10G SFP+ AOC Checker

Features

- 8.5G，9.95~11.1Gbps BERT
- Optical Power Meter:1270~1610nm
- SFP+ status checker
- Friendly graphic user interface (GUI)
- 2 SFP+ ports
- 5V DC power supply
- Small form & full metal case
- Mini-USB connection

Applications

- Bit error rate test
- SFP+ AOC test
- Optical transmitting power measurement
- Module power measurement
- GUI Operating environment: Win XP ，Win 7, Win8 and Win10 64BIT

Description

The 10G SFP+ AOC Checker is an instrument which can help you to test SFP+ module and SFP+ AOC.

It can help you to read the internal memory EEPROM of the SFP+ module and display details of the EEPROM (such as the Part Number, Vendor Name, description and range.), monitor all DDM information. You can change the EEPROM if you know the module password .The optical power can be measured by FC connector optical sensor. In addition it can measure the power of the module.

The 10G SFP+ AOC Checker combines the Serial Pattern Generator, Bit Error Rate Analyzer. It provides common transmission rate for 8x Fiber Channel, OC-192 and 10G Ethernet. Two SFP+ modules can be tested at the same time .It support SFP+ AOC too.

The friendly graphic user interface (GUI) provides clear monitoring for bit error rate, bit error counter, timer, status, optical power from the sensor, power of the module, selection of data rate and PRBS pattern.

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage	Vcc	-0.5	6	V
Storage Temperature	Ts	-10	+70	°C

Technical Specifications

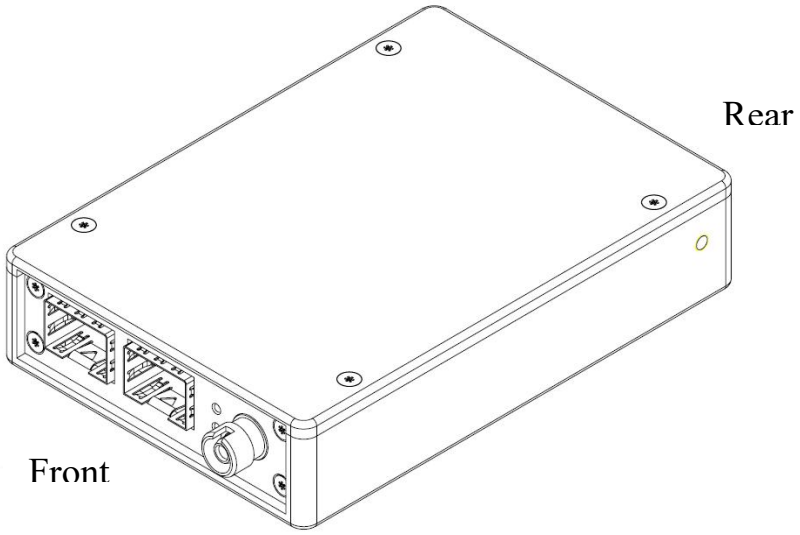
Parameter		Symbol	Min	Typical	Max	Unit
Operating Case Temperature	Standard	Tc	0		+50	°C
Operating Humidity		-	5		85 non-condensing	%
Power Supply Voltage		Vcc	4.5	5	5.5	V
Physical Dimensions			100(W)x70(D) x21(H)			mm

* Excluding SFP Transceivers.

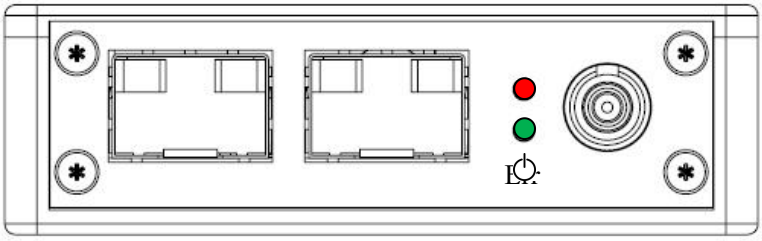
Optical and Electrical Characteristics

Main Frame	
SFP ports	Standard SFP 20pin with Cage
Transmission rate	10GbE: 10.3125Gbps G709: 10.709Gbps 8GFibre Channel: 8.5Gbps 10GFibre Channel: 10.51875Gbps 10GbE FEC: 11.1Gbps OC192: 9.95328Gbps
Pattern Generator	PRBS7, PRBS9, PRBS21, PRBS23, PRBS31
Optical Sensor	
Input Wavelength	1270nm~1610nm (830~870 nm Optional)
Input Optical Power Range	-40dBm ~ +8dBm
Accuracy	±1dB
SFP supply current measured	
supply current	0~60 0mA
Accuracy	±5%

Hardware Configuration



Front Panel

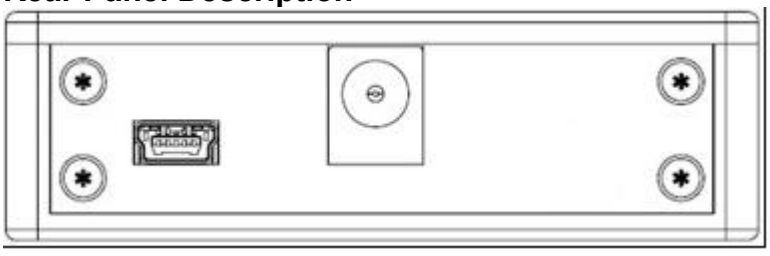


SFP1 SFP2 Optical Power Meter

Front Panel Description

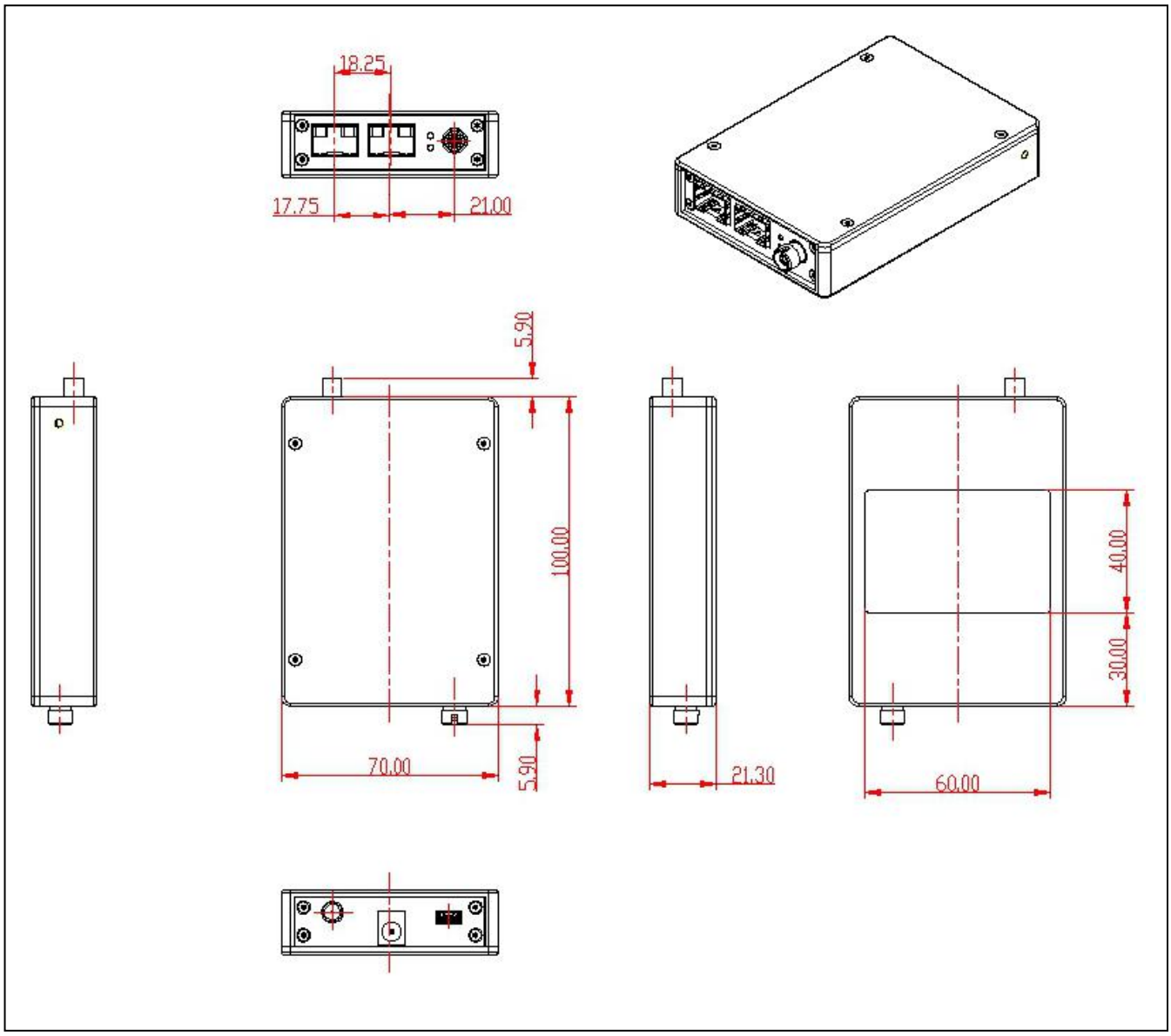
LED	Display	Description
⏻	Off	No power
	Green	Power OK
Err	Off	pass
	Red	Bit Error
	Flash	No SYNC

Rear Panel Description



USB DC 5V

Mechanical Dimensions



Ordering information

Part Number	Product Description
10G SFP+ CHECK(AOC)	The SFP Checker is an test instrument which combines 8.5Gbps,9.95~11.3Gbps Bit error rate test, Optical power meter, DDM Checking, EEPROM coding function, etc.

Important Notice

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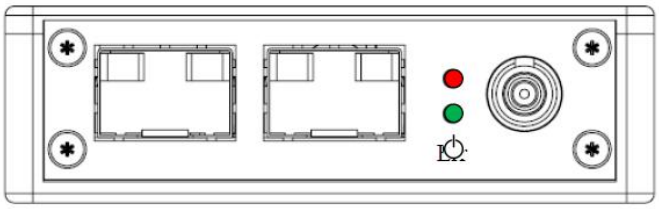
Web: http://www.gigalight.com.cn

User Guide

Hardware configure

Front panel

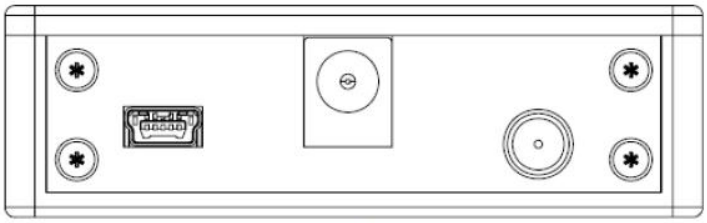


SFP1 (TX、RX) **SFP2** (TX only) **Power Meter**

Front Panel Description

LED	Display	Description
⏻	Off	No power
	Green	Power OK
Err	Off	pass
	Red	Bit Error

Rear panel

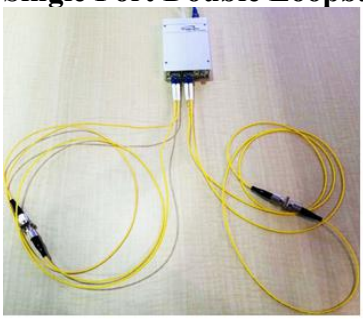


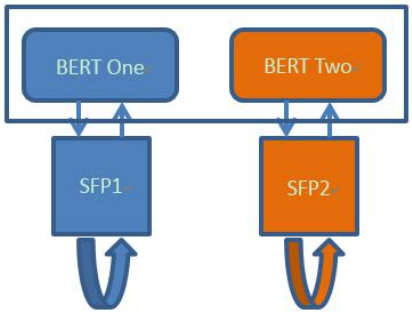
USB **DC 5V** **Trigger output**

Rear Panel Description

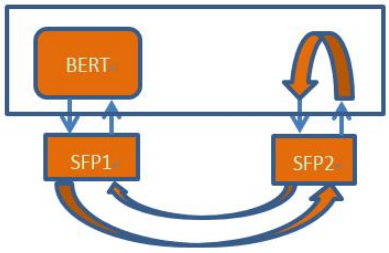
1.1 Device Connection

Single Port Double Loopbacks Test connection

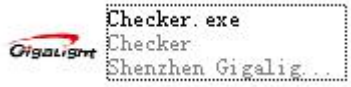




Doube Ports Single Loopback Test Connection



1.2 Open the software



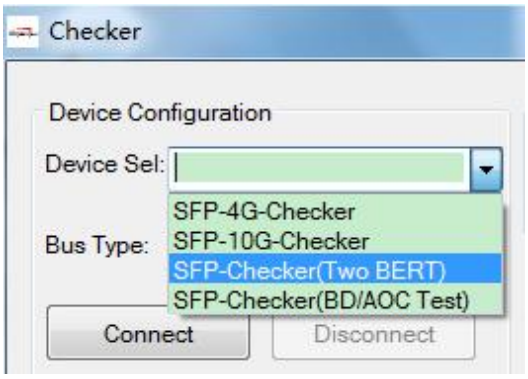
Software Operation

Device Configuration

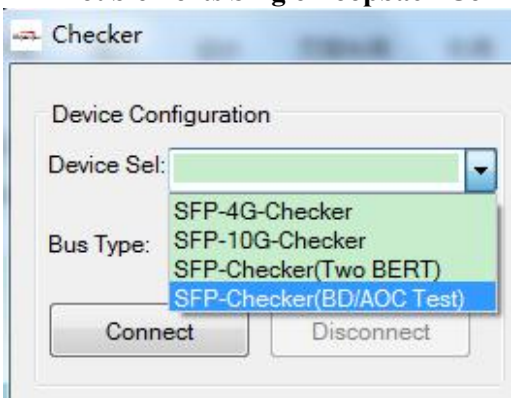
Dev Select has four options: SFP-4G-Checker， SFP-10G-Checker， SFP-Checker (Double fiber) and SFP Checker(BD、AOC).

Default bus type is USB (presently only support USB communication).

Single Port Double Loopbacks Configure：



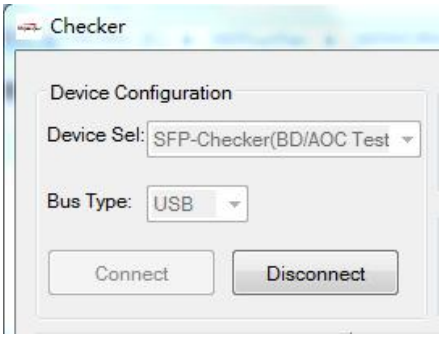
Double Ports Single Loopback Configure：



Connect and Disconnect

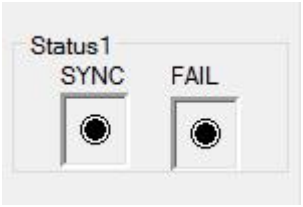
Connect button--after clicking it is gray, then disconnect button turns optional; USB connected, monitoring begin.

Disconnect button—disconnect the checker with computer. The button's color turns gray when clicking it.



Status

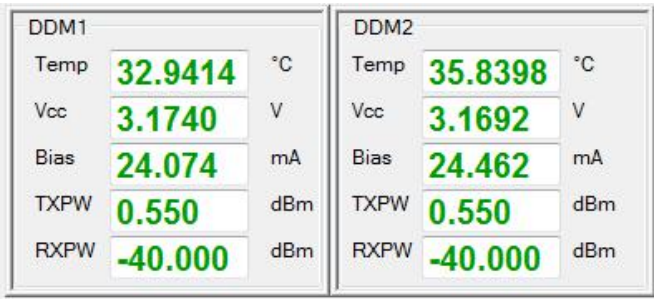
As for status indicator, green is for normal and red for unnormal.
SYNC Shows synchronization status.
FAIL shows BIT EEROR status.



Note：Status1 means the transceiver is connecting to SFP1 port.

DDM

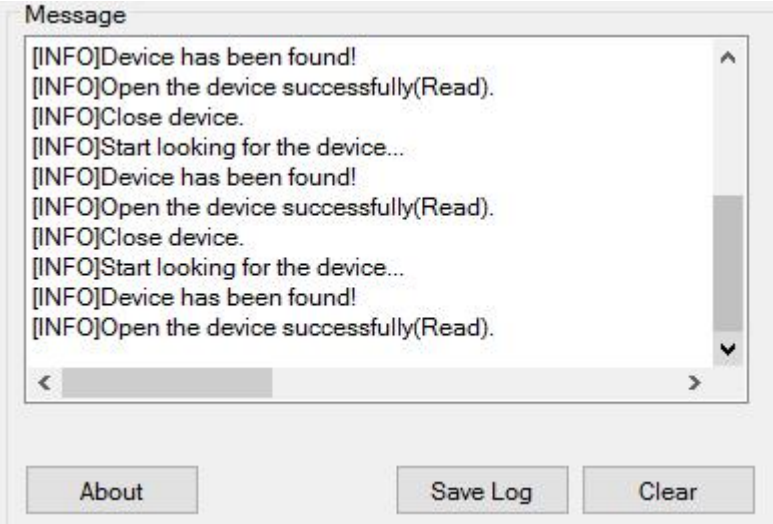
After installing the driver software, connecting USB cable and plugging the transceiver module, please click the Connect button on the program, so it begins to read the parameter like temperature, voltage, current, Tx and Rx power. The red fonts means High Alarm, yellow means High Warning; black means Low Alarm, blue means Low Warning, green means Normal.



Note:
1) DDM1 shows the DDM information from the transceiver connecting to SFP1 port.
2) Only 4G Checker has fonts of different colors, 10G Checker has one of the same color.

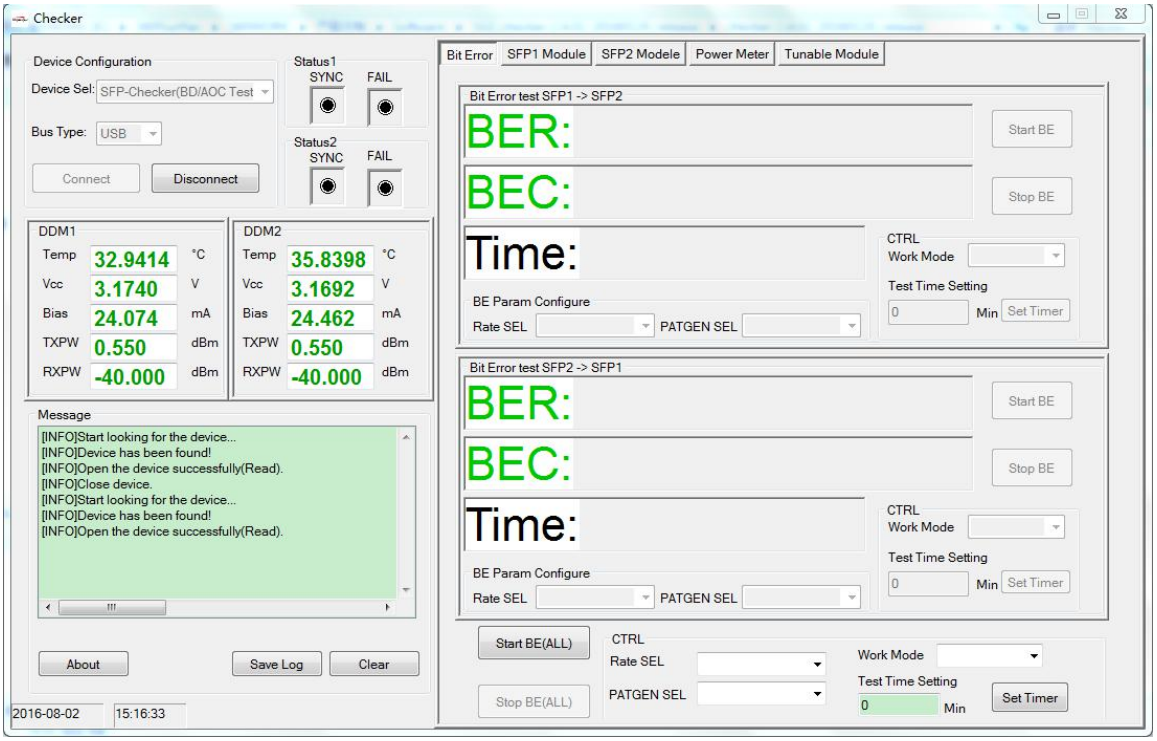
Debugging Message

Message--debugging message.
About—brief introduction about the software.
Save Log--click it to save the debugging message to program catalog.
Clear--click it to erase the debugging message.



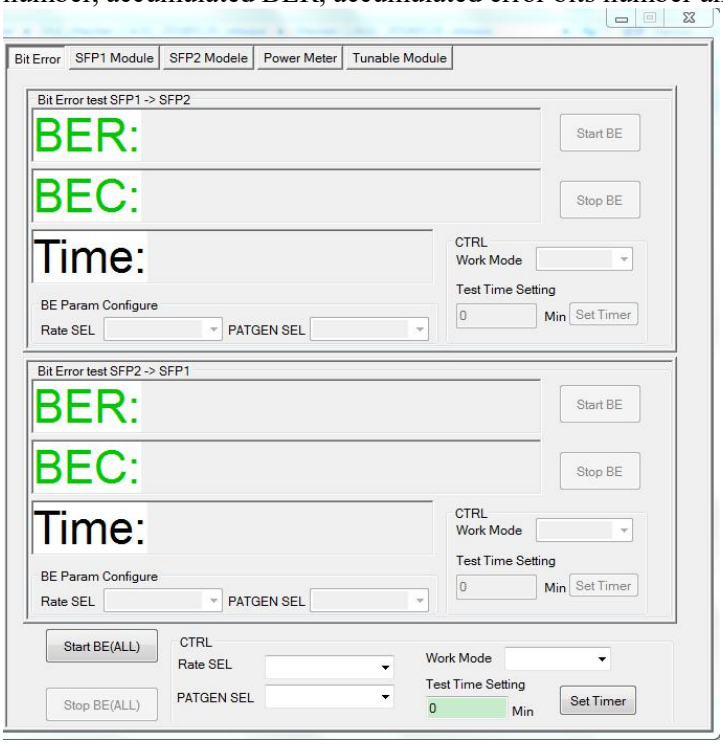
Function Zone

This section shows message only when clicking Connect button and communication between the checker and Computer is normal by USB cable.



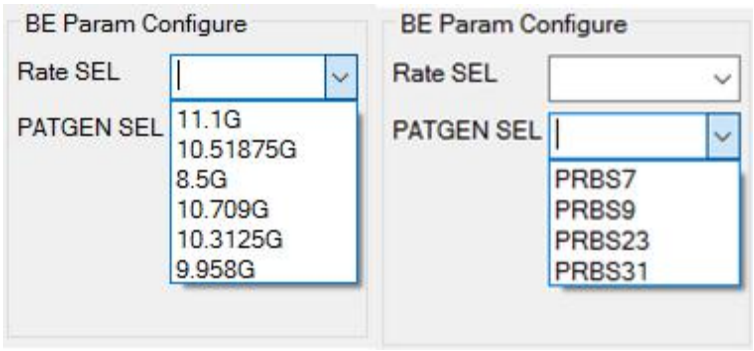
Bit Error Test

When the Bit Error Test starts, it will show instantaneous BER (Bit Error Rate), instantaneous error bits number, accumulated BER, accumulated error bits number and testing time.



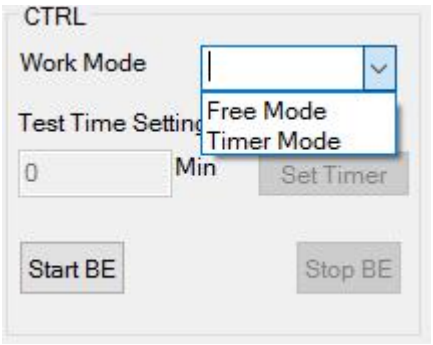
BE Parameters Configure

Rate SEL option includes various data rate: 11.318G, 11G, 10.51875G, 8.5G, 10.709G, 10.3125G, 9.958G.
PATGEN SEL option contains several modes: PRBS7, PRBS9, PRBS23, and PRBS31.

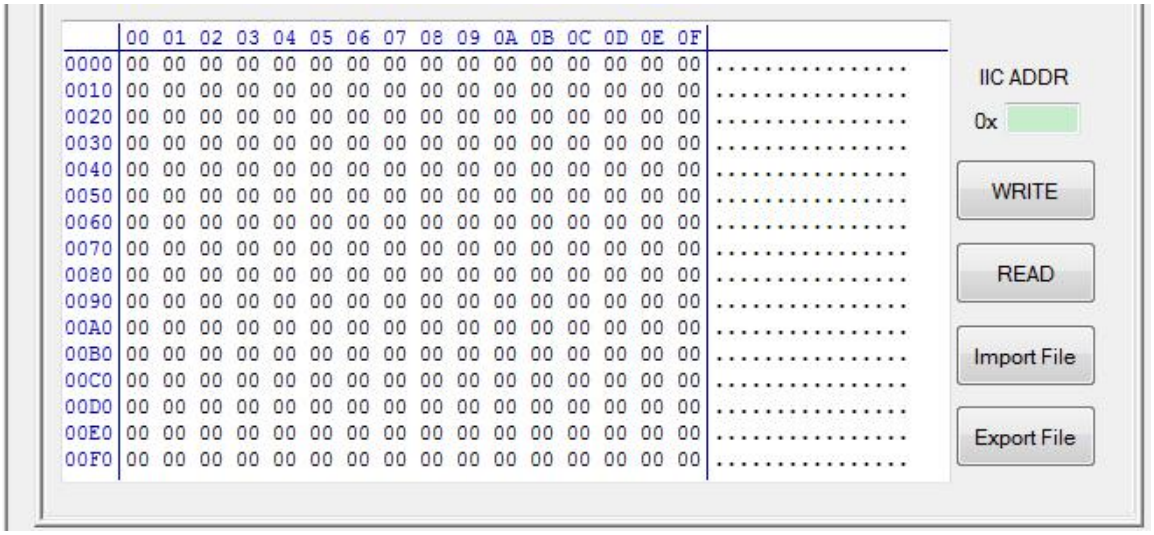


Controlling configure

Work Mode has two options--Free mode and Timer mode.
When choosing Timer mode, the Test time Setting turns configurable status.
Click Start BE Button to star Bit Error test and Stop BE Button to stop the test.

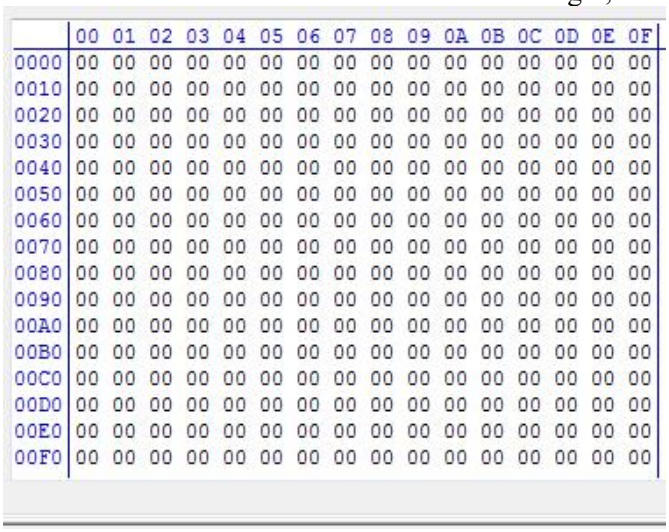


EEPROM Writing and Reading



Data Buffer

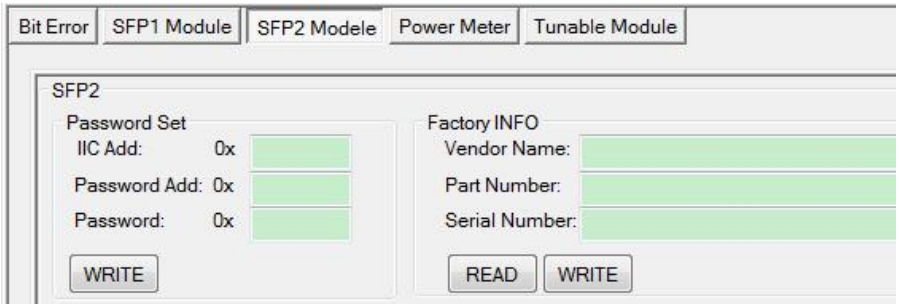
Data is on the left and ASCII code on the right, as below:



Transceiver Code Operating

Input read & written code address (A0， A2) into IIC ADDR.
Write--write code into the transceiver.
Read--read code from the transceiver.
Import File--read code of bin format from the outside into the checker and then write it into the transceiver.
Export File--export the code of bin format.

Transceiver Factory Information R/W

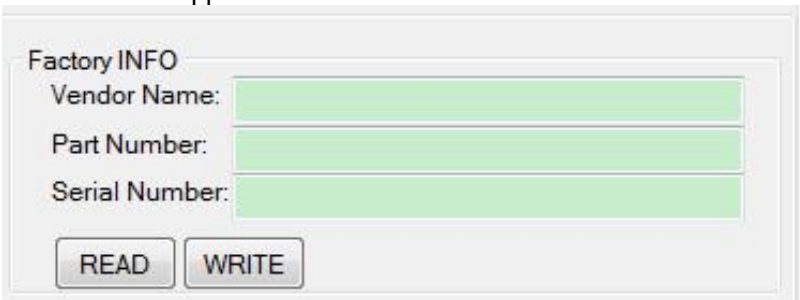


Password Setting

Input the correct address and password before proper operation on the transceiver.

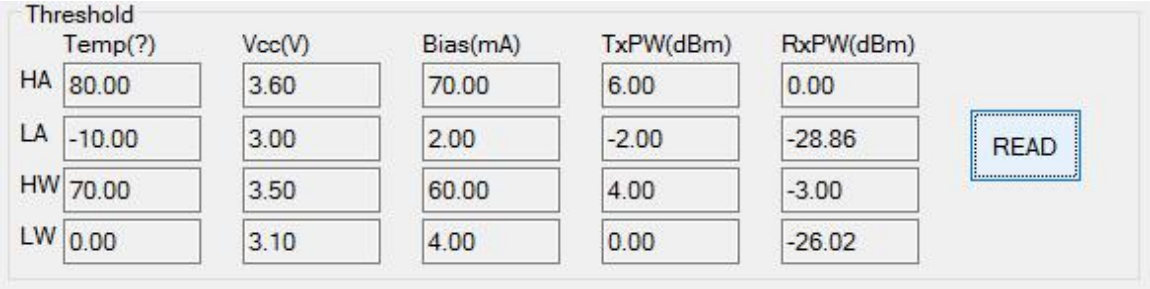
Factory Information

Read—read and show transceiver's supplier and serial number.
Write—write supplier and serial number into the transceiver.



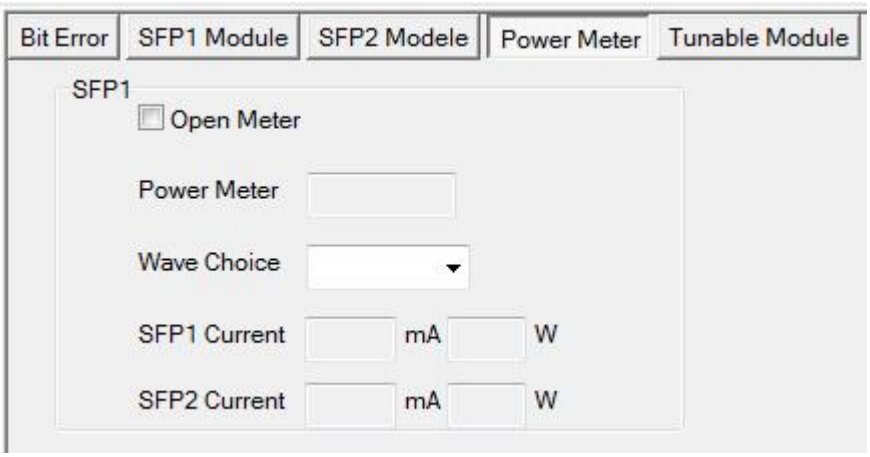
Threshold

Read--read out threshold settings of high alarm, low alarm, high warning and low warning about the transceiver's temperature, voltage, current, Tx & Rx power.



Power Meter

This section shows power meter's wavelength, power (-47db~8db), and transceiver VC current.
Open Meter--open or close power meter chip.
Wave Choice--select power meter's wavelength from 1310, 1490 and 1550 nm.



Notes

(1) The software supports Windows XP/7/8/10, 32/64bit system (4G Checker only

supports Win XP system).
(2) Plug and play--the checker does not need extra driver software (4G Checker needs to Install one).
(3) Make sure the files in the software package are complete before operation.
(4) Interruption of monitoring is equivalent to wrong communication between the checker and computer. If this happens, just click Connect button to start again.
(5) If DDM data becomes stable during monitoring, please disconnect the checker with the computer and then click Connect button again--re-charge the device is an option.
(6) Re-plug the USB cable when the checker has problem in connecting to computer, the same operation for clicking Connect button without respondence.

More information please click http://www.gigalight.com/products_detail/&productId=173.html