999984	0.75 ppm	0.55 ppm	PASS 22.83 %
-5.555555	-5.555555	-5.5555592	2.73 ppm	-5.555573	-5.555537	0.76 ppm	0.55 ppm	PASS 23.25 %
-6.000000	-6.000000	-6.0000047	2.73 ppm	-6.00002	-5.99998	0.79 ppm	0.55 ppm	PASS 23.99 %
-6.666666	-6.666666	-6.6666715	2.73 ppm	-6.666688	-6.666644	0.83 ppm	0.55 ppm	PASS 25.17 %
-7.000000	-7.000000	-7.0000054	2.73 ppm	-7.000023	-6.999977	0.78 ppm	0.55 ppm	PASS 23.64 %
-7.777777	-7.777777	-7.7777833	2.73 ppm	-7.777803	-7.777751	0.82 ppm	0.55 ppm	PASS 24.86 %
-8.000000	-8.000000	-8.0000066	2.73 ppm	-8.000026	-7.999974	0.82 ppm	0.55 ppm	PASS 25.06 %
-8.888888	-8.888888	-8.8888951	2.73 ppm	-8.888917	-8.888859	0.80 ppm	0.55 ppm	PASS 24.46 %
-9.000000	-9.000000	-9.0000071	2.73 ppm	-9.00003	-8.99997	0.78 ppm	0.55 ppm	PASS 23.91 %
-9.999999	-9.999999	-10.0000070	2.73 ppm	-10.00003	-9.999966	0.80 ppm	0.55 ppm	PASS 24.32 %
-10.000000	-10.000000	-10.0000075	2.73 ppm	-10.00003	-9.999967	0.75 ppm	0.55 ppm	PASS 22.99 %
-10.101010	-10.101010	-10.1010174	2.73 ppm	-10.10104	-10.10098	0.73 ppm	0.55 ppm	PASS 22.38 %
-10.999999	-10.999999	-11.0000072	2.73 ppm	-11.00004	-10.99996	0.74 ppm	0.55 ppm	PASS 22.64 %
<b>DCV Linearity</b>	<b>100V Range</b>	<b>DUT</b>	<b>Source unc.</b>	<b>Low Limit</b>	<b>Hi limit</b>	<b>Measured</b>	<b>24h spec</b>	<b>Result</b>
100.99999	100.99999	100.9999426	2.73 ppm	100.99966	101.00032	-0.47 ppm	0.55 ppm	PASS 10.46 %
100.10101	100.10101	100.1009654	2.73 ppm	100.10068	100.10134	-0.45 ppm	0.55 ppm	PASS 9.95 %
100.00000	100.00000	99.9999656	2.73 ppm	99.999672	100.00033	-0.34 ppm	0.55 ppm	PASS 10.50 %
99.99999	99.99999	99.9999575	2.73 ppm	99.999662	100.00032	-0.33 ppm	0.55 ppm	PASS 9.92 %
90.00000	90.00000	89.9999727	2.73 ppm	89.999705	90.000295	-0.30 ppm	0.55 ppm	PASS 9.24 %
88.88888	88.88888	88.8888572	2.73 ppm	88.888588	88.889172	-0.26 ppm	0.55 ppm	PASS 7.81 %
80.00000	80.00000	79.9999846	2.73 ppm	79.999738	80.000262	-0.19 ppm	0.55 ppm	PASS 5.88 %
77.77777	77.77777	77.7777594	2.73 ppm	77.777515	77.778025	-0.14 ppm	0.55 ppm	PASS 4.15 %
70.00000	70.00000	69.9999932	2.73 ppm	69.99977	70.00023	-0.10 ppm	0.55 ppm	PASS 2.95 %
66.66666	66.66666	66.6666540	2.73 ppm	66.666441	66.666879	-0.09 ppm	0.55 ppm	PASS 2.74 %
60.00000	60.00000	59.9999908	2.73 ppm	59.999803	60.000197	-0.15 ppm	0.55 ppm	PASS 4.66 %
55.55555	55.55555	55.5555435	2.73 ppm	55.555368	55.555732	-0.12 ppm	0.55 ppm	PASS 3.57 %
50.00000	50.00000	49.9999919	2.73 ppm	49.999836	50.000164	-0.16 ppm	0.55 ppm	PASS 4.94 %
44.44444	44.44444	44.4444366	2.73 ppm	44.444294	44.444586	-0.08 ppm	0.55 ppm	PASS 2.31 %
40.00000	40.00000	39.9999987	2.73 ppm	39.999869	40.000131	-0.03 ppm	0.55 ppm	PASS 0.98 %
33.33333	33.33333	33.3333255	2.73 ppm	33.333221	33.333439	-0.13 ppm	0.55 ppm	PASS 4.08 %
30.00000	30.00000	29.9999975	2.73 ppm	29.999902	30.000098	-0.08 ppm	0.55 ppm	PASS 2.52 %
22.22222	22.22222	22.2222203	2.73 ppm	22.222147	22.222293	0.01 ppm	0.55 ppm	PASS 0.42 %
20.00000	20.00000	19.9999996	2.73 ppm	19.999934	20.000066	-0.02 ppm	0.55 ppm	PASS 0.54 %
11.11111	11.11111	11.1111058	2.73 ppm	11.111075	11.111147	-0.47 ppm	0.55 ppm	PASS 14.38 %
10.00000	10.00000	9.9999917	3.86 ppm	9.999959	10.000044	-0.83 ppm	0.55 ppm	PASS 18.90 %
9.87654	9.87654	9.8765388	7.27 ppm	9.8764658	9.8766202	-0.43 ppm	0.55 ppm	PASS 5.46 %
-9.87654	-9.87654	-9.8765328	7.27 ppm	-9.8766202	-9.8764658	-1.03 ppm	0.55 ppm	PASS 13.17 %
-10.00000	-10.00000	-9.9999906	3.86 ppm	-10.000044	-9.999959	-0.94 ppm	0.55 ppm	PASS 21.31 %
-11.11111	-11.11111	-11.1111099	2.73 ppm	-11.111147	-11.111075	-0.10 ppm	0.55 ppm	PASS 3.14 %
-20.00000	-20.00000	-20.0000003	2.73 ppm	-20.000066	-19.999934	0.02 ppm	0.55 ppm	PASS 0.47 %
-22.22222	-22.22222	-22.2222210	2.73 ppm	-22.222293	-22.222147	0.05 ppm	0.55 ppm	PASS 1.40 %
-30.00000	-30.00000	-30.0000036	2.73 ppm	-30.000098	-29.999902	0.12 ppm	0.55 ppm	PASS 3.66 %
-33.33333	-33.33333	-33.3333348	2.73 ppm	-33.333439	-33.333221	0.14 ppm	0.55 ppm	PASS 4.40 %
-40.00000	-40.00000	-40.0000019	2.73 ppm	-40.000131	-39.999869	0.05 ppm	0.55 ppm	PASS 1.47 %
-44.44444	-44.44444	-44.4444374	2.73 ppm	-44.444586	-44.444294	-0.06 ppm	0.55 ppm	PASS 1.82 %
-50.00000	-50.00000	-50.0000003	2.73 ppm	-50.000164	-49.999836	0.01 ppm	0.55 ppm	PASS 0.20 %
-55.55555	-55.55555	-55.5555522	2.73 ppm	-55.555732	-55.555368	0.04 ppm	0.55 ppm	PASS 1.22 %
-60.00000	-60.00000	-59.9999934	2.73 ppm	-60.000197	-59.999803	-0.11 ppm	0.55 ppm	PASS 3.35 %
-66.66666	-66.66666	-66.6666566	2.73 ppm	-66.666879	-66.666441	-0.05 ppm	0.55 ppm	PASS 1.58 %
-70.00000	-70.00000	-69.9999964	2.73 ppm	-70.00023	-69.99977	-0.05 ppm	0.55 ppm	PASS 1.55 %
-77.77777	-77.77777	-77.7777667	2.73 ppm	-77.778025	-77.777515	-0.04 ppm	0.55 ppm	PASS 1.31 %
-80.00000	-80.00000	-79.9999971	2.73 ppm	-80.000262	-79.999738	-0.04 ppm	0.55 ppm	PASS 1.10 %
-88.88888	-88.88888	-88.8888738	2.73 ppm	-88.889172	-88.888588	-0.07 ppm	0.55 ppm	PASS 2.13 %
-90.00000	-90.00000	-89.9999940	2.73 ppm	-90.000295	-89.999705	-0.07 ppm	0.55 ppm	PASS 2.03 %
-99.99999	-99.99999	-99.9999807	2.73 ppm	-100.00032	-99.999662	-0.09 ppm	0.55 ppm	PASS 2.84 %

-100.00000	-100.00000	<b>-99.9999878</b>	2.73 ppm	-100.00033	-99.999672	-0.12 ppm	0.55 ppm	PASS 3.71 %
-100.10101	-100.10101	<b>-100.1010043</b>	2.73 ppm	-100.10134	-100.10068	-0.06 ppm	0.55 ppm	PASS 2.76 %
-100.99999	-100.99999	<b>-100.9999797</b>	2.73 ppm	-101.00032	-100.99966	-0.10 ppm	0.55 ppm	PASS 4.93 %

4W test procedure for all test points that verify Gain of the OHMF function. 4-wire kelvin connection is used between DMM and MFC. 1GΩ resistance range is tested using the external standard, as MFC unable to provide this range value.

OHM Test	1 Ohm to 1 GOhm	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
1 Ω	0.9998039	<b>0.99979173</b>	27.0 ppm	9.9976891E-01	9.9983889E-01	-12.168 ppm	8.0 ppm	PASS 34.77 %
1.9 Ω	1.8998703	<b>1.8998365</b>	20.0 ppm	1.8998171E+00	1.8999235E+00	-17.793 ppm	8.0 ppm	PASS 63.55 %
10 Ω	10.00029	<b>10.000284</b>	4.0 ppm	1.0000170E+01	1.0000410E+01	-0.567 ppm	8.0 ppm	PASS 4.73 %
19 Ω	18.999925	<b>18.999993</b>	3.5 ppm	1.8999745E+01	1.9000105E+01	3.565 ppm	6.0 ppm	PASS 37.53 %
100 Ω	100.00301	<b>100.00326</b>	1.6 ppm	1.0000225E+02	1.0000377E+02	2.508 ppm	6.0 ppm	PASS 33.00 %
190 Ω	189.99756	<b>189.99826</b>	1.6 ppm	1.8999684E+02	1.8999828E+02	3.706 ppm	2.2 ppm	PASS 97.52 %
1.0 kΩ	1000.0085	<b>1000.0097</b>	1.6 ppm	1.0000047E+03	1.0000123E+03	1.244 ppm	2.2 ppm	PASS 32.75 %
1.9 kΩ	1900.0219	<b>1900.0268</b>	1.6 ppm	1.9000147E+03	1.9000291E+03	2.575 ppm	2.2 ppm	PASS 67.77 %
10 kΩ	9999.776	<b>9999.7888</b>	1.6 ppm	9.9997380E+03	9.9998140E+03	1.277 ppm	2.2 ppm	PASS 33.59 %
19 kΩ	18999.374	<b>18999.39</b>	1.6 ppm	1.8999302E+04	1.8999446E+04	0.816 ppm	2.2 ppm	PASS 21.48 %
100 kΩ	99994.7	<b>99994.25</b>	1.6 ppm	9.9994320E+04	9.9995080E+04	-4.500 ppm	2.2 ppm	FAIL 118.42 %
190 kΩ	189988.59	<b>189989.1</b>	1.6 ppm	1.8998620E+05	1.8999098E+05	2.659 ppm	11.0 ppm	PASS 21.10 %
1.0 MΩ	999980.8	<b>999975.16</b>	2.0 ppm	9.9996780E+05	9.9999380E+05	-5.639 ppm	11.0 ppm	PASS 43.37 %
1.9 MΩ	1899965.3	<b>1899970.9</b>	2.5 ppm	1.8998561E+06	1.9000745E+06	2.928 ppm	55.0 ppm	PASS 5.09 %
10 MΩ	9998990	<b>9998458.3</b>	8.0 ppm	9.9983601E+06	9.9996199E+06	-53.174 ppm	55.0 ppm	PASS 84.40 %
19 MΩ	18998386	<b>18999448</b>	16.0 ppm	1.8988393E+07	1.9008379E+07	55.879 ppm	510.0 ppm	PASS 10.62 %
100 MΩ	1.0000693E+08	<b>1.0001765E+08</b>	40.0 ppm	9.9951926E+07	1.0006193E+08	107.186 ppm	510.0 ppm	PASS 19.49 %
1 GΩ STD	9.9551672E+08	<b>1.0000000E+09</b>	30000.0 ppm	960663679.633	1030369760.37	4503.470 ppm	5010.00 ppm	PASS 12.86 %

4W and 2W Zero test procedure for all test points that verify Zero offset of the OHMF function. 4-wire kelvin connection is used between DMM and MFC.  
 1GΩ resistance range is tested using the external standard, as MFC unable to provide this range value.

OHM ZERO 4W	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
10 Ω	Range 0.0000003 Ω	5.000e-05 Ω	-5e-05	5e-05	N/A	8.0000e-06 Ω	PASS
100 Ω	Range -0.0000040 Ω	5.500e-04 Ω	-0.00055	0.00055	N/A	2.2000e-06 Ω	PASS
1.0 kΩ	Range -0.0000167 Ω	5.500e-03 Ω	-0.0055	0.0055	N/A	2.2000e-06 Ω	PASS
10 kΩ	Range 0.0001715 Ω	5.500e-02 Ω	-0.055	0.055	N/A	2.2000e-06 Ω	PASS
100 kΩ	Range -0.0023769 Ω	5.500e-01 Ω	-0.55	0.55	N/A	2.2000e-06 Ω	PASS
1.0 MΩ	Range -0.0356581 Ω	5.500e+00 Ω	-5.5	5.5	N/A	2.2000e-06 Ω	PASS
10 MΩ	Range -1.6750561 Ω	5.500e+01 Ω	-55	55	N/A	2.2000e-06 Ω	PASS
100 MΩ	Range 5.3789783 Ω	5.500e+02 Ω	-550	550	N/A	2.2000e-06 Ω	PASS
1 GΩ	Range -1.9652882 Ω	5.500e+03 Ω	-5500	5500	N/A	2.2000e-06 Ω	PASS
OHM ZERO 2W	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
10 Ω	Range 0.2200459 Ω	5.000e-05 Ω	-5e-05	5e-05	N/A	8.0000e-06 Ω	FAIL
100 Ω	Range 0.2187765 Ω	5.500e-04 Ω	-0.00055	0.00055	N/A	2.2000e-06 Ω	FAIL
1.0 kΩ	Range 0.2181383 Ω	5.500e-03 Ω	-0.0055	0.0055	N/A	2.2000e-06 Ω	FAIL
10 kΩ	Range 0.2162335 Ω	5.500e-02 Ω	-0.055	0.055	N/A	2.2000e-06 Ω	FAIL
100 kΩ	Range 0.2021450 Ω	5.500e-01 Ω	-0.55	0.55	N/A	2.2000e-06 Ω	PASS
1.0 MΩ	Range 0.3018494 Ω	5.500e+00 Ω	-5.5	5.5	N/A	2.2000e-06 Ω	PASS
10 MΩ	Range 1.9362551 Ω	5.500e+01 Ω	-55	55	N/A	2.2000e-06 Ω	PASS
100 MΩ	Range 0.4768080 Ω	5.500e+02 Ω	-550	550	N/A	2.2000e-06 Ω	PASS
1 GΩ	Range 0.4671337 Ω	5.500e+03 Ω	-5500	5500	N/A	2.2000e-06 Ω	PASS

Procedure for all test points in the AC performance verification for ANAlog mode. AC-measurements does not suffer from TEMF offsets, test connection can be made using shielded leads terminated with dual banana plugs. MFC main AC output is used as reference source

ACV ANA Test	1V-10V	DUT	w/Guardband	Low Limit	Hi limit	Units	Measured	24h spec	Result
1.0 VAC @ 50.0 kHz	1.0	<b>1.0001167</b>	129.09	0.99955091	1.00044909	VAC	116.746 ppm	320.0 ppm	PASS 26.00 %
1.0 VAC @ 1.0 MHz	1.0	<b>1.0110456</b>	0.2500 %	0.9874	1.0126	VAC	1.1046 %	1.0100 %	PASS 87.66 %
10 VAC @ 10 Hz	10	<b>9.9808803</b>	73.18	9.9981682	10.0018318	VAC	-1911.972 ppm	110.0 ppm	FAIL 1043.77 %
10 VAC @ 200 Hz	10	<b>10.000624</b>	73.18	9.9983682	10.0016318	VAC	62.428 ppm	90.0 ppm	PASS 38.26 %
10 VAC @ 500 Hz	10	<b>10.000615</b>	73.18	9.9983682	10.0016318	VAC	61.490 ppm	90.0 ppm	PASS 37.68 %
10 VAC @ 50.0 kHz	10	<b>10.000215</b>	129.09	9.9955091	10.0044909	VAC	21.526 ppm	320.0 ppm	PASS 4.79 %
10 VAC @ 1.0 MHz	10	<b>10.093155</b>	0.3000 %	9.869	10.131	VAC	0.9315 %	1.0100 %	PASS 71.11 %

Procedure for all test points in the AC performance verification for SYNCronous mode. This is highest AC accuracy test. AC-measurements does not suffer from TEMF offsets, test connection can be made using shielded leads terminated with dual banana plugs. MFC main AC output is used as reference source

ACV SYNC Test	DUT	w/Guardband	Low Limit	Hi limit	Measured	24h spec	Result, % spec
0.01 V AC+DC @ 10 Hz	0.0099984621	312.27	0.009991	0.010009	-153.789 ppm	600.0 ppm	PASS 16.86 %
0.01 V AC+DC @ 20 Hz	0.0099982137	312.27	0.009991	0.010009	-178.630 ppm	600.0 ppm	PASS 19.58 %
0.01 V AC+DC @ 40 Hz	0.0099982133	312.27	0.009991	0.010009	-178.670 ppm	600.0 ppm	PASS 19.59 %
0.01 V AC+DC @ 100 Hz	0.009998092	312.27	0.009994	0.010006	-190.796 ppm	310.0 ppm	PASS 30.66 %
0.01 V AC+DC @ 1.0 kHz	0.0099980695	312.27	0.009994	0.010006	-193.045 ppm	310.0 ppm	PASS 31.02 %
0.01 V AC+DC @ 10.0 kHz	0.0099993795	312.27	0.009993	0.010007	-62.049 ppm	410.0 ppm	PASS 8.59 %
0.01 V AC+DC @ 20.0 kHz	0.0099981478	312.27	0.009993	0.010007	-185.219 ppm	410.0 ppm	PASS 25.64 %
0.01 V AC+DC @ 50.0 kHz	0.009996111	0.0312 %	0.009986	0.010014	-0.0389 %	0.1110 %	PASS 27.34 %
0.01 V AC+DC @ 100.0 kHz	0.0099788426	0.0312 %	0.009946	0.010054	-0.2116 %	0.5110 %	PASS 39.02 %
0.01 V AC+DC @ 300.0 kHz	0.0098289684	0.0447 %	0.009594	0.010406	-1.7103 %	4.0200 %	PASS 42.08 %
0.01 V AC+DC @ 500.0 kHz	0.0096057827	0.0773 %	0.006787	0.013213	-3.9422 %	32.0500 %	PASS 12.27 %
0.01 V AC+DC @ 1.0 MHz	0.0087313657	0.1500 %	0.006780	0.013220	-12.6863 %	32.0500 %	PASS 39.40 %
0.1 V AC+DC @ 10 Hz	0.099995686	1500	0.099839	0.100161	-43.140 ppm	110.0 ppm	PASS 2.68 %
0.1 V AC+DC @ 20 Hz	0.099993515	2500	0.099739	0.100261	-64.853 ppm	110.0 ppm	PASS 2.48 %
0.1 V AC+DC @ 40 Hz	0.099994406	4000	0.099589	0.100411	-55.941 ppm	110.0 ppm	PASS 1.36 %
0.1 V AC+DC @ 100 Hz	0.099993306	121.36	0.099979	0.100021	-66.935 ppm	90.0 ppm	PASS 31.67 %
0.1 V AC+DC @ 1.0 kHz	0.099994739	121.36	0.099979	0.100021	-52.613 ppm	90.0 ppm	PASS 24.89 %
0.1 V AC+DC @ 10.0 kHz	0.099994941	121.36	0.099972	0.100028	-50.587 ppm	160.0 ppm	PASS 17.98 %
0.1 V AC+DC @ 20.0 kHz	0.099990717	121.36	0.099972	0.100028	-92.835 ppm	160.0 ppm	PASS 32.99 %
0.1 V AC+DC @ 50.0 kHz	0.09998766	121.36	0.099956	0.100044	-123.405 ppm	320.0 ppm	PASS 27.96 %
0.1 V AC+DC @ 100.0 kHz	0.099951968	121.36	0.099906	0.100094	-480.321 ppm	820.0 ppm	PASS 51.02 %
0.1 V AC+DC @ 300.0 kHz	0.099754074	0.0121 %	0.099678	0.100322	-0.2459 %	0.3100 %	PASS 76.34 %
0.1 V AC+DC @ 500.0 kHz	0.099596213	0.0121 %	0.098978	0.101022	-0.4038 %	1.0100 %	PASS 39.50 %
0.1 V AC+DC @ 1.0 MHz	0.099518509	0.0121 %	0.098978	0.101022	-0.4815 %	1.0100 %	PASS 47.11 %
1.0 V AC+DC @ 10 Hz	1.0000074	256.36	0.999634	1.000366	7.353 ppm	110.0 ppm	PASS 2.01 %
1.0 V AC+DC @ 20 Hz	0.9999935	590.91	0.999299	1.000701	-6.500 ppm	110.0 ppm	PASS 0.93 %
1.0 V AC+DC @ 40 Hz	0.99998653	963.64	0.998926	1.001074	-13.474 ppm	110.0 ppm	PASS 1.25 %
1.0 V AC+DC @ 100 Hz	0.99998205	963.64	0.998946	1.001054	-17.948 ppm	90.0 ppm	PASS 1.70 %
1.0 V AC+DC @ 1.0 kHz	0.99999757	1500	0.998410	1.001590	-2.428 ppm	90.0 ppm	PASS 0.15 %
1.0 V AC+DC @ 10.0 kHz	0.99996305	3000	0.996840	1.003160	-36.948 ppm	160.0 ppm	PASS 1.17 %
1.0 V AC+DC @ 20.0 kHz	0.99993552	49.55	0.999790	1.000210	-64.480 ppm	160.0 ppm	PASS 30.77 %
1.0 V AC+DC @ 50.0 kHz	1.0000013	49.55	0.999630	1.000370	1.338 ppm	320.0 ppm	PASS 0.36 %
1.0 V AC+DC @ 100.0 kHz	1.0000435	49.55	0.999130	1.000870	43.469 ppm	820.0 ppm	PASS 5.00 %
1.0 V AC+DC @ 300.0 kHz	1.0009224	0.0050 %	0.996850	1.003150	0.0922 %	0.3100 %	PASS 29.29 %
1.0 V AC+DC @ 500.0 kHz	1.0024352	0.0050 %	0.989850	1.010150	0.2435 %	1.0100 %	PASS 23.99 %
1.0 V AC+DC @ 1.0 MHz	1.0060495	0.0050 %	0.989850	1.010150	0.6049 %	1.0100 %	PASS 59.60 %
10.0 V AC+DC @ 10 Hz	10.000243	49.55	9.997105	10.002895	24.295 ppm	240.0 ppm	PASS 8.39 %
10.0 V AC+DC @ 20 Hz	10.000144	49.55	9.997105	10.002895	14.431 ppm	240.0 ppm	PASS 4.98 %
10.0 V AC+DC @ 40 Hz	10.000092	49.55	9.997105	10.002895	9.217 ppm	240.0 ppm	PASS 3.18 %
10.0 V AC+DC @ 100 Hz	10.000032	85.45	9.996945	10.003054	3.156 ppm	220.0 ppm	PASS 1.03 %
10.0 V AC+DC @ 1.0 kHz	10.000175	138.18	9.996418	10.003582	17.540 ppm	220.0 ppm	PASS 4.90 %
10.0 V AC+DC @ 10.0 kHz	9.9995269	425.45	9.993545	10.006455	-47.312 ppm	220.0 ppm	PASS 7.33 %
10.0 V AC+DC @ 20.0 kHz	9.9994244	425.45	9.993545	10.006455	-57.563 ppm	220.0 ppm	PASS 8.92 %
10.0 V AC+DC @ 50.0 kHz	9.9992515	1100	9.985300	10.014700	-74.846 ppm	370.0 ppm	PASS 5.09 %
10.0 V AC+DC @ 100.0 kHz	9.9961786	0.1800 %	9.969800	10.030200	-0.0382 %	0.1220 %	PASS 12.65 %
10.0 V AC+DC @ 300.0 kHz	9.9850365	0.0048 %	9.958518	10.041482	-0.1496 %	0.4100 %	PASS 36.07 %
10.0 V AC+DC @ 500.0 kHz	9.993474	0.0048 %	9.848518	10.151482	-0.0653 %	1.5100 %	PASS 4.31 %
10.0 V AC+DC @ 1.0 MHz	10.049292	0.0048 %	9.848518	10.151482	0.4929 %	1.5100 %	PASS 32.54 %
100.0 V AC+DC @ 1.0 kHz	99.999779	48.18	99.953182	100.046818	-2.209 ppm	420.0 ppm	PASS 0.47 %
100.0 V AC+DC @ 10.0 kHz	99.997126	48.18	99.933182	100.066818	-28.740 ppm	620.0 ppm	PASS 4.30 %
100.0 V AC+DC @ 20.0 kHz	99.994406	48.18	99.933182	100.066818	-55.943 ppm	620.0 ppm	PASS 8.37 %
100.0 V AC+DC @ 50.0 kHz	99.991302	0.0048 %	99.873182	100.126818	-0.0087 %	0.1220 %	PASS 6.86 %
100.0 V AC+DC @ 100.0 kHz	99.956295	0.0048 %	99.693182	100.306818	-0.0437 %	0.3020 %	PASS 14.24 %
700.0 V AC+DC @ 1.0 kHz	700.05557	48.18	699.672274	700.327726	79.393 ppm	420.0 ppm	PASS 16.66 %

Procedure for all test points that verify Gain of the DC current DCI function. Both +/-FS points are tested.  
 2-wire connection at LO and DCI is used between DMM and MFC.  
 DCI gain range points verify gain of the DC current function, using corrected 24-hour MFC output.

DCI Test	100nA-1A	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
Zero µADC	0	-8.2520357E-13	71.82 ppm	0	0	Z-check	410 ppm	INFO
50 nADC	5E-08	5.0036128E-08	71.82 ppm	4.997591E-08	5.002409E-08	722.557 ppm	410 ppm	INFO
100 nADC	1E-07	1.0004296E-07	71.82 ppm	9.995182E-08	1.000482E-07	429.624 ppm	410 ppm	PASS 89.17 %
-100 nADC	-1E-07	-9.9905769E-08	71.82 ppm	-1.000482E-07	-9.995182E-08	-942.311 ppm	410 ppm	FAIL 195.57 %
-50 nADC	-5E-08	-4.9903316E-08	71.82 ppm	-5.002409E-08	-4.997591E-08	-1933.679 ppm	410 ppm	INFO
Zero µADC	0	4.694595E-11	71.82 ppm	0	0	Z-check	410 ppm	INFO
0.5 µADC	5E-07	5.0005755E-07	71.82 ppm	4.999391E-07	5.000609E-07	115.093 ppm	50 ppm	PASS 94.48 %
1.0 µADC	1E-06	1.0000625E-06	71.82 ppm	9.998782E-07	1.000122E-06	62.524 ppm	50 ppm	PASS 51.32 %
-1.0 µADC	-1E-06	-9.9991191E-07	71.82 ppm	-1.000122E-06	-9.998782E-07	-88.093 ppm	50 ppm	PASS 72.31 %
-0.5 µADC	-5E-07	-4.9992566E-07	71.82 ppm	-5.000609E-07	-4.999391E-07	-148.686 ppm	50 ppm	FAIL 122.05 %
Zero 00 µADC	0	2.296666E-11	71.82 ppm	0	0	Z-check	410 ppm	INFO
5 µADC	5E-06	5.0000671E-06	71.82 ppm	4.999556E-06	5.000444E-06	13.416 ppm	17 ppm	PASS 15.11 %
10 µADC	1E-05	1.0000088E-05	71.82 ppm	9.999112E-06	1.000089E-05	8.801 ppm	17 ppm	PASS 9.91 %
-10 µADC	-1E-05	-9.9999751E-06	71.82 ppm	-1.000089E-05	-9.999112E-06	-2.493 ppm	17 ppm	PASS 2.81 %
-5 µADC	-5E-06	-4.9999309E-06	71.82 ppm	-5.000444E-06	-4.999556E-06	-13.827 ppm	17 ppm	PASS 15.57 %
Zero 000 µADC	0	3.7789426E-11	71.82 ppm	0	0	Z-check	410 ppm	INFO
50 µADC	5E-05	5.0000096E-05	71.82 ppm	4.999561E-05	5.000439E-05	1.924 ppm	16 ppm	PASS 2.19 %
100 µADC	0.0001	0.0001000018	71.82 ppm	9.999122E-05	0.0001000088	1.819 ppm	16 ppm	PASS 2.07 %
-100 µADC	-0.0001	-9.999971E-05	71.82 ppm	-0.0001000088	-9.999122E-05	-0.292 ppm	16 ppm	PASS 0.33 %
-50 µADC	-5E-05	-4.999967E-05	71.82 ppm	-5.000439E-05	-4.999561E-05	-0.655 ppm	16 ppm	PASS 0.75 %
Zero mADC	0	1.1721039E-10	33.64 ppm	0	0	Z-check	410 ppm	INFO
0.5 mADC	0.0005	0.00049999935	33.64 ppm	0.0004999762	0.0005000238	-1.292 ppm	14 ppm	PASS 2.71 %
1.0 mADC	0.001	0.00099999938	33.64 ppm	0.0009999524	0.001000048	-0.625 ppm	14 ppm	PASS 1.31 %
-1.0 mADC	-0.001	-0.00099999908	33.64 ppm	-0.001000048	-0.0009999524	-0.921 ppm	14 ppm	PASS 1.93 %
-0.5 mADC	-0.0005	-0.00049999915	33.64 ppm	-0.0005000238	-0.0004999762	-1.703 ppm	14 ppm	PASS 3.57 %
Zero 00 mADC	0	7.1871995E-11	32.27 ppm	0	0	Z-check	410 ppm	INFO
5 mADC	0.005	0.0049999904	32.27 ppm	0.004999769	0.005000231	-1.922 ppm	14 ppm	PASS 4.15 %
10 mADC	0.01	0.0099999864	32.27 ppm	0.009999537	0.01000046	-1.356 ppm	14 ppm	PASS 2.93 %
-10 mADC	-0.01	-0.0099999847	32.27 ppm	-0.01000046	-0.009999537	-1.531 ppm	14 ppm	PASS 3.31 %
-5 mADC	-0.005	-0.0049999876	32.27 ppm	-0.005000231	-0.004999769	-2.471 ppm	14 ppm	PASS 5.34 %
Zero 000 mADC	0	8.8746257E-11	53.32 ppm	0	0	Z-check	410 ppm	INFO
50 mADC	0.05	0.050000432	53.32 ppm	0.04999588	0.05000412	8.648 ppm	29 ppm	PASS 10.51 %
100 mADC	0.1	0.099999972	53.32 ppm	0.09999177	0.1000082	-0.281 ppm	29 ppm	PASS 0.34 %
-100 mADC	-0.1	-0.099999652	53.32 ppm	-0.1000082	-0.09999177	-3.481 ppm	29 ppm	PASS 4.23 %
-50 mADC	-0.05	-0.050000002	53.32 ppm	-0.05000412	-0.04999588	0.047 ppm	29 ppm	PASS 0.06 %
Zero ADC	0	9.5554551E-11	115.22 ppm	0	0	Z-check	410 ppm	INFO
0.5 ADC	0.5	0.50001508	115.22 ppm	0.4998874	0.5001126	30.152 ppm	110 ppm	PASS 13.39 %
1.0 ADC	1	1.0000212	115.22 ppm	0.9997748	1.000225	21.160 ppm	110 ppm	PASS 9.40 %
-1.0 ADC	-1	-1.0000188	115.22 ppm	-1.000225	-0.9997748	18.845 ppm	110 ppm	PASS 8.37 %
-0.5 ADC	-0.5	-0.50000975	115.22 ppm	-0.5001126	-0.4998874	19.496 ppm	110 ppm	PASS 8.66 %

Procedure for all test points that verify Gain of the AC Current ACI function. Three frequency band points are tested, 50 Hz, 60 Hz and 1 kHz. 2-wire connection at LO and DCI is used between DMM and MFC.

ACI Test	200µA-2A	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result, % spec
10 µA AC @ 50 Hz	1e-05	<b>1.0013818E-05</b>	0.0165 %	9.9893455e-06	1.00106545e-05	1381.819 ppm	0.0900 %	INFO
100 µA AC @ 50 Hz	0.0001	<b>9.9989921E-05</b>	0.0165 %	9.9893455e-05	0.000100106545	-100.794 ppm	0.0900 %	PASS 9.46 %
1.0 mA AC @ 50 Hz	0.001	<b>0.0010000208</b>	0.0165 %	0.00099903455	0.00100096545	20.765 ppm	0.0800 %	PASS 2.15 %
10 mA AC @ 50 Hz	0.01	<b>0.010000233</b>	0.0165 %	0.0099903455	0.0100096545	23.265 ppm	0.0800 %	PASS 2.41 %
100 mA AC @ 50 Hz	0.1	<b>0.10000621</b>	0.0138 %	0.099906182	0.100093818	62.110 ppm	0.0800 %	PASS 6.62 %
1.0 A AC @ 50 Hz	1.0	<b>1.0000483</b>	0.0138 %	0.99886182	1.00113818	0.0048 %	0.1000 %	PASS 4.24 %
10 µA AC @ 60 Hz	1e-05	<b>1.0012553E-05</b>	0.0138 %	9.9896182e-06	1.00103818e-05	1255.294 ppm	0.0900 %	INFO
100 µA AC @ 60 Hz	0.0001	<b>9.9991004E-05</b>	0.0138 %	9.9896182e-05	0.000100103818	-89.962 ppm	0.0900 %	PASS 8.67 %
1.0 mA AC @ 60 Hz	0.001	<b>0.0010000459</b>	0.0134 %	0.00099906636	0.00100093364	45.948 ppm	0.0800 %	PASS 4.92 %
10 mA AC @ 60 Hz	0.01	<b>0.01000032</b>	0.0134 %	0.0099906636	0.0100093364	31.975 ppm	0.0800 %	PASS 3.42 %
100 mA AC @ 60 Hz	0.1	<b>0.10000831</b>	0.0308 %	0.099889182	0.100110818	83.133 ppm	0.0800 %	PASS 7.50 %
1.0 A AC @ 60 Hz	1.0	<b>1.0000722</b>	0.0308 %	0.99869182	1.00130818	0.0072 %	0.1000 %	PASS 5.52 %
10 µA AC @ 1.0 kHz	1e-05	<b>1.0013063E-05</b>	0.0165 %	9.9893455e-06	1.00106545e-05	1306.310 ppm	0.0900 %	INFO
100 µA AC @ 1.0 kHz	0.0001	<b>9.9982096E-05</b>	0.0165 %	9.9893455e-05	0.000100106545	-179.039 ppm	0.0900 %	PASS 16.80 %
1.0 mA AC @ 1.0 kHz	0.001	<b>0.0010000989</b>	0.0165 %	0.00099933455	0.00100066545	98.947 ppm	0.0500 %	PASS 14.87 %
10 mA AC @ 1.0 kHz	0.01	<b>0.010001058</b>	0.0165 %	0.0099933455	0.0100066545	105.817 ppm	0.0500 %	PASS 15.90 %
100 mA AC @ 1.0 kHz	0.1	<b>0.10001542</b>	0.0138 %	0.099936182	0.100063818	154.192 ppm	0.0500 %	PASS 24.16 %
1.0 A AC @ 1.0 kHz	1.0	<b>1.0000828</b>	0.0138 %	0.99866182	1.00133818	0.0083 %	0.1200 %	PASS 6.19 %

Test completed

Test date	01 August 2018 10:53
UUT Internal TEMP?	37.0
Destructive overloads?	287, DESTRUCTIVE OVERLOADS valid 2941

Lab temperature maintained +24°C ±2°C

Internal use only

Not validated

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