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High-Power L-band SM 40dBm Booster EYDFA with Touch Screen

User's Manual

P/N: EDFA-118112xxxxxxx

Version: 2025-10

Warning

- The FC/APC connector on the main output fiber is for power testing only. It cannot be connected to other fiber connectors.
- If the output fiber needs to be connected to other fiber, these two fibers must be spliced.
- If the amplifier output is to a free-space optical system, a beam collimator at the output end is strongly recommended.
- All fiber connectors need to be cleaned and inspected before connecting them to the amplifier input and monitor ports.

  Fail to do so might cause poor performance of amplifier.

Max Power Setting

- 1570-1585nm: 10W
- >1585nm: Up to 5W

  For safety, recommend ACC (automatic current control) mode for input wavelength > 1585nm, with Max 8A setting of pump current.

1 Warnings

1) Only SMF-28 single-mode fiber or compatible fiber cable can be connected to this amplifier. Using of other fiber cables, including multimode fiber cables and single-mode fiber cables with different core size, may cause poor performance or even damage to the amplifier.
2) Only connectors as indicated on the front panel are allowed, such as FC/APC, SC/APC, etc.
3) Clean and inspect connectors and fiber ends prior to installation.
4) Use only industry approved methods, materials, and solutions for cleaning.
5) Always turn off the amplifier prior to plugging/unplugging fiber cable. Failure to do so may cause permanent damage to the amplifier.

2 Operation Instruction

2.1 Function Summary

The front and rear panel of this amplifier are shown in Figure 1.

Figure 1: Front and rear panels of amplifier.

Front Panel

Turn Key

Switch ON/OFF to unlock/lock the power of pump circuit.

Note:

When it is ON model switching (APC/ACC) is not functional.

Emergence Push Button

In case of emergence push it down to disable amplifier output.

To resume amplifier output turn it clockwise till it pop up.

Touch Screen

It is for front-panel control.

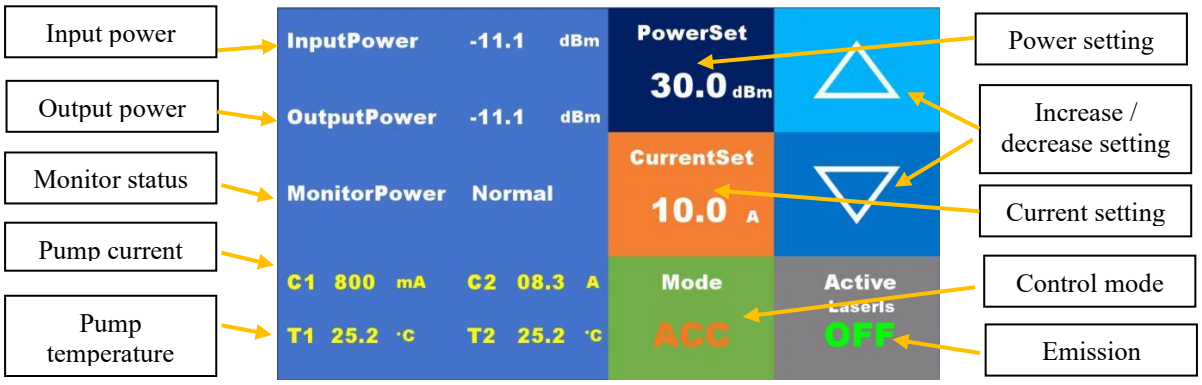

Figure 2: Front control panel.

Monitor Output Fiber

Its output power is 1% of actual output power in the output fiber, for real-time power monitor purpose.

Rear Panel

Power Socket

This module needs 100-240V AC power. Its on-off power switch locates on rear panel.

Power consumption of the amplifier is 115W at room temperature.

RS232 Port

It is for remote GUI control.

2.2 Operation

1) Plug the AC power cord into the receptacle on the rear panel of the module, and connect to 100-240V AC power source.
2) If RS232 remote control mode is preferred, connect the RS232 port on the rear panel to a computer by using the RS232-to-USB cable coming with the amplifier.
3) Connect all optical fiber to desired devices.
4) Turn 100-240V AC power on by using the rocker switch on the rear panel of amplifier.
5) Choose control mode, i.e. APC (automatic power control) or ACC (automatic current control) by clicking the 'Mode' button.

   Note:

   Control mode cannot be changed when turn-key is at On position.

6) Input setting value by using the △ and ▽ buttons on the touch screen, long-press for coarse adjustment, and short-press for fine adjustment.

   Or click PowerSet / CurrentSet buttons to input a setting value.

Figure 3: input of setting value.

7) Make sure Emergency Button is pulled up.
8) Switch Turn Key to 'ON' position.
9) Click Active button to enable amplifier output.
10) For remote control, see Part 3 for details.

11) To turn off amplifier, click active button one more time, it shows OFF. Then switch turnkey to OFF position, and switch AC power off.

Latest setting of amplifier will be saved automatically.

3 Software Instruction

Note:

USB to COM driver for FTDI devices needs to be installed on the computer for remote control. The driver can be downloaded from https://ftdichip.com/drivers/vcp-drivers/.

1) Download GUI software 'EDFA GUI V3.0' from the link below, under Other Download.

https://photonwares.com/product/fiber-optical-amplifier-edfa-1540-1565nm-high-power/

Figure 4: Driver download link

2) Unzip the file and run setup.exe to install the GUI on host computer.
3) Connect the amplifier to the host computer by using RS232-to-USB cable.
4) Power on the amplifier.
5) Run EDFA GUI V3.0.
6) Choose device model EDFA-BL

- **EDFA-BL: L-band 5-10W EYDF.**

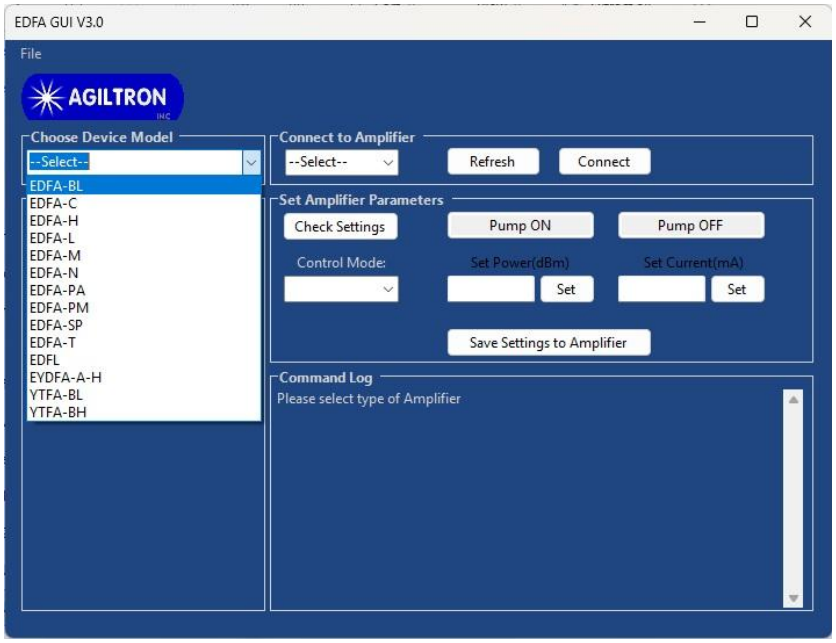

Figure 5: Remote control software: model selection

7) Port Selection:

Select the serial port, to which the EDFA is connected, from the ‘Port List’, and click ‘Connect’. If the desired port doesn’t show up click ‘Refresh’ button and try again.

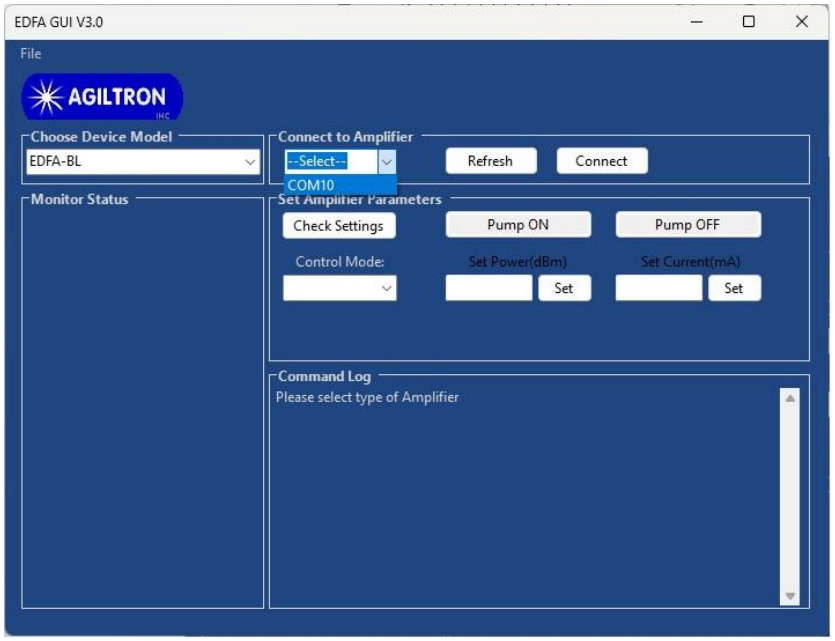

Figure 6: Remote control software: COM port selection.

8) Click ‘Connect’ button to build the connection between computer and the EDFA.

9) Once EDFA has been connected successfully the status of the EDFA will be displayed in Monitor Status window. The status keeps updating at an interval of 1 second.

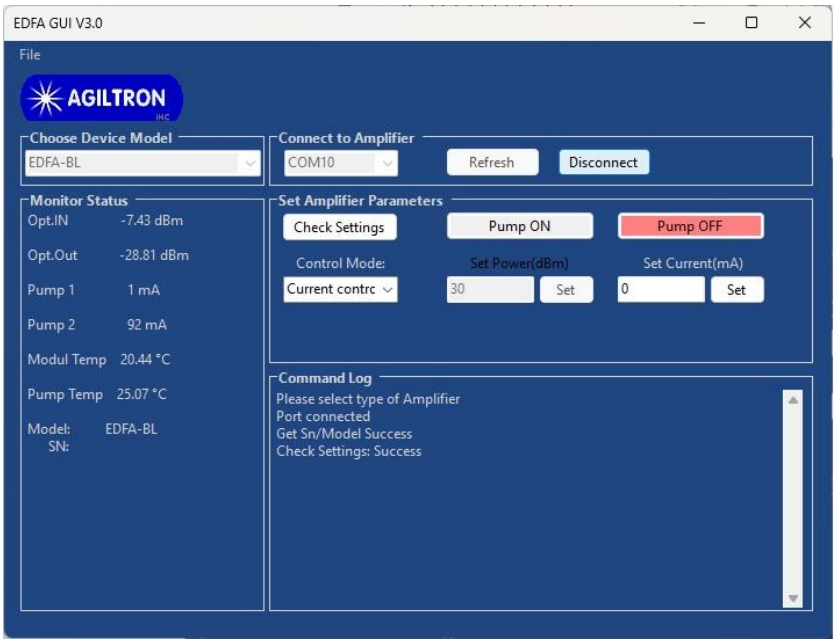

Figure 7: Remote control software: connect to amplifier successfully.

10) Check Setting

Click to get the settings from the EDFA.

11) Control Mode Selection

Click ‘Control Mode’ button to get the current mode setting of EDFA.

Power Control: constant power control mode

Current mode: constant current control mode

Select the desired mode and input setting value into the corresponding ‘Set Power(dBm)’ or ‘Set Current(mA)’ box, then click ‘Set’ button.

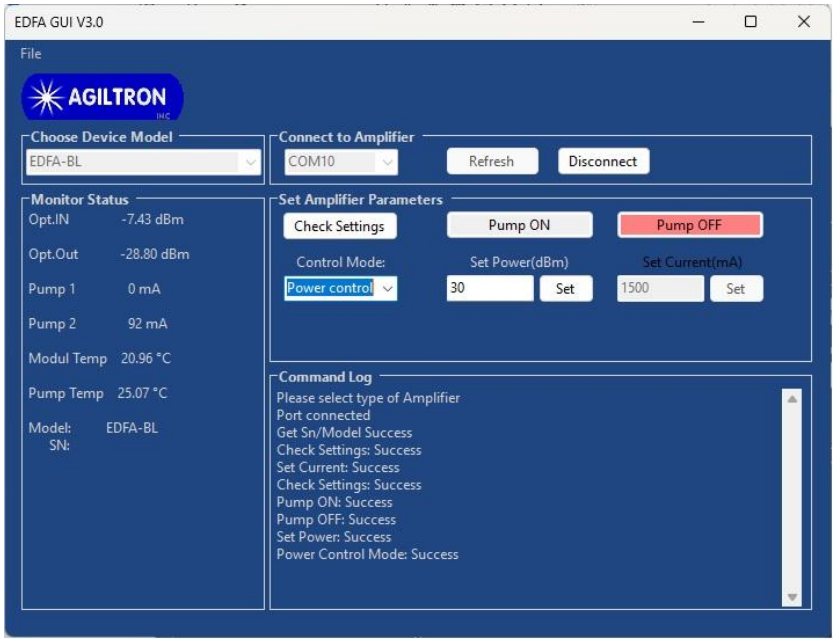

Figure 8: Remote control software: choose control mode.

12) Pump ON/OFF

Click to turn on/off the EDFA pump laser, thus to turn on/off its output.

Turn-key of the amplifier must be at the ON position to enable emission.

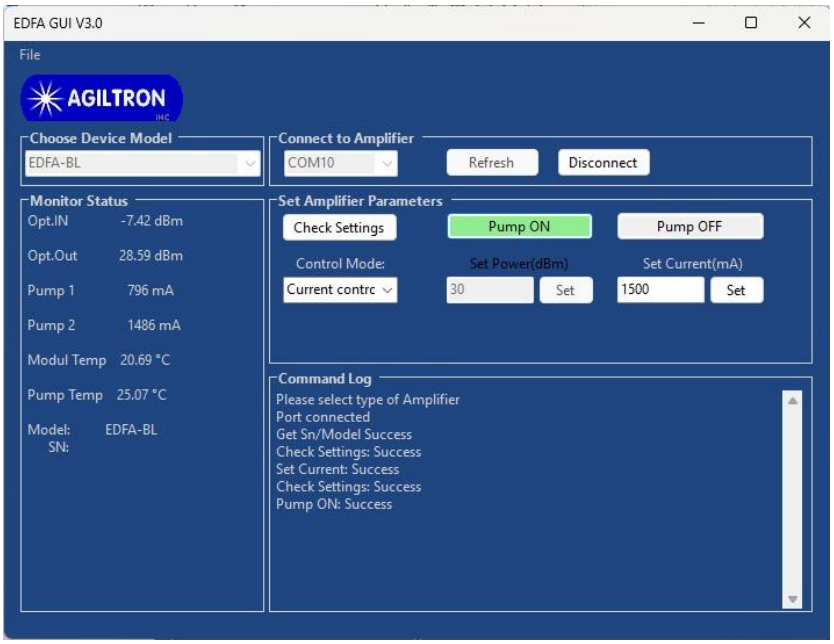

Figure 9: Remote control software: emission enabled.

13) Save Settings

Each time when ‘Set’ button is clicked current settings will be automatically saved to the amplifier.