FEASA™ LED ANALYSER

The Innovative Solution for Testing LEDs

The Feasa 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, 6,10 and 20 Channel configurations.

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.

INTERFACES

	Feasa I	Feasa F
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	YES

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 and a 5V PSU 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.

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 Brigh LEDs

1 LED - Capture Time is 3ms and Read Back is 5ms, Total 8ms
20 LEDs - Capture Time is 3ms and Read Back is 100ms, Total 103ms

Dim LEDs

1 LED - Capture Time is 620ms and Read Back is 5ms, Total 655ms
20 LEDs - Capture Time is 620ms and Read Back is 100ms, Total 750ms

USB / RS232 SERIAL PORT – TEST CAPTURE TIMES

Range	Capture Time
C (Auto Capture)	450ms
C1 (Low Intensity)	620ms
C2 (Medium Intensity)	210ms
C3 (High Intensity)	25ms
C4 (Super High Intensity)	5ms
C5 (Ultra High Intensity)	3ms

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.

OUTPUTS

USB / RS232	- Red, Green, Blue (RGB) - Hue, Saturation, Intensity (HSI) - Dominant Wavelength (W, WI, WSI) - CCT - CIE xy (XY, XYI) - CIE u'v'
Frequency Out	- Hue, Saturation, Intensity (HSI) - Wavelength, Saturation, Intensity (WSI) - XY, Intensity (XYI)
Synchronous Serial	- 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.

	Feasa I	**Feasa F**
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

SPECIFICATIONS

	Feasa I	Feasa F
OPTICAL		
Total Operating Wavelength Range	450nm to 650nm	450nm to 650nm
ACCURACY		
Dominant Wavelength	± 2nm @ 590nm	± 2nm @ 590nm
Correlated Color Temperature	± 200K @ 2856K	± 200K @ 2856K
Chromaticity(with OH3 Optical Head)	± 0.01 @ x=0.33, y=0.33	± 0.01 @ x=0.33, y=0.33
Resolution	0.0001	0.0001
REPEATABILITY		
Dominant Wavelength	± 1nm	± 1nm
Correlated Color Temperature	± 50K @ 2856K	± 50K @ 2856K
Chromaticity xy	± 0.0015	± 0.0015
Hue	< 1	< 1
Saturation	< 1%	< 1%
Intensity	< 1%	
ELECTRICAL		
Supply Voltage	5.0V	5.0V
Supply Current	220mA	220mA
PHYSICAL		
Dimensions of 3, 5, 6, 10 Channel	100mm x 29mm x 29mm*	104.5mm x 54mm x 39mm*
Dimensions of 20 Channel	140mm x 29mm x 29mm*	145mm x 54mm x 39mm*
Fiber Length	0.6m	0.6m
Fiber Diameter	1.0mm, incl. cladding	1.0mm, incl. cladding
Minimum Bend Radius of Fiber	15mm	15mm
Operating Temperature Range	0°C to +50°C	0°C to +50°C
	* does not include bend radius	

Feasa LED Analyser	Feasa I	Feasa F
3 Channel	Part No.: Feasa 3I	Part No.: Feasa 3F
5 Channel	Part No.: Feasa 5I	Part No.: Feasa 5F
10 Channel	Part No.: Feasa 10I	Part No.: Feasa 10F
20 Channel	Part No.: Feasa 20I	Part No.: Feasa 20F

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