

## Quick Start Guide for L-PRO 4000 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 4000 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](#)
  - [USB Driver](#)
  - [ERL 61850 IED Configurator](#) (if needed)
- c. Install Relay Control Panel and L-PRO Offliner
- d. Install the USB driver
- e. Install Null Modem

Download the [L-PRO 4000 User Manual](#). Other documents such as Drawings 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 4000 carton pack:

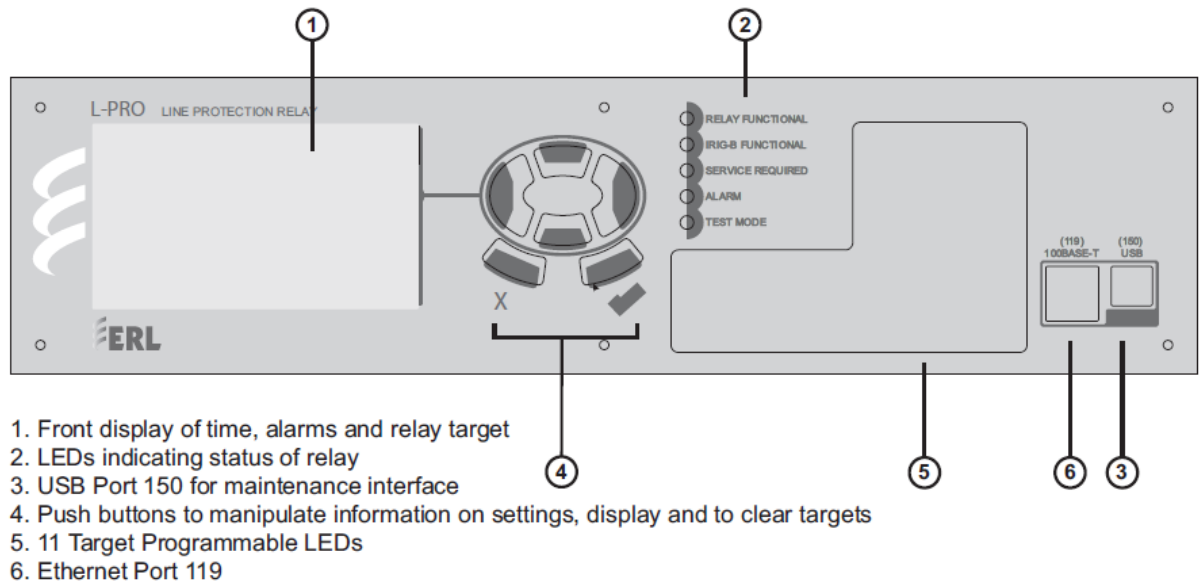
- USB cable
- Letter of Compliance to ISO 9001:2015 standard
- Letter of Compliance to CE requirements (if requested)

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

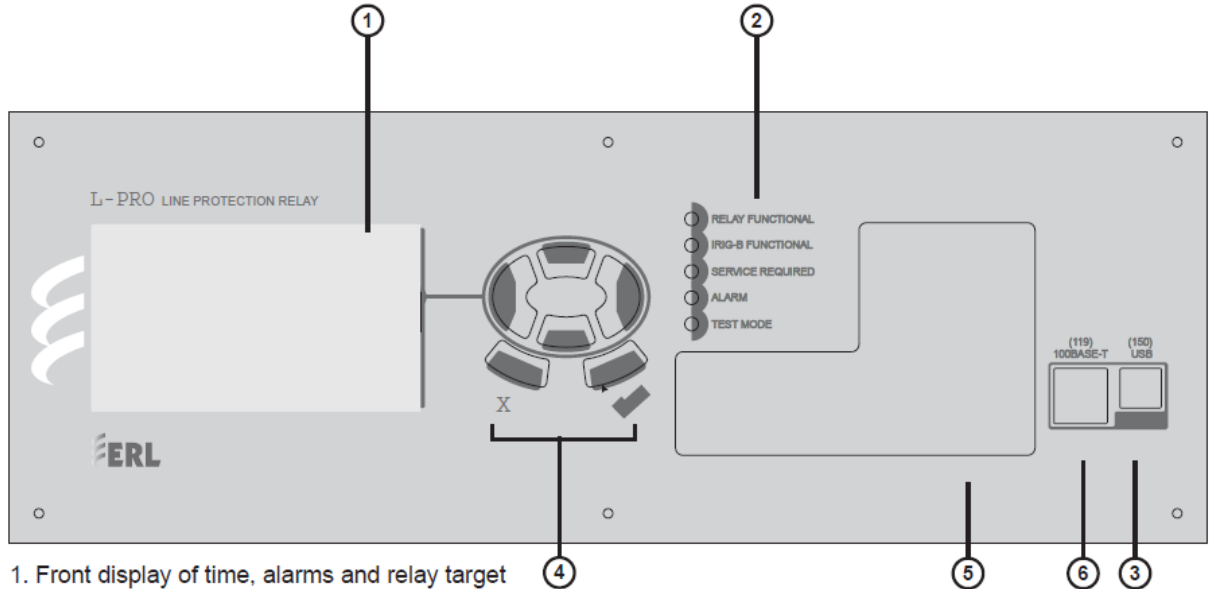
1. Connect power supply to #17/18, as shown in Figure 3/4. The wire used for the power supply wiring shall be at least 18 AWG (1.02 mm<sup>2</sup>), 600 V.
2. Ground the L-PRO at #18/20, as shown in Figure 3/4

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

### 4. L-PRO 4000 relay front and rear panel layout

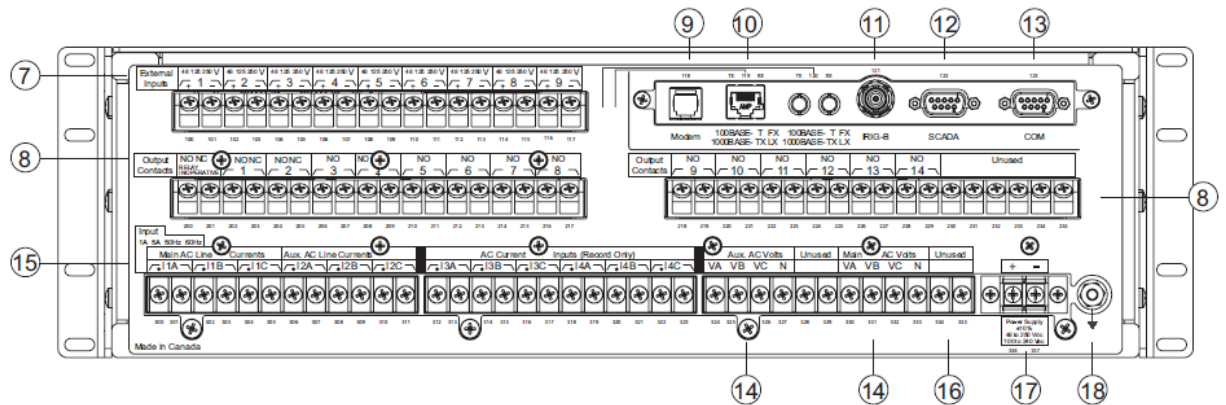


**Figure 1 – L-PRO 4000 Front View (3U)**



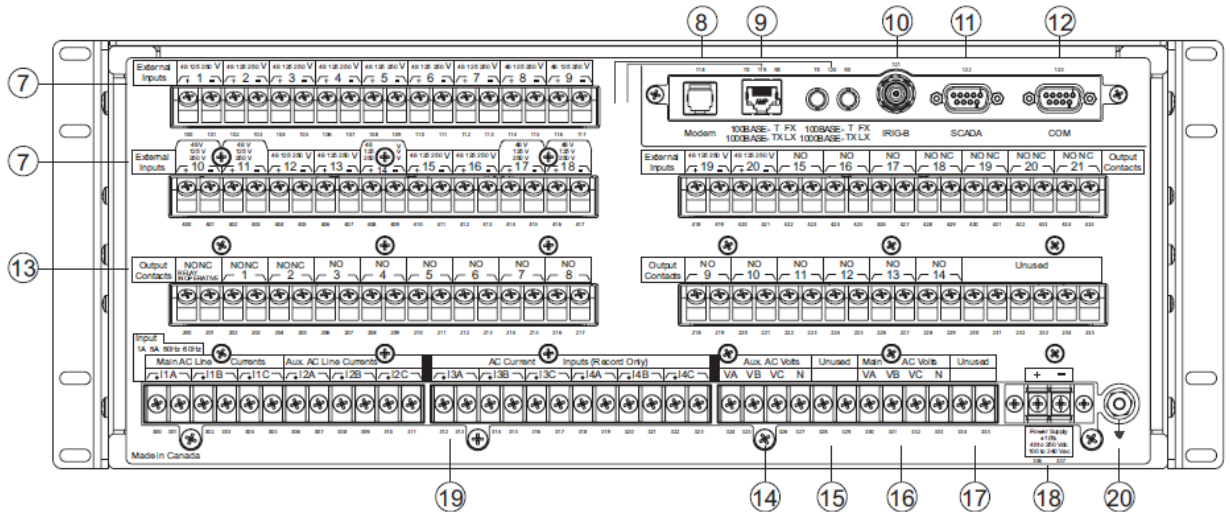
1. Front display of time, alarms and relay target
2. LEDs indicating status of relay
3. USB Port 150 for maintenance interface
4. Push buttons to manipulate information on settings, display and to clear targets
5. 11 Target Programmable LEDs
6. Ethernet Port 119

**Figure 2 – L-PRO 4000 Relay Front View (4U)**



7. Ports 100-117: 9 External Programmable Inputs
8. Ports 200-201: Relay inoperative contact  
Ports 202-229: 14 programmable output contacts  
Ports 230-235: Unused
9. Port 118: Internal modem
10. Port 119-120: 100BASE-T or 100BASE-FX Ethernet Ports
11. Port 121: External clock, IRIG-B modulated or unmodulated
12. Port 122: SCADA
13. Port 123: Direct/Modem RS-232 Port
14. Ports 324-327, 330-333: AC voltage inputs
15. Ports 300-323: AC current inputs
16. Ports 230-235, 328, 329, 334, 335: Unused
17. Ports 336-337: Power supply
18. Port with GND symbol: Chassis Ground

**Figure 3 – L-PRO 4000 Relay Rear View (3U)**



- 7. Ports 100-117, 400-421: 20 External Programmable Inputs
- 8. Port 118: Internal modem
- 9. Port 119-120: 100BASE-T or 100BASE-FX Ethernet Ports
- 10. Port 121: External clock, IRIG-B modulated or unmodulated
- 11. Port 122: SCADA
- 12. Port 123: Direct/Modem RS-232 Port
- 13. Port 200-229, 422-435: 21 programmable output contacts
- 14. Port 324-327: AC voltage inputs
- 15. Port 328-329: unused
- 16. Port 330-333: AC voltage inputs
- 17. Port 334-335: unused
- 18. Port 336-337: Power supply
- 19. Port 300-323: AC current inputs
- 20. Port with GND symbol: Case ground

**Figure 4 – L-PRO 4000 Relay Rear View (4U)**

## 5. Application notes

Refer to the following application notes for help connecting and configuring the L-PRO relay. They may be downloaded from the Support section of our website on the [Application Notes page](#) (scroll to Relay & Recorder section).

- [Basic Instructions to Communicate with 4000 Series Relays](#)

The Application Notes page 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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