

LASOS Commander Manual for DPSSL series

Manual

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1 General



System requirements: Windows 7, Windows 8, Windows 10

The LASOS Commander allows operating laser models of the LASOS DPSSL series.

 \sim Not all functions are supported by all laser models.

2 Getting started

2.1 Installation of the software

The software and all required modules will be delivered on a data carrier (USB stick or CD) with the shipment or can be downloaded from the LASOS website (lasos.com). Executing the file setup.exe starts the installation. Please follow the instructions. The installation routine installs the LASOS Commander, the required National Instruments Products and FTDI drivers are necessary to communicate with the laser. After successful installation a folder "LASOS" in the Start Menu and an icon on the desktop is generated.



- The laser or laser system must not be connected before and during installation of the software. Please connect the laser only after the software has been installed
- To run the LASOS Commander the installation of a National Instruments runtime environment is required. You have to agree to the National Instrument license agreement during installation of the software.
- The installation routine installs FTDI drivers necessary to communicate with the lasers. You have to agree to the Future Technology Devices International license agreement during installation of the software.
- After installation you have to restart your computer

2.2 Connect the SwitchBox

Connect the laser module and the USB interface by a standard USB cable.



When the laser is connected for the first time Windows will install the required drivers. Please wait until the procedure has finished.

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3 Using the LASOS Commander

3.1 Start screen

After starting the software, the start screen will appear.

Figure 1 Start screen of the LASOS Commander



The LASOS commander will automatically search for connected laser modules. The lasers will appear in a drop-down list. Use the button "connect laser" to connect a particular laser module.

- When no laser device is found an error message is displayed. Please check the connections and start again by pressing the button "Search laser". If there is still no laser found contact the LASOS support.
- If a laser device is detected which is not compatible with the actual version of the LASOS commander the model name is marked by a red exclamation point and additional information is displayed. Please contact the LASOS support for assistance.

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4 Operating the laser

4.1 General

You can choose between the screens "Basic view" and "Expert view". "Basic view" gives information on the status of the laser and allows tuning the output power. In "Expert view" you find more detailed information. Switch the screens by selecting the button at the bottom of the screen.

- In any screen you have access to contact data of the LASOS support by pressing the "Support Button".
- You can choose the program language by clicking on the language displayed in the upper right corner of the screen. English and German are available.
- Information on the laser or laser system like model number and serial number are displayed in the lower part of any screen. Use these data when you contact the LASOS support. In addition, the most important information on the status of the laser are displayed at the left part of any screen.

4.2 Basic view

4.2.1 Displays and functions

LASOS Commander 1.4		– 🗆 X
Support		English 🗸
LASOS Commander Basic view		LASOS For worldwide photonics
Select Wavelength	Output sector	Laser status
640 Power [mW] 499,5	Output control	OFF ON
Current [mA]		
Resonator T [°C] 24,1		
Laser diode T [°C] 31,2		
Baseplate T [°C] 23,6		Interlock OK
Noise [%] 0,7		Key switch ON
Type RLK-XP 640500 T Serial number 13	267 Wavelength 640 Operating hours	00:40
Disconnect laser	Basic view	Expert view

Figure 2 Screen of "Basic view"



Table 1 Functions in Basic view

Window	Display	Function
Select wavelength	Wavelength [nm]	Wavelength of the selected laser
Laser values	Power [mW]	Actual output power
	Current [mA]	Laser diode current
	Resonator T [°C]	Temperature of the resonator
	Laser diode T [°C]	Internal temperature of the pump diode
	Baseplate T [°C]	Temperature of the baseplate
	Noise [%]	Current rms noise value
Output control	blank	Only for DPSSL

Table 2 Additional information (displayed on every screen)

Window	Display	Function
Laser status	Laser off/on	Shows if the laser is switched on or off
		Switch the selected laser on and off by pressing the appropriate button
	Interlock	Interlock status
	Key switch	Status of the key switch
Information	Туре	Model number of the selected laser
	Serial number	Serial number of the selected laser
	Wavelength	Wavelength of the selected laser
	Operating hours	Counter of operating hours

(B)

When lasers are added or removed use "Disconnect laser" to search for devices in the start screen

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4.3 Expert view

4.3.1 Submenu "Power"

Figure 3 Screen of "Expert view", submenu "Power"

LASOS Commander 1.4			– 🗆 X
Support			English 🗸
LASOS Commander Expert view			LASOS For worldwide photonics
Select Power	Current	Temperatures	Laser status
640 Power Actual value [mW] 499,8	501 500 499 00:00 00:02 00:04 00:06 TT Power	00:08 00:10 00:12 00:14 00:16 me [mm:ss] Clear chart	Interlock OK
Type RLK-XP 640500 T Serial number	13267 Wavelength	640 Operating hours	00:42
Disconnect laser		Basic view	Expert view

Table 3 Functions in "Expert view", submenu "Power"

Window	Display	Function	
Select wavelength	Wavelength [nm]	Wavelength of the selected laser	
Power	Actual value [mW]] Actual output power	
Graph	Diagram	Shows the course of the output power	
	Clear chart	Reset starting point of the graph	

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4.3.2 Submenu Current

LASOS Commander 1.4			– 🗆 X
Support			English 💛
LASOS Commander Expert view			LASOS For worldwide photonics
Select Power	Current	Temperatures	Laser status
640 Current Actual value [mA] 1949,6	1952 - 1950 - 1948 - 1946 - 1944 - 1942 - 1940 - 1938 - 00:00 00:02 00:04 00:06 00:08 Ti	00:10 00:12 00:14 00:16 00:18 00:20 me [mm:ss] Clear chart	Interlock OK
Type RLK-XP 640500 T Serial number	13267 Wavelength	640 Operating hours	00:42
Disconnect laser		Basic view	Expert view

Figure 4 Screen of "Expert view", submenu "Current" for LASOS DPSS laser series

Table 4 Functions in "Expert view", submenu "Current"

Window	Display	Function
Select wavelength	Wavelength [nm]	Wavelength of the selected laser
Current	Actual value [mA]	Actual value of pump diode current
Graph	Diagram	Shows the course of the pump diode current
	Clear chart	Reset starting point of the graph

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4.3.3 Submenu Temperatures

LASOS Commander 1.4			– 🗆 X
Support			English 🗸
LASOS Commander			LASOS For worldwide photopics
Expert view			for wondwide photonics
Select Wavelength	Current	Temperatures	Laser status
640 Temperatures [°C]	32-		OFF
Resonator Laser diode Baseplate 24,0 31,0 27,6 50 - - 40 - - 40 - - 30 - - 20 - - 10 - - 0 - - 0 - - 0 - - 0 - -	31 - 30 - 29 - 28 - 27 - 26 - 25 - 24 - 23 - 12:36 14:00 15:00 16:00 17 T Resonator Laser diode	2:00 18:00 19:00 20:00 21:00 22:35 Time [mm:s] Baseplate Clear chart	Interlock OK Key switch OFF
Type RLK-XP 640500 T Serial number	13267 Wavelength	640 Operating hours	00:42
Disconnect laser		Basic view	Expert view

Figure 5 Screen of "Expert view", submenu "Temperatures" for LASOS DPSS laser series

Table 5 Functions in "Expert view", submenu "Temperatures"

Window	Display	Function
Select wavelength	Wavelength [nm]	Wavelength of the selected laser
Temperatures [°C] (Information only)	Resonator	Actual value of resonator temperature (information only)
	Laser diode	Actual value of pump diode temperature (information only)
	Baseplate	Actual value of baseplate temperature (information only)
Graph	Diagram	Shows the course of the resonator, laser diode and base plate temperatures
	Clear chart	Reset starting point of the graph

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5 Error messages

LASOS Commander 1.4		– 🗆 X
Support		English 🧹
LASOS Comman	der Arror	LASOS For worldwide photonics
Select Power 640 Temperatures [°C] Resonator Laser diode 24,0 31,0 50 10 30 20 10 0	TEC Laser diode OK TEC Baseplate OK Current limit ERROR Power limit OK Current calibration OK	peratures Laser status OFF ON OFF ON 6:00 27:00 28:34 Clear chart Key switch OFF
Type RLK-XP 640500 T Serial num	mber 13267 Wavelength 640	Operating hours 00:43
Disconnect laser		Basic view Expert view

Figure 6 example for an error massage occurred

In case of an error a clear text message is displayed. Please contact the LASOS service with referring to the text of the message.

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