

Manufacturer	AGILENT	Calibration date	October 29 2018
Model Number	34401A	Ambient Temperature	23.88 °C
Serial	US36111998	Relative Humidity	55.05 %
ID Number	Erik-34401A	Pressure	1010.35
Notes	As returned	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	Fluke	5720A	03/HLK	E2E6	XC01	10/18/2018	01/18/2019
DMM	HP	3458A	001,X02	X	XD3	07/25/2018	01/25/2019
DC STD	xDevs.com	792X[2]	9.9999854 VDC	±2.2 ppm	XD01	02/16/2018	02/16/2019
STDR	Fluke/xDevs.com	SL935	9.9999760 KΩ	±0.33 ppm	XR01	05/31/2018	05/31/2019
STDR	Fluke/xDevs.com	SL935	1.00005942 Ω	±0.17 ppm	XR02	05/31/2018	05/31/2019
STDR	ESI	SR104	10000.0012 KΩ	±1.00 ppm	XR04	06/30/2018	06/30/2019
STDR	IET	SRL-1	1.00000542 Ω	±2.60 ppm	PR02	09/27/2018	09/27/2019

MFC last calibrated	10.0 days ago	MFC since DCV ZERO	0.0 days ago
MFC since WBFLAT	11258.0 days ago	MFC since WBGAIN	11258.0 days ago
MFC Confidence level	24h 95% REL	MFC Calibrate date	2018-10-19 00:00:00
MFC Calibrate date Zero	2018-10-29 00:00:00	Calibrate date WB Flatness	1988-10-01 00:00:00
Calibrate date WB Gain	1988-10-01 00:00:00	CAL CONST 6.5V reference voltage	6.95748086995
CAL CONST 13V reference voltage	13.8552982766	CAL CONST 22V range positive zero	398.17963
CAL CONST 22V range negative zero	398.17901	CAL CONST DAC Linearity	0.0
CAL CONST 10KOHM true output resistance	9999.79307793	CAL CONST 10KOHM standard resistance	9998.74685126
CAL CONST, Zero calibration temperature	22.6000003815	CAL CONST, All calibration temp	22.6000003815

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

Meter Info	HEWLETT-PACKARD,34401A,0,10-5-2	Test date start	29 October 2018 04:57
Test specification interval	24 hour DUT spec	Self-test result?	0, "No error"
Line frequency	110V 60 Hz	Next calibration date	10/29/2019
Last calibration date	10/29/2018	SCPI Version	N/A
Last calibration temperature	26.6	Calibration count	113.0

Service information

Calibration count	113.0
Calibration string	"CAL 29/OCT/2018, TEMP:23.8 by xDevs.com"
Reference	Direct MFC test, Fluke cables, post-calibration adjustment 1
DUT Condition	test

Test procedure : \$Id: hp34401a.py | Rev 1040 | 2018/10/29 04:56:48 clu \$

Source procedure : \$Id: f5720a.py | Rev 1039 | 2018/10/29 04:33:02 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	0.000000E+00	0.81 µV	8.23 µV	-11.230 µV	11.230 µV	N/A	3.00 µV	PASS
Short 0.0 VDC	0.000000E+00	0.63 µV	3.95 µV	-9.950 µV	9.950 µV	N/A	6.00 µV	PASS
Short 00.0 VDC	0.000000E+00	-2.50 µV	3.32 µV	-43.320 µV	43.320 µV	N/A	40.00 µV	PASS
Short 000.0 VDC	0.000000E+00	-13.00 µV	4.36 µV	-604.360 µV	604.360 µV	N/A	0.60 mV	PASS
Short 0000.0 VDC	0.000000E+00	130.00 µV	6.45 µV	-6006.450 µV	6006.450 µV	N/A	6.00 mV	PASS
DCV Test	0.1V-1000V	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
0.1 VDC (0.10 Range)	0.1000000	0.10000091	9.91 ppm	0.099993009	0.10000699	9.100 ppm	60.00 ppm	PASS 13.02 %
-0.1 VDC (0.10 Range)	-0.1000000	-0.10000047	9.91 ppm	-0.10000699	-0.099993009	4.700 ppm	60.00 ppm	PASS 6.72 %
0.1 VDC (1.00 Range)	0.1000000	0.10000075	9.91 ppm	0.099996409	0.10000359	7.450 ppm	26.00 ppm	PASS 20.75 %
0.5 VDC (1.00 Range)	0.5000000	0.50000113	4.05 ppm	0.49998497	0.50001502	2.250 ppm	26.00 ppm	PASS 7.49 %
1.0 VDC (1.00 Range)	1.0000000	1.000002	4.05 ppm	0.99996995	1.00003	2.000 ppm	26.00 ppm	PASS 6.66 %
-0.1 VDC (1.00 Range)	-0.1000000	-0.10000001	9.91 ppm	-0.10000359	-0.099996409	0.150 ppm	26.00 ppm	PASS 0.42 %
-0.5 VDC (1.00 Range)	-0.5000000	-0.50000108	4.05 ppm	-0.50001502	-0.49998497	2.150 ppm	26.00 ppm	PASS 7.15 %
-1.0 VDC (1.00 Range)	-1.0000000	-1.0000016	4.05 ppm	-1.00003	-0.99996995	1.600 ppm	26.00 ppm	PASS 5.32 %
1.0 VDC (10.00 Range)	1.0000000	1.0000001	4.05 ppm	0.99997695	1.0000231	0.150 ppm	19.00 ppm	PASS 0.65 %
5.0 VDC (10.00 Range)	5.0000000	4.9999994	1.47 ppm	4.9998977	5.0001023	-0.120 ppm	19.00 ppm	PASS 0.59 %
10.0 VDC (10.00 Range)	10.0000000	10.000005	2.36 ppm	9.9997864	10.000214	0.500 ppm	19.00 ppm	PASS 2.34 %
-1.0 VDC (10.00 Range)	-1.0000000	-1.0000014	4.05 ppm	-1.0000231	-0.99997695	1.400 ppm	19.00 ppm	PASS 6.07 %
-5.0 VDC (10.00 Range)	-5.0000000	-5.0000052	1.47 ppm	-5.0001023	-4.9998977	1.040 ppm	19.00 ppm	PASS 5.08 %
-10.0 VDC (10.00 Range)	-10.0000000	-10.000006	2.36 ppm	-10.000214	-9.9997864	0.600 ppm	19.00 ppm	PASS 2.81 %
10 VDC (100.00 Range)	10.0000000	9.999997	2.36 ppm	9.9997164	10.000284	-0.300 ppm	26.00 ppm	PASS 1.06 %
50 VDC (100.00 Range)	50.0000000	50.000009	5.45 ppm	49.998427	50.001573	0.180 ppm	26.00 ppm	PASS 0.57 %
100 VDC (100.00 Range)	100.0000000	100.00002	5.45 ppm	99.996855	100.00315	0.200 ppm	26.00 ppm	PASS 0.64 %
-10 VDC (100.00 Range)	-10.0000000	-10.000018	2.36 ppm	-10.000284	-9.9997164	1.750 ppm	26.00 ppm	PASS 6.17 %
-50 VDC (100.00 Range)	-50.0000000	-50.000148	5.45 ppm	-50.001573	-49.998427	2.960 ppm	26.00 ppm	PASS 9.41 %
-100 VDC (100.00 Range)	-100.0000000	-100.00015	5.45 ppm	-100.00315	-99.996855	1.450 ppm	26.00 ppm	PASS 4.61 %
100 VDC (1000.00 Range)	100.0000000	99.99978	5.45 ppm	99.996855	100.00315	-2.200 ppm	26.00 ppm	PASS 7.00 %
200 VDC (1000.00 Range)	200.0000000	199.99989	5.45 ppm	199.99371	200.00629	-0.575 ppm	26.00 ppm	PASS 1.83 %
1000 VDC (1000.00 Range)	1000.0000000	1000	7.55 ppm	999.95645	1000.0435	0.000 ppm	26.00 ppm	PASS 0.00 %
-100 VDC (1000.00 Range)	-100.0000000	-99.99985	5.45 ppm	-100.00315	-99.996855	-0.150 ppm	26.00 ppm	PASS 0.48 %
-200 VDC (1000.00 Range)	-200.0000000	-200.00021	5.45 ppm	-200.00629	-199.99371	1.075 ppm	26.00 ppm	PASS 3.42 %
-1000 VDC (1000.00 Range)	-1000.0000000	-1000.0004	7.55 ppm	-1000.0435	-999.95645	0.400 ppm	26.00 ppm	PASS 1.70 %

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	1.1000023	3.64 ppm	1.099975	1.100025	2.18 ppm	19.00 ppm	PASS 9.64 %
0.9999999	0.9999999	1.0000023	3.70 ppm	0.999972	1.000023	2.40 ppm	19.00 ppm	PASS 10.57 %
0.9000000	0.9000000	0.9000019	3.78 ppm	0.8999795	0.9000205	2.11 ppm	19.00 ppm	PASS 9.27 %
0.8888888	0.8888888	0.8888905	3.79 ppm	0.8888685	0.8889091	1.92 ppm	19.00 ppm	PASS 8.44 %
0.8000000	0.8000000	0.8000016	3.87 ppm	0.7999817	0.8000183	1.96 ppm	19.00 ppm	PASS 8.58 %
0.7777777	0.7777777	0.7777791	3.90 ppm	0.7777599	0.7777955	1.86 ppm	19.00 ppm	PASS 8.14 %
0.7000000	0.7000000	0.7000014	4.00 ppm	0.6999839	0.7000161	2.06 ppm	19.00 ppm	PASS 8.94 %
0.6666666	0.6666666	0.6666682	4.05 ppm	0.6666512	0.666682	2.48 ppm	19.00 ppm	PASS 10.74 %
0.6000000	0.6000000	0.6000013	4.17 ppm	0.5999861	0.6000139	2.08 ppm	19.00 ppm	PASS 8.99 %
0.5555555	0.5555555	0.5555569	4.26 ppm	0.5555426	0.5555684	2.50 ppm	19.00 ppm	PASS 10.76 %
0.5000000	0.5000000	0.5000012	4.40 ppm	0.4999883	0.5000117	2.30 ppm	19.00 ppm	PASS 9.83 %
0.4444444	0.4444444	0.4444455	4.58 ppm	0.4444339	0.4444549	2.36 ppm	19.00 ppm	PASS 10.02 %
0.4000000	0.4000000	0.4000013	4.75 ppm	0.3999905	0.4000095	3.15 ppm	19.00 ppm	PASS 13.26 %
0.3333333	0.3333333	0.3333342	5.10 ppm	0.3333253	0.3333413	2.58 ppm	19.00 ppm	PASS 10.71 %
0.3000000	0.3000000	0.3000007	5.33 ppm	0.2999927	0.3000073	2.50 ppm	19.00 ppm	PASS 10.28 %
0.2222222	0.2222222	0.2222231	6.15 ppm	0.2222166	0.2222278	3.92 ppm	19.00 ppm	PASS 15.57 %
0.2000000	0.2000000	0.2000008	6.50 ppm	0.1999949	0.2000051	3.95 ppm	19.00 ppm	PASS 15.49 %
0.1234567	0.1234567	0.1234572	8.67 ppm	0.1234533	0.1234601	3.65 ppm	19.00 ppm	PASS 13.17 %
0.1111111	0.1111111	0.1111117	9.30 ppm	0.111108	0.1111142	5.67 ppm	19.00 ppm	PASS 20.04 %
0.1000000	0.1000000	0.1000007	10.00 ppm	0.0999971	0.1000029	7.30 ppm	19.00 ppm	PASS 25.17 %
0.0987654	0.0987654	0.0987660	10.09 ppm	0.09876253	0.09876827	6.58 ppm	19.00 ppm	PASS 22.62 %
0.0111111	0.0111111	0.0111116	66.00 ppm	0.01111016	0.01111204	46.80 ppm	19.00 ppm	PASS 55.06 %
-0.0111111	-0.0111111	-0.0111105	66.00 ppm	-0.01111204	-0.01111016	-54.90 ppm	19.00 ppm	PASS 64.59 %
-0.0987654	-0.0987654	-0.0987654	10.09 ppm	-0.09876827	-0.09876253	-0.30 ppm	19.00 ppm	PASS 1.04 %
-0.1000000	-0.1000000	-0.1000000	10.00 ppm	-0.1000029	-0.0999971	0.50 ppm	19.00 ppm	PASS 1.72 %
-0.1111111	-0.1111111	-0.1111109	9.30 ppm	-0.1111142	-0.111108	-1.53 ppm	19.00 ppm	PASS 5.41 %
-0.1234567	-0.1234567	-0.1234567	8.67 ppm	-0.1234601	-0.1234533	0.08 ppm	19.00 ppm	PASS 0.29 %
-0.2000000	-0.2000000	-0.2000002	6.50 ppm	-0.2000051	-0.1999949	1.00 ppm	19.00 ppm	PASS 3.92 %
-0.2222222	-0.2222222	-0.2222223	6.15 ppm	-0.2222278	-0.2222166	0.36 ppm	19.00 ppm	PASS 1.43 %
-0.3000000	-0.3000000	-0.3000006	5.33 ppm	-0.3000073	-0.2999927	2.10 ppm	19.00 ppm	PASS 8.63 %
-0.3333333	-0.3333333	-0.3333339	5.10 ppm	-0.3333413	-0.3333253	1.86 ppm	19.00 ppm	PASS 7.72 %
-0.4000000	-0.4000000	-0.4000006	4.75 ppm	-0.4000095	-0.3999905	1.45 ppm	19.00 ppm	PASS 6.11 %
-0.4444444	-0.4444444	-0.4444451	4.58 ppm	-0.4444549	-0.4444339	1.46 ppm	19.00 ppm	PASS 6.20 %
-0.5000000	-0.5000000	-0.5000010	4.40 ppm	-0.5000117	-0.4999883	1.96 ppm	19.00 ppm	PASS 8.38 %
-0.5555555	-0.5555555	-0.5555569	4.26 ppm	-0.5555684	-0.5555426	2.45 ppm	19.00 ppm	PASS 10.52 %
-0.6000000	-0.6000000	-0.6000011	4.17 ppm	-0.6000139	-0.5999861	1.90 ppm	19.00 ppm	PASS 8.20 %
-0.6666666	-0.6666666	-0.6666679	4.05 ppm	-0.666682	-0.6666512	1.98 ppm	19.00 ppm	PASS 8.59 %
-0.7000000	-0.7000000	-0.7000013	4.00 ppm	-0.7000161	-0.6999839	1.93 ppm	19.00 ppm	PASS 8.39 %
-0.7777777	-0.7777777	-0.7777792	3.90 ppm	-0.7777955	-0.7777599	1.94 ppm	19.00 ppm	PASS 8.48 %
-0.8000000	-0.8000000	-0.8000017	3.87 ppm	-0.8000183	-0.7999817	2.11 ppm	19.00 ppm	PASS 9.24 %
-0.8888888	-0.8888888	-0.8888904	3.79 ppm	-0.8889091	-0.8888685	1.81 ppm	19.00 ppm	PASS 7.95 %
-0.9000000	-0.9000000	-0.9000017	3.78 ppm	-0.9000205	-0.8999795	1.89 ppm	19.00 ppm	PASS 8.29 %
-0.9999999	-0.9999999	-1.0000017	3.70 ppm	-1.000023	-0.9999772	1.80 ppm	19.00 ppm	PASS 7.93 %
-1.0999999	-1.0999999	-1.1000016	3.64 ppm	-1.100025	-1.099975	1.55 ppm	19.00 ppm	PASS 6.83 %
DCV Linearity	10V Range	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
10.250000	10.250000	10.2500090	1.04 ppm	10.24979	10.25021	0.88 ppm	19.00 ppm	PASS 4.38 %
10.000000	10.000000	10.0000070	1.05 ppm	9.999799	10.0002	0.70 ppm	19.00 ppm	PASS 3.49 %
9.750000	9.750000	9.7500063	1.06 ppm	9.749804	9.750196	0.65 ppm	19.00 ppm	PASS 3.22 %
9.500000	9.500000	9.5000041	1.06 ppm	9.499809	9.500191	0.43 ppm	19.00 ppm	PASS 2.15 %
9.250000	9.250000	9.2500061	1.07 ppm	9.249814	9.250186	0.66 ppm	19.00 ppm	PASS 3.29 %
9.000000	9.000000	9.0000086	1.08 ppm	8.999819	9.000181	0.96 ppm	19.00 ppm	PASS 4.76 %
8.750000	8.750000	8.7500064	1.09 ppm	8.749824	8.750176	0.73 ppm	19.00 ppm	PASS 3.64 %
8.500000	8.500000	8.5000040	1.09 ppm	8.499829	8.500171	0.47 ppm	19.00 ppm	PASS 2.34 %
8.250000	8.250000	8.2500049	1.10 ppm	8.249834	8.250166	0.59 ppm	19.00 ppm	PASS 2.95 %
8.000000	8.000000	8.0000057	1.11 ppm	7.999839	8.000161	0.71 ppm	19.00 ppm	PASS 3.54 %
7.750000	7.750000	7.7500029	1.12 ppm	7.749844	7.750156	0.37 ppm	19.00 ppm	PASS 1.86 %
7.500000	7.500000	7.5000038	1.13 ppm	7.499849	7.500151	0.51 ppm	19.00 ppm	PASS 2.52 %
7.250000	7.250000	7.2500038	1.14 ppm	7.249854	7.250146	0.52 ppm	19.00 ppm	PASS 2.60 %
7.000000	7.000000	7.0000024	1.16 ppm	6.999859	7.000141	0.34 ppm	19.00 ppm	PASS 1.70 %
6.750000	6.750000	6.7500010	1.17 ppm	6.749864	6.750136	0.15 ppm	19.00 ppm	PASS 0.73 %
6.500000	6.500000	6.5000019	1.18 ppm	6.499869	6.500131	0.29 ppm	19.00 ppm	PASS 1.45 %
6.250000	6.250000	6.2500033	1.20 ppm	6.249874	6.250126	0.53 ppm	19.00 ppm	PASS 2.61 %
6.000000	6.000000	6.0000023	1.22 ppm	5.999879	6.000121	0.38 ppm	19.00 ppm	PASS 1.90 %
5.750000	5.750000	5.7500010	1.23 ppm	5.749884	5.750116	0.17 ppm	19.00 ppm	PASS 0.86 %
5.500000	5.500000	5.5000026	1.25 ppm	5.499889	5.500111	0.47 ppm	19.00 ppm	PASS 2.33 %
5.250000	5.250000	5.2500022	1.28 ppm	5.249894	5.250106	0.42 ppm	19.00 ppm	PASS 2.07 %
5.000000	5.000000	5.0000008	1.30 ppm	4.999898	5.000102	0.16 ppm	19.00 ppm	PASS 0.79 %

4.750000	4.750000	4.7500013	1.33 ppm	4.749903	4.750097	0.27 ppm	19.00 ppm	PASS 1.35 %
4.500000	4.500000	4.5000007	1.36 ppm	4.499908	4.500092	0.16 ppm	19.00 ppm	PASS 0.76 %
4.250000	4.250000	4.2500002	1.39 ppm	4.249913	4.250087	0.05 ppm	19.00 ppm	PASS 0.23 %
4.000000	4.000000	4.0000000	1.42 ppm	3.999918	4.000082	0.00 ppm	19.00 ppm	PASS 0.00 %
3.750000	3.750000	3.7500011	1.47 ppm	3.749923	3.750077	0.29 ppm	19.00 ppm	PASS 1.43 %
3.500000	3.500000	3.5000027	1.51 ppm	3.499928	3.500072	0.77 ppm	19.00 ppm	PASS 3.76 %
3.250000	3.250000	3.2500009	1.57 ppm	3.249933	3.250067	0.28 ppm	19.00 ppm	PASS 1.35 %
3.000000	3.000000	3.0000010	1.63 ppm	2.999938	3.000062	0.33 ppm	19.00 ppm	PASS 1.62 %
2.750000	2.750000	2.7500017	1.71 ppm	2.749943	2.750057	0.62 ppm	19.00 ppm	PASS 2.98 %
2.500000	2.500000	2.5000003	1.80 ppm	2.499948	2.500052	0.12 ppm	19.00 ppm	PASS 0.58 %
2.250000	2.250000	2.2500003	1.91 ppm	2.249953	2.250047	0.13 ppm	19.00 ppm	PASS 0.64 %
2.000000	2.000000	2.0000016	2.05 ppm	1.999958	2.000042	0.80 ppm	19.00 ppm	PASS 3.80 %
1.750000	1.750000	1.7500025	2.23 ppm	1.749963	1.750037	1.43 ppm	19.00 ppm	PASS 6.73 %
1.500000	1.500000	1.5000011	2.47 ppm	1.499968	1.500032	0.73 ppm	19.00 ppm	PASS 3.42 %
1.250000	1.250000	1.2500005	2.80 ppm	1.249973	1.250027	0.40 ppm	19.00 ppm	PASS 1.83 %
1.000000	1.000000	1.0000008	3.30 ppm	0.9999777	1.000022	0.80 ppm	19.00 ppm	PASS 3.59 %
0.750000	0.750000	0.7500004	4.13 ppm	0.7499827	0.7500173	0.53 ppm	19.00 ppm	PASS 2.31 %
0.500000	0.500000	0.5000010	5.80 ppm	0.4999876	0.5000124	2.00 ppm	19.00 ppm	PASS 8.06 %
0.250000	0.250000	0.2500014	10.80 ppm	0.2499926	0.2500075	5.60 ppm	19.00 ppm	PASS 18.79 %
0.100000	0.100000	0.1000006	25.80 ppm	0.09999552	0.1000045	6.00 ppm	19.00 ppm	PASS 13.39 %
-0.100000	-0.100000	-0.0999994	25.80 ppm	-0.1000045	-0.09999552	-6.00 ppm	19.00 ppm	PASS 13.39 %
-0.250000	-0.250000	-0.2500012	10.80 ppm	-0.2500075	-0.2499926	4.80 ppm	19.00 ppm	PASS 16.11 %
-0.500000	-0.500000	-0.5000014	5.80 ppm	-0.5000124	-0.4999876	2.80 ppm	19.00 ppm	PASS 11.29 %
-0.750000	-0.750000	-0.7500014	4.13 ppm	-0.7500173	-0.7499827	1.87 ppm	19.00 ppm	PASS 8.07 %
-1.000000	-1.000000	-1.0000012	3.30 ppm	-1.000022	-0.9999777	1.20 ppm	19.00 ppm	PASS 5.38 %
-1.250000	-1.250000	-1.2500025	2.80 ppm	-1.250027	-1.249973	2.00 ppm	19.00 ppm	PASS 9.17 %
-1.500000	-1.500000	-1.5000031	2.47 ppm	-1.500032	-1.499968	2.07 ppm	19.00 ppm	PASS 9.63 %
-1.750000	-1.750000	-1.7500033	2.23 ppm	-1.750037	-1.749963	1.89 ppm	19.00 ppm	PASS 8.88 %
-2.000000	-2.000000	-2.0000037	2.05 ppm	-2.000042	-1.999958	1.85 ppm	19.00 ppm	PASS 8.79 %
-2.250000	-2.250000	-2.2500040	1.91 ppm	-2.250047	-2.249953	1.78 ppm	19.00 ppm	PASS 8.50 %
-2.500000	-2.500000	-2.5000030	1.80 ppm	-2.500052	-2.499948	1.20 ppm	19.00 ppm	PASS 5.77 %
-2.750000	-2.750000	-2.7500033	1.71 ppm	-2.750057	-2.749943	1.20 ppm	19.00 ppm	PASS 5.79 %
-3.000000	-3.000000	-3.0000048	1.63 ppm	-3.000062	-2.999938	1.60 ppm	19.00 ppm	PASS 7.76 %
-3.250000	-3.250000	-3.2500045	1.57 ppm	-3.250067	-3.249933	1.38 ppm	19.00 ppm	PASS 6.73 %
-3.500000	-3.500000	-3.5000035	1.51 ppm	-3.500072	-3.499928	1.00 ppm	19.00 ppm	PASS 4.88 %
-3.750000	-3.750000	-3.7500044	1.47 ppm	-3.750077	-3.749923	1.17 ppm	19.00 ppm	PASS 5.73 %
-4.000000	-4.000000	-4.0000038	1.42 ppm	-4.000082	-3.999918	0.95 ppm	19.00 ppm	PASS 4.65 %
-4.250000	-4.250000	-4.2500046	1.39 ppm	-4.250087	-4.249913	1.08 ppm	19.00 ppm	PASS 5.31 %
-4.500000	-4.500000	-4.5000062	1.36 ppm	-4.500092	-4.499908	1.38 ppm	19.00 ppm	PASS 6.77 %
-4.750000	-4.750000	-4.7500059	1.33 ppm	-4.750097	-4.749903	1.24 ppm	19.00 ppm	PASS 6.11 %
-5.000000	-5.000000	-5.0000057	1.30 ppm	-5.000102	-4.999898	1.14 ppm	19.00 ppm	PASS 5.62 %
-5.250000	-5.250000	-5.2500042	1.28 ppm	-5.250106	-5.249894	0.80 ppm	19.00 ppm	PASS 3.94 %
-5.500000	-5.500000	-5.5000061	1.25 ppm	-5.500111	-5.499889	1.11 ppm	19.00 ppm	PASS 5.48 %
-5.750000	-5.750000	-5.7500061	1.23 ppm	-5.750116	-5.749884	1.06 ppm	19.00 ppm	PASS 5.24 %
-6.000000	-6.000000	-6.0000078	1.22 ppm	-6.000121	-5.999879	1.30 ppm	19.00 ppm	PASS 6.43 %
-6.250000	-6.250000	-6.2500069	1.20 ppm	-6.250126	-6.249874	1.10 ppm	19.00 ppm	PASS 5.47 %
-6.500000	-6.500000	-6.5000070	1.18 ppm	-6.500131	-6.499869	1.08 ppm	19.00 ppm	PASS 5.34 %
-6.750000	-6.750000	-6.7500095	1.17 ppm	-6.750136	-6.749864	1.41 ppm	19.00 ppm	PASS 6.98 %
-7.000000	-7.000000	-7.0000084	1.16 ppm	-7.000141	-6.999859	1.20 ppm	19.00 ppm	PASS 5.95 %
-7.250000	-7.250000	-7.2500076	1.14 ppm	-7.250146	-7.249854	1.05 ppm	19.00 ppm	PASS 5.20 %
-7.500000	-7.500000	-7.5000088	1.13 ppm	-7.500151	-7.499849	1.17 ppm	19.00 ppm	PASS 5.83 %
-7.750000	-7.750000	-7.7500092	1.12 ppm	-7.750156	-7.749844	1.19 ppm	19.00 ppm	PASS 5.90 %
-8.000000	-8.000000	-8.0000081	1.11 ppm	-8.000161	-7.999839	1.01 ppm	19.00 ppm	PASS 5.03 %
-8.250000	-8.250000	-8.2500096	1.10 ppm	-8.250166	-8.249834	1.16 ppm	19.00 ppm	PASS 5.79 %
-8.500000	-8.500000	-8.5000073	1.09 ppm	-8.500171	-8.499829	0.86 ppm	19.00 ppm	PASS 4.27 %
-8.750000	-8.750000	-8.7500085	1.09 ppm	-8.750176	-8.749824	0.97 ppm	19.00 ppm	PASS 4.84 %
-9.000000	-9.000000	-9.0000145	1.08 ppm	-9.000181	-8.999819	1.61 ppm	19.00 ppm	PASS 8.02 %
-9.250000	-9.250000	-9.2500096	1.07 ppm	-9.250186	-9.249814	1.04 ppm	19.00 ppm	PASS 5.17 %
-9.500000	-9.500000	-9.5000094	1.06 ppm	-9.500191	-9.499809	0.99 ppm	19.00 ppm	PASS 4.93 %
-9.750000	-9.750000	-9.7500097	1.06 ppm	-9.750196	-9.749804	0.99 ppm	19.00 ppm	PASS 4.96 %
-10.000000	-10.000000	-10.0000080	1.05 ppm	-10.0002	-9.999799	0.80 ppm	19.00 ppm	PASS 3.99 %
-10.250000	-10.250000	-10.2500080	1.04 ppm	-10.25021	-10.24979	0.78 ppm	19.00 ppm	PASS 3.89 %
DCV Linearity	100V Range	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
100.99999	100.99999	101.0000100	2.73 ppm	100.9978	101.00218	0.20 ppm	19.00 ppm	PASS 0.87 %
100.10101	100.10101	100.1010300	2.73 ppm	100.09883	100.10319	0.20 ppm	19.00 ppm	PASS 0.88 %
100.00000	100.00000	100.0000200	2.73 ppm	99.997827	100.00217	0.20 ppm	19.00 ppm	PASS 0.88 %
99.99999	99.99999	100.0000200	2.73 ppm	99.997817	100.00216	0.30 ppm	19.00 ppm	PASS 1.32 %
90.00000	90.00000	90.0000200	2.73 ppm	89.998044	90.001956	0.22 ppm	19.00 ppm	PASS 1.02 %
88.88888	88.88888	88.8889280	2.73 ppm	88.886948	88.890812	0.54 ppm	19.00 ppm	PASS 2.49 %
80.00000	80.00000	80.0000650	2.73 ppm	79.998262	80.001738	0.81 ppm	19.00 ppm	PASS 3.74 %
77.77777	77.77777	77.7778200	2.73 ppm	77.77608	77.77946	0.64 ppm	19.00 ppm	PASS 2.96 %
70.00000	70.00000	70.0000430	2.73 ppm	69.998479	70.001521	0.61 ppm	19.00 ppm	PASS 2.83 %

66.66666	66.66666	66.6667090	2.73 ppm	66.665211	66.668109	0.74 ppm	19.00 ppm	PASS 3.38 %
60.00000	60.00000	60.0000170	2.73 ppm	59.998696	60.001304	0.28 ppm	19.00 ppm	PASS 1.30 %
55.55555	55.55555	55.5555810	2.73 ppm	55.554343	55.556757	0.56 ppm	19.00 ppm	PASS 2.57 %
50.00000	50.00000	50.0000200	2.73 ppm	49.998914	50.001086	0.40 ppm	19.00 ppm	PASS 1.84 %
44.44444	44.44444	44.4444500	2.73 ppm	44.443474	44.445406	0.23 ppm	19.00 ppm	PASS 1.04 %
40.00000	40.00000	40.0000160	2.73 ppm	39.999131	40.000869	0.40 ppm	19.00 ppm	PASS 1.84 %
33.33333	33.33333	33.3333450	2.73 ppm	33.332606	33.334054	0.45 ppm	19.00 ppm	PASS 2.07 %
30.00000	30.00000	30.0000030	2.73 ppm	29.999348	30.000652	0.10 ppm	19.00 ppm	PASS 0.46 %
22.22222	22.22222	22.2222220	2.73 ppm	22.221737	22.222703	0.09 ppm	19.00 ppm	PASS 0.41 %
20.00000	20.00000	19.9999910	2.73 ppm	19.999565	20.000435	-0.45 ppm	19.00 ppm	PASS 2.07 %
11.11111	11.11111	11.1110940	2.73 ppm	11.11087	11.111352	-1.53 ppm	19.00 ppm	PASS 7.04 %
10.00000	10.00000	9.9999750	3.86 ppm	9.9997714	10.000229	-2.50 ppm	19.00 ppm	PASS 10.94 %
9.87654	9.87654	9.8765210	7.27 ppm	9.8762835	9.8768025	-2.23 ppm	19.00 ppm	PASS 8.48 %
-9.87654	-9.87654	-9.8766070	7.27 ppm	-9.8768025	-9.8762835	6.48 ppm	19.00 ppm	PASS 24.67 %
-10.00000	-10.00000	-10.0000680	3.86 ppm	-10.000229	-9.9997714	6.80 ppm	19.00 ppm	PASS 29.75 %
-11.11111	-11.11111	-11.1111790	2.73 ppm	-11.111352	-11.11087	6.12 ppm	19.00 ppm	PASS 28.16 %
-20.00000	-20.00000	-20.0001020	2.73 ppm	-20.000435	-19.999565	5.10 ppm	19.00 ppm	PASS 23.47 %
-22.22222	-22.22222	-22.2223180	2.73 ppm	-22.222703	-22.221737	4.41 ppm	19.00 ppm	PASS 20.29 %
-30.00000	-30.00000	-30.0001140	2.73 ppm	-30.000652	-29.999348	3.80 ppm	19.00 ppm	PASS 17.49 %
-33.33333	-33.33333	-33.3334670	2.73 ppm	-33.334054	-33.332606	4.11 ppm	19.00 ppm	PASS 18.91 %
-40.00000	-40.00000	-40.0001450	2.73 ppm	-40.000869	-39.999131	3.63 ppm	19.00 ppm	PASS 16.68 %
-44.44444	-44.44444	-44.4445870	2.73 ppm	-44.445406	-44.443474	3.31 ppm	19.00 ppm	PASS 15.22 %
-50.00000	-50.00000	-50.0001420	2.73 ppm	-50.001086	-49.998914	2.84 ppm	19.00 ppm	PASS 13.07 %
-55.55555	-55.55555	-55.5556950	2.73 ppm	-55.556757	-55.554343	2.61 ppm	19.00 ppm	PASS 12.01 %
-60.00000	-60.00000	-60.0001630	2.73 ppm	-60.001304	-59.998696	2.72 ppm	19.00 ppm	PASS 12.50 %
-66.66666	-66.66666	-66.6668330	2.73 ppm	-66.668109	-66.665211	2.60 ppm	19.00 ppm	PASS 11.94 %
-70.00000	-70.00000	-70.0001730	2.73 ppm	-70.001521	-69.998479	2.47 ppm	19.00 ppm	PASS 11.37 %
-77.77777	-77.77777	-77.7779690	2.73 ppm	-77.77946	-77.77608	2.56 ppm	19.00 ppm	PASS 11.77 %
-80.00000	-80.00000	-80.0002020	2.73 ppm	-80.001738	-79.998262	2.52 ppm	19.00 ppm	PASS 11.62 %
-88.88888	-88.88888	-88.8890780	2.73 ppm	-88.890812	-88.886948	2.23 ppm	19.00 ppm	PASS 10.25 %
-90.00000	-90.00000	-90.0002030	2.73 ppm	-90.001956	-89.998044	2.26 ppm	19.00 ppm	PASS 10.38 %
-99.99999	-99.99999	-100.0001600	2.73 ppm	-100.00216	-99.997817	1.70 ppm	19.00 ppm	PASS 8.20 %
-100.00000	-100.00000	-100.0001800	2.73 ppm	-100.00217	-99.997827	1.80 ppm	19.00 ppm	PASS 8.68 %
-100.10101	-100.10101	-100.1011800	2.73 ppm	-100.10319	-100.09883	1.70 ppm	19.00 ppm	PASS 8.19 %
-100.99999	-100.99999	-101.0001300	2.73 ppm	-101.00218	-100.9978	1.39 ppm	19.00 ppm	PASS 6.69 %

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 100 MOhm	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
10 Ω	10.00032	9.999954	8.3 ppm	9.9996370E+00	1.0001003E+01	-36.599 ppm	60.0 ppm	PASS 53.59 %
19 Ω	18.999992	18.99985	4.3 ppm	1.8998770E+01	1.9001214E+01	-7.474 ppm	60.0 ppm	PASS 11.62 %
100 Ω	100.00313	100.00341	4.3 ppm	9.9996700E+01	1.0000956E+02	2.800 ppm	60.0 ppm	PASS 4.35 %
190 Ω	189.99805	189.99885	3.3 ppm	1.8999267E+02	1.9000343E+02	4.211 ppm	25.0 ppm	PASS 14.88 %
1.0 kΩ	1000.01	1000.0122	3.3 ppm	9.9998170E+02	1.0000383E+03	2.200 ppm	25.0 ppm	PASS 7.77 %
1.9 kΩ	1900.0232	1900.0249	3.3 ppm	1.8999694E+03	1.9000770E+03	0.921 ppm	25.0 ppm	PASS 3.25 %
10 kΩ	9999.793	9999.8014	3.3 ppm	9.9995100E+03	1.0000076E+04	0.845 ppm	25.0 ppm	PASS 2.99 %
19 kΩ	18999.397	18999.386	3.3 ppm	1.8998859E+04	1.8999935E+04	-0.579 ppm	25.0 ppm	PASS 2.05 %
100 kΩ	99994.71	99994.454	3.3 ppm	9.9991880E+04	9.9997540E+04	-2.565 ppm	25.0 ppm	PASS 9.06 %
190 kΩ	189988.9	189989.92	5.3 ppm	1.8994800E+05	1.9002980E+05	5.369 ppm	210.0 ppm	PASS 2.49 %
1.0 MΩ	999980.5	999979.05	5.3 ppm	9.9976520E+05	1.0001958E+06	-1.445 ppm	210.0 ppm	PASS 0.67 %
1.9 MΩ	1899966.5	1899987.9	14.3 ppm	1.8970704E+06	1.9028626E+06	11.263 ppm	1510.0 ppm	PASS 0.74 %
10 MΩ	9999020	9998759.2	14.3 ppm	9.9837785E+06	1.0014262E+07	-26.083 ppm	1510.0 ppm	PASS 1.71 %
19 MΩ	18998408	19001960	60.3 ppm	1.8938367E+07	1.9058449E+07	186.963 ppm	3100.0 ppm	PASS 5.92 %
100 MΩ	1.0000758E+08	1.001147E+08	60.3 ppm	9.9691526E+07	1.0032363E+08	1071.119 ppm	3100.0 ppm	PASS 33.89 %

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
100 Ω	Range 0.0002810 Ω	3.000e-03 Ω	-0.003	0.003	N/A	6.0000e-05 Ω	PASS
1.0 kΩ	Range 0.0001300 Ω	5.000e-03 Ω	-0.005	0.005	N/A	2.5000e-05 Ω	PASS
10 kΩ	Range 0.0019500 Ω	5.000e-02 Ω	-0.05	0.05	N/A	2.5000e-05 Ω	PASS
100 kΩ	Range 0.0000000 Ω	5.000e-01 Ω	-0.5	0.5	N/A	2.5000e-05 Ω	PASS
1.0 MΩ	Range -0.1250000 Ω	1.000e+01 Ω	-10	10	N/A	2.5000e-05 Ω	PASS
10 MΩ	Range 0.0000000 Ω	1.000e+02 Ω	-100	100	N/A	2.5000e-05 Ω	PASS
100 MΩ	Range 0.0000000 Ω	1.000e+04 Ω	-10000.0	10000.0	N/A	2.5000e-05 Ω	PASS
OHM ZERO 2W	DUT	Source unc.	Low Limit	Hi limit	Measured	24h spec	Result
100 Ω	Range 0.2366430 Ω	3.500e-01 Ω	-0.35	0.35	N/A	6.0000e-05 Ω	PASS
1.0 kΩ	Range 0.2355200 Ω	4.000e-01 Ω	-0.4	0.4	N/A	2.5000e-05 Ω	PASS
10 kΩ	Range 0.2272000 Ω	4.000e-01 Ω	-0.4	0.4	N/A	2.5000e-05 Ω	PASS
100 kΩ	Range 0.1550000 Ω	5.500e-01 Ω	-0.55	0.55	N/A	2.5000e-05 Ω	PASS
1.0 MΩ	Range 0.1500000 Ω	5.500e+00 Ω	-5.5	5.5	N/A	2.5000e-05 Ω	PASS
10 MΩ	Range 2.5000000 Ω	5.500e+01 Ω	-55	55	N/A	2.5000e-05 Ω	PASS
100 MΩ	Range 0.0000000 Ω	5.500e+02 Ω	-550	550	N/A	2.5000e-05 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	1.0002674	0.0129 %	0.99872091	1.00127909	VAC	0.0267 %	0.1150 %	PASS 20.91 %
1.0 VAC @ 1.0 MHz	1.0	0.99082333	0.2500 %	0.6965	1.3035	VAC	-0.9177 %	30.1000 %	PASS 3.02 %
10 VAC @ 60 Hz	10	9.9992506	0.2085 %	9.94265	10.05735	VAC	-0.0075 %	0.3650 %	PASS 1.31 %
10 VAC @ 200 Hz	10	9.9987266	0.0073 %	9.9627682	10.0372318	VAC	-0.0127 %	0.3650 %	PASS 3.42 %
10 VAC @ 500 Hz	10	9.9996258	0.0073 %	9.9627682	10.0372318	VAC	-0.0037 %	0.3650 %	PASS 1.01 %
10 VAC @ 50.0 kHz	10	10.003373	0.0129 %	9.9872091	10.0127909	VAC	0.0337 %	0.1150 %	PASS 26.37 %
10 VAC @ 1.0 MHz	10	10.514648	0.3000 %	6.95	13.05	VAC	5.1465 %	30.2000 %	PASS 16.87 %

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	0.010031758	0.0312 %	0.009930	0.010070	0.3176 %	0.6650 %	PASS 45.61 %
0.01 V AC+DC @ 20 Hz	0.0099962695	0.0312 %	0.009950	0.010050	-0.0373 %	0.4650 %	PASS 7.52 %
0.01 V AC+DC @ 60 Hz	0.009997453	0.0312 %	0.009950	0.010050	-0.0255 %	0.4650 %	PASS 5.13 %
0.01 V AC+DC @ 100 Hz	0.0099948405	0.0312 %	0.009950	0.010050	-0.0516 %	0.4650 %	PASS 10.40 %
0.01 V AC+DC @ 1.0 kHz	0.0099958325	0.0312 %	0.009950	0.010050	-0.0417 %	0.4650 %	PASS 8.40 %
0.01 V AC+DC @ 10.0 kHz	0.0099970695	312.27	0.009987	0.010013	-293.050 ppm	950.0 ppm	PASS 23.22 %
0.01 V AC+DC @ 20.0 kHz	0.009997027	312.27	0.009987	0.010013	-297.300 ppm	950.0 ppm	PASS 23.55 %
0.01 V AC+DC @ 50.0 kHz	0.0099917805	0.0447 %	0.009974	0.010026	-0.0822 %	0.2150 %	PASS 31.65 %
0.01 V AC+DC @ 100.0 kHz	0.009960419	0.0773 %	0.009916	0.010084	-0.3958 %	0.7650 %	PASS 46.99 %
0.01 V AC+DC @ 300.0 kHz	0.009671222	0.1500 %	0.009583	0.010417	-3.2878 %	4.0250 %	PASS 78.75 %
0.01 V AC+DC @ 500.0 kHz	0.009193034	0.2500 %	0.006965	0.013035	-8.0697 %	30.1000 %	PASS 26.59 %
0.01 V AC+DC @ 1.0 MHz	0.0080213075	0.4000 %	0.006950	0.013050	-19.7869 %	30.1000 %	PASS 64.88 %
0.1 V AC+DC @ 10 Hz	0.10001235	0.0101 %	0.099325	0.100675	0.0123 %	0.6650 %	PASS 1.83 %
0.1 V AC+DC @ 20 Hz	0.099983457	0.0101 %	0.099525	0.100475	-0.0165 %	0.4650 %	PASS 3.48 %
0.1 V AC+DC @ 60 Hz	0.10000861	0.0101 %	0.099525	0.100475	0.0086 %	0.4650 %	PASS 1.81 %
0.1 V AC+DC @ 100 Hz	0.099984108	0.0101 %	0.099525	0.100475	-0.0159 %	0.4650 %	PASS 3.34 %
0.1 V AC+DC @ 1.0 kHz	0.099994644	0.0101 %	0.099525	0.100475	-0.0054 %	0.4650 %	PASS 1.13 %
0.1 V AC+DC @ 10.0 kHz	0.10000238	101.36	0.099895	0.100105	23.800 ppm	950.0 ppm	PASS 2.26 %
0.1 V AC+DC @ 20.0 kHz	0.10001406	101.36	0.099895	0.100105	140.600 ppm	950.0 ppm	PASS 13.37 %
0.1 V AC+DC @ 50.0 kHz	0.10004456	0.0171 %	0.099768	0.100232	0.0446 %	0.2150 %	PASS 19.19 %
0.1 V AC+DC @ 100.0 kHz	0.099959379	0.0461 %	0.099189	0.100811	-0.0406 %	0.7650 %	PASS 5.01 %
0.1 V AC+DC @ 300.0 kHz	0.098510559	0.0764 %	0.095899	0.104101	-1.4894 %	4.0250 %	PASS 36.32 %
0.1 V AC+DC @ 500.0 kHz	0.095750094	0.1500 %	0.069750	0.130250	-4.2499 %	30.1000 %	PASS 14.05 %
0.1 V AC+DC @ 1.0 MHz	0.091816145	0.3000 %	0.069600	0.130400	-8.1839 %	30.1000 %	PASS 26.92 %
1.0 V AC+DC @ 10 Hz	1.0001408	0.0050 %	0.995300	1.004700	0.0141 %	0.4650 %	PASS 3.00 %
1.0 V AC+DC @ 20 Hz	0.99991909	0.0050 %	0.996300	1.003700	-0.0081 %	0.3650 %	PASS 2.19 %
1.0 V AC+DC @ 60 Hz	0.99986014	0.0050 %	0.996300	1.003700	-0.0140 %	0.3650 %	PASS 3.78 %
1.0 V AC+DC @ 100 Hz	0.99988551	0.0050 %	0.996300	1.003700	-0.0114 %	0.3650 %	PASS 3.09 %
1.0 V AC+DC @ 1.0 kHz	0.99997985	0.0050 %	0.996300	1.003700	-0.0020 %	0.3650 %	PASS 0.54 %
1.0 V AC+DC @ 10.0 kHz	1.0000409	49.55	0.999400	1.000600	40.900 ppm	550.0 ppm	PASS 6.82 %
1.0 V AC+DC @ 20.0 kHz	1.0001243	49.55	0.999400	1.000600	124.300 ppm	550.0 ppm	PASS 20.73 %
1.0 V AC+DC @ 50.0 kHz	1.0002549	0.0080 %	0.998770	1.001230	0.0255 %	0.1150 %	PASS 20.72 %
1.0 V AC+DC @ 100.0 kHz	0.99951582	0.0113 %	0.994237	1.005763	-0.0484 %	0.5650 %	PASS 8.40 %
1.0 V AC+DC @ 300.0 kHz	0.99064424	0.0395 %	0.959355	1.040645	-0.9356 %	4.0250 %	PASS 23.02 %
1.0 V AC+DC @ 500.0 kHz	0.97528128	0.1100 %	0.697900	1.302100	-2.4719 %	30.1000 %	PASS 8.18 %
1.0 V AC+DC @ 1.0 MHz	0.99100381	0.1800 %	0.697200	1.302800	-0.8996 %	30.1000 %	PASS 2.97 %
10.0 V AC+DC @ 10 Hz	10.001264	0.0048 %	9.948018	10.051982	0.0126 %	0.5150 %	PASS 2.43 %
10.0 V AC+DC @ 20 Hz	9.9989487	0.0048 %	9.963018	10.036982	-0.0105 %	0.3650 %	PASS 2.84 %
10.0 V AC+DC @ 60 Hz	9.9993271	0.0048 %	9.963018	10.036982	-0.0067 %	0.3650 %	PASS 1.82 %
10.0 V AC+DC @ 100 Hz	9.9988626	0.0048 %	9.963018	10.036982	-0.0114 %	0.3650 %	PASS 3.08 %
10.0 V AC+DC @ 1.0 kHz	9.9998873	0.0048 %	9.963018	10.036982	-0.0011 %	0.3650 %	PASS 0.30 %
10.0 V AC+DC @ 10.0 kHz	10.000548	48.18	9.994018	10.005982	54.800 ppm	550.0 ppm	PASS 9.16 %
10.0 V AC+DC @ 20.0 kHz	10.001387	48.18	9.994018	10.005982	138.700 ppm	550.0 ppm	PASS 23.19 %
10.0 V AC+DC @ 50.0 kHz	10.003431	0.0080 %	9.987696	10.012304	0.0343 %	0.1150 %	PASS 27.88 %
10.0 V AC+DC @ 100.0 kHz	9.9986585	0.0106 %	9.942436	10.057564	-0.0134 %	0.5650 %	PASS 2.33 %
10.0 V AC+DC @ 300.0 kHz	9.9367601	0.0321 %	9.594286	10.405714	-0.6324 %	4.0250 %	PASS 15.59 %
10.0 V AC+DC @ 500.0 kHz	9.8223504	0.1100 %	6.969000	13.031000	-1.7765 %	30.2000 %	PASS 5.86 %
10.0 V AC+DC @ 1.0 MHz	10.535832	0.1700 %	6.963000	13.037000	5.3583 %	30.2000 %	PASS 17.64 %
100.0 V AC+DC @ 60 Hz	99.990445	0.0060 %	99.628982	100.371018	-0.0096 %	0.3650 %	PASS 2.58 %
100.0 V AC+DC @ 100 Hz	99.990933	0.0060 %	99.628982	100.371018	-0.0091 %	0.3650 %	PASS 2.44 %
100.0 V AC+DC @ 1.0 kHz	99.998295	0.0060 %	99.628982	100.371018	-0.0017 %	0.3650 %	PASS 0.46 %
100.0 V AC+DC @ 10.0 kHz	100.00273	60.18	99.938982	100.061018	27.300 ppm	550.0 ppm	PASS 4.47 %
100.0 V AC+DC @ 20.0 kHz	100.0063	65	99.938500	100.061500	63.000 ppm	550.0 ppm	PASS 10.23 %
100.0 V AC+DC @ 50.0 kHz	99.998187	0.0170 %	99.867998	100.132002	-0.0018 %	0.1150 %	PASS 1.37 %
100.0 V AC+DC @ 100.0 kHz	99.911129	0.0400 %	99.394997	100.605003	-0.0889 %	0.5650 %	PASS 14.69 %
750.0 V AC+DC @ 60 Hz	750.0183	0.0074 %	747.207270	752.792730	0.0024 %	0.3650 %	PASS 0.65 %
750.0 V AC+DC @ 100 Hz	749.9909	0.0074 %	747.207270	752.792730	-0.0012 %	0.3650 %	PASS 0.33 %
750.0 V AC+DC @ 1.0 kHz	749.98473	0.0074 %	747.207270	752.792730	-0.0020 %	0.3650 %	PASS 0.55 %

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 mADC	0	4.8E-08	33.64 ppm	0	0	Z-check	11000 ppm	INFO
0.5 mADC	0.0005	0.00050005485	33.64 ppm	0.0004944832	0.0005055168	0.0110 %	11000 ppm	PASS 0.99 %
1.0 mADC	0.001	0.0010000525	33.64 ppm	0.0009889664	0.001011034	0.0052 %	11000 ppm	PASS 0.48 %
-1.0 mADC	-0.001	-0.00099995355	33.64 ppm	-0.001011034	-0.0009889664	-0.0046 %	11000 ppm	PASS 0.42 %
-0.5 mADC	-0.0005	-0.0004999528	33.64 ppm	-0.0005055168	-0.0004944832	-0.0094 %	11000 ppm	PASS 0.86 %
Zero 00 mADC	0	5.285E-08	32.27 ppm	0	0	Z-check	11000 ppm	INFO
5 mADC	0.005	0.005000013	32.27 ppm	0.004999089	0.005000911	2.590 ppm	150 ppm	PASS 1.42 %
10 mADC	0.01	0.0099999776	32.27 ppm	0.009998177	0.01000182	-2.240 ppm	150 ppm	PASS 1.23 %
-10 mADC	-0.01	-0.0099998919	32.27 ppm	-0.01000182	-0.009998177	-10.810 ppm	150 ppm	PASS 5.93 %
-5 mADC	-0.005	-0.0049999288	32.27 ppm	-0.005000911	-0.004999089	-14.250 ppm	150 ppm	PASS 7.82 %
Zero 000 mADC	0	5.06E-08	53.32 ppm	0	0	Z-check	11000 ppm	INFO
50 mADC	0.05	0.049999939	53.32 ppm	0.04999033	0.05000967	-12.200 ppm	140 ppm	PASS 6.31 %
100 mADC	0.1	0.099999975	53.32 ppm	0.09998067	0.1000193	-2.500 ppm	140 ppm	PASS 1.29 %
-100 mADC	-0.1	-0.099999924	53.32 ppm	-0.1000193	-0.09998067	-0.765 ppm	140 ppm	PASS 0.40 %
-50 mADC	-0.05	-0.0499999493	53.32 ppm	-0.05000967	-0.04999033	-10.140 ppm	140 ppm	PASS 5.25 %
Zero ADC	0	-4.92E-08	115.22 ppm	0	0	Z-check	11000 ppm	INFO
0.5 ADC	0.5	0.50000909	115.22 ppm	0.4996624	0.5003376	18.180 ppm	560 ppm	PASS 2.69 %
1.0 ADC	1	0.99999026	115.22 ppm	0.9993248	1.000675	-9.740 ppm	560 ppm	PASS 1.44 %
-1.0 ADC	-1	-1.0000237	115.22 ppm	-1.000675	-0.9993248	23.700 ppm	560 ppm	PASS 3.51 %
-0.5 ADC	-0.5	-0.5000163	115.22 ppm	-0.5003376	-0.4996624	32.600 ppm	560 ppm	PASS 4.83 %
Zero ADC	0	6.95E-09	115.22 ppm	0	0	Z-check	11000 ppm	INFO
1.0 ADC	1	0.9999949	115.22 ppm	0.9993248	1.000675	-5.100 ppm	560 ppm	PASS 0.76 %
2.0 ADC	2	1.9999663	115.22 ppm	1.99737	2.00263	-0.0017 %	1200 ppm	PASS 1.28 %
-2.0 ADC	-2	-2.0001295	115.22 ppm	-2.00263	-1.99737	0.0065 %	1200 ppm	PASS 4.92 %
-1.0 ADC	-1	-1.0000574	115.22 ppm	-1.000675	-0.9993248	57.400 ppm	560 ppm	PASS 8.50 %

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
1.0 A AC @ 50 Hz	0.1	0.10010141	0.0211 %	0.099518909	0.100481091	0.1014 %	0.4600 %	PASS 21.08 %
1.0 A AC @ 50 Hz	1.0	1.0006985	0.0138 %	0.99526182	1.00473818	0.0698 %	0.4600 %	PASS 14.74 %
2.0 A AC @ 50 Hz	2.0	1.9994558	0.0138 %	1.99052364	2.00947636	-0.0272 %	0.4600 %	PASS 5.74 %
1.0 A AC @ 60 Hz	0.1	0.10020742	0.0211 %	0.099518909	0.100481091	0.2074 %	0.4600 %	PASS 43.12 %
1.0 A AC @ 60 Hz	1.0	1.0005007	0.0211 %	0.99518909	1.00481091	0.0501 %	0.4600 %	PASS 10.41 %
2.0 A AC @ 60 Hz	2.0	1.9993428	0.0211 %	1.99037818	2.00962182	-0.0329 %	0.4600 %	PASS 6.83 %
1.0 A AC @ 1.0 kHz	0.1	0.1001094	0.0138 %	0.099526182	0.100473818	0.1094 %	0.4600 %	PASS 23.09 %
1.0 A AC @ 1.0 kHz	1.0	1.0007927	0.0138 %	0.99526182	1.00473818	0.0793 %	0.4600 %	PASS 16.73 %
2.0 A AC @ 1.0 kHz	2.0	1.9992916	0.0211 %	1.99037818	2.00962182	-0.0354 %	0.4600 %	PASS 7.36 %

Test date	29 October 2018 11:39
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Lab temperature maintained +24°C ±2°C

Internal use only

Not validated

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