



## TEST CERTIFICATE

Product Name : Digital Multi Function Tester

Model Name : KEW6016

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>                      |
|------------------------|--------------------------------|---------------------------------|
| CONTINUITY RESISTANCE  | 0 - 2k $\Omega$ Auto Range     | ( 2.0%rdg $\pm$ 8dgt )          |
| INSULATION RESISTANCE  | 0 - 19.99M $\Omega$ Auto Range | (2.0%rdg $\pm$ 6dgt)            |
|                        | 20 - 2000M $\Omega$ Auto Range | (5.0%rdg $\pm$ 6dgt)            |
| TEST VOLTAGE ACROSS    | 250V                           | ( 0% - +25% AT 0.25M $\Omega$ ) |
| OUT PUT TERMINALS      | 500V                           | ( 0% - +25% AT 0.5M $\Omega$ )  |
|                        | 1000V                          | ( 0% - +20% AT 1M $\Omega$ )    |
| LOOP IMPEDANCE         | 0 - 2000 $\Omega$              | ( 3.0%rdg $\pm$ 4dgt )          |
| PSC                    | 0 - 2kA                        | ( 20%rdg $\pm$ 5dgt )           |
|                        | 20kA RANGE                     | ( 50%rdg $\pm$ 5dgt )           |
| RCD (TRIPPING CURRENT) |                                |                                 |
| × 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 ) |
| EARTH RESISTANCE       | 0 - 19.99 $\Omega$ Auto Range  | (3.0%rdg $\pm$ 0.1 $\Omega$ )   |
|                        | 20 - 2000 $\Omega$ Auto Range  | (3.0%rdg $\pm$ 3dgt)            |
| AC VOLT                | 25 - 500V                      | ( 2.0%rdg $\pm$ 4dgt )          |

DATE INSPECTED 03, Sep, 2020

AMBIENT TEMPERATURE: 23.0 °C

AMBIENT HUMIDITY : 55 %

INSPECTOR: *M. Tanaka*  
 MASAHIRO TANAKA  
 QUALITY ASSURANCE INSPECTOR  
 KYORITSU ELECTRICAL INSTRUMENTS  
 WORKS, LTD.

APPROVED BY: *Y. Nakano*  
 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 | $\pm 1.0\%$              |
| RESISTANCE BOX                     | 021011         | ED135               | $\pm 0.35\%$ - $\pm 5\%$ |
| RESISTANCE BOX                     | 021211         | ED137               | $\pm 1.0\%$ - $\pm 5\%$  |
| RESISTANCE BOX                     | KMP 02         | ED070               | $\pm 0.2\%$ - $\pm 5\%$  |
| RESISTANCE BOX                     | 6016 RARTH     | ED196               | $\pm 0.2\%$              |
| ELCB BOX                           | —              | EB175               | $\pm 1.0\%$              |
| DIGITAL MULTIMETER                 | Agilent 34401A | EB202               | $\pm 0.75\%$             |
| DIGITAL MULTIMETER                 | Agilent 34401A | EB208               | $\pm 0.75\%$             |



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|      | FUNCTION / RANGE | INPUT VALUE | TOLERANCE     | CALIBRATED VALUE | PASS/FAIL |
|------|------------------|-------------|---------------|------------------|-----------|
| CONT | Cont/R_0         |             | -0.1 - 0.1    | 0.08             | PASS      |
|      | Cont/R_10        |             | 9.72 - 10.28  | 9.94             | PASS      |
|      | Cont/R_100       |             | 97.9 - 102.1  | 100              | PASS      |
|      | Cont/R_190       |             | 186.1 - 193.9 | 189.8            | PASS      |
|      | Cont/R_1000      |             | 980 - 1020    | 1001             | PASS      |
|      | Cont/R_1900      |             | 1862 - 1938   | 1893             | 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  | 9.98             | 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 | 189.3            | 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 | 18.86            | PASS      |
|      | 500V/R_100M      |             | 97.4 - 102.6  | 99.8             | PASS      |
|      | 500V/R_190M      |             | 185.6 - 194.4 | 188.8            | PASS      |
|      | 500V/R_1000M     |             | 944 - 1056    | 997              | PASS      |
|      | 500V/R_1900M     |             | 1799 - 2001   | 1889             | PASS      |
|      | 500V/∞           |             | >1999 - >1999 | >1999            | PASS      |
|      | 500V/OutVolt     |             | 500 - 681     | 580              | 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  | 9.97             | PASS      |
|      | 1000V/R_19M      |             | 18.56 - 19.44 | 18.88            | PASS      |
|      | 1000V/R_100M     |             | 97.4 - 102.6  | 99.8             | PASS      |
|      | 1000V/R_190M     |             | 186.6 - 194.4 | 189.2            | PASS      |
|      | 1000V/R_1000M    |             | 944 - 1056    | 997              | PASS      |
|      | 1000V/R_1900M    |             | 1799 - 2001   | 1897             | 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                | PASS      |
|      | 230V 20Ω_1       |             | 0.87 - 1.13   | 0.96             | 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    | 1000             | PASS      |
|      | 2000Ω_1800       |             | 1742 - 1858   | 1796             | PASS      |
|      | 2000Ω_5k         |             | >1999 - >1999 | >1999            | PASS      |



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| FUNCTION / RANGE                       | INPUT VALUE | TOLERANCE     | CALIBRATED VALUE | PASS/FAIL |
|----------------------------------------|-------------|---------------|------------------|-----------|
| Loop 20 $\Omega$ 0att                  |             | -0.02 - 0.1   | 0.04             | PASS      |
| 230V 20 $\Omega$ 1att                  |             | 0.95 - 1.13   | 1.04             | 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   | 0.12             | PASS      |
| 20 $\Omega$ 10L-N                      |             | 9.70 - 10.38  | 10.05            | PASS      |
| Loop 20 $\Omega$ 0L-N                  |             | -0.04 - 0.12  | 0.03             | PASS      |
| 400V 20 $\Omega$ 10L-N                 |             | 9.66 - 10.42  | 10.04            | PASS      |
| PSC PSC 0.02L-N                        |             | 2.16 - 13.11  | 5.97             | PASS      |
| PFC PFC 0.02                           |             | 2.16 - 13.11  | 2.64             | PASS      |
| PFC 1att                               |             | 196 - 251     | 225              | PASS      |
| RCD RCD x1orUcV 30mA/1k $\Omega$ UL25V |             | Uc>UL - Uc>UL | Uc>UL            | PASS      |
| RCD x1orUcV 30mA/1k $\Omega$ UL50V     |             | >550 - >550   | >550             | PASS      |
| RCD x1orUcV 100mA/1k $\Omega$ UL50V    |             | Uc>UL - Uc>UL | Uc>UL            | PASS      |
| RCD x1orUcV 1000mA/10 $\Omega$         |             | 9.8 - 12.2    | 11.0             | PASS      |
| RCD x1orUcV 10mA/1000 $\Omega$         |             | 9.8 - 12.2    | 11.1             | PASS      |
| RCD x1orUcV 10mA/0 $\Omega$            |             | -0.8 - 0.8    | 0.0              | PASS      |
| RCD x1orUcV 10mA/5000 $\Omega$         |             | 52.2 - 57.8   | 54.6             | PASS      |
| RCD x1orUcV 500mA/100 $\Omega$         |             | 52.2 - 57.8   | 55               | PASS      |
| 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     | 144              | PASS      |
| x 1/2 500mA                            |             | 230 - 245     | 239              | PASS      |
| x 1/2 1000mA                           |             | 460 - 490     | 480              | PASS      |
| x 1 10mA                               |             | 10.2 - 10.8   | 10.6             | PASS      |
| x 1 30mA                               |             | 30.6 - 32.4   | 31.3             | PASS      |
| x 1 100mA                              |             | 102 - 108     | 104              | PASS      |
| x 1 300mA                              |             | 306 - 324     | 317              | PASS      |
| x 1 500mA                              |             | 510 - 540     | 529              | PASS      |
| x 1 1000mA                             |             | 1020 - 1080   | 1056             | 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     | 529              | PASS      |
| AUTO 30mA                              |             | 31.68 - 34.32 | 32.86            | PASS      |
| G-A+xI 30mA                            |             | 27.0 - 29.7   | 28.4             | PASS      |
| G-A-xI 30mA                            |             | -29.7 - -27.0 | -28.5            | PASS      |

RESULT OF CALIBRATION PASSED



Issue No. : 8300800

Date of Issue : September 4, 2020

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 TESTERModel Name : KEW6016Serial No. : 8300800Date of Calibration : 03, Sep, 2020

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 |



## 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

発行日: 04, Sep, 2020

Date of Issue

国家標準及び国家検定機関

National Standards and Inspection Organizations



共立電気計器株式会社

KYORITSU ELECTRICAL INSTRUMENTS WORKS, LTD.



米国国立標準技術研究所 (NIST)  
National Institute of Standards and Technology

産業技術総合研究所 (AIST)  
National Institute of Advanced Industrial  
Science and Technology

日本電気計器検定所 (JEMIC)  
Japan Electric Meters Inspection  
Corporation

株式会社 フルーク社  
Fluke Corporation

キーサイト・テクノロジー  
合同会社  
Keysight Technologies Inc.

校正器  
Calibrator  
FLUKE 5522A

デジタルマルチメータ  
Digital Multimeter  
Agilent 3458A

標準抵抗器  
Standard Resistor  
YOKOGAWA 2782  
YOKOGAWA 2792  
YOKOGAWA 2792A

校正器  
Calibrator  
FLUKE 5500A

マルチメータ  
Multimeter  
FLUKE 45

KMP抵抗試験器  
Resistance Box for  
KMP  
KYORITSU ED070

ELCB試験器  
Examination  
Device for ELCB  
KYORITSU  
EB175

6016EARTH試験器  
Resistance Box for  
6016Earth  
KYORITSU ED196

6011A抵抗メガ検査器  
Resistance Box for  
6011A  
KYORITSU ED135

RCD電流電圧変換器  
Resistance Box for RCD  
KYORITSU ED137

400V LOOP試験器  
Resistance Box for 400V  
LOOP  
KYORITSU ED174

マルチファンクションテスタ  
Digital Multi Function Tester  
型名/Model Name : 6016 製造番号/Serial Number: 8300800