

## Quick Start Guide for L-PRO 4500 Transmission Line Protection Relay

In our ongoing efforts to run our business in an environmentally sensitive way, we are encouraging the use of PDF manuals and software downloads, available from our website. For your convenience, links are provided below to all software files to be downloaded.

If you do wish to have a hard copy manual or software on CD, you may request those from our Customer Support team (contact info below).

**If you are reading a hard copy of this document, download the soft copy (includes links) from our website's Support/Documents page, in the Quick Start Guide column.**

<http://www.erlphase.com/support.php?ID=documents>

### 1. Downloading the required software and manual

- a. The L-PRO 4500 comes loaded with the requested firmware version. All required software, as well as the release description of the latest firmware version, is available on the [Software page](#) of our website. Contact the Customer Support team for release descriptions of any other firmware version.
- b. Download the following software on your computer:
  - [Relay Control Panel](#)
  - [L-PRO Offliner](#)
  - [ERL 61850 IED Configurator](#) (if needed)
- c. Install Relay Control Panel and L-PRO Offliner
- d. Install the USB driver (USB driver is automatically installed from Windows operating system, simply connect the PC to the front USB port of the LPRO 4500)
- e. Install Null Modem

Download the [L-PRO 4500 User Manual](#). Other documents such as logic diagrams (see Drawings column) are also available on the [Documents page](#) of our website.

### 2. Hardware and operating system requirements

Minimum hardware requirements:

- 1 GHz processor
- 2 GB RAM
- 20 GB available hard disk space
- USB port
- Serial communication port

### 3. Unpacking and connecting the relay

The following items are included in the L-PRO 4500 cardboard box:

- USB cable
- Letter of Compliance to ISO 9001:2015 standard

There are no power switches on the relay. When the power supply is connected, the relay starts its initialization process.

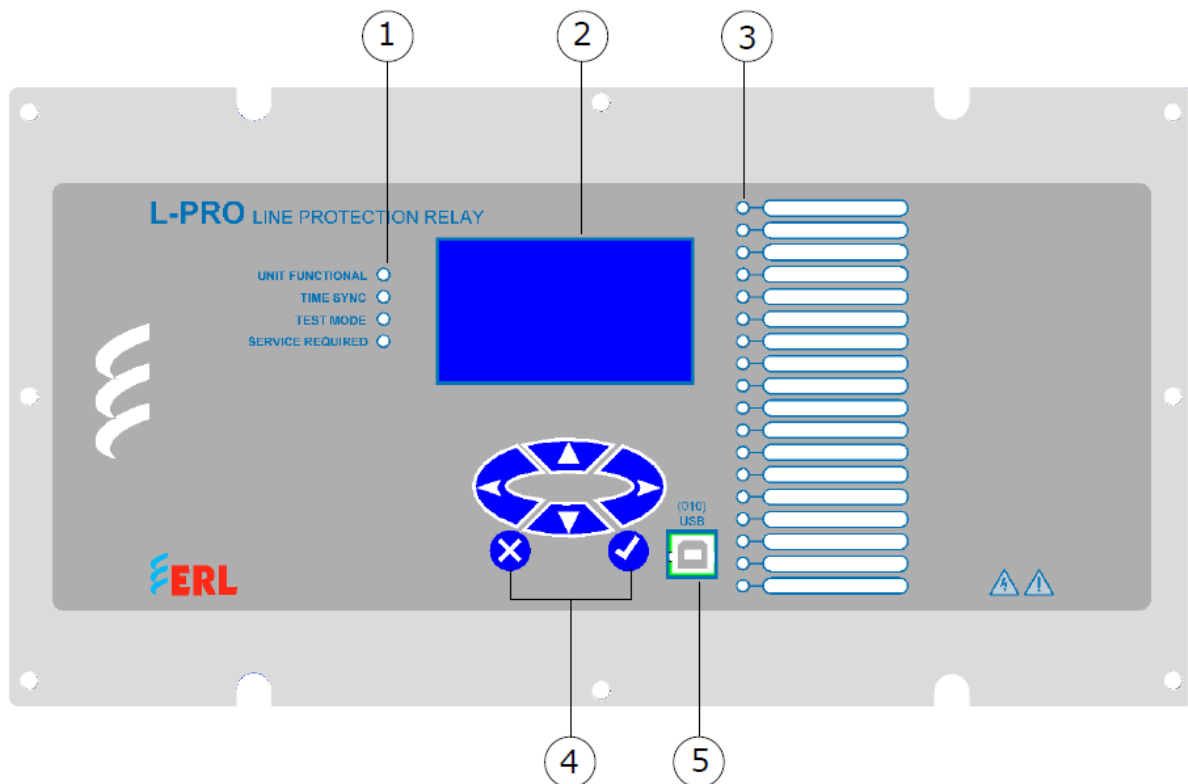
1. Connect power supply to Slot 1, CON 4 #1/3, as shown in Figure 2. The wire used for the power supply wiring shall be at least 18 AWG (1.02 mm<sup>2</sup>), 600 V.
2. Ground the L-PRO at Slot 7, #29, as shown in Figure 2.
3. Verify power supply rating (Vdc or Vac) of the relay before connecting to power source.

Relay standard power supply

- 1: 20 – 60Vdc (*Note: this option does not support Vac power supply*)
- 2: 80 – 300Vdc / 80 – 250 Vac

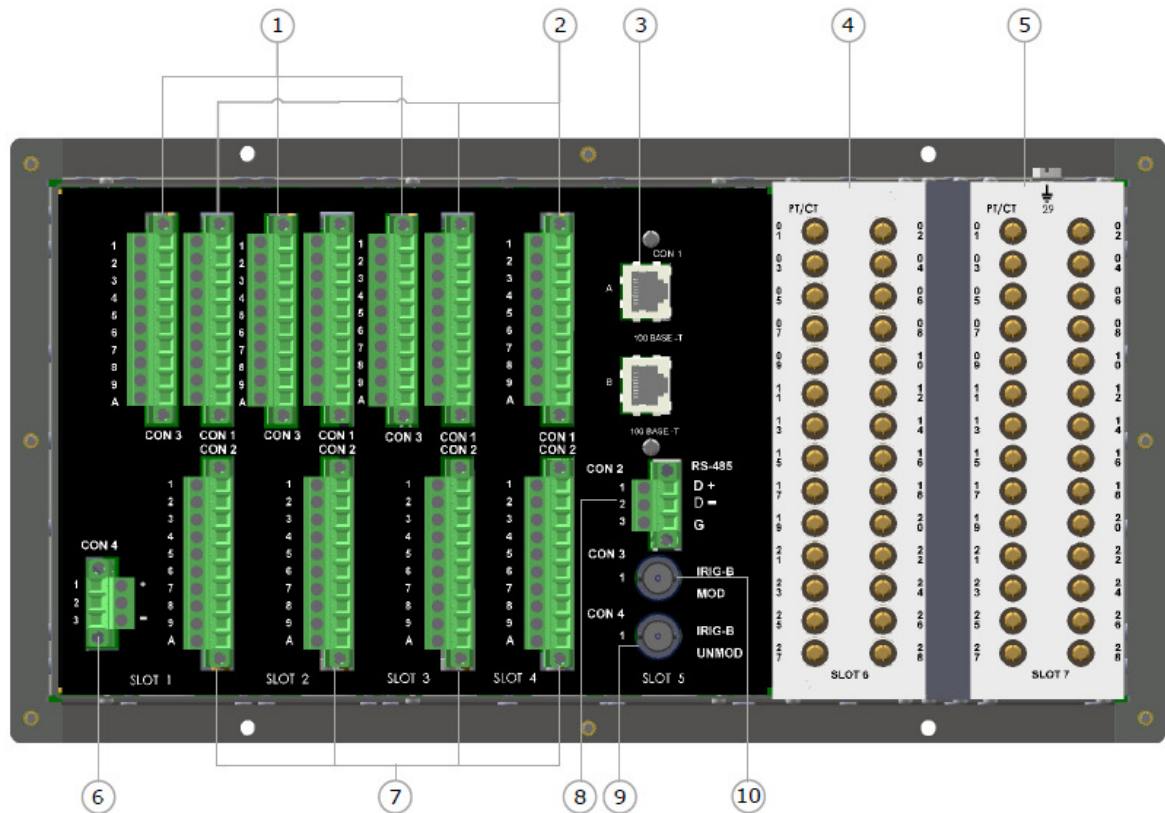
*The relay is calibrated before it leaves the factory.*

### 4. L-PRO 4500 relay front and rear panel layout



1. LEDs for displaying the status of the IED
2. Front Panel LCD display for events, targets, settings etc.
3. 18 Programmable Target LEDs
4. Push buttons used for navigation of LCD menus
5. USB Port for maintenance and user interface

**Figure 1 – L-PRO 4500 Front View**



1. SLOT 1 to 3 / CON 3: Programmable External Inputs
2. SLOT 1 to 4 / CON 1: Programmable Outputs
3. SLOT 5 / CON 1 (A & B): 100BASE-T or 100BASE-FX
4. SLOT 6 / 01-04: AC Voltage Inputs  
SLOT 6 / 09-28: AC Current Inputs
5. SLOT 7 / 01-04: AC Voltage Inputs  
SLOT 7 / 09-28: AC Current Inputs
6. SLOT 1 / CON 4: Power Supply
7. SLOT 1 to 4 / CON 2 (1-6): Programmable External Inputs  
SLOT 1 to 4 / CON 2 (8-A): Programmable Outputs
8. SLOT 5 / CON 2: RS485
9. SLOT 5 / CON 4: External Clock, IRIG-B Un-Modulated Input
10. SLOT 5 / CON 3: External Clock, IRIG-B Modulated Input

**Figure 2 – L-PRO 4500 Relay Rear View**

## 5. Application notes

The [Application Notes page](#) of our website (in Support section) also contains a range of other valuable L-PRO instructions and descriptions of specific applications.

**For further information and contact Customer Support at:**

[support@erlphase.com](mailto:support@erlphase.com)

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