



# SCR ELEKTRONIKS

## SALES PRESENTATION ON LED LAB TESTING EQUIPMENTS





## *LIST OF TEST EQUIPMENT*

1. IMPULSE TESTER
2. GLOW WIRE TESTER
3. NEEDLE FLAME TEST APPARATUS
4. HIGH VOLTAGE TESTER
5. EARTH CONTACT RESISTANCE TESTER
6. DIGITAL TEMPERATURE INDICATOR AND CR/AL TYPE (K TYPE) THERMOCOUPLE SENSOR
7. TEMPERATURE RISE TEST PANEL
8. BALL PRESSURE TEST APPARATUS
9. TEST FINGURE APPARATUS
10. ENVIRONMENTAL TEST CHAMBER
11. LABORATORY OVEN





# 1. IMPULSE TESTER

## ● What It Is ?

- Tester is designed to generate impulse voltage of 1.0 KV to 20 KV depending on the model chosen. The waveform generated has a rise time of 1.2 micro second and 50 micro second duration as defined in IEC 61180. The product conforms to the following list of standards:
  1. Low Voltage Switchgear and Control gear: IS/IEC 60947 -2004 Cl. No: 8.3.3.4.1
  2. Circuit Breakers: IS/IEC 60898:2002 Cl.no.: 9.7.6.1 & 97.6.2
  3. Residual Current Operated breakers: IEC 61008 & 61009 : Cl.no.: 9.20
  4. In addition, the test (commonly known as 1.2 / 50 uS test) is referred in a variety different standards.

## ● Models Available :

- Entire operation is pre programmable thus it is automatic. Peak voltage adjustable from front panel.
- The test sequence, time between two subsequent impulses can be programmed through PLC module. Results are displayed on LCD display. Output is provided on oscilloscope
- An innovative portion is the specially designed legacy pneumatic switch which has an unique advantage over contactor: It prevents the bouncing of contactor contacts generating a relatively accurate wave-shape of a very short duration.



## ● Basic Specifications :

- **Mains Supply :** 230 V AC, +/- 10% – 50Hz
- **Impulse Voltage** 1kV to 20 kV **adjustable with both polarities** (-1 kV to -20 kV) depending on the model chosen: 8 kV, 10 kV, 15 kV, 20 kV
- **Impulse Rise Time:** 1.2 micro sec. +/- 30%
- **Impulse Duration :** 50 micro sec. +/- 20%
- **Output for Oscilloscope:** Attenuated output 0 to 10 V for 0 to 10 kV and so forth depending on the model chosen (Linear Scale)
- **Air Supply** – Pressure – 5 Kg (Approximate)





## ● Salient Features :

- Programmable and fully automatic test sequence
- LCD Display for Indication of test parameters and result
- Programmable module with sequencing for setting of:
  1. Positive, Negative or both polarities
  2. No. of pulses for positive or Negative polarity
  3. Duration between two consecutive Impulses
- Selection of polarity: Automatic through PLC Unit
- Automatic flash over detection and cut-off circuit
- Digital display for flashing number of cycles with polarities for breakdown
- Voltage Indication: Digital Meter to indicate peak voltage
- Short Circuit / Overload protection with MCBs
- Housed in extruded Aluminium Sections for better aesthetics
- Output pin for output to oscilloscopes to view exact wave shape



- **Key Benefits :**

- Unique Benefits That Make Testing Reliable:
  - PLC based operation enables pre-configurable settings thus automatic operation.
  - Modular design makes the tester maintenance friendly.
  - Specially designed legacy pneumatic switch which has an unique advantage over contactor.
  - Sequence and delays can be programmed



● Key Photos :



Fig. Impulse Tester 10-12V



## 2. GLOW WIRE TESTER

- **What It Is?**

- Table top model to verify flammability characteristics of moulds and insulators
- As per IS 15885 Cl no. 18

- **Models Available :**

- **Automatic Version** – motorized movement of test specimen with automatic current control on contact with the heating loop (most popular model – less costly than pc based version)
- **Pc Based** - the above automated version with complete pc control and data logging + user management





## • Basic Specifications :

- **Temperature Sensor** – Thermocouple: Fine wire of Cr/Al of 0.5 mm diameter located in 0.6 mm diameter pocket hole in temperature sheath resistant to 1000 degree centigrade
- In the model GWT A2, current is held approximately constant (15 % swing) once the heating element touches the specimen.
- **Heating Element** – Glow Wire: Nickel / Chromium (Ni/Cr-80:20%) wire of 4mm diameter with a shape as per the standard
- **Time Controller** - Micro-controller based programmable timer 0 to 999 sec
  - The total test time can be programmed through keyboard
  - The ignition time and extinguish time of flame can be registered in timer
  - The stored time values can be viewed after the end of test
  - Setting on PC for PC based variant
- **Penetration Depth** - Mechanically restricted to 7 mm
- **Specimen size** - 180 x 150 Sq.mm max. & 15 x 15 Sq. mm min., Thickness 10mm to 80 mm.
- Test specimen contact force against the glow wire is preloaded to 0.8 to 1.2N
- **Test Chamber Dimensions** – (Available only with automatic variants)
  - Dimensions – 600 mm W x 300 mm D x 610 mm H. (approx.)
- **Supply Voltage** – 230 V AC, 50 Hz, 1 Phase, 500 VA



## • Salient Features :

- Nickel / Chromium based heating element (glow wire)
- Cr/Al based fine wire based thermocouple for temperature sensing
- Temperature Range - Adjustable up to 960° centigrade
- A motorized sliding carrier with an universally adjusted SS perforated tray is provided to mount the specimen
- Self adjusting constant current mode operation as soon as heater-specimen contact is established
- Motor brings the jig back to the pre-test position automatically as soon as the test is concluded
- Time Controller - Micro-controller based programmable timer 0 to 999sec Precision scale: Precision scale is provided to measure the height of the flame
- Safety – Emergency Switch, MCB, Fuses
- Entire panel hoisted in aluminium sections for better aesthetics
- Fully Automated Panel





## ● Key Benefits :

- Unique Benefits That Make Testing Reliable And Compliant :
  - Constant current mode (available only in automatic variants – the point of operation shifts from constant temperature mode to constant current mode once the loop touches the specimen)
  - Motor + weight arrangement – ensures 10 n force (thus, once loop – specimen contact takes place, the only force on the specimen stand (specimen) is that of a fixed weight
  
- Available Only In Pc Based Variant :
  - All the key benefits stated above
  - Plus, pc software for control and data logging with a few software features such as:
    - User hierarchy
    - Diagnostic and debug mode
    - Reports exportable to excel format
    - Calibration mode

● Key Photos :



Automatic Glow Wire Tester





## 3. NEEDLE FLAME TEST APPARATUS

- **What It Is?**

- As per IEC 60695 Needle Flame Test Apparatus is designed to carry out fire hazard testing.
- Flammability test is to check the 'Resistance to Fire' of electrical insulators that touch directly conducting parts & also parts of insulators.
- Testing with regard to fire hazards can be done by creating exactly the conditions occurring in practice.

- **Models Available :**

- The product is available in PC based or non PC based mode.



## ● Basic Specifications :

- PLC to control the sequence of operation and display the Test Results.
- Ball Screw Type sliding mechanism for vertical and horizontal movement.
- Enclosure with 0.5 cubic meter internal volume.
- Bunsen's Burner with 9 to 10 mm diameter with regulator and needle flame diameter 0.5.
- Test time for temperature to increase from  $100^{\circ}\text{C} \pm 5^{\circ}\text{C}$  to  $700^{\circ}\text{C} \pm$  will be  $23.5 \pm 1$  s.
- Test time in second.
- Draught Free Condition.
- Observation of test from outside of mirror.
- Chamber from inside should be dark.
- Exhaust to remove product of combustion.
- Timing device tolerance not more than 0.5s.





## • Salient Features :

- 16 \* 2 LCD Display for User interface.
- Membrane keys for settings.
- Programmable Total test time.
- Temperature indicator for continuous monitoring and displaying sensor Temperature.
- Lamps to indicate Flame position
- TEST OVER indication with Alarm at the end of the tests.



- **Key Benefits :**

- We test our apparatus with regard to fire hazards by creating exactly the same conditions occurring in practice.



- Key Photos :



Needle Flame Test Apparatus



## 4. HIGH VOLTAGE TESTER

- **What It Is?**

- Generate High Voltage across the Output terminal and measure the Leakage current flowing across the Earth Terminal.
- Product ranging up to 5 kV. (User can order low kV tester like 3 kV also)
- Range of leakage current for tripping threshold up to 100 – 200 mA
- Prominently featuring indication lamps and buzzers for indicating results of test
- Quick and Easy Selection of leakage current threshold value
- As per IS 15885 Cl no.1





## • Basic Specifications :

- **Voltage :** 0 – 5 kV.
- **Current :** 0 – 5, 10, 25, 50, 100, 200mAmps.
- **Time Setting :** 0 to 60 Sec.
- **Safety Factors :**
  - a) Zero Interlocks.
  - b) Shrouded type Push Button for H.T. ON.
  - c) H.V. Transformer heavy duty epoxy cast.
- **Indications :**
  - a) High Voltage and leakage current on separate meters.
  - b) Separate lamp indication for H.T. ON, OK, NOT OK
- With Timer and “OK”, “NOT OK” indications.

• Key Photos :



Fig. HVT 5 kV





## 5. EARTH CONTACT RESISTANCE TESTER

- **What It Is?**

- To ensure the safety of operator it is essential that the Earth path (connection) should offer minimum impedance to by pass short circuit Current to Earth.
- This is ensured by measuring Resistance of the Earth path by passing heavy Current say 25 A.
- This model is as per IS 15885 Cl no 9

- **Models Available :**

- The test bench can be customized as per the constant current value that is passed through the earthing circuit, but usually the tester is procured with 30 A capacity



## • Basic Specifications :

- Input supply 230 V +/- 10% AC 50HZ.
- Current source : 0 to 30 A max.
- Test Voltage : 12 V max.
- Digital Display 3 1/2 digit for all measurable parameters (Ammeter, Voltmeter and Resistance - 0.001 Resolution for 1.999 Ohms range) at 25 A current.
- Voltage measurement: Two ranges namely 2 V, 20 V.
- Current Measurement: 0 to 30 Amps.
- Resistance Measurement: At 25 Amps. 0 to 1.999 Ohms.
- Separate Voltage and Current terminals.





## • Salient Features :

- AC Variable Current Source 0 to 30A AC @10V.
- Digital Ammeter 0 to 30.0A True RMS – 1 No.
- Digital mV /Ohm Meter with following range :
  - a) For mV – 0 to 200mV/2V range.
  - b) For Resistance 0 to 1.999 Ohms.
- The resistance will calibrated at 25A AC current.
- Output – On binding post type terminals 4 Wire measurement system.
- Two terminal for current & Two terminal for measurement of mV drop.
  - a) Mains ON/OFF switch
  - b) mV/Resistanace range switch Range.
- Output ON/OFF with Push button & Relay.
- Built in Extruded Aluminium section with duly powder coated M.S. covers Table top Model.



## ● Key Benefits :

- The tester is used to measure the voltage drop of the earthing circuit at a constant current - thus assessing how well the product earth is 'bounded' to the system earthing



• Key Photos :



Earth Contact Resistance Tester



## 6. DIGITAL TEMPERATURE INDICATOR & CR/AL (K TYPE) THERMOCOUPLE SENSOR

### • Digital Temperature Indicator:

- For 'K' Type Sensor
- 6 Channels
- With 0.5 LED Display
- Least Count 0.1°C
- Temp. Range 0 to 200 Deg. C
- Switch Selectable

### • CR/AL (K Type) Thermocouple Sensor:

- With Bid Type Junction
- 3 meter long Teflon Coated Wire



• Key Photos :



Digital Temperature Indicator



## 7. TEMPERATURE RISE TEST PANEL

- What It Is?

- It is used to carry out temperature rise test for low voltage items.
- It consists of True RMS constant Current source, which maintains the Current with + / - 1 % of set value with Digital indication, Digital Temperature indicator having twelve channels for temperature measurement.
- Cr/Al' types of thermocouple sensors are used for temperature sensing. Digital voltmeter used to indicate position of autotransformer.
- The panel is fabricated using CR CA Sheets and powder coated for superior finish.
- Three Terminals of Binding Post type are brought out for output connections. This panel is Table Top Mounting Type.





## • Basic Specifications :

- Variable AC Constant Voltage Source 150V to 310V @ 1A max.
- Auto/Manual selection for voltage control. Adjustment of voltage with potmeter in Auto mode and with switch in manual mode.
- Digital Multi Function Meter to read voltage, current, wattage and p.f. Of LED Luminaire.
- Digital Temperature Indicator 0 to 200° C for 'J' Type thermocouple sensor 6 channel switch selectable.
- 'J' Type Thermocouple Sensors Tefflon coated bid type junction 2 meter long – 6 Nos.
- Output ON/OFF with Push Buttons and Relays.
- MCB's for Input and Output.
- M.S. Fabricated Panel duly powder coated Table Top

● Key Photos :



TEMPERATURE RISE TEST PANEL





## 8. BALL PRESSURE TEST APPARATUS

- **What It Is?**

- The Ball Pressure Test Apparatus is used to check the integrity of dielectric material with respect to resistance to elevated operating temperature.
- The Ball Pressure Test Apparatus model BP 21 takes care of this testing useful for insulator manufacturers and other electro-technical manufacturers who use insulating material in their electrical appliances. The BP21 is made of stainless steel for long life.
- It is mentioned in standards IEC 60335, IEC 60695, IEC 60950, IEC 61010, IS 302, IS 1293, IS 3854, IS 2215, BS, UL

- **Models Available :**

- The product is designed as per the specifications and drawings in the relevant standard.



- **Salient Features :**

- All stainless steel construction.
- Magnifier with built-in scale for measuring the depression created by the ball pressure test apparatus.
- Supplied in a compact and neat carrying case.
- Precision engineered and manufactured for ball pressure test covering all popular standards.

- **Basic Specifications :**

- Ball diameter : 5 mm.
- Force exerted on sample : 20 n, + \ - 0.1 n.
- Material of construction : Stainless steel.
- Magnifier : X 10 magnification, 0.1 + mm
- Resolution : 0~10mm scale



- **Key Benefits :**

- The tester is used to assess the effect of ball pressure typically on insulator surfaces in a hot environment

- **Key Photos:**



Ball Pressure Test Apparatus

## 9. TEST FINGER APPARATUS

- What It Is?

- **SCR ELEKTRONIKS** Designs for the Test of the products non Accessible of live parts through shutters, when the plug is in partial with the product.
- **FLEXIBLE TEST FINGER** is applied in every possible positions of the Test Product. Assuming a live Finger.
- If there is a short then BUZZER will sound and the fault indicator will indicate the fault of the Test Product.
- It is mentioned in standards IS 15885 Cl No. 10.

- Models Available :

- The product is designed as per the specifications and drawings in the relevant standard.





## ● Salient Features :

- Test Finger with spring loaded arrangement
- Flexible Test Finger
- Control Panel for Test Finger Apparatus

## ● Basic Specifications :

- Analog voltmeter for voltage Indication
- Probe - Flexible as per standard
- Product dimension - as per mentioned in standrds

- **Key Benefits :**

- The product is also used to test switchgears, wiring accessories and domestic appliances against electric shock during human handling – thus the use is universal

- **Key Photos:**



Test Finger Apparatus





## 10. ENVIRONMENTAL TEST CHAMBER

### • What It Is?

- The Environmental Test Chamber Is Provided With Best Air Circulation To Give Better Temperature And Humidity Uniformity. This Is Achieved By Using One Set Of Motor & Blower In Baffle Wall Compartment To Push Treated Air In Working Chamber.
- This System Gives Better Than 1 Deg C. Temperature Uniformity In Working Chamber.
- Cooling Coil Will be Fitted At Back Side , Behind Baffle Wall & Direct Cooling Will Transfer Inside The Chamber.
- Heaters & Steam Injection System Is From Back Side, Behind Baffle Wall.
- The Air Circulation Blower Is Also Fitted In This Compartment Only. This Arrangements Helps To Mix Steam And Air Together And Pass Well Mixed Air Inside The Working Chamber.
- Due To Above System The Temperature And Humidity (R.H.) In Complete Chamber Remains Equal.



## ● Salient Features :

- Input Supply 230 Volts , Ac Single Phase Supply.
- Compressor Time Delay Circuit.
- Compressor Overload Relay Protector.
- Electronic Low Water Level Cut Off Device
- Safety Temp. Controller
- MCB For Mains
- Capacity 90 Ltr.
- Temperature Range 10 Deg C. To + 60 Deg C. , Accuracy +/- 0.5 Deg C.
- Humidity Range 40% R.H. To 95% R.H. , Accuracy +/- 3% R.H.

## ● Basic Specifications :

- Heavy Movable Caster Wheels Will Be Fitted At Bottom Of The Chamber For Easy Movement.
- Provided With Port Hole & Silicon Rubber Seal.
- Working Size 45 (W) X 45 (D) X 45 (H) cm.
- Microprocessor Based P.I.D. Temperature & Humidity Controller
- Pt-100 Sensors Provided For Temperature & Imported Humidity Sensor For % R.H



● Key Photos :



Environmental Test Chamber



# 11. LABORATORY OVEN

- **What It Is?**

- Temp. Range : 5 Degree C. above Ambient to 250 OC., + / - 1 OC.
- Temp. Control. : Microprocessor based PID Temperature Controller.
- Inner Chamber : S.S. 304 quality with mirror finish buffing
- Outer Chamber : Mild Steel duly powder coated
- Circulation : Natural Convection
- Internal Dimensions : 60 X 60 X 60 cms
- Heater Rating : 3000 Watts
- Forced Air Circulation



● Key Photos :



Laboratory Oven



## • Why SCR Elektroniks ?

- Since 1975: Rich Experience In Test And Measurement
- Customized Solution
- Dedicated After Sales Support Team
- Designed More Than 100 Different Products
- In- House Team Of Micro-controller Design, Electrical And Electronic Design, Micro Controller Development, Labview (PC) Software And PLC Logic, Production, Testing And Commissioning And Support
- In-house Development Of Critical Electronic And Electrical Meters, Modules And Components
- ISO 9001 : 2015 Certified By Bureau Veritas – Maintaining High Quality In Our Internal Process
- Listed By IEC In The Past
- Fair And Consistent Pricing
- Our Ultimate Prize: Customer Delight



- **List Of Our Valuable Clients For LED :**

<b>Sr. No.</b>	<b>Customer</b>
<b>1</b>	Philips Electronics India Pvt. Ltd, Noida
<b>2</b>	Esko Die Casting Pvt. Ltd., Faridabad
<b>3</b>	Jhunkam Lighting Systems Pvt. Ltd., Daman
<b>4</b>	Ray-hans Technologies Pvt. Ltd., Mysore
<b>5</b>	Uma Luminaires Pvt. Ltd., Nagpur
<b>6</b>	SFO Technologies Pvt. Ltd., Bangalore
<b>7</b>	Uma Poly Solution Pvt. Ltd., Howrah
<b>8</b>	Elin Electronics Ltd., Ghaziabad
<b>9</b>	Maraica Industries, Howrah
<b>10</b>	Surya Roshni Ltd., New Delhi, M.P.



11	Havells India Ltd, Rajasthan, Noida
12	Starline Industries India Pvt. Ltd., Coimbatore
13	R. Stahl (P) Ltd, Tamil Nadu
14	Rama Industries, Vasai
15	Tech Electro Com, Ahmedabad
16	Arraystorm Lighting Pvt. Ltd., Bangalore
17	Inled Loghting LLP, Pune
18	Konark Product HP Capital Warehouse, HP
19	Max Light and Luminiers Pvt. Ltd., Bhiwandi
20	Glo Lighting Industries, Kolkata
21	Samudra Electronics System Pvt. Ltd, Pune
22	K. R. Industries, Bhandup
23	Varun Pressings PVT. LTD., Pune
24	META Switchgear Co, Saudi Arabia
25	C & S Electric LTD, Noida



# SCR ELEKTRONIKS

- For More Details Contact:

## SCR ELEKTRONIKS

- Address: W 188, MIDC Phase 2, Dombivli (E),  
Pin:421204 India
- Phone: +91 251 2871778
- Email: [auto@screlektroniks.com](mailto:auto@screlektroniks.com)
- Website: [www.screlektroniks.com](http://www.screlektroniks.com)



*THANK YOU*