NEW

Quality and reliability is our tradition

KYORITSU®

Digital High Voltage Insulation Tester
KEW 3128

- Microprocessor controlled high voltage insulation resistance tester with Diagnostic functions.
- Suitable for analyzing the insulation characteristics of cables, transformers, motors, generators, high-pressure switches, insulators, wiring installations, etc.
- 6 ranges: 500V, 1000V, 2500V, 5000V, 10000V, 12000V
  Fine adjustment of voltage setting at each range is also possible.
- Graphic representation of the insulation resistance and leakage current versus time on large display with bar graph and backlight.
- Can be operated from built-in rechargeable battery or from AC line.
- Automatic discharge after test with monitoring of the discharge voltage.
- Internal memory can store about 40,000 data (max).
- Robust design for field use with IP64 rating (with lid closed).

KYORITSU ELECTRICAL INSTRUMENTS WORKS,LTD.

http://www.kew-ltd.co.jp

KEW 3128 Functions

The KEW 3128 highest test voltage of 12kV offers greater flexibility for the testing of HV Machines than instruments with 5/10 kV test voltages that are normally available on the market.

The very high short-circuit current up to 5mA speeds up testing of capacitive loads minimizing charging times.

Wide insulation resistance measurements up to 35TΩ allows trends of good insulation to be monitored.

Six standard test voltages:
500V, 1000V, 2500V, 5000V, 10000V and 12000V. Fine adjustment of test voltage allows insulation testing according to manufacturers' specification.

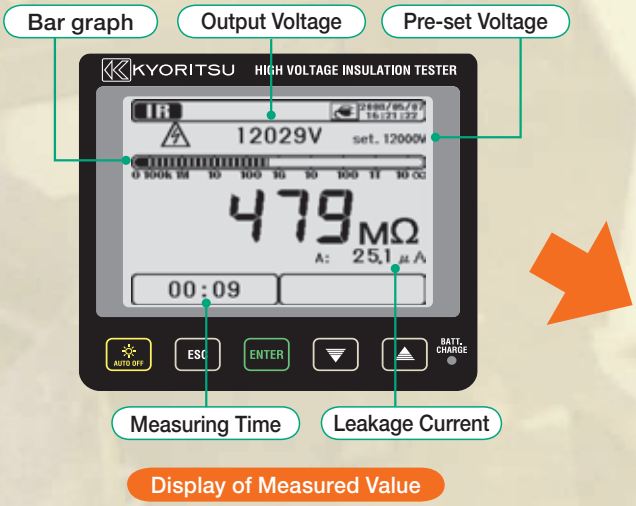
Safety Design
- Complies with IEC 61010-1 CAT.IV 600V, ideal protection level for industrial use.
- Live circuit warning by message on display and buzzer.
- Automatic discharge after test with monitoring of the discharge voltage.

Dual Power Supply
Rechargeable Battery and AC Power source. The built-in charger can charge the battery and supply power to the KEW3128 simultaneously.

Dust and Drip Proof Design
Robust design complies with IEC 60529 (IP64), with lid closed

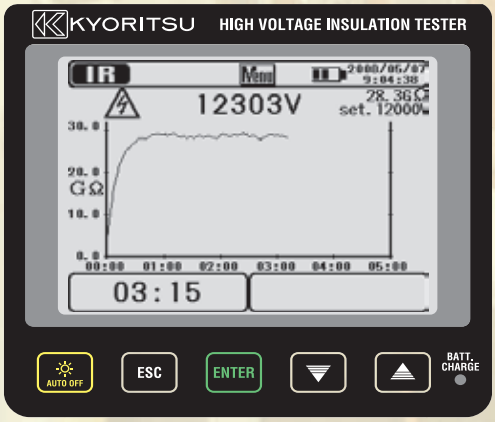
Large Graphical Display (5.7 Inch, 320 × 240 dots)

Graphic representation of the insulation resistance and leakage current versus time on large display with bar graph and backlight.



Display of Measured Value

No need for an extra recorder
- Measurement up to 90 min is possible.
- Zoom in/out and scrolling of graphs is possible.



Graphic representation

Memory Function
- Internal memory can store up to 40,000 data in 32 files (max.)
- Recording function up to 90 min with sampling interval of 1 sec.
- Print Screen function enables to record the display screens in BMP files.

Filters Function
This function is particularly useful for insulation resistance measurement that is unstable and difficult to read. In such cases, KEW3128 offers a selection from three kinds of filter.

Leakage current and Capacitance measurements
During the Insulation Resistance tests, the leakage current is also displayed.
The capacitance of the object under test is also displayed after Insulation Resistance tests.

Voltage and Frequency measurements
Voltage from 30 to 600V AC/DC and Frequency measurements from 45 to 65Hz.

Diagnostic Insulation Tests

In addition to the classical “spot“ Insulation Resistance tests, Leakage current and Capacitance measurements, KEW 3128 offers the following valuable Diagnostic Insulation tests.

PI Measurement (Polarization Index) PI

This diagnostic test recognises the fact that "good" insulation will show a gradually increasing of Insulation Resistance after the test voltage is applied. The Insulation Resistance is measured at two different times: normally at 1 min and 10 min (other time settings are possible). Then the instrument divides later reading by the earlier reading, obtaining the result so called the Polarization Index (PI). PI is dependent on the shape of insulation, influenced by moisture and it does not need to be temperature corrected.

$$\text{Polarization index} = \frac{\text{TIME 2: Insulation resistance value 3 -10 min. after starting measurement}}{\text{TIME 1: Insulation resistance value 30 sec. - 1 min. after starting measurement}}$$

PI	4.0 or more	4.0 ~ 2.0	2.0 ~ 1.0	1.0 or less
Criteria	Best	Good	Warning	Bad

DAR Measurement (Dielectric Absorption Ratio) DAR

DAR measurement is a diagnostic test similar to the Polarization Index (PI), but DAR takes the ratio of the Insulation Resistance usually measured at 30 sec and 1 min (other time settings are possible) instead of 1 min and 10 min typically of the PI.
DAR measurements are useful for instance when the PI is 2 or less even for new objects under test. In such cases, a min DAR value of 1.25 is required.

$$\text{Dielectric Absorption Ratio} = \frac{\text{TIME2: Insulation resistance value 30 sec. - 1 min. after starting measurement}}{\text{TIME1: Insulation resistance value 15 - 30 sec. after starting measurement}}$$

DAR	1.4 or more	1.25~1.0	1.0 or less
Criteria	Best	Good	Bad

DD Measurement (Dielectric Discharge) DD

This measurement method is usually used to diagnosis multi-layer insulations, which requires the instrument to measure the discharge current and capacitance of the measured object 1 min after the removal of the test voltage. This is a very good diagnostic insulation test that allows deterioration and other problems voids in the multiple insulations to be assessed.

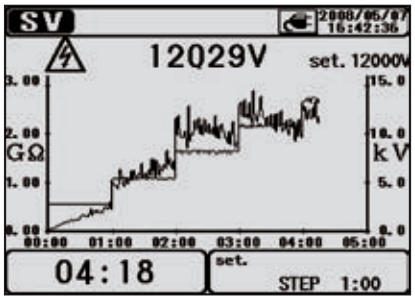
$$\text{Dielectric Discharge} = \frac{\text{Current value 1 min. after completing measurement (mA)}}{\text{Voltage value when a measurement complete x Capacitance (F)}}$$

* This criteria is a guide and could be slightly changed and be adapted to particular objects under test based on practical experience of the users.
* This method has been established to test high voltage generators installed in electric power plants in some Europe countries.

DD	2.0 or less	2.0~4.0	4.0~7.0	7.0 or more
Criteria	Good	Warning	Poor	Very Poor

SV Measurement (Step Voltage) SV

This is a test based on the principle that an ideal insulation will produce identical readings at all voltages, while an insulation which is being over stressed, will show lower insulation values at higher voltages. During the test, the applied voltage incrementally steps by a certain voltage taking successive 5-time measurement. Degradation of insulation may be doubted when insulation resistances become lower at higher applied voltages.



Data Communication Function

Dedicated application software KEW Windows and special USB adaptor KEW 8212-USB are included as standard accessories. KEW Windows software allows:

- Downloading saved data to a PC
- Transferring and showing real-time data to a PC
- Analyzing of the saved data
- Setting-up KEW3128 via PC

●KEW 3128 Specification

Insulation resistance						
Rated voltage	500V	1000V	2500V	5000V	10000V	12000V
Max measurement value	500GΩ	1TΩ	2.5TΩ	5TΩ	35TΩ	
Accuracy	0~50GΩ ±5%rdg±3dgt *Accuracy is not guaranteed with setting of 250V or less	0~100GΩ ±5%rdg±3dgt	0~250GΩ ±5%rdg±3dgt	0~500GΩ ±5%rdg±3dgt	0~1TΩ ±5%rdg±3dgt	
	50G~500GΩ ±20%rdg *Accuracy is not guaranteed with setting of 250V or less	100G~1TΩ ±20%rdg	250G~2.5TΩ ±20%rdg	500G~5TΩ ±20%rdg	1T~10TΩ ±20%rdg	
					10T~35TΩ Values are displayed, but accuracy isn't guaranteed	
Short circuit current	Max 5.0mA					
Load resistor to output rated voltage	0.5MΩ or more	1MΩ or more	2.5MΩ or more	5MΩ or more	20MΩ or more	24MΩ or more
Output voltage						
Rated voltage	500V	1000V	2500V	5000V	10000V	12000V
Monitor accuracy	±10%±20V	±10%±20V	±10%±20V	±10%±20V	±10%±20V	±10%±20V
Output accuracy	0~+20%	0~+10%	0~+10%	0~+10%	-5~+5%	-5~+5%
Selectable range	50~600V (in steps of 5V)	610~1200V (in steps of 10V)	1225~3000V (in steps of 25V)	3050~6000V (in steps of 50V)	6100~10000V (in steps of 100V)	10100~12000V (in steps of 100V)
Voltage measurement						
Measuring range	DCV : ±30~±600V, ACV : 30~600V(50/60Hz)					
Accuracy	±2%rdg±3dgt					
Current measurement						
Measuring range	5.0nA~2.40mA (Depending on the insulation resistance)					
Capacitance measurement						
Measuring range	5.0nF~50.0μF				5.0nF~1.0μF (display range: 5.0nF~50.0μF)	
Accuracy	±5%rdg±5dgt					
General						
Withstand voltage	AC8770V : between line terminal and enclosure / 5sec (50/60Hz) AC6880V : between the measuring terminal and enclosure / 5sec (50/60Hz) AC2330V : between the power connector and enclosure / 5sec (50/60Hz)					
Operating temperature & humidity range	-10°C~50°C / Relative humidity 85% or less (when operating with an external power supply, no condensation) 0°C~40°C / Relative humidity 85% or less (when operating with battery, no condensation)					
Storage temperature & humidity range	-20°C~60°C / Relative humidity 75% or less (no condensation)					
Applicable standards	IEC 61010-1 CAT.Ⅳ 600V Pollution degree 2, IEC 61010-031, IEC 61326, IEC 60529(IP64): with the lid closed.					
Power source	Rechargeable Lead storage battery (12V)*Charging time: approx. 8 hours / AC Power supply (100V~240V, 50/60Hz) *Continuous measuring time: approx. 4 hours a load of 100MΩ at the Insulation resistance 12000V Range.					
Dimension	330(L) × 410(W) × 180(D)mm *Instrument and Hard case					
Weight	9kg approx. (including battery) *Instrument and Hard case					
Accessories	7226(Line probe), 7227(Line probe with alligator clip), 7224(Earth cord), 7225(Guard cord), 7170(Main cord), 8029(Extension prod) 8212-USB-W(USB adaptor with KEW Windows(Software)), Instruction manual, Calibration Certificate					

EVERYTHING YOU NEED....

KEW3128 comes with everything you need for the Insulation Resistance measurements and diagnostic tests of the object under test.
A full set of accessories is included : HV Line probe, HV Line probe with alligator clip, Earth and Guard cords, extension prod and main cord.
PC software for downloading and interpreting of data and a dedicated interface cable with USB are included. The instrument also comes in a robust hard case, a quick reference guide is attached to the case lid and it is supplied with a calibration certificate.

Safety Warnings :

Please read the "Safety Warnings" in the instruction manual supplied with the instrument thoroughly and completely for correct use. Failure to follow the safety rules can cause fire, trouble, electrical shock, etc. Therefore, make sure to operate the instrument on a correct power supply and voltage rating marked on each instrument.

For inquires or orders :

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