Standard System Characteristics

Mechanical System Characteristics:
- Maximum test sample dimensions: 300mm x 400 mm x 20mm
- Test contacts: standard: maximum 192 customized: no limits

Electrical System Characteristics:
- Stimulation: voltage 2-100 V, if resistance > 1 kΩ (50 Ω); device dependant current (AC/DC): 0-2 A
- Luminance: 1 cd/m² to 200000 cd/m²
- Current measurement range: 0.1 µA - 1 A

Highlights:
- Wide luminance dynamic range
- Various contact pins in size and number available
- Customized test adapter
- Flexible test- and measurement software

Options:
- Contact check
- Current control: 20 mA-1 A (50 Ω)
- Calibration equipment
- DC-measurement option (±2V)
- Database connecting to local or customized DB
- Pneumatic adapter for automated tests

Performance
- industrially approved
- customized system
- turnkey solution
- high performance
- reproducible test results
- wide dynamic range for tests of nearly all semiconductors
- high performance test adapter with changeable sample holder for device specific adaptation

Consulting & Service

S.E.A. has been a successful provider of system integration solutions in measurement and automation technology for more than a decade. You can benefit from this experience by requesting our advice. Our services range from the customization of our test solutions to the development and integration of turnkey systems.

S.E.A. has expertise in optical measurements and vision inspection systems. Please ask our experts - they will be glad to submit a proposal addressing your specific testing needs.

View

The software of the IVL Test Platform is based on the TestMastrz suite, a solution proven in numerous industrial production and R&D testing applications. The system is suitable for testing of diverse OLED materials used in today’s display production. Complete systems for production tests of OLED display devices are available.

Apart from the basic TestMastrz and other test platforms, our range comprises the SincsMastrz system for fiber optics and the MeasureMastrz for audio and video testing and analysis.
The IVL Test Platform developed by S.E.A. is a complete test system for measuring the I-V-L (current-voltage-luminance) characteristic of optical semiconductor components. The system is customized for any kind of (O)LEDs or pixel constellations. The turn-key test system consists of high-quality hardware and software with a standard stimulation and measurement equipment plus the customized test adapter system.

Hardware
The hardware consists of a rack based system, including all necessary stimulation and measurement hardware. The test adapter allows the automated contact of semiconductor devices, plates, and samples. The system is delivered always customized as it supplies the optical sensor and electronic as well. This test adapter can be produced according to the dimensions of the test devices and can respectively be tailored.

Double contacts allow resistance measurements and contact check before starting the measurement. Mechanical contacting can be done manually within laboratory setup, but also via pneumatic control for automated production tests. The changeable inlet of the test adapter allows easy adaption to other sample designs.

Software
The software controls the complete setup and measurement process.

Predefined test setups and test sequences can be stored and retrieved for fast test preparation. Long term testing or sequential testing with various parameters is performed with the test sequence engine of TestMaster®, a dedicated software product for testing of semiconductors or complete electronic assemblies.

The software is based on LabVIEW from National Instruments and supplies an easy to use graphical user interface with many options to parameterize individual test setups.

The optical and electrical units of the tester are delivered factory pre-calibrated. Calibration models allow calibrating the optical signals on demand with an external photometer. The opportunity is given to perform a relative or an absolute calibration for each individual device.

System
The high performance measurement hardware for the optical and electrical measurements is built by S.E.A. The measurement range of IVL Test Platform can be further adapted to customer specific needs.

The standard system can measure luminance levels from 1 candela/m² up to 200000 cd/m² and handle all kinds of semiconductor devices with stimulation voltages of up to 100 Voltpp and 2 Ampere of current per device. The system can manually measure single stimulation points at certain DC or pulsed signals as well as transfer functions by automated sequential tests. The sequential tests allow performing aging tests.

Measurement of single or multi-pixel devices can be realized by a modular switching concept.

Acquired data can be stored within ASCII files or in a database system to allow the correlation of different measurements. Each test can produce a customized report sheet, which covers the product data as well as the test results in alphanumerical and graphical form.

以上：比较测量在DC和脉冲模式下得到相同的结果。
The IVL Test Platform developed by S.E.A. is a complete test system for measuring the I-V-L (current-voltage-luminance) characteristics of optical semiconductor components. The system is customized for any kind of OLEDs or pixel constellations. The turnkey test system consists of high-quality hardware and software with a standard stimulation and measurement equipment plus the customized test adapter system.

**Hardware**

The hardware consists of a rack based system, including all necessary stimulation and measurement hardware. The test adapter allows the automated contact of semiconductor devices, plates, and samples. The system is delivered always customized as it supplies the optical sensor and electronic as well. This test adapter can be produced according to the dimensions of the test devices and can respectively be tailored.

Double contacts allow resistance measurements and contact check before starting the measurement. Mechanical contacting can be done manually within laboratory setup, but also via pneumatic control for automated production tests. The changeable inlet of the test adapter allows easy adaptation to other sample designs.

**Software**

The software controls the complete setup and measurement process. Predefined test setups and test sequences can be stored and retrieved for fast test preparation. Long term testing or sequential testing with various parameters is performed with the test sequence engine of TestMaster®, a dedicated software product for testing of semiconductor or complete electronic assemblies.

The software is based on LabVIEW™ from National Instruments and supplies an easy to use graphical user interface with many options to parametrize individual tests.

The optical and electrical units of the test adapter and measurement electronics hardware rack of the IVL Test Platform are delivered factory pre-calibrated. Calibration models allow calibrating the optical signals on demand with an external photometer. The opportunity is given to perform a relative or an absolute calibration for each individual device.

**System**

The high performance measurement hardware for the optical and electrical measurements is built by S.E.A. The measurement range of IVL Test Platform can be further adapted to customer specific needs.

The standard system can measure luminance levels from 1 candela/m² up to 200,000 cd/m² and handle all kinds of semiconductor devices with stimulation voltages of up to 100 Voltpp and 2 A up of current per device. The system can manually measure single stimulation points at certain DC or pulsed signals as well as transfer functions by automated sequential tests. The sequential tests allow performing aging tests.

Measurement of single or multi-pixel devices can be realized by a modular switching concept.

Acquired data can be stored within ASCII files or in a database system to allow the correlation of different measurements. Each test can produce a customized report sheet, which covers the product data as well as the test results in alphanumeric and graphical form.

**All our knowledge has its origins in our perceptions.**

**Leonardo da Vinci (1452-1519)**
Standard System Characteristics

Mechanical System Characteristics:
- Maximum test sample dimensions: 300mm x 400 mm x 20mm
- Test contacts: standard: maximum 192 customized: no limits

Electrical System Characteristics:
- Stimulation:
  - voltage 2-100 V, if resistance > 1 kΩ
  - device dependant current (AC/DC): 0-2 A
- Luminance: 1 cd/m² to 200000 cd/m²
- Current measurement range: 0,1 µA - 1 A

Highlights:
- Wide luminance dynamic range
- Various contact pins in size and number available
- Customized test adapter
- Flexible test- and measurement software

Options:
- Contact check
- Current control: 20 mA-1 A (50 Ω)
- Calibration equipment
- DC-measurement option (±2V)
- Database connecting to local or customized DB
- Pneumatic adapter for automated tests

Performance
- industrially approved
- customized system
- turnkey solution
- high performance
- reproducible test results
- wide dynamic range for tests of nearly all semiconductors
- high performance test adapter with changeable sample holder for device specific adaption

Consulting & Service

S.E.A. has been a successful provider of system integration solutions in measurement and automation technology for more than a decade. You can benefit from this experience by requesting our advice. Our services range from the customization of our test solutions to the development and integration of turnkey systems. S.E.A. has expertise in optical measurements and vision inspection systems. Please ask our experts - they will be glad to submit a proposal addressing your specific testing needs.

View

The software of the IVL TEST PLATFORM is based on the TestMaster suite, a solution proven in numerous industrial production and R&D testing applications. The system is suitable for testing of diverse OLEDbased materials used in today’s display production. Complete systems for production tests of OLEDbased display devices are available.

Apart from the basic TestMaster and other test platforms, our range comprises the SpaceMaster system for fiber optics and the MeasureMaster for audio and video testing and analysis.