

# SEW

# DIGITAL 10kV / 5kV HIGH VOLTAGE INSULATION TESTER



• 4310 IN



• 4305 IN

- 2 Lines × 16 Characters LCD
- Microprocessor-controlled
- Tests insulation resistance up to 2 TΩ for 4310 IN to 1 TΩ for 4305 IN
- 4 Insulation test voltages: 1000V, 2500V, 5000V, 10000V for 4310 IN 500V, 1000V, 2500V, 5000V for 4305 IN
- AC / DC Voltmeter (30~600V)
- Short-circuit current up to 5mA
- PI (Polarization Index) indication
- DAR (Dielectric Absorption Ratio) indication
- Auto-ranging on all insulation ranges
- Auto-hold function to freeze reading
- Overload protection
- Adjustable testing duration: 1~30 minutes
- Internal memory for data storage
- Displays testing duration for insulation measurement
- Auto-off function
- 200 measurement results can be saved in memory and recalled on display

STANDARD ELECTRIC WORKS CO., LTD.  
www.sew.com.tw

5F., NO.105, JHONGCHENG RD., TUCHENG DIST.,  
NEW TAIPEI CITY 23674, TAIWAN (R.O.C.)  
TEL: 886-2-22681528  
FAX: 886-2-22681529  
e-mail: sales@sew.com.tw

Model

**4310 IN (10kV)**  
**4305 IN (5kV)**

## SPECIAL FUNCTIONS

### Voltmeter

Conventional insulation testers are highly susceptible to damage when testing insulation resistance while voltage is present on the measured object (whether ACV or DCV). To safely prevent damage, this new line of testers has the unique ability to sense voltage on a measured object. If any voltage is sensed, the tester will automatically switch to voltage detection mode and display the voltage finding on the LCD screen. This allows the user to prevent damage caused by attempting to measure insulation resistance while voltage is present.

### DAR = Dielectric Absorption Ratio

The Dielectric Absorption Ratio is the ratio of the insulation resistance measured at 1 minute divided by the insulation resistance measured at 30 seconds. Thirty seconds after starting a test, the tester will beep, indicating that the resistance value measured at 30 seconds has been saved. One minute after starting a test, the tester will beep again, indicating that the DAR result has been computed. The display format then changes to display the DAR result.

$$\text{DAR} : \frac{\text{1-min insulation resistance}}{\text{30-sec insulation resistance}}$$

### PI = Polarization Index

The Polarization Index is the ratio of the insulation resistance measured at 10 minutes divided by the insulation resistance measured at 1 minute. One minute after starting a test, the resistance value is saved and the DAR is displayed. The test then continues, and after 10 minutes, the tester will beep again, indicating that the PI result has been computed. The display format changes to display the PI result.

$$\text{PI} : \frac{\text{10-min insulation resistance}}{\text{1-min insulation resistance}}$$

Tests on lower insulation resistance take longer, which tends to deteriorate the test specimen. Thus, higher DAR or PI readings (closer to 1) would indicate a better grade of insulation.



# SEW

## SPECIFICATIONS

	4305 IN	4310 IN
<b>Test voltage</b>	500V, 1000V, 2500V, 5000V	1000V, 2500V, 5000V, 10000V
<b>Insulation resistance</b>	100GΩ / 500V 200GΩ / 1000V 500GΩ / 2500V 1TΩ / 5000V	100GΩ / 1000V 200GΩ / 2500V 500GΩ / 5000V 2TΩ / 10000V
<b>Accuracy</b>	±(5.0%rdg + 5dgt)	
<b>Resolution</b>	1000MΩ: 1MΩ 10GΩ: 0.01GΩ 100GΩ: 0.1GΩ 1TΩ: 1GΩ	1000MΩ: 1MΩ 10GΩ: 0.01GΩ 100GΩ: 0.1GΩ 1TΩ: 1GΩ 2TΩ: 10GΩ
<b>Short circuit current</b>	up to 5mA	
<b>PI (Polarization Index)</b>	√	
<b>DAR (Dielectric Absorption Ratio)</b>	√	
<b>Voltmeter</b>	ACV: 30~600V (50/60Hz) / DCV: 30~600V Accuracy: ±(2.0%rdg + 3dgt) Resolution: 1V	
<b>Current measurement</b>	0.5nA ~ 0.55mA (Depending on the insulation resistance)	
<b>Power source</b>	1.5V "C" × 8 Alkaline batteries DC3V (CR2032) × 1	
<b>Dimensions</b>	250(L) × 190(W) × 127(D)mm	
<b>Weight (battery included)</b>	Approx. 2070g (4305 IN) Approx. 2120g (4310 IN)	
<b>Safety standard</b>	IEC / EN 61010-1 CAT IV 600V EN 61010-2-030 EN 61326-1	
<b>Accessories</b>	Instruction manual Test leads Alligator clips Carry case Batteries Shoulder belt	

