

 Z-Laser Optoelektronik GmbH Merzhauser Str. 134 D-79100 Freiburg Tel.: (0761)29644-44 Fax: (0761)29644-55/56	Product ZFSM Remote (GUI)	Date: 2015.12.09	Page: 2 of 17
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1 Introduction

The ZFSM Remote is a software that enables the communication between a Z-Fiber module and a PC via a RS232 connection. This software helps you to understand the principal communication with a Z-Fiber module and allows you to control and configure it.

2 Supported Operating Systems

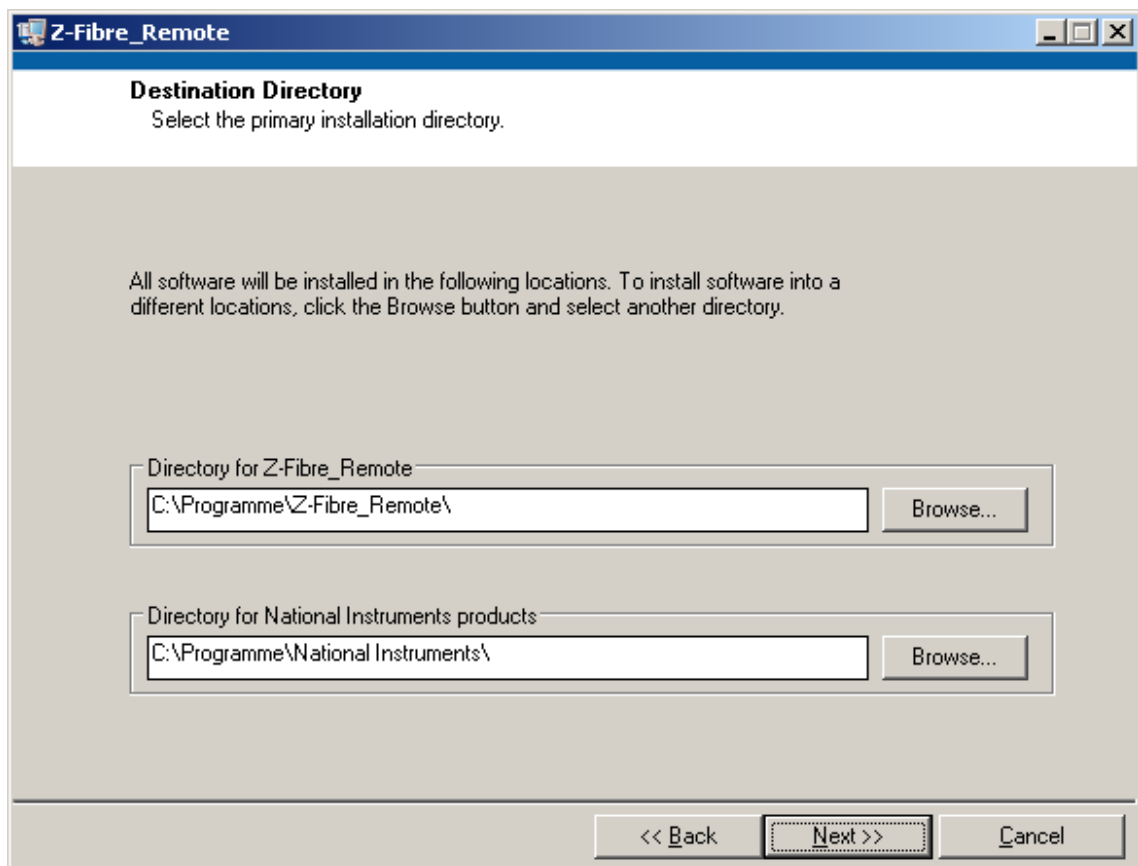
Windows 8	(32-Bit Edition / 64-Bit Edition)
Windows 7	(32-Bit Edition / 64-Bit Edition)
Windows Vista	(32-Bit Edition / 64-Bit Edition)
Windows XP	(32-Bit Edition / 64-Bit Edition)
Windows 2000	

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3 Installation

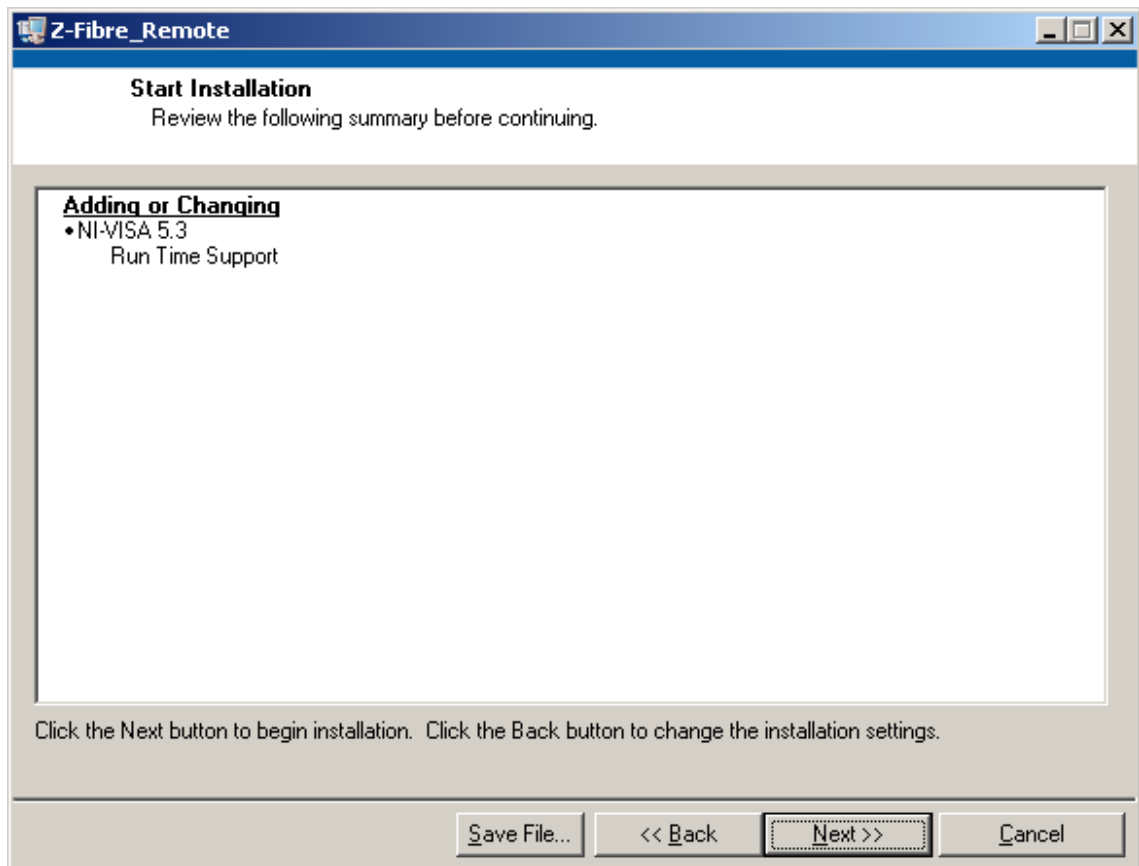
This section explains the procedure to install ZFSM Remote. Follow the steps described below when ZFSM Remote is not installed at your PC.

1. Download the ZFSM Remote from Z-Laser homepage.
2. Double-click "Z-Fiber_Remote_Installer\Volume\setup.exe"
3. You can select the folder you want to install ZFSM Remote and the required files for National Instrument products. Click **Next>>**.



4. The following window gives you a summary of the parts to be installed. Click the **Next>>** button to begin installation. This can take several minutes.

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5. Installation Completed. Please restart your Computer to finish this installation.

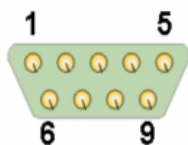
4 How to connect Z-Fiber Module to the PC

4.1 Housed Versions

Do not connect the serial cable coming from the PC with the Z-Fiber module directly. Use the following adapter in between:

9 Pin D-SUB (PC)	9 Pin D-SUB (Z-Fiber)
1 n.c.	n.c. 1
2---Rx-D-----	Tx-D--- 2
3---Tx-D-----	Rx-D--- 3
4 n.c.	n.c. 4
5-----GND-----	5
6 n.c.	n.c. 6
7 n.c.	n.c. 7
8 n.c.	n.c. 8
9 n.c.	n.c. 9

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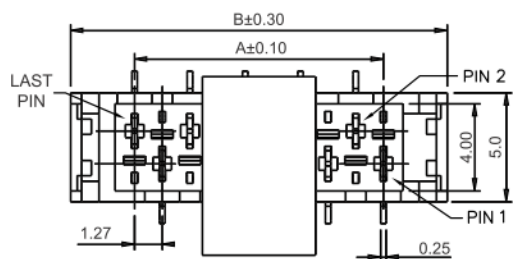



4.2 PCB Version

Connect Pin 3 of SMT Connector X1 with Rx-D signal of RS232 (PC).

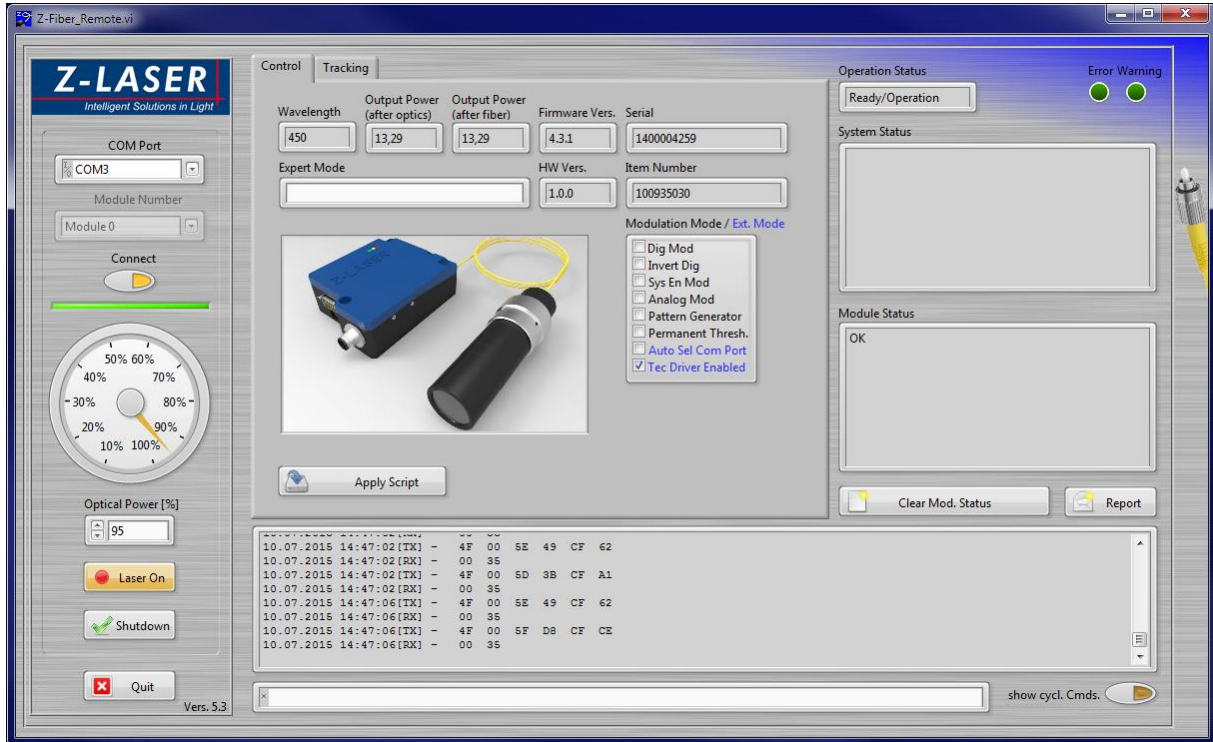
Connect Pin 5 of SMT Connector X1 with Tx-D signal of RS232 (PC).

Connect Pin 9 of SMT Connector X1 with Signal GND of RS232.



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5 Start Z-Fiber Remote (GUI)




1. Connect the Z-Fiber module with your PC and start Z-Fiber Remote software.
2. Use the pull-down menu "COM Port" to select the corresponding COM port used for the Z-Fiber module.
3. Select the Module Number of your Z-Fiber Module.

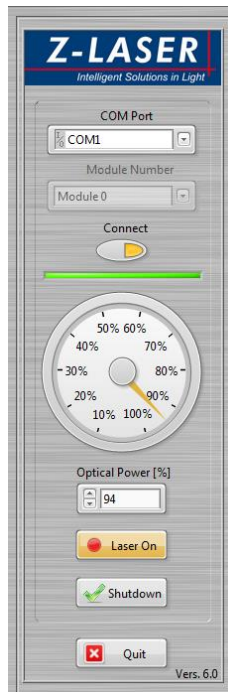
If you are working with a single module, the default module number is "Module 0".

If you are working with a multi module setup and prefer to communicate with only one dedicated module, select the module you want to communicate (Module 0, Module 1, Module 2, ...). If you want to work with broadcast commands you have to select one of the following items ("Broadcast or Module 0", "Broadcast or Module 1", ...). In this case every command available as broadcast (e.g. Laser off/on) is send as broadcast command (module number 0xFF) to all available modules. If a command is not available as broadcast it is send to the module mentioned in the selected pull-down item (e.g. Broadcast or **Module 1**).

4. Connect Z-Fiber module to power supply.
5. Press "Connect" button to connect with Z-Fiber Module.
6. The Communication Window in the lower part of GUI shows all Commands sent to, or received from Z-Fiber module.
7. The LED below the "Connect" Button is on in case of successful connection.

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6 Remote Section



6.1 Optical Power Indicator

This display indicates the current setting of the optical output power as percentage of the nominal output power.

6.2 Optical Power Control

This item controls the optical output power. You can enter a new value by writing it into the control or by pressing the increment or decrement buttons on the lefts side of the control. The output power is set as percentage of the nominal output power.


6.3 Laser On Button

Use this button to switch the laser on or off.

6.4 Shutdown Button

Press this button to set the laser module in shutdown mode.

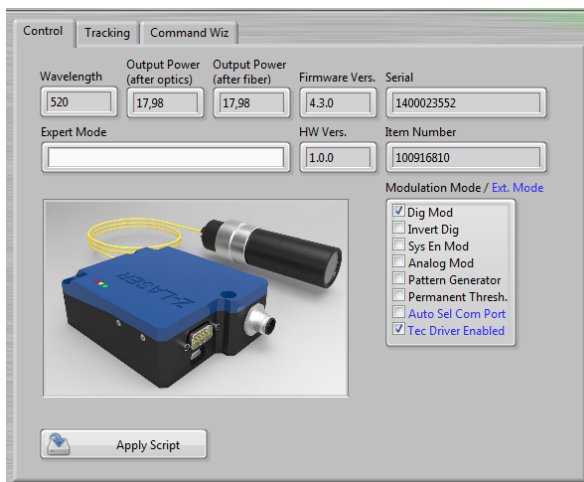
Pressing this button also saves current modulation mode settings and optical output power in the Z-Fiber module (EEPROM).

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6.5 Quit Button

This Button closes Z-Fiber Remote software.

7 Control Tab



7.1 Wavelength Indicator

This display indicates the laser wavelength [nm] of the connected Z-Fiber module.

7.2 Output Power (after optics) Indicator

This display indicates the nominal optical output power [mW] after all optics. If no additional optics are attached to the fiber the indicator shows the output power after fiber.

7.3 Output Power (after fiber) Indicator


This display indicates the nominal optical output power [mW] directly after the fiber.

7.4 Firmware Vers. Indicator

This display indicates the Firmware Version of the connected Z-Fiber module.

7.5 Serial Indicator

This display indicates the Serial Number of the connected Z-Fiber module. This may not work correctly with some prototypes.

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7.6 Expert Mode Control

Only for internal use.

7.7 HW Vers. Indicator

This display indicates the Hardware Version of the connected Z-Fiber module.

7.8 Item Number Indicator

This display indicates the Item Number of the connected Z-Fiber module.

7.9 Modulation Mode Indicator/Control

This display indicates all active modulation modes:

Dig Mod	= Digital Modulation is active
Invert Dig Mod	= Invert Digital Modulation is active
Sys En Mod	= System Enable Modulation is active
Analog Mod	= Analog Modulation is active
Pattern Generator	= Modulation controlled by Pattern Generator add-on Board
Permanent Threshold	= Bias current of the laser diode remains constantly on


Extended Mode:

Auto Sel Com Port	= Automatic Communication Port Selection is active
Tec Driver Enable	= Temperature Control is active

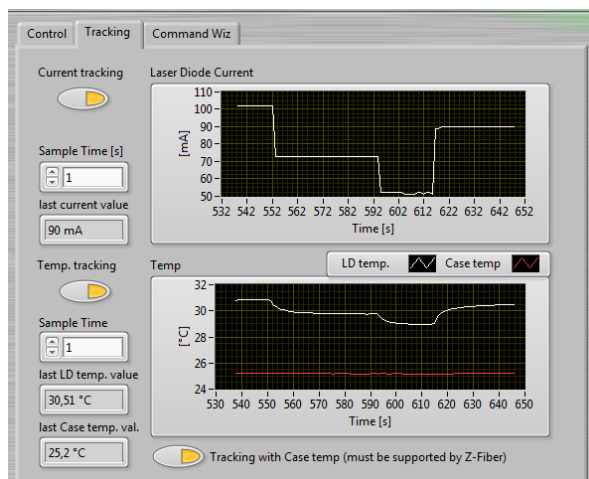
If a tick is set, the corresponding mode is active. Otherwise it is deactivated. By pressing the Shutdown button, the status of the modulation mode is saved at Z-Fiber EEPROM. The status of the Extended Mode can't be saved by customer.

7.10 Apply Script Button

Use this button to upload special settings or configurations, provided by Z-Laser, to the Z-Fiber module. These configurations are available as script files. Press this button and select the required script file. Follow the instructions to complete the upload.

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8 Tracking Tab



8.1 Current Tracking Button

This button activates the tracking of the laser diode current. Toggle this button to reset the corresponding diagram.

8.2 Laser Diode Current Diagram

This diagram shows the progress of laser diode current.

8.3 Sample Time Control

With this control you can adjust the sample time of the corresponding tracking value.

8.4 Temp. Tracking Button


This button activates the tracking of the laser diode temperature. Toggle this button to reset the corresponding diagram.

8.5 Temp Diagram

This diagram shows the progress of laser diode (white) and case temperature (red).

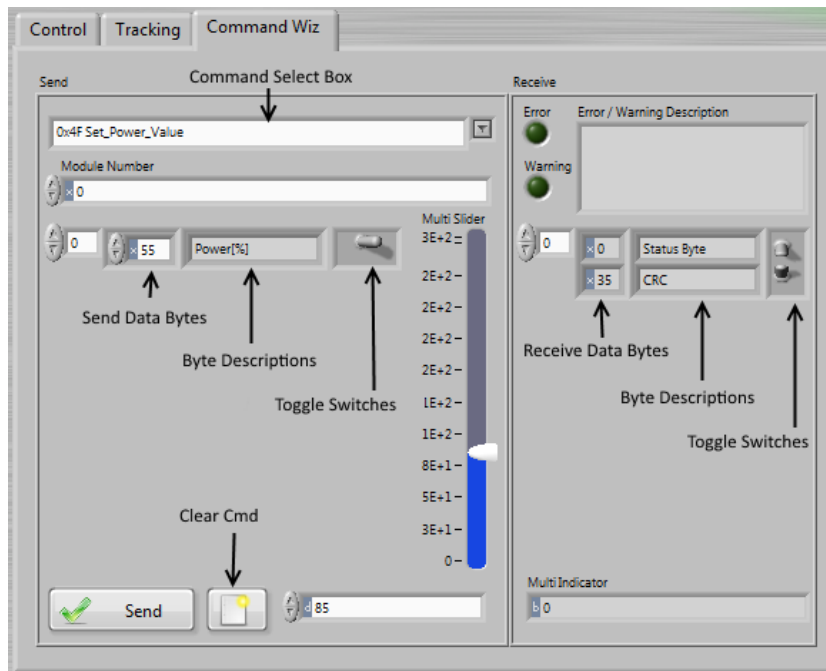
8.6 Temp. Tracking Button (Case Temperature)

In case of an available case temperature sensor, corresponding tracking can be activated with this button. It is displayed with a second graph (red) in the Temp Diagram.

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9 Command Wizard Tab

By using the Command Wizard you can build all available Z-Fiber commands manually. This Wizard can help you to develop own communication interfaces for Z-Fiber. It gives you a short description of every byte used in command or receive frames. The required CRC bytes are calculated automatically.



9.1 Command Select Box

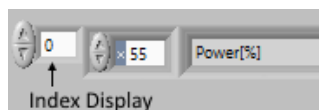
Select a command you want to create manually. Based on this selection the corresponding byte descriptions and frame dimensions are set automatically.


9.2 Module Number

Select the module you want to communicate with. This is only necessary in multi-module systems. If you are working with a single module (normal operation) this value has to be set to "0".

9.3 Send Data Bytes

Array with all data bytes required for selected command. The number of displayed bytes is related to the selected command. If a command contains more than ten data bytes it can't be displayed in total. In this case you have to adjust the array index to access a specific data byte.



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9.4 Byte Descriptions (Send Section)

Short descriptions for every data byte.

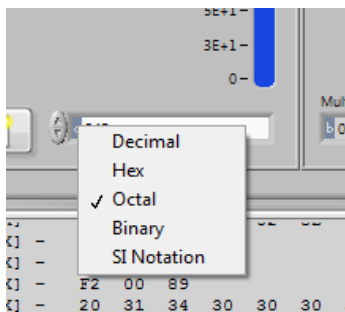
9.5 Toggle Switches (Send Section)

You can assign every single data byte to the Multi Slider by setting the corresponding Toggle Switch to the right side.

9.6 Multi Slider

Use the Multi Slider to display and adjust the values of assigned data bytes. If more than one byte is assigned, all bytes are joint to a single value (Big-Endian).

An additional input box at the bottom of the slider allows you to display or adjust the assigned data bytes in different numeral systems (e.g. hexadecimal or decimal). Click on the radix at the left side to change the numeral system:



9.7 Send Button

Press this button to send the command. The Communication Window (10.1) below shows the sent command in total.

The received response command is displayed in the Receive Section at the right side immediately.

9.8 Clear Cmd Button


Click this button to clear all data bytes.

9.9 Error LED

Signaling Z-Fiber Errors decoded in the Status Byte of response command.

9.10 Warning LED

Signaling Z-Fiber Warnings decoded in the Status Byte of response command.

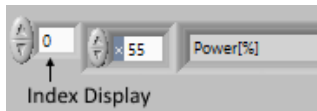
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9.11 Error / Warning Description

Short descriptions of errors and warnings in the Status Byte.

9.12 Receive Data Bytes (Receive Section)

Array showing all data bytes of the response command. The number of displayed bytes is related to the sent command. If a response command consists of more than ten bytes it can't be displayed in total. In this case you have to adjust the array index to access a specific data byte:



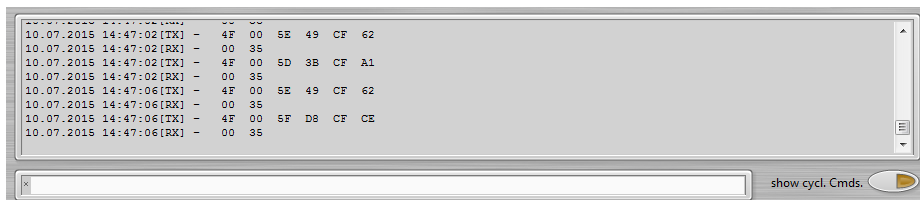
9.13 Byte Descriptions (Receive Section)

Short descriptions for every data byte.

9.14 Toggle Switches (Receive Section)

You can assign every single data byte to the Multi Indicator by setting the corresponding Toggle Switch to the bottom side.

10 Communication Section




10.1 Communication Window

Displays a history of all sent and received commands with a timestamp. All commands are displayed as hexadecimal values.

10.2 Show cycl. Cmds Button

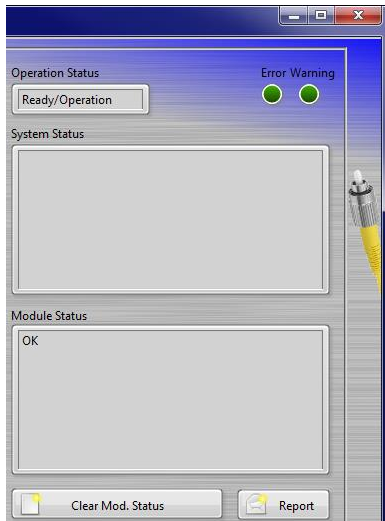
If this button is pressed, all commands including the ones used for continuous polling (e.g. LD current tracking) are showed inside the communication window. If the button is not pressed, all continuously sent commands are suppressed in the communication Window.

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10.3 Command Line

The command line is located below the communication window. Use this command line to enter commands to Z-Fiber directly including Command ID, Module Number, Data Bytes and CRC.

11 Status Section



11.1 Operation Status Indicator

This display indicates the current operation status of the connected Z-Fiber module.

11.2 System Status Indicator


This display indicates the current System Status.

11.3 Module Status Indicator

This display indicates the current Module Status. All temporary warnings and errors are displayed until the "Clear Mod. Status" Button is pressed or a new response command is received that contains a new Module Status unequal to OK.

11.4 Clear Mod. Status Button

Use this Button to clear the Module Status Indicator.

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11.5 Report Button

Use this Button build a text file with all relevant operating parameters of the connected Z-Fiber. In case of any problems it is recommended to send a report to Z-LASER. With such a report the trouble shooting process at Z-LASER will be much more efficient.

To get as much data as possible it is recommend to switch on current and temperature tracking before creating a report.

11.6 Error LED

This LED displays the error flag of the system status byte in received response commands.

11.7 Warning LED

This LED displays the warning flag of system status byte in received response commands.

11.8 Upper Right Corner

Represents the Color (wavelength) of the connected Z-Fiber module.