

FEASA™ High Brightness LED ANALYSER

The Innovative Solution for Testing LEDs

The Feasa High Brightness Analyser is an innovative solution for testing multiple LEDs simultaneously for Color and Brightness. There are two Models – Feasa I(ICT) and Feasa F(Functional). These can be ordered in 3, 5, 10 and 20 Channel configurations. This Led Analyser in conjunction with Optical Heads can measure up to 10,000 Lumens.

When choosing which Model is most suitable for your application there are a number of issues to consider. In this regard the choice of Interface is important.

	<u>Feasa I</u>	<u>Feasa F</u>
USB	NO	YES
RS232	YES	YES
20 Pin Port – Frequency Out	YES	NO
20 Pin Port – Synchronous Serial	YES	NO
Daisy Chain	NO	YES
External Trigger Input	YES	NO

USB offers a simple interface to the LED Analyser with no requirement for an additional power supply. Baud rates up to 921600 baud are available, default 57600.

The **RS232 Serial Port** is easy to use with a max baud rate of 115200. It requires the use of an external power supply.

The **20pin ICT Port** can be used in either Frequency Out or Synchronous Serial Mode.

- **Frequency Out**

The Frequency Out protocol can be used where access to an RS232 Serial Port is not available. Three frequencies are used to represent the Color and Intensity of the LEDs.

- **Synchronous Serial Port**

The Synchronous Serial protocol is suitable when tester resources are limited or no other options are available.

Daisy Chain

Multiple LED Analysers can be connected together using the Daisy Chain Connectors. Only one RS232 Serial Port or USB Port is required to connect up to 30 LED Analysers.

External Trigger Input

The Feasa I provides an External Trigger Input which can be used to synchronise LED measurements with an external event such as an LED switching on.



Feasa Enterprises Ltd.

Castletroy • Limerick • Ireland

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

Registered Office: Feasa Enterprises Limited, Holland Road, National Technology Park, Castletroy, Co.Limerick, Ireland.
Registered in Ireland, No. 106933. Copyright © 2011 Feasa Enterprises Limited. All rights reserved.



TEST TIME

The speed of the test is dependent on the intensity of the LEDs being tested, i.e. Bright LEDs have a shorter Test Time, Dimmer LEDs have a longer Test Time.

The capture (measurement) of up to 20 LEDs is done in parallel and can be achieved in times as fast as 102ms depending on the Intensity (Brightness).

The data is read back from each fiber sequentially and takes approximately 5ms per fiber, for example:

Ultra High Bright LEDs

- 1 LED - Capture Time is 2ms and Read Back is 5ms, Total 7ms
- 20 LEDs - Capture Time is 2ms and Read Back is 100ms, Total 102ms

Dim LEDs

- 1 LED - Capture Time is 650ms and Read Back is 5ms, Total 655ms
- 20 LEDs - Capture Time is 650ms and Read Back is 100ms, Total 750ms

USB / RS232 SERIAL PORT – TEST CAPTURE TIMES

Range	Capture Time
C (Auto Capture)	350ms
C1 (Low Intensity)	650ms
C2 (Medium Intensity)	200ms
C3 (High Intensity)	22ms
C4 (Super High Intensity)	4ms
C5 (Ultra High Intensity)	2ms

The Read Back Time per fiber is always approximately 5ms.

For ICT the Capture Times are the same as USB/RS232 Serial Port. However, the Read Back Times are dependent on the frequencies being measured. Using an Agilent i3070 the Read Back Times are 400ms to 700ms approximately.



Feasa Enterprises Ltd.

Castletroy • Limerick • Ireland

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

Registered Office: Feasa Enterprises Limited, Holland Road, National Technology Park, Castletroy, Co.Limerick, Ireland.
Registered in Ireland, No. 106933. Copyright © 2011 Feasa Enterprises Limited. All rights reserved.

Page 2 of 4

Rev No.2.00 26th April 2021



FEASA™ High Brightness LED ANALYSER

The Innovative Solution for Testing LEDs

OUTPUTS

<u>USB / RS232</u>	<ul style="list-style-type: none"> - Red, Green, Blue (RGB) - Hue, Saturation, Intensity (HSI) - Dominant Wavelength - CCT - CIE xy - CIE u'v'
<u>Frequency Out</u>	<ul style="list-style-type: none"> - Hue, Saturation, Intensity (HSI) - Wavelength, Saturation, Intensity (WSI) - XY, Intensity (XYI)
<u>Synchronous Serial</u>	<ul style="list-style-type: none"> - Red, Green, Blue, Intensity (RGBI) - Hue, Saturation, Intensity (HSI) - CCT - CIE xy (XYI) - Wavelength, Saturation, Intensity (WSI) - Absolute Intensity

DRIVERS/SOFTWARE

Feasa provides a comprehensive suite of Drivers and Software for ease of use.

	<u>Feasa I</u>	<u>Feasa F</u>
Test Models for Agilent i3070	YES	NO
Test Code for Teradyne	YES	NO
DLL used for Testing	YES	YES
Programming examples in Labview, C++	YES	YES

In addition, Feasa also provides a number of programmes to allow for the most efficient and appropriate use of the analyser.

APPLICATIONS

Indicator LEDs

- RJ45 Connectors
- Display Panels
- Emergency Signals
- Traffic Lights
- Railway Signals

Automotive

- Daytime Running Lights
- Brake Lights
- Centre High Mount Stop Lights
- Side Turn Signals
- Emergency Stop Signal

Interior Lights (Automotive & Avionics)

- Dashboard
- Map Lights
- Mood Lights

LCD Backlighting

- TV
- Notebook/PC
- Cell Phones/Smart Phones

Aviation Lighting

- Landing Lights



Feasa Enterprises Ltd.

Castletroy • Limerick • Ireland

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

Registered Office: Feasa Enterprises Limited, Holland Road, National Technology Park, Castletroy, Co.Limerick, Ireland.
Registered in Ireland, No. 106933. Copyright © 2011 Feasa Enterprises Limited. All rights reserved.



FEASA™ High Brightness LED ANALYSER

The Innovative Solution for Testing LEDs

SPECIFICATIONS

	<u>Feasa IB</u>	<u>Feasa FB</u>
OPTICAL Total Operating Wavelength Range	450nm to 650nm	450nm to 650nm
ACCURACY Dominant Wavelength Correlated Color Temperature Chromaticity(with OH3 Optical Head) Resolution	± 2nm @ 590nm ± 200K @ 2856K ± 0.01 @ x=0.33, y=0.33 0.0001	± 2nm @ 590nm ± 200K @ 2856K ± 0.01 @ x=0.33, y=0.33 0.0001
REPEATABILITY Dominant Wavelength Correlated Color Temperature Chromaticity xy Hue Saturation Intensity	± 1nm ± 50K @ 2856K ± 0.0015 < 1 < 1% < 1%	± 1nm ± 50K @ 2856K ± 0.0015 < 1 < 1% < 1%
ELECTRICAL Supply Voltage Supply Current	5.0V 180mA	5.0V 180mA
PHYSICAL Dimensions of 3, 5, 10 Channel Dimensions of 20 Channel Fiber Length Fiber Diameter Minimum Bend Radius of Fiber Operating Temperature Range	100mm x 29mm x 29mm* 140mm x 29mm x 29mm* 0.6m 1.0mm, incl. cladding 15mm * does not include bend radius 0°C to +50°C	104.5mm x 54mm x 39mm* 145mm x 54mm x 39mm* 0.6m 1.0mm, incl. cladding 15mm 0°C to +50°C

ORDERING INFORMATION

Feasa High Brightness Led Analyser Model Numbers

	ICT Version	Functional Version
3 Channel	3-IB	3-FB
5 Channel	5-IB	5-FB
10 Channel	10-IB	10-FB
20 Channel	20-IB	20-FB



Feasa Enterprises Ltd.

Castletroy • Limerick • Ireland

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

Registered Office: Feasa Enterprises Limited, Holland Road, National Technology Park, Castletroy, Co.Limerick, Ireland.
Registered in Ireland, No. 106933. Copyright © 2011 Feasa Enterprises Limited. All rights reserved.