SCR ELEKTRONIKS

SALES PRESENTATION ON

LED PRODUCTION TESTING EQUIPMENTS

- **What It Is ?**
  - It is a useful series of test benches designed and manufactured to test LEDs and their components of varying sizes and specifications for different routine tests as prescribed by local and international standards
  - The series consists of flexible testing solutions which could mould themselves as per the production rate, client budget, range of products, whether the components are manufactured in house or external, and the precision required for measurement – thus guaranteeing detailed customization

- **System Integration and Customization:**
  - **Yokogawa THD measurement module:** The Yokogawa WT 310 series with THD measurement is integrated for performance parameter measurement such as THD, efficiency, etc.
  - **Chroma AC power source:** The power source, which comes as an optional module, can be integrated if the customer requires a voltage synthesised source with source harmonics.
  - **GW – Instek power source:** This power module can also be integrated optionally, if the routine test requirements demand this module.
  - **NI LabVIEW Software:** The custom built SCADA for bench control and automation.
  - **SCR Elektroniks Complete Integration:** The above software or hardware modules can be integrated in the basic SCR Elektroniks testing solution by a team of experts having decades of experience. In addition, low cost custom built solutions can be provided.

TEST EQUIPMENT LIST:

SCR ELEKTRONIKS have developed test equipment's for LED's. This is fully automatic for all production tests (Electrical Parameter) with PC based user friendly human machine interface data logging with monitoring and report generation facility. It even has barcode generation capturing facility.

- **It includes following testing equipment's:**

1. Test Setup For Drivers Of LED Luminaire
2. Two station Touch Screen LED Driver Test Panel
3. Test Setup For LED PCB of luminaire
4. Test Setup For LED Luminaire
5. Comprehensive Test Setup For LED Luminaires
6. PC Based Test Set Up For 4 + 4 Drivers Of LED Lamps

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1. Test Setup (Safety + Performance) For Drivers Of LED Luminaire

The tests are Performed as Prescribed in IS the Panel Carries out high voltage, open circuit and performance tests, one by one and provides indication of the Test results as PASS or FAIL lamp for high voltage test. It is very useful and handy in line testing on Mass production line as well as type Testing. Special fixture can be provided for the specific product. This avoids the connections & disconnections of the product for different tests. The total time for entire testing is less than 80 seconds.

Test Performed Are:

1. High Voltage Test
2. Performance / Run Test
3. Open Circuit Test

Features / Specifications :

- High Voltage 0 – 2 kV.
- Digital meters: 3-1/2 digits for HV tests to indicate high voltage & leakage current.
- High voltage test 1 is performed between the input and the output, while the high voltage test 2 can be performed between the shorted input/output and the body.
- PC or Manual Tests mode selection.
- In PC mode the tests can be performed automatically.
- Lamps to indicate test results namely: PASS & FAIL
- TEST OVER indication with Alarm at the end of the tests and if Fault is detected.
- Generally integrated with a Yokogawa measurement module
- Can be integrated with a solid state power source

- **Key Photos :**

With servo controlled source

With solid state source

2. Two station Touch Screen LED Driver Performance Test Panel

SCR Elektroniks introduces a unique, cost effective solution for testing of LED Driver for its electronics parameters. The system consists of an AC Solid State Source capable of maintaining a pre-configured input of a certain voltage and frequency. Also there is an electronic load in the system for loading the output of the driver. The controlling is done by a computer, being programed by a tailor made software. It has two driver terminal station, the maximising the speed of testing.

Test Performed Are:

1. Performance Test:
   a. At nominal voltage, following parameters are captured: input-AC voltage, current, wattage, PF, THD; output-DC voltage, current, wattage and efficiency.
   b. Performance at low input voltage and high input voltage, output voltage, current and wattage.
2. Leakage Current Test

Features / Specifications :

- Programmable solid state voltage source 100 watts.
- Programmable electronic DC load for output loading of driver under test.
- Computer with touch screen for setting the test recipe, controlling testing sequence, displaying test proceedings and test results, saving data, report generation and LAN connection.
- The test operator can connect / disconnect the second driver under test – while the first driver is undergoing its own tests – thus production yield is high.

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- **Key Photos :**

Two station Touch Screen LED Driver Test Panel

3. Test Setup For LED PCB of Luminaire

The panel carries out different tests one by one and provides indication of the Test results as OK or NOT-OK. It is a test bench aimed to test LED PCB component alone.

Test Performed Are:

1. High Voltage Test
2. Performance With NTC Test
3. Insulation Resistance Test

Features / Specifications :

- Adjustable High Voltage, 0 to 3 KV.
- Parameter limits setting for different tests in software.
- Digital meters: 3-1/2 digit for all the tests to indicate different parameters.
- Test Time setting provision for High voltage test & Insulation Test.
- Lamps to indicate test results namely: PASS and FAIL.
- TEST OVER indication with Alarm at the end of the tests.
- Custom built LabVIEW software

- **Key Photos :**

PC Based Test Setup For LED PCB Of Luminaire

4. Test Setup For LED Luminaire

SCR ELEKTRONIKS introduces PC Based Automatic Safety Testing Panel for LED's. The panel carries out different tests one by one and provides indication of the Test results as PASS or FAIL. It is very useful and handy in line testing on Mass production line as well as type Testing. Special fixture can be provided for the specific product. This avoids the connections & disconnections of the product for different tests. The total time for entire testing is less than 40 seconds. The product can be custom made to suit the requirements.

Test Performed Are :

1. High Voltage Test
2. Earth Bond Test
3. Insulation Resistance Test
4. Leakage Current Test
5. Lamp Burning (Glowing) Test
6. Performance Test

Features / Specifications :

- Adjustable High Voltage, 0 to 2 KV.
- Parameter limit setting for different tests.
- Digital meters: 3-1/2 digit for all the tests to indicate different parameters.
- Leakage Current checked for both the polarities.
- Lamps to indicate test results namely: OK and NOT OK.
- TEST OVER indication with Alarm at the end of the tests.
- Automatic sequencing of tests
- Can be further customized as Luminaire plus driver test bench

- **Key Photos :**

Fig a) With servo controlled source

Fig b) With solid state source

5. Comprehensive Test Setup For LED Luminaires

Our zest for innovation has resulted in continuous upgrades in the existing line of products. Till now we used to manufacture 3 different equipment's for Driver, MCPCB and Luminaires Component testing. We at SCR Elektroniks have developed our comprehensive tester to incorporate all the 3 systems in a single bench. Here in this tester one can test all the three DUT in a single bench. This is a great system for start up companies as the solution is economical typically for limited rate of production.

Tests Performed Are :

- **The tests that be conducted On LED PCB are**
  1) Thermistor resistance test (In PC Mode)
  2) High Voltage Test
  3) Insulation Test
  4) Performance test
- **The tests performed on DRIVER are**
  1) High Voltage test 1 and high voltage test 2
  2) Performance test
  3) Efficiency
  4) THD Measurement (Input side of driver)
- **The tests performed on Luminaire FIXTURE are**
  1) Earth Contact Test
  2) High Voltage Test
  3) Insulation Test
  4) Performance test
  5) Lamp Burning test
  6) Leakage Current Test

Features / Specifications :

- PC connectivity accessible to the panel through DAQ.
- Facility to perform driver, LED PCB and LED Luminaire fixture test in a single test bench.
- Professionally built software is integrated in the PC such that the panel can be controlled by it.
- All the reports are captured and stored in the PC itself.
- Separate terminals to connect the LED PCB, LED Driver and Final Luminaire
- Panel can be operated in Manual as well as in PC mode.
- Digital meter indicates test parameter with the pass/fail result of the test.
- Yokogawa meter to show very accurate measurements for the AC & DC test parameters.
- New test features like THD measurement, Thermistor resistance measurement, Open Circuit voltage have been added to the testing equipment.

Key Photos :

Fig a) With servo controlled source

Fig b) With solid state source

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6. PC Based Test Set Up For 4 + 4 Drivers Of LED Lamps

SCR ELEKTRONIKS introduces PC based test set up for drivers of LED LUMINAIRE. The tests are performed as Prescribed in Standard. The Panel Carries out performance tests, on group selection one by one drivers are tested and provides indication of the driver Test results as PASS or FAIL on pc screen. It is very useful and handy in line testing on Mass production line as well as type Testing. The low total time for entire testing is a typical key benefit of the system . The entire system is housed in sturdy M.S cabinet with powder coating.

Test Performed Are :

1. Performance / Run Test

Features / Specifications :

- Digital meters: leakage current.
- PC mode tests can be performed automatically.
- Lamps to indicate test results namely: PASS & FAIL on pc screen.
- TEST OVER indication with Alarm at the end of the tests and if Fault is detected.
- Group selection indication at start of test.
- Rapid rate of production testing
- Inbuilt electronic load

- **Key Photo :**

PC Based Test Set Up For 4 + 4 Drivers Of LED Lamps

Test It With Testware :

- SCR ELEKTRONIKS Testware enable you to automate the testing process, eliminates any room for human error and make automated testing, monitoring & reporting a breeze.
- Testware has all facilities like data logging, report generation, setting parameters for test through entering of some values, generation of graphs plotted against various factors. Generation of current and voltage waveforms are also possible
- Testware also has user hierarchy and password protection, diagnostic and calibration software modules, recipe configuration techniques and smart and friendly user interfaces
- We also boast of an in-house team of talented LabVIEW engineers being trained continuously

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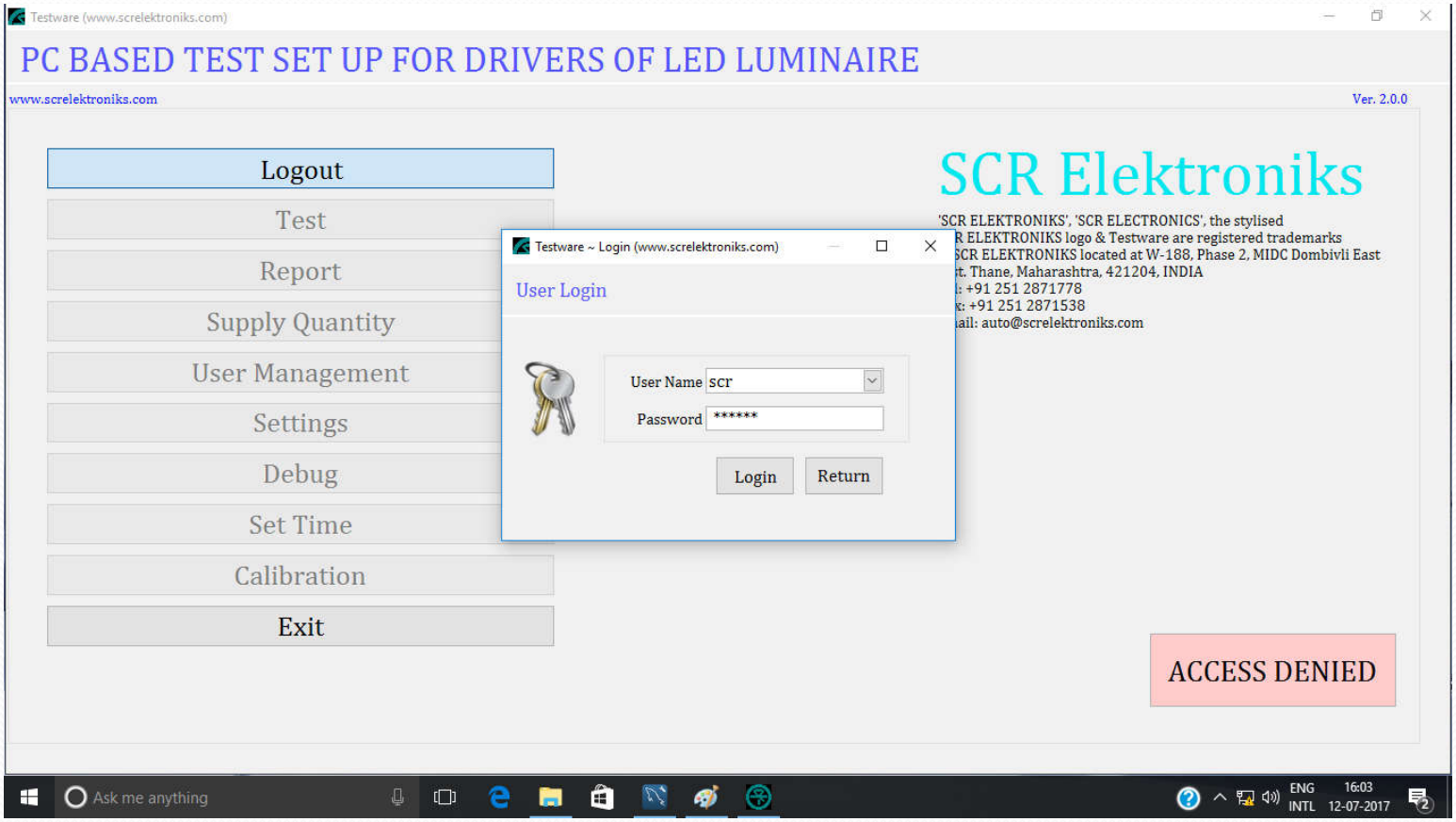
- **Some Typical Software Screenshot :**



Main Screen & Log In Window

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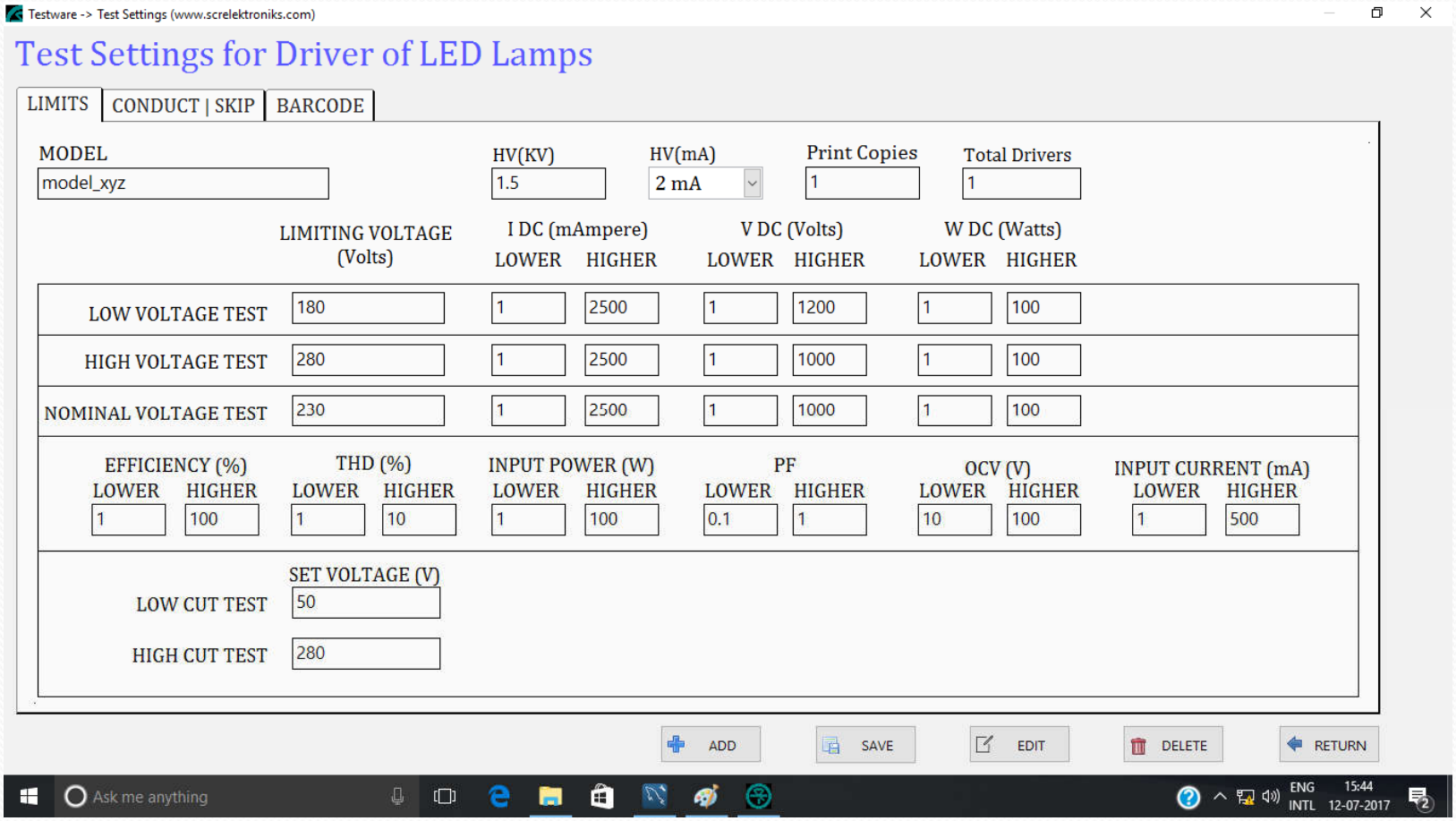

Main Screen & Log In Window

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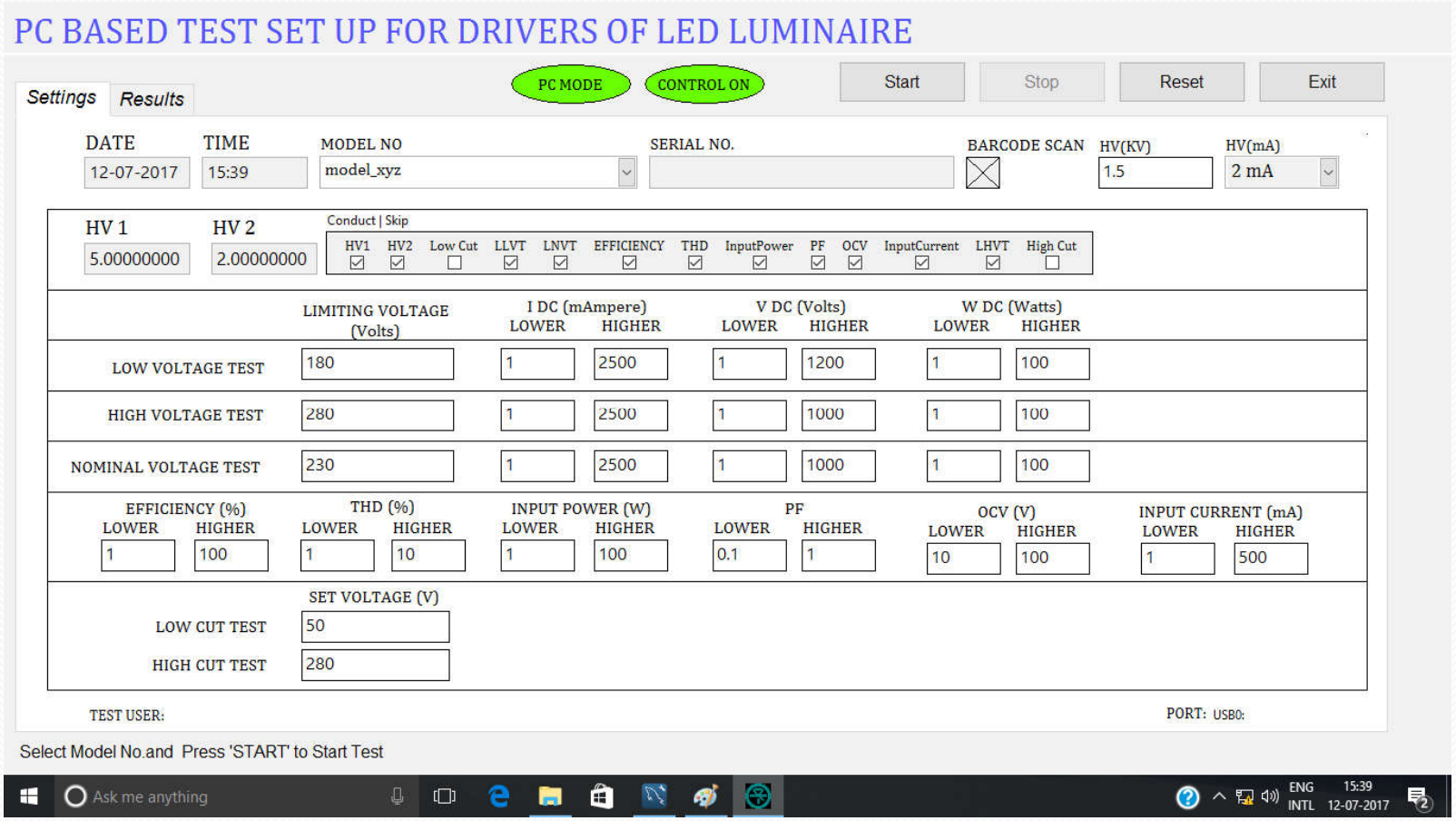
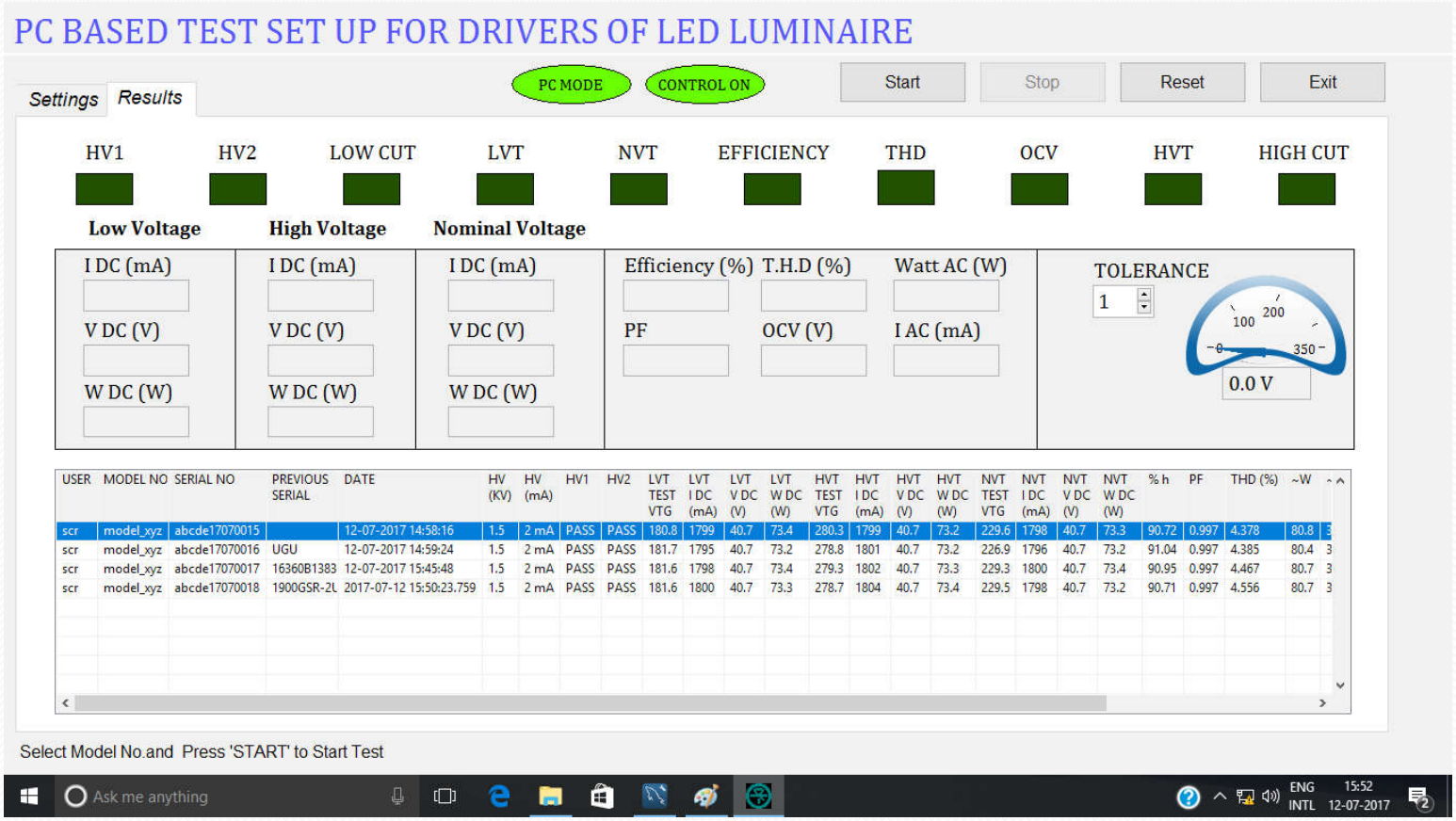


Test Window

- **Some Typical Software Screenshot :**



Result Window

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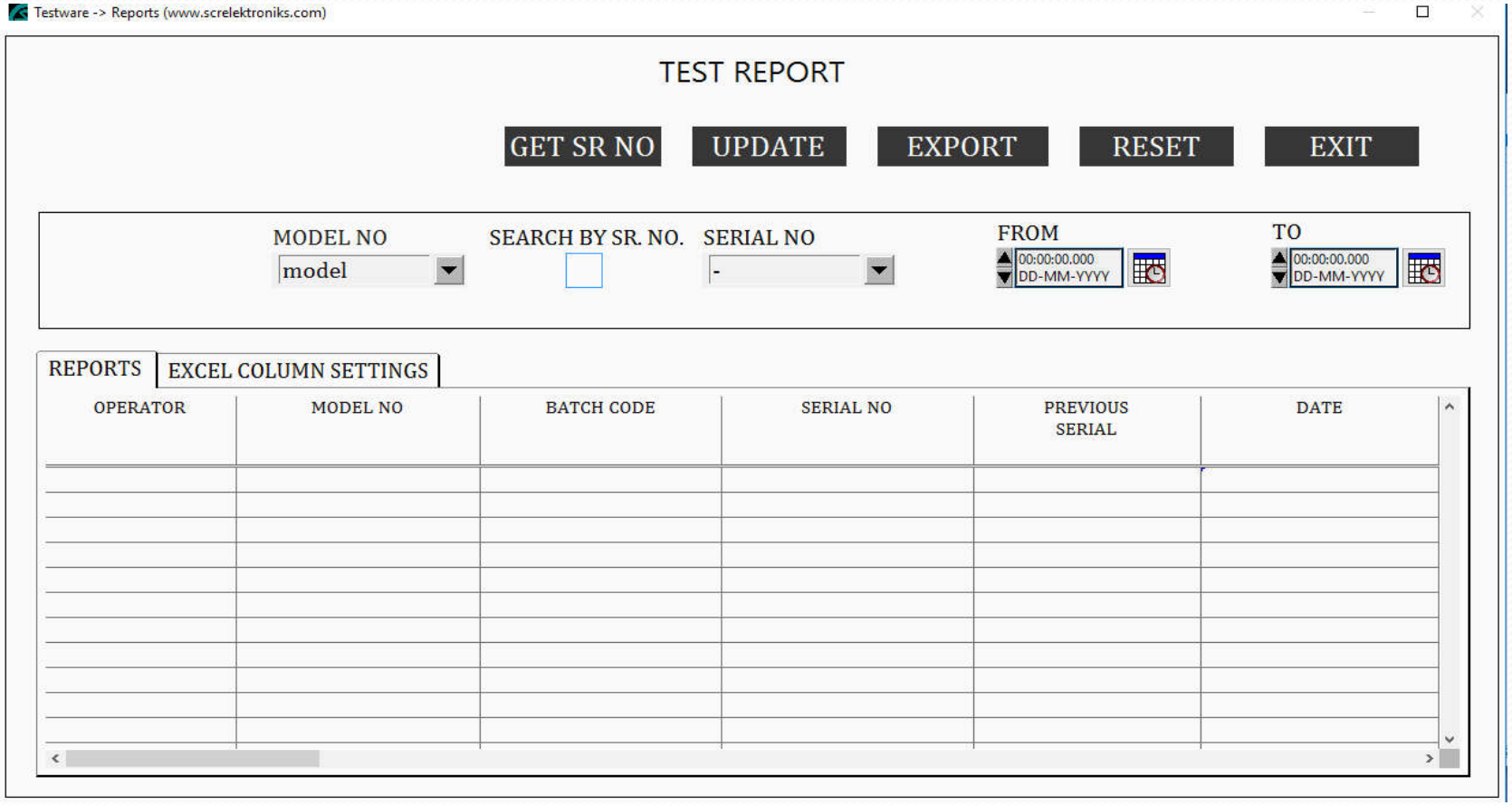
- **Some Typical Software Screenshot :**



Test Report Window

• Our Products For LED Test Lab As Per BIS :

Sr. No.	Products
1	Impulse Tester up to 12kV
2	Glow Wire Test Apparatus – as per IS 15885 Cl. No. 18
3	Needle Flame Test Apparatus as per IEC 60695
4	High Voltage Tester 5kV as per IS 15885 Cl. No. 1
5	Earth Contact Resistance Tester as per IS 15885 Cl. No. 9
6	Digital Temperature Indicator & CR/AL (K Type) Thermocouple Sensor
7	Temperature Rise Test Panel For LED
8	Ball Pressure Test Apparatus
9	Test Finger as per IS 15885 Cl. No. 10
10	Environmental Test Chamber (With Cooling/Heating & Humidity Control)
11	Laboratory Oven

- **Documentation That Will Be Provided With Product :**

  - Layout (dimensions, etc.)
  - Metering and PCB termination diagram
  - Power wiring diagram
  - Control wiring diagram
  - User manual
  - Data acquisition module details (for PC based variants)
  - Signed warranty certificate
  - Calibration certificates (NABL optional)

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, Components and Software
- 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 :

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

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- For More Details Contact:

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THANK YOU