LED TESTING PRODUCTS

Technology you can Trust

2018

Handbook of Products

Rev. No: 7.00 Date: 10/10/2018

Feasa LED Analysers

Feasa LED Analysers are multichannel LED test tools which measure LED output for colour and intensity. Feasa LED test solutions are a popular choice for PCB production environments worldwide as they ensure the traceable measurement of individual LEDs. Fast, compact, robust and easy to integrate, the Feasa LED Analyser is capable of testing 100 LEDs in less than 3 seconds.

Our products are used in markets such as Automotive, Aerospace, Medical Devices, Telecommunications, White Goods, Lighting and Computing.

The Feasa LED Analyser is supplied with an extensive suite of software to help with the integration of our system into your Test Station. We provide DLLs and Labview® drivers for use with VB, C++, C# and National Instruments Labview® or any software platform that can send or receive ASCII string commands. Test plans are also provided for Agilent 3070 and Genrad/Teradyne ICT platforms.

For more information about our products please visit www.feasa.ie.

Functional Analyser

The Feasa Functional LED Analyser is available in 3,5,10 and 20 channel configurations. Interface to the device is via USB or RS232 and has a Daisy Chain capability for up to 30 Analysers. The dimensions of the 3, 5 and 10 channel units are 105x57x50mm and the 20 channel unit is 145x57x55mm. Each channel has a fiber of 0.6m in length with a 1mm diameter including cladding and a bend radius of 15mm. The operating wavelength range is 450nm-650nm with a temp range of 0-50°C.

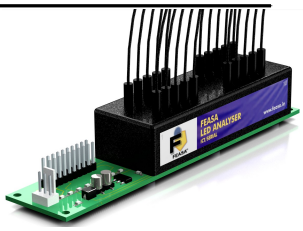
Models:
3F
5F
10F
20F

Available Interfaces: USB, Serial and Daisy Chain .

Output: Red, Green, Blue (RGB), Hue, Saturation, Intensity (HSI), Dominant Wavelength, CCT, CIE xy, CIE u'v' depending on interface used.

Drivers/ Software: DLL used for Testing, Programming examples in Labview®, C++

In Circuit Test Analyser



The Feasa In Circuit Test LED analyser is available in 3,5,10 and 20 Channel configurations. Interface to the device is via RS232 or a 20 pin ICT Port. The unit has the capability to be triggered externally by an event. The dimensions of the 3,5,10 channel units are 100x29x50mm and the 20 channel is 140x29x50mm. Each Channel Fiber is 0.6m in length with a 1mm diameter and a bend radius of 15mm. The operating wavelength range is 450nm-650nm with a temp range of 0-50°C.

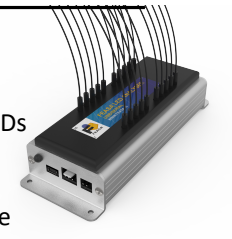
Models:
3I
5I
10I
20I

Available Interfaces: Serial and ICT Interfaces.

Output: Red, Green, Blue (RGB), Hue, Saturation, Intensity (HSI), Dominant Wavelength, CCT, CIE xy, CIE u'v' depending on interface used.

Drivers/ Software: Test Models for Agilent i3070, Test Code for Teradyne, DLL used for Testing, Programming examples in Labview®, C++

Infrared Analyser



The Infrared LED Analyser measures the wavelength and relative power of Infrared LEDs and sources. It is ideal for Automotive, Security and Surveillance Applications.

The IR LED Analyser is available in 3, 10 and 20 channel configurations. Interface to the device is via USB or RS232 with 'Daisy Chain' functionality which allows multiple units to be connected together. The Infrared LED Analyser is available with glass (IR) or plastic (IRP) fibers.

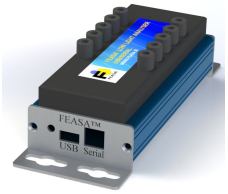
The operating wavelength range is 700nm-950nm (glass fiber model) and 700nm-900nm (plastic fiber model) with a temperature range of 0-50°C. The accuracy of the analyser is 700-750nm ±30nm, 751-900nm ±10nm, 901-950nm ±20nm. Repeatability is <1nm on wavelength and <1% of intensity.

Available Interfaces: USB, Serial and Daisy Chain.

Drivers/ Software: DLL used for Testing, Programming examples in Labview®, C++

Models :	
Glass Fiber	Plastic Fiber
(700-950nm)	(700-900nm)
3IR	3IRP
10IR	10IRP
20IR	20IRP

Low Light Analyser



The Feasa Low Light LED Analyser was designed for measuring LED backlit switches and panels where the light is travelling through etched or painted plastic panelling; such as on car dashboards. This analyser tests for intensity, homogeneity, xy Chromaticity, Dominant Wavelength and CCT accurately, reliably and fast.

The Low Light Analyser is available in 3, 5, 6, and 10 channel configurations. The dimensions of the 3, 5 and 6 channel units are 105x57x50mm; the 10 channel model is 145x57x55mm. Each channel fiber has a length of 0.6m, the fiber has a diameter of 2.2mm, including cladding, and a minimum bend radius of 1mm.

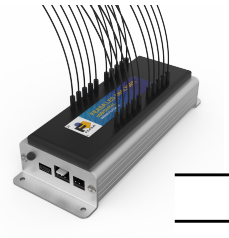
Operating from a minimum luminance of 0.5cd/m2 and a maximum luminance of 1000 cd/m2 and temperature range of 0-50°C. Accurate to ±0.01@ x=0.33, y=0.33 with repeatability of ±0.002 and <1% of intensity.

Available Interfaces: USB, Serial, and Daisy Chain.

Software is provided; Command line interface C, C++; DLL, Labview® support.

Models:
3A
5A
6A
10A

High Bright Analyser



The Feasa High Bright LED Analyser was developed to test LED automotive and matrix headlights in the production environment. The High Bright Analyser is capable of testing individual LEDs as close as 1.1mm center to center distance .

The High Bright Analyser is available in 3, 5, 10, and 20 channel configurations; with models for Functional (FB) and In Circuit Testing (IB).

Available Interfaces: USB, Serial and Daisy Chain.

Software is provided; Command line interface C, C++; DLL, Labview® support.

Models:	
Functional	In Circuit
3FB	3IB
5FB	5IB
10FB	10IB
20FB	20IB

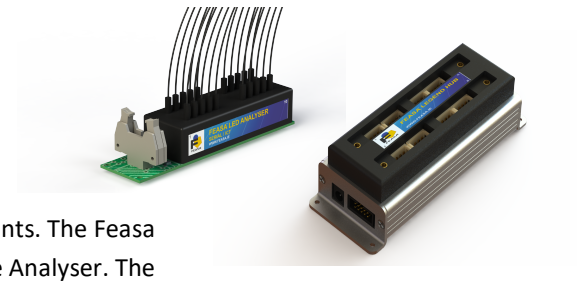
LED Life Analyser

Models:
3LT
5LT
10LT
20LT

To facilitate testing applications such as accelerated aging and LED life cycling, Feasa have developed a LED Analyser capable of testing LEDs at extremes of temperature. The Feasa LED Life Analyser System offers monitoring of LEDs from -65°C to 125°C. The glass fibers used in the analyser have been specially selected for use in extreme temperatures. Additionally, specific Feasa Optical Heads have been designed to withstand extreme temperatures.

The Feasa LED Life Analyser operates using our standard interfaces; USB, RS232 (Serial). Available in 3, 5, 10 and 20 channel configurations, the Feasa Life Analyser also has 'Daisy Chain' functionality. The associated Test Software can continuously test LEDs at fixed time intervals, with results saved to disk for later retrieval. In addition, the software can send updates via email of out-of-tolerance results.

Feasa Legend



The Feasa Legend is a test solution for applications with large LED counts. The Feasa Legend system consists of two component parts, a Hub and a Satellite Analyser. The Hub can be mounted in the Test Station or in the Test Fixture and can control up to 8 Satellite Analysers. Each Satellite Analyser can test up to 20 LEDs so a fully populated Hub can test up to 160 LEDs concurrently.

Stable readings in Intensity and Common Colour Spaces: Hue, Saturation, Intensity (HSI), Dominant Wavelength, CCT, CIE xy Chromaticity are output.

The Legend has an operating wavelength range of 450-650nm, and temperature range of 0-50°C.

The Feasa Legend Hub dimensions are 130x55x30mm; the Legend Analyser dimensions are 120x29x50mm. Each channel has a fiber length of 0.6m, the fiber has a diameter of 1.0mm including cladding, and a bend radius of 15mm.

Drivers/ Software: DLL used for Testing, Programming examples in Labview®, C++. In addition Feasa also provides a number of programs to allow for the most efficient and appropriate use of the analyser.

Output: Red, Green, Blue (RGB), Hue, Saturation, Intensity (HSI), Dominant Wavelength, CCT, CIE xy, CIE u'v' depending on interface used.

Drivers/ Software: DLL used for Testing, Programming examples in Labview®, C++

Models:
Hub
20L Satellite
10L Satellite

FEASA Optical Heads

Feasa Optical Heads are designed for use with the Feasa LED Analyser, to ensure stability when testing the intensity of LEDs. The range of Feasa Optical Heads available accommodate variations in LED diameter, LED intensity, the physical limitations of PCBs and fixturing restrictions.

The robust and compact design delivers consistent and repeatable readings with a <10% intensity change over a 1mm placement of the LED. The Optical Head compensates for LED placement, facilitates repeatable intensity readings and reduces sensitivity to ambient light.

Optical Head	LED Intensity	Compatible with Fiber Type	Temp Range	Diameter	Length	Min Centre to centre distance
OH-1	Medium	1mm POF	0-70°C	3.05mm ±0.02	40mm	3.5mm
OH-2	Medium	1mm POF	0-70°C	4.57mm ±0.05	30mm	5mm
OH-3	Medium	1mm POF	0-70°C	4.57mm ±0.05	50mm	5mm
OH-3RGB	Medium RGB	1mm POF	0-70°C	4.57mm ±0.05	50mm	5mm
OH-4	Medium 90°	1mm POF	0-70°C	4.57mm ±0.05	59mm	5mm
OH-4S	Medium 90°	1mm POF	0-70°C	4.57mm ±0.05	39mm	5mm
OH-5	Medium	1mm POF	0-70°C	3.58mm ±0.05	49mm	4mm
OH-5S	Medium	1mm POF	0-70°C	3.58mm ±0.05	28mm	4mm
OH-6	High	1mm POF	0-70°C	8.00mm ±0.02	51mm	9mm
OH-6N	Low	1mm POF	0-70°C	8.00mm ±0.02	51mm	9mm
OH-6RGB	High RGB	1mm POF	0-70°C	8.00mm ±0.02	51mm	9mm
OH-7LT	Medium High Temp	1mm Glass	-65 to +125°C	4.57mm ±0.05	39mm	5mm
OH-8IR	Infrared	1mm Glass	0-70°C	4.57mm ±0.05	50mm	5mm
OH-9RF	RF Chamber	1mm POF	0-70°C	6.55mm ±0.05	50mm	7mm
OH-10	High	1mm POF (Included)	0-70°C	0.965mm ±0.0051	51.5mm	1.5mm
OH-11	High	1mm POF (Included)	0-70°C	0.90mm ±0.0075	35mm	1.1mm
OH-12	Low	2.2mm POF	0-70°C	4.57mm ±0.05	28mm	5mm
OH-13	Low	2.2mm POF	0-70°C	4.57mm ±0.05	37mm	5mm
OH-14	Low 90°	2.2mm POF	0-70°C	4.57mm ±0.05	46mm	5mm
OH-14S	Low 90°	2.2mm POF	0-70°C	4.57mm ±0.05	32mm	5mm
OH-16	Low	2.2mm POF	0-70°C	10.2mm ±0.1	51mm	11mm
OH-23	High	1mm POF	0-70°C	4.57mm ±0.05	50mm	5mm
OH-24	High 90°	1mm POF	0-70°C	3.05mm ±0.02	44.1mm	3.5mm
OH-26	High	1mm POF	0-70°C	8.00mm ±0.02	51mm	9mm

Feasa LED Spectrometer

The Feasa LED Spectrometer System was designed to measure the absolute colour and intensity of LEDs that are populated on a PCB. Various intensity and colour measurements made by the Feasa LED Spectrometer can be used to produce a 'golden board' which can be used as a reference for the Feasa LED Analyser. All measurements are traceable to International Standards.

It operates through an ASCII command structure and can be controlled by the accompanying software or end user programs. All measurements from the Spectrometer can be used to train/calibrate the Feasa LED Analyser.

The Spectrometer has a spectral range of 380nm to 780nm with a minimum interpolated wavelength resolution of 0.1nm and an operating temperature range of 0-40°C. Traceable measurements can be obtained for Luminous Flux (lumens), Luminous Intensity (mcd) , Luminance (cd/m²) , Chromaticity and Wavelength with automatic and custom exposure control. A range of specialised accessories have been developed for use with the Feasa LED Spectrometer.

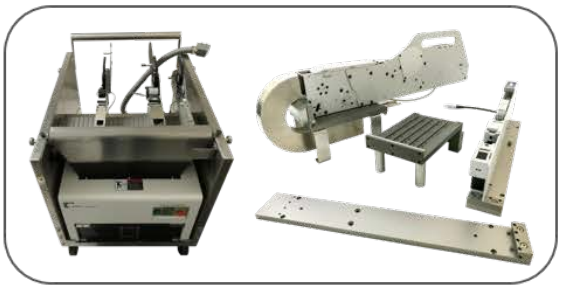
- Ideal Measurement Instrument for RGB , Single Colour and White LEDs.
- Daisy Chain bus to allow multiple Spectrometers to be connected via a single USB or RS232 connection
- PWM capture mode for Pulse Width Modulated LEDs
- Sequence Capture Functionality
- External Trigger
- The Spectrometer connects to accessories via an armoured 0.6m cable
- Communication via RS232 or USB
- Feasa software included as standard.

Optional accessories:	**Used with the Feasa LED Spectrometer to generate absolute and traceable measurements for :**
Feasa Luminance Head 	Chromaticity and Luminance Part Number: LU04 (4mm) LU07 (7mm)
Feasa Luminous Intensity Head 	Chromaticity, Luminance and Radiant Intensity. Part Number: CD04 (4mm) CD08 (8mm)
Feasa Integrating Spheres 	Chromaticity, Luminous Flux and Power Part Number: SP13 (.1 to 100 lumens) SP23 (50 to 2500 lumens)

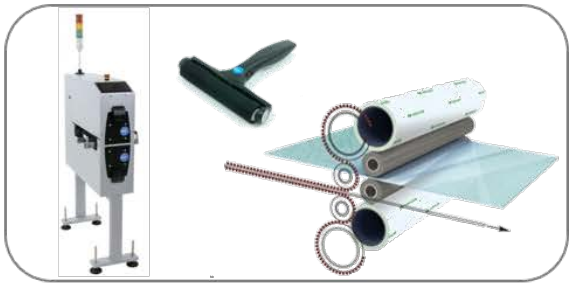
Our Product Portfolio

Feeding Technology

Label Feeder, Labels and Marking Solutions

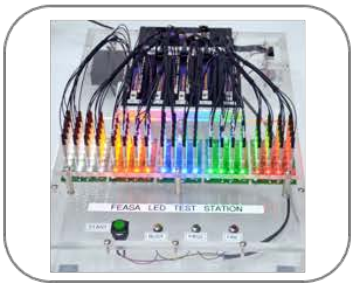


Special Applications



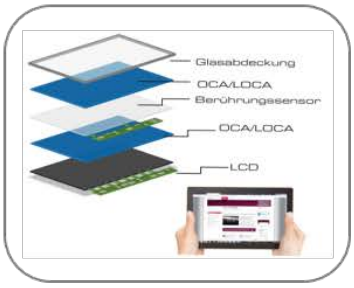
Bare Board Cleaning

In-System Programming

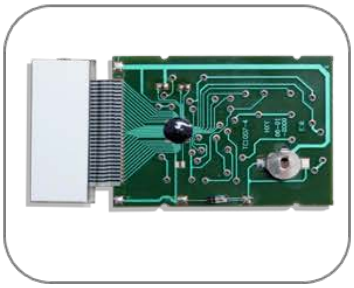


LED Analysis

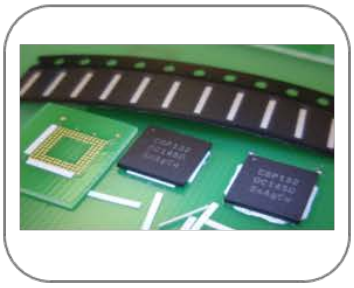
Reflow Inline Camera



Optical Bonding



Thermal Bonding



Place-N-Bond

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