



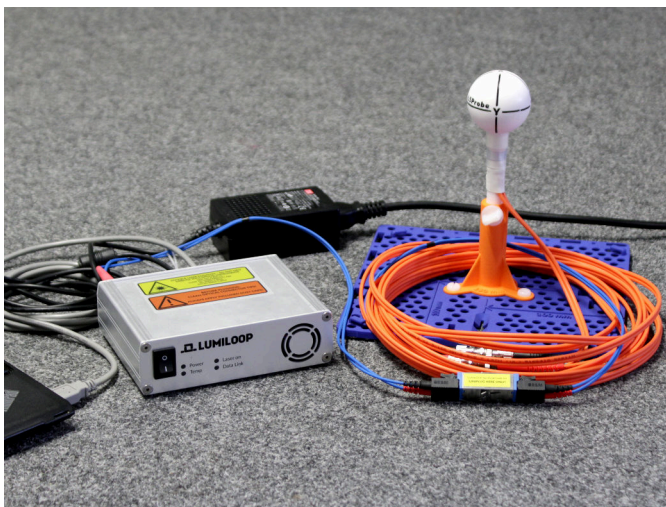
LSProbe 1.2 Quick Start Guide

LUMILOOP GmbH

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The most recent version of this document and the full length LSProbe 1.2 User's Manual can be found at <http://www.lumiloop.de>.

1 System Overview



The LSProbe 1.2 system consists of the optically powered E-Field Probe and the Computer Interface shown above. The Computer Interface is connected to the host computer via USB 2.0.

The LSProbe TCP Server handles all USB communication. The LSProbe GUI and other third party EMC software access the LSProbe 1.2 TCP using SCPI commands exchanged via a TCP/IP connection.

2 Software Installation

1. Install the National Instruments „32 bit LabVIEW 2012 Run Time Environment“ via download from <http://www.ni.com/download/labview-run-time-engine-2012/3433/en/> or start it directly from the supplied USB thumb drive.
2. Run `LSProbe_1.2_Installer.exe` found on the USB thumb drive and follow the installation instructions.
3. Copy the supplied calibration data into the directory selected during TCP Server and GUI

installation. E.g. if the calibration data directory is `C:\ProgramFiles(x86)\LSProbe1.2\cal` and the serial number of the E-Field Probe is 42, please copy the whole directory named `sn42` from the installation medium into the `cal` directory.

3 Making Optical Connections

NOTE: Every LSProbe 1.2 is delivered with plugged optical connectors and ready to use.



Sacrificial optical cables are supplied with each LSProbe E-Field Probe. Always use the E2000 connectors shown above for breaking and making the optical connection. The E2000 connectors of the sacrificial cable assembly include automatic shutters preventing contamination and resulting optical fiber burn-in. Nevertheless, all optical connectors must be kept in a perfectly clean condition at all times.

In case of a fiber connector burn-in only a pair of sacrificial cables need to be replaced, allowing for rapid and cost-effective fault recovery without requiring external service.

For detailed instructions, consult the LSProbe 1.2 User's Manual, Section 5.1.1.

4 System Startup

1. Connect the included mains adapter to the Computer Interface.
2. Connect the Computer Interface to the host computer using the included USB cable.
3. Switch on the Computer Interface setting the front panel switch to 1 and observe the green power LED starting to flash. If the host computer has access to the on-line Microsoft Windows Update, the USB driver will be installed automatically.

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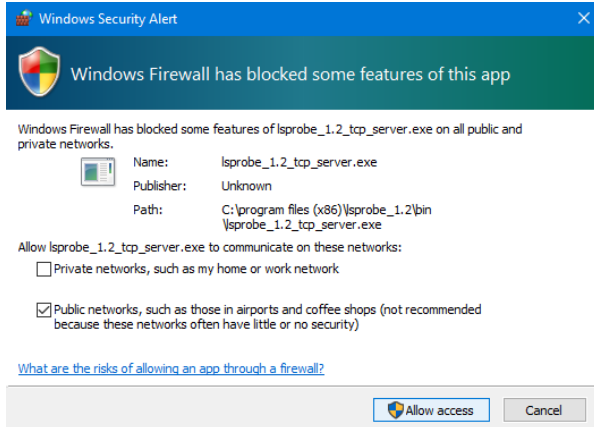
LSProbe_TCP_Server
LSProbe 1.2 TCP Server, built Feb 14 2018 07:59:54.
LSPROBE_CAL_PATH:
C:\Program Files (x86)\LSProbe_1.2\cal'
LSProbe TCP Server ready on port 10000.
-----Calibration Data Summary-----
Probe# | Check | In-House Cal. | External Cal
-----|-----|-----|-----
1 | Pass | 2016/09/05 | 2016/10/06
2 | Pass | 2016/09/05 | 2016/10/06
20 | Pass | 2017/10/24 | None
25 | Pass | 2017/10/24 | None
-----
CI #40 Programming FPGA: 5% 10% 15% 20% 25% 30% 35% 40% 45% 50% 55% 60% 65% 70%
% 75% 80% 85% 90% 95% 100%
-----CI Devices Summary-----
Device# | CI# | Hardware Rev. | CI-Firmware | Server Firmware
-----|-----|-----|-----|-----
0 | 40 | CI250 1.2 | 2768 | 2768
1 | 49 | CI250 1.2 | 2768 | 2768
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```

4. Start the LSProbe TCP Server via the Windows Start Menu and check that the green power LED is constantly on. The LSProbe TCP Server will display a list of detected calibration data sets and a list of all detected Computer Interfaces TCP Server as shown above.

If this step fails, consult the LSProbe 1.2 User’s Manual, Section 4.2.

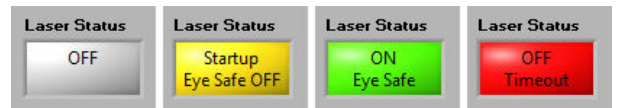
5. Since the LSProbe TCP Server needs to open a TCP port, the system’s firewall may ask for permission for network access. Access must be granted as shown below in order to run the LSProbe TCP Server, the default TCP port number is 10,000.



5 LSProbe GUI Operation

1. Start the LSProbe GUI via the Windows Start Menu.
2. Click the “Enable Laser” button to activate the supply laser and turn the E-Field Probe on. The Computer Interface’s orange “Laser on” indicator LED will show the activity of the supply laser.

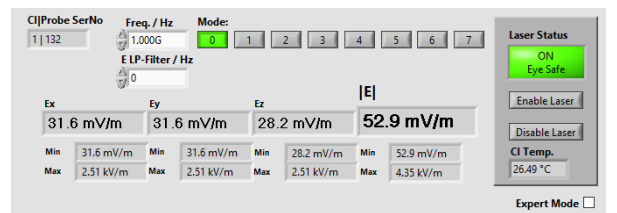
WARNING: When the orange LED is flashing, Automatic Power Reduction (APR) is disabled. Interrupting optical connections is dangerous!



The GUI indicates proper operation by displaying a green “Laser Status” indicator as shown above. Stable operation is indicated by the Computer Interface’s continuously on “Power”, “Laser on” and “Data Link” LEDs as shown below.



3. As shown below, the E-field strength values for x, y, z components and the isotropic field strength are displayed by the GUI, maximum and minimum calibrated field strength for the set mode and frequency are displayed below.



4. For accurate E-field strength measurements the field’s frequency must be specified using the “Freq./Hz” input field. Values are entered in Hertz, SI unit prefixes may be used, e.g. “1G” for 1 GHz, as shown above.
5. For advanced features use the “Expert Mode” radio button.

PERSONAL NOTES:
