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|--------------|--|---------------------|--|
| Manufacturer | KEITHLEY INSTRUMENTS | Calibration date | April 09 2023 |
| Model Number | Model 2002 | Ambient Temperature | 23.55 °C |
| Serial | 0644310 | Relative Humidity | 17.00 % |
| ID Number | Calibration test, LC unit | Pressure | 1024.22 |
| Notes | Test as returned condition vs 24 hour specs, H2; | Test type | Front inputs, PTFE cable-5w, AUX Current |

| Reference standard | Mfg | Model | Options | Serial / Unc | CEID | Calibration date | Due date |
|--------------------|-----------------|---------|----------------|--------------|---------------|------------------|------------|
| DCC | MIL | 6010B | | REDACTED | XR01 | 01/04/2022 | 01/23/2023 |
| BVD | MIL | 6000A | | REDACTED | XR02 | 05/05/2022 | 05/05/2023 |
| MFC | Fluke | 5720A | H2 | XRI | XHC1 | 04/08/2023 | 07/08/2023 |
| MFC | Fluke | 5720A | 03/H1 | 7530212 | XHC1 | 04/08/2023 | 07/08/2023 |
| Amplifier | Fluke | 5725A | | 5930005 | XHB1 | 04/08/2023 | 07/08/2023 |
| DC STD | xDevs.com | 792X[2] | 9.99997622 VDC | ±0.3 ppm | XD01 | 10/21/2022 | 01/21/2023 |
| STDR | ESI | SR104 | 10000.0013 kΩ | ±0.2 ppm | G202088930104 | 10/26/2021 | 10/26/2023 |
| STDR | xDevs.com/Fluke | SL935 | 1.00006304 Ω | ±0.31 ppm | XR03 | 10/28/2021 | 10/28/2022 |
| STDR | xDevs.com/Fluke | SL935 | 9999.9757 kΩ | ±0.36 ppm | XR02 | 10/28/2021 | 10/28/2022 |
| DMM | HP | 3458A | 001,X02 | MY45040325 | XD2 | 11/13/2022 | 11/13/2023 |
| Divider | Fluke | 752A | 4295200 | | XR01 | PROCESS | PROCESS |
| STDR | Ohm-Labs | 109 | 1.000037 GΩ | ±9 ppm | MR00 | 07/05/2022 | 07/05/2023 |

| | | | |
|---|---------------------|--------------------------------------|---------------------|
| MFC last calibrated | 1.0 days ago | MFC since DCV ZERO | 1.0 days ago |
| MFC since WBFLAT | 5399.0 days ago | MFC since WBGAIN | 5399.0 days ago |
| MFC Confidence level | 24h 95% REL | MFC Calibrate date | 2002-10-13 00:00:00 |
| MFC Calibrate date Zero | 2002-10-13 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 | 6.49329068596 |
| CAL CONST 13V reference voltage | 13.0171148447 | CAL CONST 22V range positive zero | 398.1694 |
| CAL CONST 22V range negative zero | 398.16928 | CAL CONST DAC Linearity | 0.0 |
| CAL CONST 10KOHM true output resistance | 9999.6313782 | CAL CONST 10KOHM standard resistance | 9998.59422261 |
| CAL CONST, Zero calibration temperature | 23.5 | CAL CONST, All calibration temp | 23.5 |
| Booster type | VB5725,IB5725 | Current output posts | AUX |
| Calibrate date 5725A AMP | 1988-10-01 00:00:00 | Calibrated days ago | 1999-05-03 00:00:00 |
| CAL CONST, Amp ACAL temperature | 23.0 | CAL CONST, Amp CalCheck temperature | 23.0 |

Total uncertainty of each calibration point calculated with RSS

$$U_{95\%} = \sqrt{U_{SRC}^2 + U_{DUT}^2} * 2$$

| | | | |
|-----------------------------|---|-----------------------|---------------------|
| Meter Info | KEITHLEY INSTRUMENTS INC.,MODEL 2002,0644310,A06 /A02 | Test date start | 09 April 2023 02:09 |
| Test specification interval | 24 hour DUT spec | Line frequency | 120V 60 Hz |
| Next calibration date | 2024,04,06 | Last calibration date | 2023,04,06 |

Service information

| | |
|------------------------------|---------------------|
| DUT Δ temperature to cal | 0.40 °C |
| Last calibration temperature | 27.65 °C |
| Reference | Performance check 2 |
| DUT Condition | Ambient +24C |

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 |
|--------------|--------------|-------------|------------|-----------|----------|-------------|--------|
| 20 Ω Range | -0.0000012 Ω | 0.0000500 Ω | -0.0001435 | 0.0001435 | 0.84 % | 0.0000935 Ω | PASS |
| 200 Ω Range | 0.0002600 Ω | 0.0000500 Ω | -0.00068 | 0.00068 | 38.24 % | 0.0006300 Ω | PASS |
| 2 kΩ Range | -0.0001100 Ω | 0.0000500 Ω | -0.00068 | 0.00068 | 16.18 % | 0.0006300 Ω | PASS |
| 20 kΩ Range | -0.0013000 Ω | 0.0000500 Ω | -0.00635 | 0.00635 | 20.47 % | 0.0063000 Ω | PASS |
| 200 kΩ Range | -0.0013000 Ω | 0.0000500 Ω | -0.10505 | 0.10505 | 1.24 % | 0.1050000 Ω | PASS |
| OHM ZERO 2W | DUT | Source unc. | Low Limit | Hi limit | Measured | 24h spec | Result |
| 20 Ω Range | 0.291897 Ω | 0.5 Ω | -0.5000935 | 0.5000935 | 58.37 % | 9.35E-05 Ω | PASS |
| 200 Ω Range | 0.285168 Ω | 0.5 Ω | -0.50063 | 0.50063 | 56.96 % | 0.00063 Ω | PASS |
| 2 kΩ Range | 0.28587 Ω | 0.5 Ω | -0.50063 | 0.50063 | 57.10 % | 0.00063 Ω | PASS |
| 20 kΩ Range | 0.2669 Ω | 0.5 Ω | -0.5063 | 0.5063 | 52.72 % | 0.0063 Ω | PASS |
| 200 kΩ Range | 0.161 Ω | 0.5 Ω | -0.605 | 0.605 | 26.61 % | 0.105 Ω | PASS |
| 2 MΩ Range | -0.17 Ω | 0.5 Ω | -1.13 | 1.13 | 15.04 % | 0.63 Ω | PASS |
| 20 MΩ Range | 0.1 Ω | 0.5 Ω | -4.7 | 4.7 | 2.13 % | 4.2 Ω | PASS |
| 200 MΩ Range | 0 Ω | 0.5 Ω | -210.5 | 210.5 | 0.00 % | 210 Ω | PASS |
| 1 GΩ Range | 0 Ω | 0.5 Ω | -5000.5 | 5000.5 | 0.00 % | 5000 Ω | PASS |

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 | Source U | Low Limit | Hi limit | Measured | 24h spec | Result, % spec |
|--------------------------|------------|----------|-----------|-----------|-----------|----------|----------------|
| 0.02 V AC+DC @ 10 Hz | 0.02000872 | 0.0400 % | 0.019819 | 0.020181 | 0.0436 % | 0.8650 % | PASS 5.04 % |
| 0.02 V AC+DC @ 20 Hz | 0.02000796 | 0.0280 % | 0.019821 | 0.020179 | 0.0398 % | 0.8650 % | PASS 4.60 % |
| 0.02 V AC+DC @ 50 Hz | 0.02000912 | 0.0270 % | 0.019822 | 0.020178 | 0.0456 % | 0.8650 % | PASS 5.27 % |
| 0.02 V AC+DC @ 60 Hz | 0.02001487 | 0.0270 % | 0.019822 | 0.020178 | 0.0744 % | 0.8650 % | PASS 8.59 % |
| 0.02 V AC+DC @ 100 Hz | 0.02000959 | 0.0270 % | 0.019822 | 0.020178 | 0.0479 % | 0.8650 % | PASS 5.54 % |
| 0.02 V AC+DC @ 1.0 kHz | 0.02001382 | 0.0270 % | 0.019822 | 0.020178 | 0.0691 % | 0.8650 % | PASS 7.98 % |
| 0.02 V AC+DC @ 6.25 kHz | 0.02001357 | 0.0270 % | 0.019822 | 0.020178 | 0.0679 % | 0.8650 % | PASS 7.84 % |
| 0.02 V AC+DC @ 10.0 kHz | 0.02001442 | 0.0270 % | 0.019822 | 0.020178 | 0.0721 % | 0.8650 % | PASS 8.33 % |
| 0.02 V AC+DC @ 20.0 kHz | 0.02001435 | 0.0270 % | 0.019822 | 0.020178 | 0.0717 % | 0.8650 % | PASS 8.29 % |
| 0.02 V AC+DC @ 50.0 kHz | 0.02000983 | 0.0370 % | 0.019820 | 0.020180 | 0.0491 % | 0.8650 % | PASS 5.68 % |
| 0.02 V AC+DC @ 100.0 kHz | 0.01998087 | 0.0650 % | 0.019854 | 0.020146 | -0.0956 % | 0.6650 % | PASS 14.32 % |
| 0.02 V AC+DC @ 200.0 kHz | 0.01988699 | 0.0800 % | 0.019671 | 0.020329 | -0.5651 % | 1.5650 % | PASS 36.06 % |
| 0.02 V AC+DC @ 300.0 kHz | 0.0198484 | 0.0800 % | 0.019671 | 0.020329 | -0.7580 % | 1.5650 % | PASS 48.37 % |
| 0.02 V AC+DC @ 500.0 kHz | 0.0198296 | 0.2100 % | 0.019078 | 0.020922 | -0.8520 % | 4.4000 % | PASS 19.34 % |
| 0.02 V AC+DC @ 1.0 MHz | 0.0200569 | 0.3400 % | 0.019052 | 0.020948 | 0.2845 % | 4.4000 % | PASS 6.45 % |
| 0.2 V AC+DC @ 10 Hz | 0.19994293 | 0.0260 % | 0.199418 | 0.200582 | -0.0285 % | 0.2650 % | PASS 10.72 % |
| 0.2 V AC+DC @ 20 Hz | 0.19994628 | 0.0115 % | 0.199447 | 0.200553 | -0.0269 % | 0.2650 % | PASS 10.13 % |
| 0.2 V AC+DC @ 50 Hz | 0.19996248 | 0.0105 % | 0.199899 | 0.200101 | -0.0188 % | 0.0400 % | PASS 45.39 % |
| 0.2 V AC+DC @ 60 Hz | 0.19996233 | 0.0105 % | 0.199899 | 0.200101 | -0.0188 % | 0.0400 % | PASS 45.57 % |
| 0.2 V AC+DC @ 100 Hz | 0.19998251 | 0.0105 % | 0.199899 | 0.200101 | -0.0087 % | 0.0400 % | PASS 21.16 % |
| 0.2 V AC+DC @ 1.0 kHz | 0.20000982 | 0.0105 % | 0.199899 | 0.200101 | 0.0049 % | 0.0400 % | PASS 11.88 % |
| 0.2 V AC+DC @ 6.25 kHz | 0.20001229 | 0.0105 % | 0.199889 | 0.200111 | 0.0061 % | 0.0450 % | PASS 13.30 % |
| 0.2 V AC+DC @ 10.0 kHz | 0.20001251 | 0.0105 % | 0.199889 | 0.200111 | 0.0063 % | 0.0450 % | PASS 13.54 % |
| 0.2 V AC+DC @ 20.0 kHz | 0.2000071 | 0.0105 % | 0.199889 | 0.200111 | 0.0035 % | 0.0450 % | PASS 7.69 % |
| 0.2 V AC+DC @ 50.0 kHz | 0.1999383 | 0.0205 % | 0.199819 | 0.200181 | -0.0308 % | 0.0700 % | PASS 42.31 % |
| 0.2 V AC+DC @ 100.0 kHz | 0.19964649 | 0.0485 % | 0.199273 | 0.200727 | -0.1768 % | 0.3150 % | PASS 55.46 % |
| 0.2 V AC+DC @ 200.0 kHz | 0.19902954 | 0.0800 % | 0.195790 | 0.204210 | -0.4852 % | 2.0250 % | PASS 23.94 % |
| 0.2 V AC+DC @ 300.0 kHz | 0.19872883 | 0.0800 % | 0.195790 | 0.204210 | -0.6356 % | 2.0250 % | PASS 31.36 % |
| 0.2 V AC+DC @ 500.0 kHz | 0.19864699 | 0.1200 % | 0.195360 | 0.204640 | -0.6765 % | 2.2000 % | PASS 30.70 % |
| 0.2 V AC+DC @ 1.0 MHz | 0.19966234 | 0.2600 % | 0.195080 | 0.204920 | -0.1688 % | 2.2000 % | PASS 7.62 % |
| 2.0 V AC+DC @ 10 Hz | 2.0002399 | 0.0220 % | 1.994260 | 2.005740 | 0.0120 % | 0.2650 % | PASS 4.51 % |
| 2.0 V AC+DC @ 20 Hz | 2.0002533 | 0.0083 % | 1.994535 | 2.005465 | 0.0127 % | 0.2650 % | PASS 4.78 % |
| 2.0 V AC+DC @ 50 Hz | 2.0002845 | 0.0041 % | 1.999118 | 2.000882 | 0.0142 % | 0.0400 % | PASS 35.39 % |
| 2.0 V AC+DC @ 60 Hz | 2.0002992 | 0.0041 % | 1.999118 | 2.000882 | 0.0150 % | 0.0400 % | PASS 37.21 % |
| 2.0 V AC+DC @ 100 Hz | 2.0002966 | 0.0041 % | 1.999118 | 2.000882 | 0.0148 % | 0.0400 % | PASS 36.89 % |
| 2.0 V AC+DC @ 1.0 kHz | 2.0002595 | 0.0041 % | 1.999118 | 2.000882 | 0.0130 % | 0.0400 % | PASS 32.28 % |
| 2.0 V AC+DC @ 6.25 kHz | 2.0003414 | 0.0041 % | 1.999018 | 2.000982 | 0.0171 % | 0.0450 % | PASS 37.78 % |
| 2.0 V AC+DC @ 10.0 kHz | 2.0003382 | 0.0041 % | 1.999018 | 2.000982 | 0.0169 % | 0.0450 % | PASS 37.43 % |
| 2.0 V AC+DC @ 20.0 kHz | 2.0002575 | 0.0041 % | 1.999018 | 2.000982 | 0.0129 % | 0.0450 % | PASS 28.50 % |
| 2.0 V AC+DC @ 50.0 kHz | 1.999363 | 0.0070 % | 1.998460 | 2.001540 | -0.0318 % | 0.0700 % | PASS 45.27 % |
| 2.0 V AC+DC @ 100.0 kHz | 1.9963517 | 0.0115 % | 1.993470 | 2.006530 | -0.1824 % | 0.3150 % | PASS 57.87 % |
| 2.0 V AC+DC @ 200.0 kHz | 1.9905064 | 0.0340 % | 1.958820 | 2.041180 | -0.4747 % | 2.0250 % | PASS 23.44 % |
| 2.0 V AC+DC @ 300.0 kHz | 1.9876708 | 0.0340 % | 1.958820 | 2.041180 | -0.6165 % | 2.0250 % | PASS 30.44 % |
| 2.0 V AC+DC @ 500.0 kHz | 1.9866397 | 0.0900 % | 1.954200 | 2.045800 | -0.6680 % | 2.2000 % | PASS 30.34 % |
| 2.0 V AC+DC @ 1.0 MHz | 1.9907518 | 0.1500 % | 1.953000 | 2.047000 | -0.4624 % | 2.2000 % | PASS 20.97 % |
| 20 V AC+DC @ 10 Hz | 19.996469 | 0.0220 % | 19.915600 | 20.084400 | -0.0177 % | 0.4000 % | PASS 4.41 % |
| 20 V AC+DC @ 20 Hz | 19.996932 | 0.0083 % | 19.918350 | 20.081650 | -0.0153 % | 0.4000 % | PASS 3.83 % |

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|---------------------------|-----------|----------|------------|------------|-----------|----------|--------------|
| 20 V AC+DC @ 50 Hz | 19.998551 | 0.0040 % | 19.963210 | 20.036790 | -0.0072 % | 0.1800 % | PASS 4.02 % |
| 20 V AC+DC @ 60 Hz | 19.999027 | 0.0040 % | 19.963210 | 20.036790 | -0.0049 % | 0.1800 % | PASS 2.70 % |
| 20 V AC+DC @ 100 Hz | 20.000508 | 0.0040 % | 19.963210 | 20.036790 | 0.0025 % | 0.1800 % | PASS 1.41 % |
| 20 V AC+DC @ 1.0 kHz | 20.001878 | 0.0040 % | 19.963210 | 20.036790 | 0.0094 % | 0.1800 % | PASS 5.22 % |
| 20 V AC+DC @ 6.25 kHz | 19.996437 | 0.0040 % | 19.959210 | 20.040790 | -0.0178 % | 0.2000 % | PASS 8.91 % |
| 20 V AC+DC @ 10.0 kHz | 19.995019 | 0.0040 % | 19.959210 | 20.040790 | -0.0249 % | 0.2000 % | PASS 12.45 % |
| 20 V AC+DC @ 20.0 kHz | 19.993253 | 0.0040 % | 19.959210 | 20.040790 | -0.0337 % | 0.2000 % | PASS 16.86 % |
| 20 V AC+DC @ 50.0 kHz | 19.98995 | 0.0070 % | 19.954600 | 20.045400 | -0.0502 % | 0.2200 % | PASS 22.83 % |
| 20 V AC+DC @ 100.0 kHz | 19.974477 | 0.0100 % | 19.908000 | 20.092000 | -0.1276 % | 0.4500 % | PASS 28.35 % |
| 20 V AC+DC @ 200.0 kHz | 19.952844 | 0.0280 % | 19.144400 | 20.855600 | -0.2358 % | 4.2500 % | PASS 5.55 % |
| 20 V AC+DC @ 300.0 kHz | 19.965497 | 0.0280 % | 19.144400 | 20.855600 | -0.1725 % | 4.2500 % | PASS 4.06 % |
| 20 V AC+DC @ 500.0 kHz | 20.032853 | 0.0900 % | 18.782000 | 21.218000 | 0.1643 % | 6.0000 % | PASS 2.74 % |
| 20 V AC+DC @ 1.0 MHz | 20.425198 | 0.1400 % | 18.772000 | 21.228000 | 2.1260 % | 6.0000 % | PASS 35.42 % |
| 200.0 V AC+DC @ 10 Hz | 200.03613 | 0.0220 % | 199.426000 | 200.574000 | 0.0181 % | 0.2650 % | PASS 6.79 % |
| 200.0 V AC+DC @ 20 Hz | 200.03702 | 0.0083 % | 199.453500 | 200.546500 | 0.0185 % | 0.2650 % | PASS 6.98 % |
| 200.0 V AC+DC @ 50 Hz | 200.04074 | 0.0048 % | 199.900400 | 200.099600 | 0.0204 % | 0.0450 % | PASS 45.01 % |
| 200.0 V AC+DC @ 60 Hz | 200.0411 | 0.0048 % | 199.900400 | 200.099600 | 0.0206 % | 0.0450 % | PASS 45.41 % |
| 200.0 V AC+DC @ 100 Hz | 200.04229 | 0.0048 % | 199.900400 | 200.099600 | 0.0211 % | 0.0450 % | PASS 46.72 % |
| 200.0 V AC+DC @ 1.0 kHz | 200.04221 | 0.0048 % | 199.900400 | 200.099600 | 0.0211 % | 0.0450 % | PASS 46.64 % |
| 200.0 V AC+DC @ 6.25 kHz | 199.98373 | 0.0048 % | 199.860400 | 200.139600 | -0.0081 % | 0.0650 % | PASS 12.48 % |
| 200.0 V AC+DC @ 10.0 kHz | 199.96661 | 0.0048 % | 199.860400 | 200.139600 | -0.0167 % | 0.0650 % | PASS 25.61 % |
| 200.0 V AC+DC @ 20.0 kHz | 199.94884 | 0.0048 % | 199.860400 | 200.139600 | -0.0256 % | 0.0650 % | PASS 39.25 % |
| 200.0 V AC+DC @ 50.0 kHz | 199.89035 | 0.0075 % | 199.815000 | 200.185000 | -0.0548 % | 0.0850 % | PASS 64.26 % |
| 200.0 V AC+DC @ 100.0 kHz | 199.72841 | 0.0133 % | 199.343500 | 200.656500 | -0.1358 % | 0.3150 % | PASS 43.07 % |
| 700.0 V AC+DC @ 50 Hz | 700.3399 | 0.0079 % | 699.101952 | 700.898048 | 0.0486 % | 0.1204 % | PASS 40.23 % |
| 700.0 V AC+DC @ 60 Hz | 700.3738 | 0.0079 % | 699.101952 | 700.898048 | 0.0534 % | 0.1204 % | PASS 44.25 % |
| 700.0 V AC+DC @ 100 Hz | 700.3892 | 0.0079 % | 699.101952 | 700.898048 | 0.0556 % | 0.1204 % | PASS 46.07 % |
| 700.0 V AC+DC @ 1.0 kHz | 700.2925 | 0.0079 % | 699.101952 | 700.898048 | 0.0418 % | 0.1204 % | PASS 34.62 % |
| 700.0 V AC+DC @ 6.25 kHz | 700.3932 | 0.0111 % | 698.869650 | 701.130350 | 0.0562 % | 0.1504 % | PASS 37.24 % |
| 700.0 V AC+DC @ 10.0 kHz | 700.3912 | 0.0111 % | 698.869650 | 701.130350 | 0.0559 % | 0.1504 % | PASS 37.05 % |
| 700.0 V AC+DC @ 20.0 kHz | 700.3889 | 0.0111 % | 698.869650 | 701.130350 | 0.0556 % | 0.1504 % | PASS 36.83 % |

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 | 1.1E-10 | | | | | | INFO |
| 1 µADC | 1E-06 | 1.00016E-06 | 1619.37 ppm | 9.971316E-07 | 1.002868E-06 | 0.016 % | 1249 ppm | PASS 7.82 % |
| 2 µADC | 2E-06 | 2.00018E-06 | 821.32 ppm | 1.997058E-06 | 2.002942E-06 | 90 ppm | 649 ppm | PASS 8.60 % |
| -1 µADC | -1E-06 | -9.9991E-07 | 1619.37 ppm | -1.00287E-06 | -9.971296E-07 | -0.009 % | 1251 ppm | PASS 4.40 % |
| -2 µADC | -2E-06 | -1.99994E-06 | 821.32 ppm | -2.002944E-06 | -1.997056E-06 | -30 ppm | 651 ppm | PASS 2.86 % |
| Zero 00 µADC | 0 | 2E-10 | | | | | | INFO |
| 10 µADC | 1E-05 | 1.00005E-05 | 181.97 ppm | 9.996481E-06 | 1.000352E-05 | 50 ppm | 170 ppm | PASS 20.08 % |
| 20 µADC | 2E-05 | 2.000077E-05 | 101.99 ppm | 1.999576E-05 | 2.000424E-05 | 38 ppm | 110 ppm | PASS 25.67 % |
| -10 µADC | -1E-05 | -1.000014E-05 | 181.97 ppm | -1.000352E-05 | -9.996479E-06 | 14 ppm | 170 ppm | PASS 5.62 % |
| 20 µADC | -2E-05 | -2.000058E-05 | 101.99 ppm | -2.000424E-05 | -1.999576E-05 | 29 ppm | 110 ppm | PASS 19.33 % |
| Zero 000 µADC | 0 | 2E-10 | | | | | | INFO |
| 100 µADC | 0.0001 | 0.0001000024 | 38.00 ppm | 9.999E-05 | 0.00010001 | 24 ppm | 62 ppm | PASS 33.28 % |
| 200 µADC | 0.0002 | 0.0002000037 | 30.00 ppm | 0.0001999828 | 0.0002000172 | 19 ppm | 56 ppm | PASS 29.28 % |
| -100 µADC | -0.0001 | -0.0001000038 | 38.00 ppm | -0.00010001 | -9.999E-05 | 38 ppm | 62 ppm | PASS 51.70 % |
| -200 µADC | -0.0002 | -0.0002000077 | 30.00 ppm | -0.0002000172 | -0.0001999828 | 39 ppm | 56 ppm | PASS 60.99 % |
| Zero mADC | 0 | 7E-10 | | | | | | INFO |
| -1.0 mADC | 0.001 | 0.001000024 | 26.00 ppm | 0.000999914 | 0.001000086 | 24 ppm | 60 ppm | PASS 37.47 % |
| 2.0 mADC | 0.002 | 0.002000039 | 24.00 ppm | 0.001999842 | 0.002000158 | 19 ppm | 55 ppm | PASS 32.50 % |
| -1.0 mADC | -0.001 | -0.001000039 | 26.00 ppm | -0.001000086 | -0.000999914 | 39 ppm | 60 ppm | PASS 60.10 % |
| -2.0 mADC | -0.002 | -0.002000081 | 24.00 ppm | -0.002000158 | -0.001999842 | 41 ppm | 55 ppm | PASS 67.66 % |
| Zero 00 mADC | 0 | 1.1E-08 | | | | | | INFO |
| 10 mADC | 0.01 | 0.01000011 | 26.00 ppm | 0.00999914 | 0.01000086 | 11 ppm | 60 ppm | PASS 17.13 % |
| 20 mADC | 0.02 | 0.02000013 | 24.00 ppm | 0.01999842 | 0.02000158 | 7 ppm | 55 ppm | PASS 11.00 % |
| -10 mADC | -0.01 | -0.01000024 | 26.00 ppm | -0.01000086 | -0.00999914 | 24 ppm | 60 ppm | PASS 37.16 % |
| -20 mADC | -0.02 | -0.02000051 | 24.00 ppm | -0.02000158 | -0.01999842 | 26 ppm | 55 ppm | PASS 42.91 % |
| Zero 000 mADC | 0 | 1E-07 | | | | | | INFO |
| 100 mADC | 0.1 | 0.09999893 | 27.50 ppm | 0.09998875 | 0.1000112 | -11 ppm | 85 ppm | PASS 11.98 % |
| 200 mADC | 0.2 | 0.199999 | 26.25 ppm | 0.1999788 | 0.2000212 | -5 ppm | 80 ppm | PASS 5.76 % |
| -100 mADC | -0.1 | -0.1000005 | 27.50 ppm | -0.1000113 | -0.09998875 | 6 ppm | 85 ppm | PASS 6.16 % |
| -200 mADC | -0.2 | -0.2000022 | 26.25 ppm | -0.2000213 | -0.1999787 | 11 ppm | 80 ppm | PASS 13.36 % |
| Zero ADC | 0 | 8.4E-06 | | | | | | INFO |
| 2 ADC | 2 | 2.000022 | 43.00 ppm | 1.999204 | 2.000796 | 11 ppm | 355 ppm | PASS 3.06 % |
| 1 ADC | 1 | 1.000118 | 46.00 ppm | 0.999594 | 1.000406 | 118 ppm | 360 ppm | PASS 32.43 % |
| -1 ADC | -1 | -1.000101 | 46.00 ppm | -1.000406 | -0.999594 | 101 ppm | 360 ppm | PASS 27.83 % |

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 | 1.0055e-05 | 0.0165 % | 9.95335E-06 | 1.00467E-05 | 0.5500 % | 0.4500 % | INFO |
| 50 µA AC @ 50 Hz | 5e-05 | 5.00489e-05 | 0.0165 % | 4.98267E-05 | 5.01733E-05 | 0.0978 % | 0.3300 % | PASS 29.60 % |
| 100 µA AC @ 50 Hz | 0.0001 | 9.99943e-05 | 0.0165 % | 9.96685E-05 | 0.000100332 | -0.0057 % | 0.3150 % | PASS 1.81 % |
| 200 µA AC @ 50 Hz | 0.0002 | 0.0001998927 | 0.0165 % | 0.000199352 | 0.000200648 | -0.0536 % | 0.3075 % | PASS 17.42 % |
| 1.0 mA AC @ 50 Hz | 0.001 | 0.0009994447 | 0.0138 % | 0.000996847 | 0.00100315 | -0.0555 % | 0.3015 % | PASS 18.40 % |
| 2.0 mA AC @ 50 Hz | 0.002 | 0.001999426 | 0.0138 % | 0.00199371 | 0.00200629 | -0.0287 % | 0.3007 % | PASS 9.54 % |
| 10 mA AC @ 50 Hz | 0.01 | 0.009994597 | 0.0138 % | 0.00996847 | 0.0100315 | -0.0540 % | 0.3015 % | PASS 17.90 % |
| 20 mA AC @ 50 Hz | 0.02 | 0.01999454 | 0.0138 % | 0.0199371 | 0.0200629 | -0.0273 % | 0.3007 % | PASS 9.07 % |
| 100 mA AC @ 50 Hz | 0.1 | 0.09998207 | 0.0134 % | 0.0996851 | 0.100315 | -0.0179 % | 0.3015 % | PASS 5.94 % |
| 200 mA AC @ 50 Hz | 0.2 | 0.2000207 | 0.0134 % | 0.199372 | 0.200628 | 0.0103 % | 0.3007 % | PASS 3.43 % |
| 1.0 A AC @ 50 Hz | 1.0 | 0.9991459 | 0.0308 % | 0.996177 | 1.00382 | -0.0854 % | 0.3515 % | PASS 24.21 % |
| 2.0 A AC @ 50 Hz | 2.0 | 1.999219 | 0.0308 % | 1.99237 | 2.00763 | -0.0390 % | 0.3507 % | PASS 11.09 % |
| 10 µA AC @ 60 Hz | 1e-05 | 1.00369e-05 | 0.0165 % | 9.96835E-06 | 1.00317E-05 | 0.3690 % | 0.3000 % | INFO |
| 50 µA AC @ 60 Hz | 5e-05 | 5.00913e-05 | 0.0165 % | 4.99017E-05 | 5.00983E-05 | 0.1826 % | 0.1800 % | FAIL 101.02 % |
| 100 µA AC @ 60 Hz | 0.0001 | 0.0001000426 | 0.0165 % | 9.98185E-05 | 0.000100182 | 0.0426 % | 0.1650 % | PASS 25.69 % |
| 200 µA AC @ 60 Hz | 0.0002 | 0.0001998802 | 0.0165 % | 0.000199652 | 0.000200348 | -0.0599 % | 0.1575 % | PASS 37.82 % |
| 1.0 mA AC @ 60 Hz | 0.001 | 0.0009995021 | 0.0138 % | 0.000998347 | 0.00100165 | -0.0498 % | 0.1515 % | PASS 32.73 % |
| 2.0 mA AC @ 60 Hz | 0.002 | 0.001999601 | 0.0138 % | 0.00199671 | 0.00200329 | -0.0199 % | 0.1507 % | PASS 13.17 % |
| 10 mA AC @ 60 Hz | 0.01 | 0.009995114 | 0.0138 % | 0.00998347 | 0.0100165 | -0.0489 % | 0.1515 % | PASS 32.12 % |
| 20 mA AC @ 60 Hz | 0.02 | 0.01999615 | 0.0138 % | 0.0199671 | 0.0200329 | -0.0192 % | 0.1507 % | PASS 12.72 % |
| 100 mA AC @ 60 Hz | 0.1 | 0.0999903 | 0.0134 % | 0.0998351 | 0.100165 | -0.0097 % | 0.1515 % | PASS 6.38 % |
| 200 mA AC @ 60 Hz | 0.2 | 0.2000376 | 0.0134 % | 0.199672 | 0.200328 | 0.0188 % | 0.1507 % | PASS 12.42 % |
| 1.0 A AC @ 60 Hz | 1.0 | 0.9992682 | 0.0308 % | 0.997677 | 1.00232 | -0.0732 % | 0.2015 % | PASS 35.90 % |
| 2.0 A AC @ 60 Hz | 2.0 | 1.999366 | 0.0308 % | 1.99537 | 2.00463 | -0.0317 % | 0.2007 % | PASS 15.61 % |
| 10 µA AC @ 1.0 kHz | 1e-05 | 1.00484e-05 | 0.0165 % | 9.97135E-06 | 1.00287E-05 | 0.4840 % | 0.2700 % | INFO |
| 50 µA AC @ 1.0 kHz | 5e-05 | 5.00521e-05 | 0.0165 % | 4.99167E-05 | 5.00833E-05 | 0.1042 % | 0.1500 % | PASS 69.05 % |
| 100 µA AC @ 1.0 kHz | 0.0001 | 0.0001000121 | 0.0165 % | 9.98485E-05 | 0.000100152 | 0.0121 % | 0.1350 % | PASS 8.90 % |
| 200 µA AC @ 1.0 kHz | 0.0002 | 0.0001999389 | 0.0165 % | 0.000199712 | 0.000200288 | -0.0306 % | 0.1275 % | PASS 23.76 % |
| 1.0 mA AC @ 1.0 kHz | 0.001 | 0.0009997208 | 0.0138 % | 0.000998647 | 0.00100135 | -0.0279 % | 0.1215 % | PASS 22.83 % |
| 2.0 mA AC @ 1.0 kHz | 0.002 | 0.001999985 | 0.0138 % | 0.00199731 | 0.00200269 | -0.0007 % | 0.1207 % | PASS 0.61 % |
| 10 mA AC @ 1.0 kHz | 0.01 | 0.009998003 | 0.0138 % | 0.00998647 | 0.0100135 | -0.0200 % | 0.1215 % | PASS 16.33 % |
| 20 mA AC @ 1.0 kHz | 0.02 | 0.02000145 | 0.0138 % | 0.0199731 | 0.0200269 | 0.0072 % | 0.1207 % | PASS 5.96 % |
| 100 mA AC @ 1.0 kHz | 0.1 | 0.1000169 | 0.0134 % | 0.0998351 | 0.100165 | 0.0169 % | 0.1515 % | PASS 11.10 % |
| 200 mA AC @ 1.0 kHz | 0.2 | 0.2000903 | 0.0134 % | 0.199672 | 0.200328 | 0.0451 % | 0.1507 % | PASS 29.82 % |
| 1.0 A AC @ 1.0 kHz | 1.0 | 0.9994759 | 0.0308 % | 0.995177 | 1.00482 | -0.0524 % | 0.4515 % | PASS 11.58 % |
| 2.0 A AC @ 1.0 kHz | 2.0 | 1.999881 | 0.0308 % | 1.99037 | 2.00963 | -0.0059 % | 0.4507 % | PASS 1.31 % |
| 10 µA AC @ 10.0 kHz | 1e-05 | 9.9986e-06 | 0.1400 % | 9.946E-06 | 1.0054E-05 | -0.0140 % | 0.4000 % | INFO |
| 50 µA AC @ 10.0 kHz | 5e-05 | 5.00803e-05 | 0.1400 % | 4.979E-05 | 5.021E-05 | 0.1606 % | 0.2800 % | PASS 51.30 % |
| 100 µA AC @ 10.0 kHz | 0.0001 | 0.0001000739 | 0.1400 % | 9.9595E-05 | 0.000100405 | 0.0739 % | 0.2650 % | PASS 24.66 % |
| 200 µA AC @ 10.0 kHz | 0.0002 | 0.0002000592 | 0.1400 % | 0.000199205 | 0.000200795 | 0.0296 % | 0.2575 % | PASS 10.10 % |
| 1.0 mA AC @ 10.0 kHz | 0.001 | 0.0009999905 | 0.1400 % | 0.000996085 | 0.00100391 | -0.0009 % | 0.2515 % | PASS 0.33 % |
| 2.0 mA AC @ 10.0 kHz | 0.002 | 0.002000286 | 0.1400 % | 0.00199219 | 0.00200781 | 0.0143 % | 0.2507 % | PASS 4.98 % |
| 10 mA AC @ 10.0 kHz | 0.01 | 0.009999174 | 0.1300 % | 0.00996185 | 0.0100381 | -0.0083 % | 0.2515 % | PASS 2.92 % |
| 20 mA AC @ 10.0 kHz | 0.02 | 0.02000123 | 0.1300 % | 0.0199239 | 0.0200761 | 0.0062 % | 0.2507 % | PASS 2.19 % |
| 100 mA AC @ 10.0 kHz | 0.1 | 0.1000671 | 0.1100 % | 0.0993885 | 0.100611 | 0.0671 % | 0.5015 % | PASS 13.06 % |
| 200 mA AC @ 10.0 kHz | 0.2 | 0.2001628 | 0.1100 % | 0.198779 | 0.201221 | 0.0814 % | 0.5007 % | PASS 15.87 % |
| 1.0 A AC @ 10.0 kHz | 1.0 | 0.997053 | 0.6100 % | 0.978885 | 1.02111 | -0.2947 % | 1.5015 % | PASS 18.18 % |
| 2.0 A AC @ 10.0 kHz | 2.0 | 1.991711 | 0.6100 % | 1.95779 | 2.04221 | -0.4145 % | 1.5007 % | PASS 25.58 % |

Test date

09 April 2023 05:32

Lab temperature maintained +23°C ±2°C

Internal use only

Not validated