

Manufacturer	HEWLETT-PACKARD	Calibration date	April 02 2018
Model Number	3458A	Ambient Temperature	24.80 °C
Serial	KS	Relative Humidity	53.00 %
ID Number	MX5720A	Pressure	1017.81
Notes	Checks	Test type	PERFVAL X4

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
CAL MFC	Fluke	5700A	/03 WB	XXX	MC01	11/14/2017	11/14/2018
DC STD	Fluke	732B-3	9.9999323 VDC	±0.55 ppm	SV03	08/20/2016	08/20/2017
DC STD	Fluke	732B-3	9.9999288 VDC	±0.56 ppm	SV03	11/03/2017	11/03/2018
STDR	IET	1 Ohm	0.99997483	±0.17 ppm	SM02	11/03/2017	11/30/2018
STDR	ESI	SR104	10000.0530 KΩ	±0.15 ppm	SM01	10/30/2017	10/30/2018
STDR	xDevs.com/Fluke	SL935	1.00005616 Ω	±0.17 ppm	XR03	11/25/2017	10/04/2018
STDR	xDevs.com/Fluke	SL935	9999.9747 kΩ	±0.33 ppm	XR02	11/25/2017	10/04/2018

MFC last calibrated	8.0 days ago	MFC since DCV ZERO	5.0 days ago
MFC since WBFLAT	11048.0 days ago	MFC since WBGAIN	8.0 days ago
MFC Confidence level	24h 95% REL	MFC Calibrate date	2018-03-25 00:00:00
MFC Calibrate date Zero	2018-03-28 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	6.8913623044
CAL CONST 13V reference voltage	13.7948168735	CAL CONST 22V range positive zero	398.17881
CAL CONST 22V range negative zero	398.17842	CAL CONST DAC Linearity	-0.199595250772
CAL CONST 10KOHM true output resistance	10000.0704393	CAL CONST 10KOHM standard resistance	10000.4355757
CAL CONST, Zero calibration temperature	23.6000003815	CAL CONST, All calibration temp	23.6000003815

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

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	0.000000E+00	1.24 µV	0.75 µV	-0.910 µV	0.910 µV	N/A	0.16 µV	FAIL
Short 0.0 VDC	0.000000E+00	1.25 µV	0.75 µV	-0.900 µV	0.900 µV	N/A	0.15 µV	FAIL
Short 00.0 VDC	0.000000E+00	1.28 µV	0.75 µV	-1.070 µV	1.070 µV	N/A	0.32 µV	FAIL
Short 000.0 VDC	0.000000E+00	27.24 µV	0.75 µV	-14.750 µV	14.750 µV	N/A	14.00 µV	FAIL
Short 0000.0 VDC	0.000000E+00	56.97 µV	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	0.099999943	7.27 ppm	0.099998723	0.10000128	-0.573 ppm	5.50 ppm	PASS 4.49 %
-0.1 VDC (0.10 Range)	-0.1000000	-0.099999848	7.27 ppm	-0.10000128	-0.099998723	-1.516 ppm	5.50 ppm	PASS 11.87 %
0.1 VDC (1.00 Range)	0.1000000	0.10000019	7.27 ppm	0.099999093	0.10000091	1.870 ppm	1.80 ppm	PASS 20.62 %
0.2 VDC (1.00 Range)	0.2000000	0.20000002	3.86 ppm	0.19999887	0.20000113	0.092 ppm	1.80 ppm	PASS 1.62 %
1.0 VDC (1.00 Range)	1.0000000	0.99999899	3.86 ppm	0.99999434	1.0000057	-1.013 ppm	1.80 ppm	PASS 17.90 %
-0.1 VDC (1.00 Range)	-0.1000000	-0.099999858	7.27 ppm	-0.10000091	-0.099999093	-1.422 ppm	1.80 ppm	PASS 15.67 %
-0.2 VDC (1.00 Range)	-0.2000000	-0.19999976	3.86 ppm	-0.20000113	-0.19999887	-1.217 ppm	1.80 ppm	PASS 21.49 %
-1.0 VDC (1.00 Range)	-1.0000000	-0.99999888	3.86 ppm	-1.0000057	-0.99999434	-1.117 ppm	1.80 ppm	PASS 19.73 %
1.0 VDC (10.00 Range)	1.0000000	0.99999955	3.86 ppm	0.99999559	1.0000044	-0.450 ppm	0.55 ppm	PASS 10.20 %
2.0 VDC (10.00 Range)	2.0000000	1.9999987	2.77 ppm	1.9999934	2.0000066	-0.658 ppm	0.55 ppm	PASS 19.82 %
10.0 VDC (10.00 Range)	10.0000000	9.9999955	2.73 ppm	9.9999672	10.000033	-0.446 ppm	0.55 ppm	PASS 13.59 %
-1.0 VDC (10.00 Range)	-1.0000000	-0.99999941	3.86 ppm	-1.0000044	-0.99999559	-0.589 ppm	0.55 ppm	PASS 13.35 %
-2.0 VDC (10.00 Range)	-2.0000000	-1.9999984	2.77 ppm	-2.0000066	-1.9999934	-0.807 ppm	0.55 ppm	PASS 24.32 %
-10.0 VDC (10.00 Range)	-10.0000000	-9.9999944	2.73 ppm	-10.000033	-9.9999672	-0.563 ppm	0.55 ppm	PASS 17.16 %
10 VDC (100.00 Range)	10.0000000	10.000025	2.77 ppm	9.9999443	10.000056	2.529 ppm	2.80 ppm	PASS 45.40 %
20 VDC (100.00 Range)	20.0000000	20.000018	3.73 ppm	19.999869	20.000131	0.883 ppm	2.80 ppm	PASS 13.52 %
100 VDC (100.00 Range)	100.0000000	99.999925	3.73 ppm	99.999347	100.00065	-0.745 ppm	2.80 ppm	PASS 11.41 %
-10 VDC (100.00 Range)	-10.0000000	-9.9999831	2.77 ppm	-10.000056	-9.9999443	-1.688 ppm	2.80 ppm	PASS 30.30 %
-20 VDC (100.00 Range)	-20.0000000	-19.999957	3.73 ppm	-20.000131	-19.999869	-2.169 ppm	2.80 ppm	PASS 33.22 %
-100 VDC (100.00 Range)	-100.0000000	-99.99983	3.73 ppm	-100.00065	-99.999347	-1.698 ppm	2.80 ppm	PASS 26.00 %
100 VDC (1000.00 Range)	100.0000000	99.99995	3.73 ppm	99.999367	100.00063	-0.495 ppm	2.60 ppm	PASS 7.82 %
200 VDC (1000.00 Range)	200.0000000	199.99968	3.73 ppm	199.99873	200.00127	-1.594 ppm	2.60 ppm	PASS 25.17 %
1000 VDC (1000.00 Range)	1000.0000000	999.9986	5.45 ppm	999.97995	1000.02	-1.402 ppm	2.60 ppm	PASS 6.99 %
-100 VDC (1000.00 Range)	-100.0000000	-99.999807	3.73 ppm	-100.00063	-99.999367	-1.933 ppm	2.60 ppm	PASS 30.55 %
-200 VDC (1000.00 Range)	-200.0000000	-199.99956	3.73 ppm	-200.00127	-199.99873	-2.197 ppm	2.60 ppm	PASS 34.71 %
-1000 VDC (1000.00 Range)	-1000.0000000	-999.99873	5.45 ppm	-999.99605	-1000.004	-1.272 ppm	2.60 ppm	PASS 32.20 %

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	1.0999988	2.73 ppm	1.099996	1.100004	-1.00 ppm	0.55 ppm	PASS 30.43 %
0.9999999	0.9999999	0.9999989	2.73 ppm	0.9999966	1.000003	-1.00 ppm	0.55 ppm	PASS 30.47 %
0.9000000	0.9000000	0.8999991	2.73 ppm	0.899997	0.900003	-0.95 ppm	0.55 ppm	PASS 28.97 %
0.8888888	0.8888888	0.8888879	2.73 ppm	0.8888859	0.8888917	-1.03 ppm	0.55 ppm	PASS 31.51 %
0.8000000	0.8000000	0.7999993	2.73 ppm	0.7999974	0.8000026	-0.93 ppm	0.55 ppm	PASS 28.47 %
0.7777777	0.7777777	0.7777769	2.73 ppm	0.7777751	0.7777803	-0.98 ppm	0.55 ppm	PASS 30.01 %
0.7000000	0.7000000	0.6999993	2.73 ppm	0.6999977	0.7000023	-1.04 ppm	0.55 ppm	PASS 31.59 %
0.6666666	0.6666666	0.6666659	2.73 ppm	0.6666644	0.6666688	-0.98 ppm	0.55 ppm	PASS 29.94 %
0.6000000	0.6000000	0.5999994	2.73 ppm	0.599998	0.600002	-1.01 ppm	0.55 ppm	PASS 30.90 %
0.5555555	0.5555555	0.5555549	2.73 ppm	0.5555537	0.5555573	-1.04 ppm	0.55 ppm	PASS 31.72 %
0.5000000	0.5000000	0.4999995	2.73 ppm	0.4999984	0.5000016	-1.03 ppm	0.55 ppm	PASS 31.35 %
0.4444444	0.4444444	0.4444439	2.73 ppm	0.4444429	0.4444459	-1.13 ppm	0.55 ppm	PASS 34.39 %
0.4000000	0.4000000	0.3999996	2.73 ppm	0.3999987	0.4000013	-0.94 ppm	0.55 ppm	PASS 28.76 %
0.3333333	0.3333333	0.3333330	2.73 ppm	0.3333322	0.3333344	-0.93 ppm	0.55 ppm	PASS 28.28 %
0.3000000	0.3000000	0.2999997	2.73 ppm	0.299999	0.300001	-1.05 ppm	0.55 ppm	PASS 32.05 %
0.2222222	0.2222222	0.2222220	2.73 ppm	0.2222215	0.2222229	-1.02 ppm	0.55 ppm	PASS 31.02 %
0.2000000	0.2000000	0.1999998	2.73 ppm	0.1999993	0.2000007	-0.99 ppm	0.55 ppm	PASS 30.29 %
0.1234567	0.1234567	0.1234566	2.73 ppm	0.1234563	0.1234571	-1.19 ppm	0.55 ppm	PASS 36.18 %
0.1111111	0.1111111	0.1111110	2.73 ppm	0.1111107	0.1111115	-0.90 ppm	0.55 ppm	PASS 27.50 %
0.1000000	0.1000000	0.0999999	2.73 ppm	0.09999967	0.1000003	-0.86 ppm	0.55 ppm	PASS 26.12 %
0.0987654	0.0987654	0.0987653	3.86 ppm	0.09876496	0.09876584	-1.29 ppm	0.55 ppm	PASS 29.18 %
0.0111111	0.0111111	0.0111111	7.27 ppm	0.01111101	0.01111119	-2.69 ppm	0.55 ppm	PASS 34.41 %
-0.0111111	-0.0111111	-0.0111112	7.27 ppm	-0.01111119	-0.01111101	9.94 ppm	0.55 ppm	FAIL 127.14 %
-0.0987654	-0.0987654	-0.0987654	3.86 ppm	-0.09876584	-0.09876496	0.48 ppm	0.55 ppm	PASS 10.94 %
-0.1000000	-0.1000000	-0.1000000	2.73 ppm	-0.1000003	-0.09999967	-0.01 ppm	0.55 ppm	PASS 0.32 %
-0.1111111	-0.1111111	-0.1111111	2.73 ppm	-0.11111115	-0.11111107	0.44 ppm	0.55 ppm	PASS 13.28 %
-0.1234567	-0.1234567	-0.1234567	2.73 ppm	-0.1234571	-0.1234563	0.09 ppm	0.55 ppm	PASS 2.88 %
-0.2000000	-0.2000000	-0.1999999	2.73 ppm	-0.2000007	-0.1999993	-0.40 ppm	0.55 ppm	PASS 12.24 %
-0.2222222	-0.2222222	-0.2222221	2.73 ppm	-0.2222229	-0.2222215	-0.54 ppm	0.55 ppm	PASS 16.31 %
-0.3000000	-0.3000000	-0.2999998	2.73 ppm	-0.300001	-0.299999	-0.74 ppm	0.55 ppm	PASS 22.42 %
-0.3333333	-0.3333333	-0.3333330	2.73 ppm	-0.3333344	-0.3333322	-0.83 ppm	0.55 ppm	PASS 25.25 %
-0.4000000	-0.4000000	-0.3999996	2.73 ppm	-0.4000013	-0.3999987	-0.97 ppm	0.55 ppm	PASS 29.67 %
-0.4444444	-0.4444444	-0.4444440	2.73 ppm	-0.4444459	-0.4444429	-0.89 ppm	0.55 ppm	PASS 27.16 %
-0.5000000	-0.5000000	-0.4999995	2.73 ppm	-0.5000016	-0.4999984	-0.92 ppm	0.55 ppm	PASS 28.14 %
-0.5555555	-0.5555555	-0.5555550	2.73 ppm	-0.5555573	-0.5555537	-0.95 ppm	0.55 ppm	PASS 28.89 %
-0.6000000	-0.6000000	-0.5999994	2.73 ppm	-0.600002	-0.599998	-1.07 ppm	0.55 ppm	PASS 32.66 %
-0.6666666	-0.6666666	-0.6666659	2.73 ppm	-0.6666688	-0.6666644	-1.08 ppm	0.55 ppm	PASS 33.06 %
-0.7000000	-0.7000000	-0.6999993	2.73 ppm	-0.7000023	-0.6999977	-1.07 ppm	0.55 ppm	PASS 32.48 %
-0.7777777	-0.7777777	-0.7777768	2.73 ppm	-0.7777803	-0.7777751	-1.16 ppm	0.55 ppm	PASS 35.34 %
-0.8000000	-0.8000000	-0.7999991	2.73 ppm	-0.8000026	-0.7999974	-1.13 ppm	0.55 ppm	PASS 34.60 %
-0.8888888	-0.8888888	-0.8888877	2.73 ppm	-0.8888917	-0.8888859	-1.20 ppm	0.55 ppm	PASS 36.50 %
-0.9000000	-0.9000000	-0.8999989	2.73 ppm	-0.900003	-0.899997	-1.19 ppm	0.55 ppm	PASS 36.17 %
-0.9999999	-0.9999999	-0.9999988	2.73 ppm	-1.000003	-0.9999966	-1.11 ppm	0.55 ppm	PASS 33.96 %
-1.0999999	-1.0999999	-1.0999986	2.73 ppm	-1.100004	-1.099996	-1.18 ppm	0.55 ppm	PASS 35.91 %
DCV Linearity	10V Range	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
10.999999	10.999999	10.9999921	2.73 ppm	10.99996	11.00004	-0.63 ppm	0.55 ppm	PASS 19.12 %
10.101010	10.101010	10.1010038	2.73 ppm	10.10098	10.10104	-0.61 ppm	0.55 ppm	PASS 18.61 %
10.000000	10.000000	9.9999944	2.73 ppm	9.999967	10.00003	-0.56 ppm	0.55 ppm	PASS 17.15 %
9.999999	9.999999	9.9999933	2.73 ppm	9.999966	10.00003	-0.57 ppm	0.55 ppm	PASS 17.39 %
9.000000	9.000000	8.9999956	2.73 ppm	8.99997	9.00003	-0.49 ppm	0.55 ppm	PASS 14.88 %
8.888888	8.888888	8.8888832	2.73 ppm	8.888859	8.888917	-0.54 ppm	0.55 ppm	PASS 16.33 %
8.000000	8.000000	7.9999960	2.73 ppm	7.999974	8.000026	-0.50 ppm	0.55 ppm	PASS 15.11 %
7.777777	7.777777	7.7777733	2.73 ppm	7.777751	7.777803	-0.48 ppm	0.55 ppm	PASS 14.54 %
7.000000	7.000000	6.9999964	2.73 ppm	6.999977	7.000023	-0.52 ppm	0.55 ppm	PASS 15.90 %
6.666666	6.666666	6.6666627	2.73 ppm	6.666644	6.666688	-0.50 ppm	0.55 ppm	PASS 15.20 %
6.000000	6.000000	5.9999970	2.73 ppm	5.99998	6.00002	-0.50 ppm	0.55 ppm	PASS 15.26 %
5.555555	5.555555	5.5555523	2.73 ppm	5.555537	5.555573	-0.48 ppm	0.55 ppm	PASS 14.75 %
5.000000	5.000000	4.9999975	2.73 ppm	4.999984	5.000016	-0.50 ppm	0.55 ppm	PASS 15.31 %
4.444444	4.444444	4.4444422	2.73 ppm	4.444429	4.444459	-0.41 ppm	0.55 ppm	PASS 12.48 %
4.000000	4.000000	3.9999986	2.73 ppm	3.999987	4.000013	-0.35 ppm	0.55 ppm	PASS 10.54 %
3.333333	3.333333	3.3333318	2.73 ppm	3.333322	3.333344	-0.35 ppm	0.55 ppm	PASS 10.56 %
3.000000	3.000000	2.9999989	2.73 ppm	2.99999	3.00001	-0.36 ppm	0.55 ppm	PASS 11.04 %
2.222222	2.222222	2.2222217	2.73 ppm	2.222215	2.222229	-0.13 ppm	0.55 ppm	PASS 4.11 %
2.000000	2.000000	1.9999997	2.73 ppm	1.999993	2.000007	-0.16 ppm	0.55 ppm	PASS 4.81 %
1.111111	1.111111	1.1111115	2.73 ppm	1.111107	1.111115	0.44 ppm	0.55 ppm	PASS 13.47 %
1.000000	1.000000	1.0000005	3.86 ppm	0.9999956	1.000004	0.49 ppm	0.55 ppm	PASS 11.15 %
0.555555	0.555555	0.5555557	7.27 ppm	0.5555507	0.5555593	1.35 ppm	0.55 ppm	PASS 17.23 %
-0.555555	-0.555555	-0.5555548	7.27 ppm	-0.5555593	-0.5555507	-0.45 ppm	0.55 ppm	PASS 5.70 %
-1.000000	-1.000000	-0.9999994	3.86 ppm	-1.000004	-0.9999956	-0.58 ppm	0.55 ppm	PASS 13.19 %
-1.111111	-1.111111	-1.1111104	2.73 ppm	-1.111115	-1.111107	-0.50 ppm	0.55 ppm	PASS 15.17 %
-2.000000	-2.000000	-1.9999986	2.73 ppm	-2.000007	-1.999993	-0.70 ppm	0.55 ppm	PASS 21.43 %
-2.222222	-2.222222	-2.2222202	2.73 ppm	-2.222229	-2.222215	-0.79 ppm	0.55 ppm	PASS 24.20 %
-3.000000	-3.000000	-2.9999980	2.73 ppm	-3.00001	-2.99999	-0.66 ppm	0.55 ppm	PASS 20.26 %
-3.333333	-3.333333	-3.3333307	2.73 ppm	-3.333344	-3.333322	-0.68 ppm	0.55 ppm	PASS 20.86 %
-4.000000	-4.000000	-3.9999970	2.73 ppm	-4.000013	-3.999987	-0.75 ppm	0.55 ppm	PASS 23.02 %
-4.444444	-4.444444	-4.4444403	2.73 ppm	-4.444459	-4.444429	-0.82 ppm	0.55 ppm	PASS 25.05 %
-5.000000	-5.000000	-4.9999960	2.73 ppm	-5.000016	-4.999984	-0.79 ppm	0.55 ppm	PASS 24.17 %

-5.555555	-5.555555	-5.5555503	2.73 ppm	-5.555573	-5.555537	-0.84 ppm	0.55 ppm	PASS 25.71 %
-6.000000	-6.000000	-5.9999950	2.73 ppm	-6.00002	-5.99998	-0.84 ppm	0.55 ppm	PASS 25.59 %
-6.666666	-6.666666	-6.6666607	2.73 ppm	-6.666688	-6.666644	-0.79 ppm	0.55 ppm	PASS 24.20 %
-7.000000	-7.000000	-6.9999947	2.73 ppm	-7.000023	-6.999977	-0.76 ppm	0.55 ppm	PASS 23.18 %
-7.777777	-7.777777	-7.7777708	2.73 ppm	-7.777803	-7.777751	-0.80 ppm	0.55 ppm	PASS 24.47 %
-8.000000	-8.000000	-7.9999939	2.73 ppm	-8.000026	-7.999974	-0.76 ppm	0.55 ppm	PASS 23.11 %
-8.888888	-8.888888	-8.8888815	2.73 ppm	-8.888917	-8.888859	-0.74 ppm	0.55 ppm	PASS 22.43 %
-9.000000	-9.000000	-8.9999938	2.73 ppm	-9.00003	-8.99997	-0.68 ppm	0.55 ppm	PASS 20.88 %
-9.999999	-9.999999	-9.9999917	2.73 ppm	-10.00003	-9.999966	-0.73 ppm	0.55 ppm	PASS 22.15 %
-10.000000	-10.000000	-9.9999925	2.73 ppm	-10.00003	-9.999967	-0.75 ppm	0.55 ppm	PASS 22.95 %
-10.101010	-10.101010	-10.1010030	2.73 ppm	-10.10104	-10.10098	-0.69 ppm	0.55 ppm	PASS 21.02 %
-10.999999	-10.999999	-10.9999902	2.73 ppm	-11.00004	-10.99996	-0.80 ppm	0.55 ppm	PASS 24.46 %
DCV Linearity	100V Range	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
100.99999	100.99999	100.9999421	2.73 ppm	100.99966	101.00032	-0.47 ppm	0.55 ppm	PASS 10.57 %
100.10101	100.10101	100.1009409	2.73 ppm	100.10068	100.10134	-0.69 ppm	0.55 ppm	PASS 15.41 %
100.00000	100.00000	99.9999224	2.73 ppm	99.999672	100.00033	-0.78 ppm	0.55 ppm	PASS 23.64 %
99.99999	99.99999	99.9999097	2.73 ppm	99.999662	100.00032	-0.80 ppm	0.55 ppm	PASS 24.47 %
90.00000	90.00000	89.9999324	2.73 ppm	89.999705	90.000295	-0.75 ppm	0.55 ppm	PASS 22.90 %
88.88888	88.88888	88.8888111	2.73 ppm	88.888588	88.889172	-0.77 ppm	0.55 ppm	PASS 23.62 %
80.00000	80.00000	79.9999433	2.73 ppm	79.999738	80.000262	-0.71 ppm	0.55 ppm	PASS 21.59 %
77.77777	77.77777	77.7777085	2.73 ppm	77.777515	77.778025	-0.79 ppm	0.55 ppm	PASS 24.09 %
70.00000	70.00000	69.9999526	2.73 ppm	69.99977	70.00023	-0.68 ppm	0.55 ppm	PASS 20.65 %
66.66666	66.66666	66.6666183	2.73 ppm	66.666441	66.666879	-0.62 ppm	0.55 ppm	PASS 19.05 %
60.00000	60.00000	59.9999683	2.73 ppm	59.999803	60.000197	-0.53 ppm	0.55 ppm	PASS 16.12 %
55.55555	55.55555	55.5555194	2.73 ppm	55.555368	55.555732	-0.55 ppm	0.55 ppm	PASS 16.78 %
50.00000	50.00000	49.9999710	2.73 ppm	49.999836	50.000164	-0.58 ppm	0.55 ppm	PASS 17.69 %
44.44444	44.44444	44.4444202	2.73 ppm	44.444294	44.444586	-0.45 ppm	0.55 ppm	PASS 13.61 %
40.00000	40.00000	39.9999872	2.73 ppm	39.999869	40.000131	-0.32 ppm	0.55 ppm	PASS 9.74 %
33.33333	33.33333	33.3333278	2.73 ppm	33.333221	33.333439	-0.06 ppm	0.55 ppm	PASS 1.98 %
30.00000	30.00000	29.9999991	2.73 ppm	29.999902	30.000098	-0.03 ppm	0.55 ppm	PASS 0.95 %
22.22222	22.22222	22.2222234	2.73 ppm	22.222147	22.222293	0.15 ppm	0.55 ppm	PASS 4.67 %
20.00000	20.00000	20.0000133	2.73 ppm	19.999934	20.000066	0.66 ppm	0.55 ppm	PASS 20.24 %
11.11111	11.11111	11.1111269	2.73 ppm	11.111075	11.111147	1.43 ppm	0.55 ppm	PASS 43.68 %
10.00000	10.00000	10.0000203	3.86 ppm	9.9999559	10.000044	2.03 ppm	0.55 ppm	PASS 46.08 %
9.87654	9.87654	9.8765527	7.27 ppm	9.8764658	9.8766202	0.99 ppm	0.55 ppm	PASS 12.62 %
-9.87654	-9.87654	-9.8765140	7.27 ppm	-9.8766202	-9.8764658	-2.94 ppm	0.55 ppm	PASS 37.55 %
-10.00000	-10.00000	-9.9999816	3.86 ppm	-10.000044	-9.9999559	-1.84 ppm	0.55 ppm	PASS 41.79 %
-11.11111	-11.11111	-11.1110920	2.73 ppm	-11.111147	-11.111075	-1.71 ppm	0.55 ppm	PASS 52.04 %
-20.00000	-20.00000	-19.9999676	2.73 ppm	-20.000066	-19.999934	-1.62 ppm	0.55 ppm	PASS 49.41 %
-22.22222	-22.22222	-22.2221848	2.73 ppm	-22.222293	-22.222147	-1.59 ppm	0.55 ppm	PASS 48.33 %
-30.00000	-30.00000	-29.9999611	2.73 ppm	-30.000098	-29.999902	-1.30 ppm	0.55 ppm	PASS 39.49 %
-33.33333	-33.33333	-33.3332885	2.73 ppm	-33.333439	-33.333221	-1.25 ppm	0.55 ppm	PASS 37.96 %
-40.00000	-40.00000	-39.9999409	2.73 ppm	-40.000131	-39.999869	-1.48 ppm	0.55 ppm	PASS 45.06 %
-44.44444	-44.44444	-44.4443769	2.73 ppm	-44.444586	-44.444294	-1.42 ppm	0.55 ppm	PASS 43.28 %
-50.00000	-50.00000	-49.9999268	2.73 ppm	-50.000164	-49.999836	-1.46 ppm	0.55 ppm	PASS 44.61 %
-55.55555	-55.55555	-55.5554668	2.73 ppm	-55.555732	-55.555368	-1.50 ppm	0.55 ppm	PASS 45.66 %
-60.00000	-60.00000	-59.9999081	2.73 ppm	-60.000197	-59.999803	-1.53 ppm	0.55 ppm	PASS 46.69 %
-66.66666	-66.66666	-66.6665590	2.73 ppm	-66.666879	-66.666441	-1.51 ppm	0.55 ppm	PASS 46.18 %
-70.00000	-70.00000	-69.9998948	2.73 ppm	-70.00023	-69.99977	-1.50 ppm	0.55 ppm	PASS 45.83 %
-77.77777	-77.77777	-77.7776499	2.73 ppm	-77.778025	-77.777515	-1.54 ppm	0.55 ppm	PASS 47.10 %
-80.00000	-80.00000	-79.9998835	2.73 ppm	-80.000262	-79.999738	-1.46 ppm	0.55 ppm	PASS 44.38 %
-88.88888	-88.88888	-88.8887456	2.73 ppm	-88.889172	-88.888588	-1.51 ppm	0.55 ppm	PASS 46.11 %
-90.00000	-90.00000	-89.9998638	2.73 ppm	-90.000295	-89.999705	-1.51 ppm	0.55 ppm	PASS 46.14 %
-99.99999	-99.99999	-99.9998299	2.73 ppm	-100.00032	-99.999662	-1.60 ppm	0.55 ppm	PASS 48.82 %
-100.00000	-100.00000	-99.9998463	2.73 ppm	-100.00033	-99.999672	-1.54 ppm	0.55 ppm	PASS 46.85 %
-100.10101	-100.10101	-100.1008584	2.73 ppm	-100.10134	-100.10068	-1.51 ppm	0.55 ppm	PASS 72.87 %
-100.99999	-100.99999	-100.9998421	2.73 ppm	-101.00032	-100.99966	-1.46 ppm	0.55 ppm	PASS 70.83 %

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	0.9997985	0.9997724	27.0 ppm	9.9976351E-01	9.9983349E-01	-26.108 ppm	8.0 ppm	PASS 74.60 %
1.9 Ω	1.899516	1.8994723	20.0 ppm	1.8994628E+00	1.8995692E+00	-23.005 ppm	8.0 ppm	PASS 82.16 %
10 Ω	9.999902	9.9999154	4.0 ppm	9.9997820E+00	1.0000022E+01	1.339 ppm	8.0 ppm	PASS 11.15 %
19 Ω	18.999053	18.99895	3.5 ppm	1.8998873E+01	1.8999233E+01	-5.444 ppm	6.0 ppm	PASS 57.30 %
100 Ω	100.00156	100.00144	1.6 ppm	1.0000080E+02	1.0000232E+02	-1.189 ppm	6.0 ppm	PASS 15.64 %
190 Ω	189.99464	189.99515	1.6 ppm	1.8999392E+02	1.8999536E+02	2.673 ppm	2.2 ppm	PASS 70.35 %
1.0 kΩ	999.9903	999.99261	1.6 ppm	9.9998650E+02	9.9999410E+02	2.313 ppm	2.2 ppm	PASS 60.86 %
1.9 kΩ	1899.9944	1899.9991	1.6 ppm	1.8999872E+03	1.9000016E+03	2.449 ppm	2.2 ppm	PASS 64.45 %
10 kΩ	10000.073	10000.091	1.6 ppm	1.0000035E+04	1.0000111E+04	1.817 ppm	2.2 ppm	PASS 47.82 %
19 kΩ	18999.679	18999.718	1.6 ppm	1.8999607E+04	1.8999751E+04	2.060 ppm	2.2 ppm	PASS 54.20 %
100 kΩ	100001.32	100001.37	1.6 ppm	1.0000094E+05	1.0000170E+05	0.545 ppm	2.2 ppm	PASS 14.34 %
190 kΩ	189992.82	189993.68	1.6 ppm	1.8999043E+05	1.8999521E+05	4.518 ppm	11.0 ppm	PASS 35.85 %
1.0 MΩ	1000002.1	1000002.1	2.0 ppm	9.9998910E+05	1.0000151E+06	0.042 ppm	11.0 ppm	PASS 0.32 %
1.9 MΩ	1899957.7	1899989.1	2.5 ppm	1.8998485E+06	1.9000669E+06	16.547 ppm	55.0 ppm	PASS 28.78 %
10 MΩ	9999401	9999414.4	8.0 ppm	9.9987710E+06	1.0000031E+07	1.338 ppm	55.0 ppm	PASS 2.12 %
19 MΩ	18999094	18999909	16.0 ppm	1.8989100E+07	1.9009088E+07	42.895 ppm	510.0 ppm	PASS 8.15 %
100 MΩ	1.0000956E+08	1.0001716E+08	40.0 ppm	9.9954555E+07	1.0006457E+08	75.986 ppm	510.0 ppm	PASS 13.82 %
1 GΩ STD	9.9551672E+08	1.0000000E+09	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 -0.0000037 Ω	5.000e-05 Ω	-7.99e-06	8.01e-06	N/A	8.0000e-06 Ω	PASS 0.00 %
100 Ω	Range -0.0001012 Ω	5.500e-04 Ω	-2.19e-06	2.21e-06	N/A	2.2000e-06 Ω	FAIL 0.00 %
1.0 kΩ	Range -0.0004606 Ω	5.500e-03 Ω	-2.19e-06	2.21e-06	N/A	2.2000e-06 Ω	FAIL 0.02 %
10 kΩ	Range 0.0027852 Ω	5.500e-02 Ω	-2.19e-06	2.21e-06	N/A	2.2000e-06 Ω	FAIL 0.12 %
100 kΩ	Range -0.0130621 Ω	5.500e-01 Ω	-2.19e-06	2.21e-06	N/A	2.2000e-06 Ω	FAIL 0.47 %
1.0 MΩ	Range 0.0826903 Ω	5.500e+00 Ω	-2.19e-06	2.21e-06	N/A	2.2000e-06 Ω	FAIL 1.07 %
10 MΩ	Range 2.3124216 Ω	5.500e+01 Ω	-2.19e-06	2.21e-06	N/A	2.2000e-06 Ω	FAIL 4.04 %
100 MΩ	Range 6.2782884 Ω	5.500e+02 Ω	-2.19e-06	2.21e-06	N/A	2.2000e-06 Ω	FAIL 1.14 %
1 GΩ	Range 2.7317734 Ω	5.500e+03 Ω	-2.19e-06	2.21e-06	N/A	2.2000e-06 Ω	FAIL 0.05 %
OHM ZERO 2W	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
10 Ω	Range 0.3618213 Ω	5.000e-05 Ω	-7.99e-06	8.01e-06	N/A	8.0000e-06 Ω	FAIL 4.52 %
100 Ω	Range 0.3637979 Ω	5.500e-04 Ω	-2.19e-06	2.21e-06	N/A	2.2000e-06 Ω	FAIL 16.53 %
1.0 kΩ	Range 0.3625123 Ω	5.500e-03 Ω	-2.19e-06	2.21e-06	N/A	2.2000e-06 Ω	FAIL 16.44 %
10 kΩ	Range 0.3695027 Ω	5.500e-02 Ω	-2.19e-06	2.21e-06	N/A	2.2000e-06 Ω	FAIL 16.39 %
100 kΩ	Range 0.3894653 Ω	5.500e-01 Ω	-2.19e-06	2.21e-06	N/A	2.2000e-06 Ω	FAIL 14.16 %
1.0 MΩ	Range 0.6399513 Ω	5.500e+00 Ω	-2.19e-06	2.21e-06	N/A	2.2000e-06 Ω	FAIL 8.31 %
10 MΩ	Range 4.7206948 Ω	5.500e+01 Ω	-2.19e-06	2.21e-06	N/A	2.2000e-06 Ω	FAIL 8.25 %
100 MΩ	Range 5.3557150 Ω	5.500e+02 Ω	-2.19e-06	2.21e-06	N/A	2.2000e-06 Ω	FAIL 0.97 %
1 GΩ	Range 4.6128638 Ω	5.500e+03 Ω	-2.19e-06	2.21e-06	N/A	2.2000e-06 Ω	FAIL 0.08 %

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	1.0001576	129.09	0.99955091	1.00044909	VAC	157.598 ppm	320.0 ppm	PASS 35.09 %
1.0 VAC @ 1.0 MHz	1.0	1.0132964	0.2500 %	0.9874	1.0126	VAC	1.3296 %	1.0100 %	FAIL 105.53 %
10 VAC @ 10 Hz	10	9.9804188	73.18	9.9981682	10.0018318	VAC	-1958.116 ppm	110.0 ppm	FAIL 1068.96 %
10 VAC @ 200 Hz	10	10.000463	73.18	9.9983682	10.0016318	VAC	46.268 ppm	90.0 ppm	PASS 28.35 %
10 VAC @ 500 Hz	10	10.000511	73.18	9.9983682	10.0016318	VAC	51.073 ppm	90.0 ppm	PASS 31.30 %
10 VAC @ 50.0 kHz	10	10.001247	129.09	9.9955091	10.0044909	VAC	124.733 ppm	320.0 ppm	PASS 27.77 %
10 VAC @ 1.0 MHz	10	10.103718	0.3000 %	9.869	10.131	VAC	1.0372 %	1.0100 %	PASS 79.17 %

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	0.0099985801	312.27	0.009991	0.010009	-141.986 ppm	600.0 ppm	PASS 15.56 %
0.01 V AC+DC @ 20 Hz	0.0099984167	312.27	0.009991	0.010009	-158.333 ppm	600.0 ppm	PASS 17.36 %
0.01 V AC+DC @ 40 Hz	0.0099986618	312.27	0.009991	0.010009	-133.825 ppm	600.0 ppm	PASS 14.67 %
0.01 V AC+DC @ 100 Hz	0.0099983743	312.27	0.009994	0.010006	-162.566 ppm	310.0 ppm	PASS 26.12 %
0.01 V AC+DC @ 1.0 kHz	0.0099983263	312.27	0.009994	0.010006	-167.373 ppm	310.0 ppm	PASS 26.90 %
0.01 V AC+DC @ 10.0 kHz	0.009998827	312.27	0.009993	0.010007	-11.734 ppm	410.0 ppm	PASS 1.62 %
0.01 V AC+DC @ 20.0 kHz	0.0099982345	312.27	0.009993	0.010007	-176.555 ppm	410.0 ppm	PASS 24.44 %
0.01 V AC+DC @ 50.0 kHz	0.0099946141	0.0312 %	0.009986	0.010014	-0.0539 %	0.1110 %	PASS 37.87 %
0.01 V AC+DC @ 100.0 kHz	0.0099726116	0.0312 %	0.009946	0.010054	-0.2739 %	0.5110 %	PASS 50.51 %
0.01 V AC+DC @ 300.0 kHz	0.0098079953	0.0447 %	0.009594	0.010406	-1.9200 %	4.0200 %	PASS 47.24 %
0.01 V AC+DC @ 500.0 kHz	0.0095484158	0.0773 %	0.006787	0.013213	-4.5158 %	32.0500 %	PASS 14.06 %
0.01 V AC+DC @ 1.0 MHz	0.0086148435	0.1500 %	0.006780	0.013220	-13.8516 %	32.0500 %	PASS 43.02 %
0.1 V AC+DC @ 10 Hz	0.099996525	1500	0.099839	0.100161	-34.746 ppm	110.0 ppm	PASS 2.16 %
0.1 V AC+DC @ 20 Hz	0.099994993	2500	0.099739	0.100261	-50.068 ppm	110.0 ppm	PASS 1.92 %
0.1 V AC+DC @ 40 Hz	0.099994627	4000	0.099589	0.100411	-53.730 ppm	110.0 ppm	PASS 1.31 %
0.1 V AC+DC @ 100 Hz	0.099995354	121.36	0.099979	0.100021	-46.463 ppm	90.0 ppm	PASS 21.98 %
0.1 V AC+DC @ 1.0 kHz	0.099997538	121.36	0.099979	0.100021	-24.616 ppm	90.0 ppm	PASS 11.65 %
0.1 V AC+DC @ 10.0 kHz	0.099998531	121.36	0.099972	0.100028	-14.693 ppm	160.0 ppm	PASS 5.22 %
0.1 V AC+DC @ 20.0 kHz	0.099992705	121.36	0.099972	0.100028	-72.951 ppm	160.0 ppm	PASS 25.93 %
0.1 V AC+DC @ 50.0 kHz	0.099988235	121.36	0.099956	0.100044	-117.650 ppm	320.0 ppm	PASS 26.66 %
0.1 V AC+DC @ 100.0 kHz	0.099951218	121.36	0.099906	0.100094	-487.822 ppm	820.0 ppm	PASS 51.82 %
0.1 V AC+DC @ 300.0 kHz	0.099765984	0.0121 %	0.099678	0.100322	-0.2340 %	0.3100 %	PASS 72.65 %
0.1 V AC+DC @ 500.0 kHz	0.099625009	0.0121 %	0.098978	0.101022	-0.3750 %	1.0100 %	PASS 36.69 %
0.1 V AC+DC @ 1.0 MHz	0.099667268	0.0121 %	0.098978	0.101022	-0.3327 %	1.0100 %	PASS 32.55 %
1.0 V AC+DC @ 10 Hz	1.000036	256.36	0.999634	1.000366	35.996 ppm	110.0 ppm	PASS 9.83 %
1.0 V AC+DC @ 20 Hz	1.0000103	590.91	0.999299	1.000701	10.343 ppm	110.0 ppm	PASS 1.48 %
1.0 V AC+DC @ 40 Hz	1.0000074	963.64	0.998926	1.001074	7.439 ppm	110.0 ppm	PASS 0.69 %
1.0 V AC+DC @ 100 Hz	1.0000051	963.64	0.998946	1.001054	5.079 ppm	90.0 ppm	PASS 0.48 %
1.0 V AC+DC @ 1.0 kHz	1.0000328	1500	0.998410	1.001590	32.792 ppm	90.0 ppm	PASS 2.06 %
1.0 V AC+DC @ 10.0 kHz	0.99999172	3000	0.996840	1.003160	-8.279 ppm	160.0 ppm	PASS 0.26 %
1.0 V AC+DC @ 20.0 kHz	0.99994431	49.55	0.999790	1.000210	-55.688 ppm	160.0 ppm	PASS 26.57 %
1.0 V AC+DC @ 50.0 kHz	1.0000073	49.55	0.999630	1.000370	7.309 ppm	320.0 ppm	PASS 1.98 %
1.0 V AC+DC @ 100.0 kHz	1.0000333	49.55	0.999130	1.000870	33.307 ppm	820.0 ppm	PASS 3.83 %
1.0 V AC+DC @ 300.0 kHz	1.0010936	0.0050 %	0.996850	1.003150	0.1094 %	0.3100 %	PASS 34.72 %
1.0 V AC+DC @ 500.0 kHz	1.0028529	0.0050 %	0.989850	1.010150	0.2853 %	1.0100 %	PASS 28.11 %
1.0 V AC+DC @ 1.0 MHz	1.0079012	0.0050 %	0.989850	1.010150	0.7901 %	1.0100 %	PASS 77.85 %
10.0 V AC+DC @ 10 Hz	10.000399	49.55	9.997105	10.002895	39.851 ppm	240.0 ppm	PASS 13.76 %
10.0 V AC+DC @ 20 Hz	10.000292	49.55	9.997105	10.002895	29.160 ppm	240.0 ppm	PASS 10.07 %
10.0 V AC+DC @ 40 Hz	10.000226	49.55	9.997105	10.002895	22.627 ppm	240.0 ppm	PASS 7.81 %
10.0 V AC+DC @ 100 Hz	10.000218	85.45	9.996945	10.003054	21.787 ppm	220.0 ppm	PASS 7.13 %
10.0 V AC+DC @ 1.0 kHz	10.000468	138.18	9.996418	10.003582	46.758 ppm	220.0 ppm	PASS 13.05 %
10.0 V AC+DC @ 10.0 kHz	9.999967	425.45	9.993545	10.006455	-3.303 ppm	220.0 ppm	PASS 0.51 %
10.0 V AC+DC @ 20.0 kHz	9.9997544	425.45	9.993545	10.006455	-24.558 ppm	220.0 ppm	PASS 3.80 %
10.0 V AC+DC @ 50.0 kHz	9.9994308	1100	9.985300	10.014700	-56.920 ppm	370.0 ppm	PASS 3.87 %
10.0 V AC+DC @ 100.0 kHz	9.9958752	0.1800 %	9.969800	10.030200	-0.0412 %	0.1220 %	PASS 13.66 %
10.0 V AC+DC @ 300.0 kHz	9.9836489	0.0048 %	9.958518	10.041482	-0.1635 %	0.4100 %	PASS 39.42 %
10.0 V AC+DC @ 500.0 kHz	9.9914917	0.0048 %	9.848518	10.151482	-0.0851 %	1.5100 %	PASS 5.62 %
10.0 V AC+DC @ 1.0 MHz	10.054859	0.0048 %	9.848518	10.151482	0.5486 %	1.5100 %	PASS 36.22 %
100.0 V AC+DC @ 1.0 kHz	100.00506	48.18	99.953182	100.046818	50.642 ppm	420.0 ppm	PASS 10.79 %
100.0 V AC+DC @ 10.0 kHz	100.00394	48.18	99.933182	100.066818	39.373 ppm	620.0 ppm	PASS 5.88 %
100.0 V AC+DC @ 20.0 kHz	99.999738	48.18	99.933182	100.066818	-2.621 ppm	620.0 ppm	PASS 0.39 %
100.0 V AC+DC @ 50.0 kHz	99.995658	0.0048 %	99.873182	100.126818	-0.0043 %	0.1220 %	PASS 3.42 %
100.0 V AC+DC @ 100.0 kHz	99.951465	0.0048 %	99.693182	100.306818	-0.0485 %	0.3020 %	PASS 15.82 %
700.0 V AC+DC @ 1.0 kHz	700.26074	48.18	699.672274	700.327726	372.492 ppm	420.0 ppm	PASS 78.16 %

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	3.3006591E-10	71.82 ppm	0	0	Z-check	410 ppm	INFO
50 nADC	5E-08	5.0333271E-08	71.82 ppm	4.997591E-08	5.002409E-08	6665.420 ppm	410 ppm	INFO
100 nADC	1E-07	1.0037341E-07	71.82 ppm	9.995182E-08	1.000482E-07	3734.090 ppm	410 ppm	FAIL 775.00 %
-100 nADC	-1E-07	-9.9658875E-08	71.82 ppm	-1.000482E-07	-9.995182E-08	-3411.249 ppm	410 ppm	FAIL 707.99 %
-50 nADC	-5E-08	-4.966891E-08	71.82 ppm	-5.002409E-08	-4.997591E-08	-6621.791 ppm	410 ppm	INFO
Zero µADC	0	3.0948505E-10	71.82 ppm	0	0	Z-check	410 ppm	INFO
0.5 µADC	5E-07	5.0033332E-07	71.82 ppm	4.999391E-07	5.000609E-07	666.639 ppm	50 ppm	FAIL 547.23 %
1.0 µADC	1E-06	1.0002891E-06	71.82 ppm	9.998782E-07	1.000122E-06	289.121 ppm	50 ppm	FAIL 237.33 %
-1.0 µADC	-1E-06	-9.9970537E-07	71.82 ppm	-1.000122E-06	-9.998782E-07	-294.630 ppm	50 ppm	FAIL 241.86 %
-0.5 µADC	-5E-07	-4.9971478E-07	71.82 ppm	-5.000609E-07	-4.999391E-07	-570.435 ppm	50 ppm	FAIL 468.26 %
Zero 00 µADC	0	2.791269E-10	71.82 ppm	0	0	Z-check	410 ppm	INFO
5 µADC	5E-06	5.0003028E-06	71.82 ppm	4.999556E-06	5.000444E-06	60.554 ppm	17 ppm	PASS 68.18 %
10 µADC	1E-05	1.000027E-05	71.82 ppm	9.999112E-06	1.000089E-05	26.978 ppm	17 ppm	PASS 30.37 %
-10 µADC	-1E-05	-9.999601E-06	71.82 ppm	-1.000089E-05	-9.999112E-06	-39.904 ppm	17 ppm	PASS 44.93 %
-5 µADC	-5E-06	-4.9996637E-06	71.82 ppm	-5.000444E-06	-4.999556E-06	-67.260 ppm	17 ppm	PASS 75.73 %
Zero 000 µADC	0	3.2931331E-10	71.82 ppm	0	0	Z-check	410 ppm	INFO
50 µADC	5E-05	5.0000109E-05	71.82 ppm	4.999561E-05	5.000439E-05	2.182 ppm	16 ppm	PASS 2.48 %
100 µADC	0.0001	9.9999865E-05	71.82 ppm	9.999122E-05	0.0001000088	-1.350 ppm	16 ppm	PASS 1.54 %
-100 µADC	-0.0001	-9.9999335E-05	71.82 ppm	-0.0001000088	-9.999122E-05	-6.650 ppm	16 ppm	PASS 7.57 %
-50 µADC	-5E-05	-4.9999431E-05	71.82 ppm	-5.000439E-05	-4.999561E-05	-11.379 ppm	16 ppm	PASS 12.96 %
Zero mADC	0	3.3255178E-10	33.64 ppm	0	0	Z-check	410 ppm	INFO
0.5 mADC	0.0005	0.00049999757	33.64 ppm	0.0004999762	0.0005000238	-4.854 ppm	14 ppm	PASS 10.19 %
1.0 mADC	0.001	0.00099999352	33.64 ppm	0.0009999524	0.001000048	-6.477 ppm	14 ppm	PASS 13.60 %
-1.0 mADC	-0.001	-0.00099999309	33.64 ppm	-0.001000048	-0.0009999524	-6.911 ppm	14 ppm	PASS 14.51 %
-0.5 mADC	-0.0005	-0.0004999966	33.64 ppm	-0.0005000238	-0.0004999762	-6.793 ppm	14 ppm	PASS 14.26 %
Zero 00 mADC	0	2.6464829E-10	32.27 ppm	0	0	Z-check	410 ppm	INFO
5 mADC	0.005	0.0049999705	32.27 ppm	0.004999769	0.005000231	-5.906 ppm	14 ppm	PASS 12.76 %
10 mADC	0.01	0.0099999382	32.27 ppm	0.009999537	0.01000046	-6.178 ppm	14 ppm	PASS 13.35 %
-10 mADC	-0.01	-0.0099999437	32.27 ppm	-0.01000046	-0.009999537	-5.631 ppm	14 ppm	PASS 12.17 %
-5 mADC	-0.005	-0.0049999745	32.27 ppm	-0.005000231	-0.004999769	-5.098 ppm	14 ppm	PASS 11.02 %
Zero 000 mADC	0	2.5922696E-10	53.32 ppm	0	0	Z-check	410 ppm	INFO
50 mADC	0.05	0.04999959	53.32 ppm	0.04999588	0.05000412	-8.190 ppm	29 ppm	PASS 9.95 %
100 mADC	0.1	0.099999286	53.32 ppm	0.09999177	0.1000082	-7.137 ppm	29 ppm	PASS 8.67 %
-100 mADC	-0.1	-0.099999928	53.32 ppm	-0.1000082	-0.09999177	-0.723 ppm	29 ppm	PASS 0.88 %
-50 mADC	-0.05	-0.050000005	53.32 ppm	-0.05000412	-0.04999588	0.103 ppm	29 ppm	PASS 0.12 %
Zero ADC	0	3.6692706E-10	115.22 ppm	0	0	Z-check	410 ppm	INFO
0.5 ADC	0.5	0.50001333	115.22 ppm	0.4998874	0.5001126	26.654 ppm	110 ppm	PASS 11.83 %
1.0 ADC	1	1.0000157	115.22 ppm	0.9997748	1.000225	15.728 ppm	110 ppm	PASS 6.98 %
-1.0 ADC	-1	-1.0000005	115.22 ppm	-1.000225	-0.9997748	0.497 ppm	110 ppm	PASS 0.22 %
-0.5 ADC	-0.5	-0.50000714	115.22 ppm	-0.5001126	-0.4998874	14.287 ppm	110 ppm	PASS 6.34 %

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	1.0143948E-05	0.0165 %	9.9893455e-06	1.00106545e-05	14394.819 ppm	0.0900 %	INFO
100 µA AC @ 50 Hz	0.0001	0.00010000435	0.0165 %	9.9893455e-05	0.000100106545	43.495 ppm	0.0900 %	PASS 4.08 %
1.0 mA AC @ 50 Hz	0.001	0.0010000425	0.0165 %	0.00099903455	0.00100096545	42.541 ppm	0.0800 %	PASS 4.41 %
10 mA AC @ 50 Hz	0.01	0.010000337	0.0165 %	0.0099903455	0.0100096545	33.662 ppm	0.0800 %	PASS 3.49 %
100 mA AC @ 50 Hz	0.1	0.10000773	0.0138 %	0.099906182	0.100093818	77.306 ppm	0.0800 %	PASS 8.24 %
1.0 A AC @ 50 Hz	1.0	1.000033	0.0138 %	0.99886182	1.00113818	0.0033 %	0.1000 %	PASS 2.90 %
10 µA AC @ 60 Hz	1e-05	1.0025814E-05	0.0138 %	9.9896182e-06	1.00103818e-05	2581.367 ppm	0.0900 %	INFO
100 µA AC @ 60 Hz	0.0001	9.993823E-05	0.0138 %	9.9896182e-05	0.000100103818	-617.705 ppm	0.0900 %	PASS 59.50 %
1.0 mA AC @ 60 Hz	0.001	0.0010000078	0.0134 %	0.00099906636	0.00100093364	7.803 ppm	0.0800 %	PASS 0.84 %
10 mA AC @ 60 Hz	0.01	0.010000814	0.0134 %	0.0099906636	0.0100093364	81.441 ppm	0.0800 %	PASS 8.72 %
100 mA AC @ 60 Hz	0.1	0.10001079	0.0308 %	0.099889182	0.100110818	107.880 ppm	0.0800 %	PASS 9.73 %
1.0 A AC @ 60 Hz	1.0	1.0000775	0.0308 %	0.99869182	1.00130818	0.0078 %	0.1000 %	PASS 5.93 %
10 µA AC @ 1.0 kHz	1e-05	1.0148508E-05	0.0165 %	9.9893455e-06	1.00106545e-05	14850.764 ppm	0.0900 %	INFO
100 µA AC @ 1.0 kHz	0.0001	0.00010000183	0.0165 %	9.9893455e-05	0.000100106545	18.257 ppm	0.0900 %	PASS 1.71 %
1.0 mA AC @ 1.0 kHz	0.001	0.0010001314	0.0165 %	0.00099933455	0.00100066545	131.429 ppm	0.0500 %	PASS 19.75 %
10 mA AC @ 1.0 kHz	0.01	0.010001137	0.0165 %	0.0099933455	0.0100066545	113.720 ppm	0.0500 %	PASS 17.09 %
100 mA AC @ 1.0 kHz	0.1	0.10001677	0.0138 %	0.099936182	0.100063818	167.664 ppm	0.0500 %	PASS 26.27 %
1.0 A AC @ 1.0 kHz	1.0	1.000218	0.0138 %	0.99866182	1.00133818	0.0218 %	0.1200 %	PASS 16.29 %

Test completed

Test date	02 April 2018 13:03
UUT Internal TEMP?	36.4
Destructive overloads?	27, DESTRUCTIVE OVERLOADS valid 2941

Lab temperature maintained +24°C ±2°C

Internal use only

Not validated

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