

DIGITAL MΩ HI TESTER

**3116**

# Three-range Digital Insulation Tester

- Measurement voltages: 250V, 500V, 1000V
- Insulation resistance: 2MΩ to 2000MΩ, fully autoranging
- 200Ω, 2kΩ resistance measurement ranges
- AC voltage measurements up to 600V
- Back-illuminated LCD
- Convenient probe with switch (sold separately)



### MΩ Measurement Section

The 3116 more than satisfy JIS open-circuit terminal voltage standards and can measure even low insulation resistance with greater than the rated voltage (example: measurement up to 500V/0.5MΩ).

Measurements up to 2000MΩ with a measurement voltage of 250V, 500V and 1000V provide a broad range of measurement capability. Eight type AA batteries are used and a BATT mark appears when batteries become worn.

### Back-Illuminated LCD

This display enables easy reading even in dark locations.

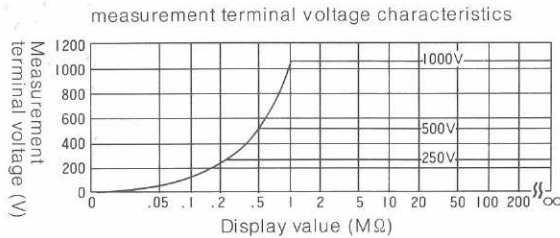
### Light Switch

Simply press this switch once to back-illuminate the LCD for approximately ten seconds.

### Measurement Switch

This feather-touch measurement switch may be locked into position. With the unit switched OFF, the displayed value is automatically held as a convenience in reading values. A convenient probe with switch is available as well.

### Neckstrap case for Hands-Free operation



### Voltage Detection Indicator Lamp

In the MΩ and ACV ranges, this lamp indicates that the measurement line has been activated. In the MΩ ranges, the lamp lights when the measurement switch is ON to indicate that high-voltage is being generated.

### Three Measurement Voltage Settings

Three values of measurement voltage—250, 500 and 1000V may be selected.

This position switches all power OFF.

### Resistance Measurement

Full autoranging between 200Ω and 2kΩ ranges.

### AC Voltage Measurements

AC voltage measurements to 600VAC enable line voltage measurement as well.

### 9139 Switched probe (option)

9139 Probe use allows you to lock the power ON, controlling ON/OFF operations from the probe, resulting in more efficient battery usage and additional safety.



### General Specifications

Operating method: Integration type  
 Display: Liquid crystal display (maximum indication 1999) (except for the AC 600V range), including units and symbols  
 Range switching: Fully auto-ranging  
 Input/over indicator: Most significant digit flashed "1" (except for the AC 600V range)  
 Battery low indicator: "BATT" mark appears at 8.7V ± 0.3V  
 Sampling rate: 2 times/second  
 Operating temperature/humidity: 0 to 40°C, 80% RH max. (with no condensation)  
 Power supply: Eight type AA batteries  
 Continuous operating time and number of measurements: MΩ ready condition: Approx. 44hr (manganese batteries) MΩ ON/OFF: Approx. 1500 times (with manganese batteries) (1MΩ/1000V ON: 5s, OFF: 25s)  
 Dielectric Strength: 2.2kVAC for one minute (between input terminals and outer case)  
 Dimensions: Approx. 170H×114W×67Dmm  
 Weight: 685g (including batteries)  
 Accessories: Carrying case, measurement probe, spare fuse (0.5A/250V, 6.4 dia. × 30mm long tubular fuse with arc suppressant), eight type AA batteries.  
 Option: 9139 switched probe

### Additional Functions

Display hold: MΩ function only  
 Voltage detection indicator: In the MΩ and ACV functions, an LED lights for an input of 50VAC or greater.  
 In the MΩ function, an LED lights when high voltage is being generated.  
 Display lamp: Approx. 8s when a switch is pressed (LCD back illumination)

### Measurement Ranges

(At 23°C ± 5°C, 80% RH max.)

#### Insulation resistance measurement

Rated voltage	250V	500V	1000V
Measurement range	2M, 20M, 200M, 2000MΩ (Fully auto-ranging)		
Response time	3s max. (measuring 100MΩ starting at open terminals)		
Accuracy	(19.99MΩ max.) ± 2% rdg. ± 8dgt.	(500MΩ max.) ± 2% rdg. ± 8dgt.	(1000MΩ max.) ± 2% rdg. ± 8dgt.
	(20.0MΩ min.) ± 5% rdg. ± 8dgt.	(501MΩ min.) ± 5% rdg. ± 8dgt.	(1001MΩ min.) ± 3% rdg. ± 8dgt.
Measurement terminal voltage	(0.25MΩ~∞) 250V~275V	(0.5MΩ~∞) 500V~550V	(1MΩ~∞) 1000V~1100V
Measurement current	(10MΩ) 1.5mA max. (0.25MΩ) 1mA	(0.5MΩ) 1mA	(1MΩ) 1mA
Overload protection	300V DC or DC+AC peak for 1 min. (between measurement terminals) 600V DC or DC+AC peak for 1 min. (between measurement terminals) 1000V DC or DC+AC peak for 1 min. (between guard and measurement terminals)		

#### AC Voltage Measurement

Measurement range	600V
Accuracy	± 1% rdg. ± 6dgt.
Frequency response	40~100Hz
Input resistance	Approx. 10MΩ
Residual digits	2dgt. max.
Overload protection	850V DC or DC+AC peak (1min.)

#### Resistance Measurement

Measurement range	200Ω 2kΩ (Fully auto-ranging)
Accuracy	± 0.8% rdg. ± 4dgt.
Open-circuit terminal voltage	0.5V max.
Overload protection	250V DC or AC rms (Fuse protected)

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