LED TESTING PRODUCTS

Technology you can Trust

2024
Handbook of Products

Telephone: +353 61 330333—Fax: + 353 61 330452 —Website: www.feasa.ie

Registered Office: Feasa Enterprises Limited, Holland Road, National Technology Park, Castletroy, Limerick, Ireland

Rev No 10.00 Date 09/01/2024

Feasa LED Analysers

Feasa LED Analysers are multichannel LED test tools which measure LED output for colour and intensity. Feasa 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.

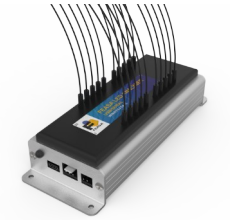
Our products are used in markets such as Automotive, Aerospace, Medical Devices, Telecommunications, White Goods, Lighting and Computing.

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 86x57x50mm and the 20 channel unit is 127x57x55mm. Each channel has a fiber of 0.6m in length with a 1mm diameter inc. cladding and a bend radius of 15mm. The operating wavelength range is 450nm-650nm with a temp range of 0-50°C.

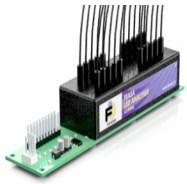
Available Interfaces: USB, Serial and Daisy Chain .

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++

Model Numbers: **20F, 10F, 6F, 5F, 3F**

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 Addressable Port. The unit has the capability to be triggered externally by an event. The dimensions of the 3,5,10 channel units are 100 x 29 x 50mm and the 20 channel is 140 x 29 x 50mm. 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.

Available Interfaces: 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 Agilent i3070, Test Code for Teradyne, DLL used for Testing, Programming examples in Labview, C++

Model Numbers: **20i, 10i, 6i, 5i, 3i**

Telephone: +353 61 330333—Fax: + 353 61 330452 —Website: www.feasa.ie

Registered Office: Feasa Enterprises Limited, Holland Road, National Technology Park, Castletroy, Limerick, Ireland

Rev No 10.00 Date 09/01/2024

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-90nm (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.

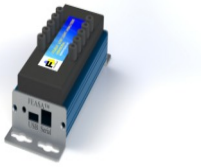
Drivers/ Software: DLL used for Testing, Programming examples in Labview, C++

Model Numbers: **20IR, 10IR, 3IR** **(700 – 950nm – Glass Fiber)**

Model Numbers: **20IRP, 10IRP, 3IRP** **(700 – 900nm – Plastic Fiber)**

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 105x55x50mm; the 10 channel model is 145x55x50mm. Each channel fiber has a length of 0.6m, the fiber has a diameter of 2.2mm, including cladding, and a 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: Set up software provided; Sample command line interface C, C++; DLL, Labview support.

Model Numbers: **10A, 6A, 5A, 3A**

High Brightness Analyser

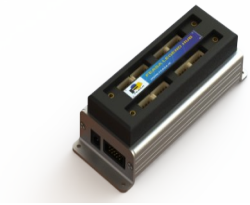
The Feasa High Bright LED Analyser was developed to test LED automotive and matrix headlights in the production environment. The High Bright Analyser is capable of testing individual LEDs as close as 1.1mm center to center distance .
The High Bright Analyser is available in 3, 5, 10, and 20 channel configurations; with models for Functional (FB) and In Circuit Testing (IB).

Available Interfaces: USB, Serial and Daisy Chain.

Software: Set up software provided; Sample command line interface C, C++; DLL, Labview support.

Model Numbers (Functional): **20FB, 10FB, 5FB, 3FB**
Model Numbers (In circuit Test): **20iB, 10iB, 5iB, 3iB**

Feasa Legend Analyser



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.
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 programmes 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++

Model Numbers: **HUB, 20L, 10L**

RGB Analyser

The Feasa RGB LED Analyser was designed for measuring RGB LEDs, RGB 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 quickly.
The RGB LED Analyser is available in 6 and 10 channel configurations.
The dimensions of the 6 channel units is 105x55x50mm; the 10 channel model is 145x55x50mm. Each channel fiber has a length of 0.6m, the fiber has a diameter of 2.2mm, including cladding, and a bend radius of 50 mm. 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 for monochromatic and RGB colours, with repeatability of ±0.002 and <1% of intensity.

Available Interfaces: USB, Serial, and Daisy Chain.

Software: Set up so□ware provided; Sample command line interface C, C++; DLL, Labview support.

Models: **3-RGB, 5- RGB, 6-RGB, 10-RGB**

Telephone: +353 61 330333—Fax: + 353 61 330452 —Website: www.feasa.ie
Registered Office: Feasa Enterprises Limited, Holland Road, National Technology Park, Castletroy, Limerick, Ireland
Registered in Ireland, No. 106933.

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. Please refer to our website for more detailed information.

The following is a list of the most popular Optical Heads. Please contact the factory if you require another option that is not listed.

Optical Head	LED Intensity	Fiber Compatability	Temp Range
OH-1	Medium	1mm POF	0-70°C
OH-2S	Medium	1mm POF	0-70°C
OH-3	Medium	1mm POF	0-70°C
OH3-RGB	Medium RGB	1mm POF	0-70°C
OH-4 / OH-4S	Medium 90°	1mm POF	0-70°C
OH-5 / OH-5S	Medium	1mm POF	0-70°C
OH-6	High	1mm POF	0-70°C
OH-6N	Medium	1mm POF	0-70°C
OH6-RGB	Medium RGB	1mm POF	0-70°C
OH-7LT	Medium	1.1mm Glass	-65°C / +125°C
OH-8IR	Medium	1mm POF	0-70°C
OH-9RF	Medium	1mm POF	0-70°C
OH-10	High	1mm POF	0-70°C
OH-10G-xxx	High	1.1mm Glass	0-70°C
OH-11	High	1mm POF	0-70°C
OH-12	Low	2.2mm POF	0-70°C
OH-13	Low	2.2mm POF	0-70°C
OH-14 / OH-14S	Low 90°	2.2mm POF	0-70°C
OH-16	Low	2.2mm POF	0-70°C
OH-19RF	Medium 90°	1mm POF	0-70°C
OH-21	Medium	1mm POF	0-70°C
OH-23	Super High	1mm POF	0-70°C
OH-24	Medium 90°	1mm POF	0-70°C
OH-26	Super High	1mm POF	0-70°C
OH-33	High	1mm POF	0-70°C

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 a 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 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 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 / RGBW / RGBA 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.

Mounting Brackets provided for easy fixturing.

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)