



# TEST CERTIFICATE

Product Name : Digital Multi Function Tester

Model Name : KEW6016

管理番号: LHQ-03

SERIAL No. : 8300800

We hereby certify that the above product has been calibrated under our company's regulation and the results of inspection or test shown in the table below have been obtained.

## SPECIFICATION:

| <FUNCTION>                    | <MEASURING RANGE>      | <ACCURACY>                      |
|-------------------------------|------------------------|---------------------------------|
| <u>CONTINUITY RESISTANCE</u>  | 0 - 2kΩ Auto Range     | ( 2.0%rdg±8dgt )                |
| <u>INSULATION RESISTANCE</u>  | 0 - 19.99MΩ Auto Range | (2.0%rdg±6dgt )                 |
|                               | 20 - 2000MΩ Auto Range | (5.0%rdg±6dgt )                 |
| TEST VOLTAGE ACROSS           | 250V                   | ( 0% - +25% AT 0.25MΩ )         |
| OUT PUT TERMINALS             | 500V                   | ( 0% - +25% AT 0.5MΩ )          |
|                               | 1000V                  | ( 0% - +20% AT 1MΩ )            |
| <u>LOOP IMPEDANCE</u>         | 0 - 2000Ω              | ( 3.0%rdg±4dgt )                |
| <u>PSC</u>                    | 0 - 2kA                | ( 20%rdg±5dgt )                 |
|                               | 20kA RANGE             | ( 50%rdg±5dgt )                 |
| <u>RCD (TRIPPING CURRENT)</u> |                        |                                 |
| × 1/2 RANGE                   | 0 - 1000 mA            | ( -10% - 0% of Range at 230V )  |
| × 1 RANGE                     | 0 - 1000 mA            | ( 0% - +10% of Range at 230V )  |
| × 5 RANGE                     | excludes a 10mA range  | ( 0% - +10% of Range at 230V )  |
| DC RANGE                      | excludes a 10mA range  | ( +10% - -5% of Range at 230V ) |
| <u>EARTH RESISTANCE</u>       | 0 - 19.99Ω Auto Range  | (3.0%rdg±0.1Ω )                 |
|                               | 20 - 2000Ω Auto Range  | (3.0%rdg±3dgt )                 |
| <u>AC VOLT</u>                | 25 - 500V              | ( 2.0%rdg±4dgt )                |

DATE INSPECTED 13, Sep, 2021

AMBIENT TEMPERATURE: 24.9 °C

AMBIENT HUMIDITY : 68 %

INSPECTOR:

KUNITOMO ASANO

QUALITY ASSURANCE INSPECTOR

KYORITSU ELECTRICAL INSTRUMENTS  
WORKS, LTD.

APPROVED BY:

YASUNORI NAKANO

SERVICE CENTER GENERAL MANAGER

KYORITSU ELECTRICAL INSTRUMENTS  
WORKS, LTD.

THE FOLLOWING INSTRUMENTS HAVE BEEN USED FOR CALIBRATION.

| STANDARD                           | TYPE           | TRACE NO           | ACCURACY     |
|------------------------------------|----------------|--------------------|--------------|
| SIGNAL GENERATOR & POWER AMPLIFIER | NF-4591 & 4520 | EC024/EC025 /EC026 | ±1.0%        |
| RESISTANCE BOX                     | 021011         | ED135              | ±0.35% - ±5% |
| RESISTANCE BOX                     | 021211         | ED137              | ±1.0% - ±5%  |
| RESISTANCE BOX                     | KMP 02         | ED070              | ±0.2% - ±5%  |
| RESISTANCE BOX                     | 6016 RARTH     | ED196              | ±0.2%        |
| ELCB BOX                           | ---            | EB175              | ±1.0%        |
| DIGITAL MULTIMETER                 | Agilent 34401A | EB202              | ±0.75%       |
| DIGITAL MULTIMETER                 | Agilent 34401A | EB208              | ±0.75%       |





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|      | FUNCTION / RANGE | INPUT VALUE | TOLERANCE     | CALIBRATED VALUE | PASS/FAIL |
|------|------------------|-------------|---------------|------------------|-----------|
| CONT | Cont/R_0         |             | -0.1 - 0.1    | 0.03             | PASS      |
|      | Cont/R_10        |             | 9.72 - 10.28  | 10.01            | PASS      |
|      | Cont/R_100       |             | 97.9 - 102.1  | 100              | PASS      |
|      | Cont/R_190       |             | 186.1 - 193.9 | 189.9            | PASS      |
|      | Cont/R_1000      |             | 980 - 1020    | 1001             | PASS      |
|      | Cont/R_1900      |             | 1862 - 1938   | 1895             | PASS      |
|      | Cont/Cont_∞      |             | >1999 - >1999 | >1999            | PASS      |
|      | Cont/OutmA_0.1   |             | 207 - 263     | 241              | PASS      |
| INS  | 250V/R_0         |             | -0.06 - 0.06  | 0.00             | PASS      |
|      | 250V/R_10M       |             | 9.74 - 10.26  | 9.99             | PASS      |
|      | 250V/R_19M       |             | 18.56 - 19.44 | 18.85            | PASS      |
|      | 250V/R_100M      |             | 94.4 - 105.6  | 99.9             | PASS      |
|      | 250V/R_190M      |             | 179.9 - 200.1 | 189.5            | PASS      |
|      | 250V/OutVolt     |             | 250 - 312     | 294              | PASS      |
|      | 250V/OutmA250k   |             | 1.00 - 1.20   | 1.05             | PASS      |
|      | 250V/OutmA_0     |             | 1.00 - 1.50   | 1.22             | PASS      |
|      | 500V/R_0         |             | -0.06 - 0.06  | 0.00             | PASS      |
|      | 500V/R_10M       |             | 9.74 - 10.26  | 9.98             | PASS      |
|      | 500V/R_19M       |             | 18.56 - 19.44 | 18.87            | PASS      |
|      | 500V/R_100M      |             | 97.4 - 102.6  | 99.8             | PASS      |
|      | 500V/R_190M      |             | 185.6 - 194.4 | 188.7            | PASS      |
|      | 500V/R_1000M     |             | 944 - 1056    | 995              | PASS      |
|      | 500V/R_1900M     |             | 1799 - 2001   | 1881             | PASS      |
|      | 500V/∞           |             | >1999 - >1999 | >1999            | PASS      |
|      | 500V/OutVolt     |             | 500 - 681     | 581              | PASS      |
|      | 500V/OutmA500k   |             | 1 - 1.2       | 1.1              | PASS      |
|      | 1000V/R_0        |             | -0.06 - 0.06  | 0.00             | PASS      |
|      | 1000V/R_10M      |             | 9.74 - 10.26  | 9.99             | PASS      |
|      | 1000V/R_19M      |             | 18.56 - 19.44 | 18.9             | PASS      |
|      | 1000V/R_100M     |             | 97.4 - 102.6  | 99.7             | PASS      |
|      | 1000V/R_190M     |             | 186.6 - 194.4 | 189.5            | PASS      |
|      | 1000V/R_1000M    |             | 944 - 1056    | 989              | PASS      |
|      | 1000V/R_1900M    |             | 1799 - 2001   | 1873             | PASS      |
|      | 1000V/∞          |             | >1999 - >1999 | >1999            | PASS      |
|      | 1000V/OutVolt    |             | 1000 - 1200   | 1122             | PASS      |
|      | 1000V/OutmA1M    |             | 1.00 - 1.20   | 1.08             | PASS      |
| Loop | 20Ω_0            |             | -0.10 - 0.10  | 0.07             | PASS      |
|      | 230V 20Ω_1       |             | 0.87 - 1.13   | 1.06             | PASS      |
|      | 20Ω_18           |             | 18.33 - 19.67 | 18.08            | PASS      |
|      | 200Ω_100         |             | 96.7 - 103.3  | 100              | PASS      |
|      | 200Ω_180         |             | 174.2 - 185.8 | 181.1            | PASS      |
|      | 2000Ω_1000       |             | 967 - 1033    | 1001             | PASS      |
|      | 2000Ω_1800       |             | 1742 - 1858   | 1797             | PASS      |
|      | 2000Ω_5k         |             | >1999 - >1999 | >1999            | PASS      |



**KYORITSU ELECTRICAL INSTRUMENTS WORKS, LTD.**

2-5-20, Nakane, Meguro-ku, Tokyo, 152-0031 Japan

Phone: +81-3-3723-0131 Fax: +81-3-3723-0152 URL: http://www.kew-ltd.co.jp

Model Name : KEW6016

管理番号: LHQ-03

SERIAL No. 8300800

| FUNCTION / RANGE                        | INPUT VALUE | TOLERANCE     | CALIBRATED VALUE | PASS/FAIL |
|-----------------------------------------|-------------|---------------|------------------|-----------|
| Loop 20 $\Omega$ 0att                   |             | -0.02 - 0.1   | 0.03             | PASS      |
| 230V 20 $\Omega$ 1att                   |             | 0.95 - 1.13   | 1.03             | PASS      |
| 20 $\Omega$ 18att                       |             | 17.44 - 18.64 | 18.06            | PASS      |
| 200 $\Omega$ 100att                     |             | 96.4 - 103.6  | 100.1            | PASS      |
| 200 $\Omega$ 180att                     |             | 174 - 186     | 180              | PASS      |
| 20 $\Omega$ 0L-N                        |             | 0.00 - 0.08   | 0.02             | PASS      |
| 20 $\Omega$ 10L-N                       |             | 9.70 - 10.38  | 10.04            | PASS      |
| Loop 20 $\Omega$ 0L-N                   |             | -0.04 - 0.12  | 0.1              | PASS      |
| 400V 20 $\Omega$ 10L-N                  |             | 9.66 - 10.42  | 10.04            | PASS      |
| PSC PSC 0.02L-N                         |             | 2.16 - 13.11  | 5.57             | PASS      |
| PFC PFC 0.02                            |             | 2.16 - 13.11  | 2.68             | PASS      |
| PFC PFC 1att                            |             | 196 - 251     | 224              | PASS      |
| RCD RCD x1orUcV 30mA/1k $\Omega$ UL25V  |             | Uc>UL - Uc>UL | Uc>UL            | PASS      |
| RCD RCD x1orUcV 30mA/1k $\Omega$ UL50V  |             | >550 - >550   | >550             | PASS      |
| RCD RCD x1orUcV 100mA/1k $\Omega$ UL50V |             | Uc>UL - Uc>UL | Uc>UL            | PASS      |
| RCD RCD x1orUcV 1000mA/10 $\Omega$      |             | 9.8 - 12.2    | 11.0             | PASS      |
| RCD RCD x1orUcV 10mA/1000 $\Omega$      |             | 9.8 - 12.2    | 11.1             | PASS      |
| RCD RCD x1orUcV 10mA/0 $\Omega$         |             | -0.8 - 0.8    | 0.0              | PASS      |
| RCD RCD x1orUcV 10mA/5000 $\Omega$      |             | 52.2 - 57.8   | 54.9             | PASS      |
| RCD RCD x1orUcV 500mA/100 $\Omega$      |             | 52.2 - 57.8   | 55               | PASS      |
| RCD RCD x1orUcV 1000mA/0 $\Omega$       |             | -0.8 - 0.8    | 0.0              | PASS      |
| Volts Voltage                           |             | 221 - 239     | 231              | PASS      |
| Volts Frequency                         |             | 49.6 - 50.4   | 50.0             | PASS      |
| x 1/2 10mA                              |             | 4.6 - 4.9     | 4.7              | PASS      |
| x 1/2 30mA                              |             | 13.8 - 14.7   | 14.1             | PASS      |
| x 1/2 100mA                             |             | 46 - 49       | 48               | PASS      |
| x 1/2 300mA                             |             | 138 - 147     | 143              | PASS      |
| x 1/2 500mA                             |             | 230 - 245     | 238              | PASS      |
| x 1/2 1000mA                            |             | 460 - 490     | 478              | PASS      |
| x 1 10mA                                |             | 10.2 - 10.8   | 10.5             | PASS      |
| x 1 30mA                                |             | 30.6 - 32.4   | 31.4             | PASS      |
| x 1 100mA                               |             | 102 - 108     | 104              | PASS      |
| x 1 300mA                               |             | 306 - 324     | 317              | PASS      |
| x 1 500mA                               |             | 510 - 540     | 528              | PASS      |
| x 1 1000mA                              |             | 1020 - 1080   | 1053             | PASS      |
| x 1 180° 30mA                           |             | 30.6 - 32.4   | 31.3             | PASS      |
| x 5 10mA                                |             | 51 - 54       | 53               | PASS      |
| x 5 30mA                                |             | 153 - 162     | 159              | PASS      |
| x 5 100mA                               |             | 510 - 540     | 530              | PASS      |
| AUTO 30mA                               |             | 31.68 - 34.32 | 32.87            | PASS      |
| G-A+x1 30mA                             |             | 27.0 - 29.7   | 28.4             | PASS      |
| G-A-x1 30mA                             |             | -29.7 - -27.0 | -28.4            | PASS      |

RESULT OF CALIBRATION PASSED





Issue No. : 8300800

Date of Issue : September 14, 2021

## Calibration Certificate

To: 株式会社ライトハウス

共立電気計器株式会社  
KYORITSU ELECTRICAL INSTRUMENTS WORKS, LTD.

Product Name : DIGITAL MULTI FUNCTION TESTER

Model Name : KEW6016

Serial No. : 8300800

Date of Calibration : 13, Sep, 2021

The above product has been calibrated under our company's regulation and the results of inspection or test satisfy the requirements of specifications.

The standards used for this calibration are as shown below. This is to certify that these devices are traceable in accordance with our internal calibration system to National Institute of Advanced Industry and Science Technology(AIST), Japan Electric Meters Inspection Corporation (Public Calibration Agency) and public organizations like National Institute of Standards and Technology(NIST), etc.

### 1. Standards used for calibration

| STANDARD USED                      | TYPE           | REGISTER NO. |
|------------------------------------|----------------|--------------|
| SIGNAL GENERATOR & POWER AMPLIFIER | NF-4591 & 4520 | EC024        |
|                                    |                | EC025        |
|                                    |                | EC026        |
| RESISTANCE BOX                     | 021011         | ED135        |
| RESISTANCE BOX                     | 021211         | ED137        |
| RESISTANCE BOX                     | KMP 02         | ED070        |
| RESISTANCE BOX                     | 6016 EARTH     | ED196        |
| ELCB BOX                           | ----           | EB175        |
| DIGITAL MULTIMETER                 | Agilent 34401A | EB202        |
| DIGITAL MULTIMETER                 | Agilent 34401A | EB208        |

### 2. Standards traced for verification

| Standards traced for verification | Type                       | Serial No.  |
|-----------------------------------|----------------------------|-------------|
| Calibrator                        | FLUKE 5522A                | 2762901     |
| 8 1/2 Digit Multimeter            | Agilent Technologies 3458A | US280 33339 |



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管理番号: LHQ-03

発行日: 14, Sep, 2021

Date of Issue

**電気計測器の校正系統図****Calibration System for Electrical Measuring Instruments**

To: 株式会社ライトハウス

**共立電気計器株式会社**

KYORITSU ELECTRICAL INSTRUMENTS WORKS, LTD.

国家標準及び国家検定機関

National Standards and Inspection Organizations

