L-PRO Offliner

v3.5

Release Description

DATE: 2026-08-17

FEATURE ENHANCEMENTS

- Added the US Curves for 51, 51N, 51G, 46-51 and 59N functions in L-PRO Offliner Software for 4500 Variant.
- Added the “Compare Settings” feature to support Variant 4500 setting versions 601 –606 and above.

CORRECTIONS TO ISSUES

- **Cyber Security:**
  - None**.**
- **General:**
  - Minor: Fixed the Incorrect Alarm LED mapping value stored in INI file for 51G Function.
  - Minor: Fixed the misalignment of Directional Element Settings heading across 50/51/67, 50N/51N/67, 50G/51G/67 and 46-50/46-51,67 protection pages.

COMPATIBILITY

L-PRO 2100 Firmware Versions	v5.0 and below
L-PRO 2150 Firmware Versions	v1.1 and below
L-PRO 4000 Firmware Versions	v2.6 and below
L-PRO 4500 Firmware Versions	v2.4 and below
L-PRO 2100 Setting File Versions	1 – 12
L-PRO 2150 Setting File Versions	401 – 402
L-PRO 4000 Setting File Versions	401 – 408
L-PRO 4500 Setting File Versions	601 – 606
Microsoft Windows	Windows 10 Professional, Windows 11 Professional

Minor releases, designated with a letter suffix (e.g. v3.1a), maintain the same compatibility as the base version (e.g. v3.1=v3.1a).

ERLPhase Power Technologies Customer Support Contact Information

support@erlphase.com +1 (204)-477-0591 Option 1 www.erlphase.com

REVISION HISTORY

V3.4 – 2024-01-19

- Added the “Compare Settings” feature to the Offliner Software to allow comparison of any two supported setting files, irrespective of setting version or Variant. Setting files for the following L-PRO Variants are supported: Variant 4000 setting versions 401 – 408 and above, and Variant 4500 setting versions 601 – 605 and above.

v3.3 – 2023-06-19

- Enhancement: Updated the IEEE Curve Constant values in accordance with the IEC 60255-151ed1.0b:2009 standard.
- Minor: (L-PRO 4500): Fixed issue where the 50LS Main (Input 1) signal was duplicated in the ProLogic input pick list when the Analog Input option is selected as 5 CT and 4 PT (Option B) in the Relay Identification screen.
- Minor (L-PRO 4500): Fixed issue where the 50BF Aux, 50LS Aux, 60CTS Aux and 79 Aux functions were shown in the output matrix when the Analog Input is selected as 5 CT and 4 PT (Option B) in Relay Identification screen.
- Minor (L-PRO 4500): Fixed issue where the Target LED setting in the output matrix was always selectable for the Successful Reclose Aux. function when Recloser mode is set as Main Only.

v3.2 – 2022-02-08

- Minor (affects L-PRO 4000): Fixed issue where the CCVT Transient Compensation selection on the System Parameters screen was not maintained if the user navigated to a different page, and then navigated back to the System Parameters screen.

v3.1 – 2021-09-29

- Enhancement: Added support for L-PRO 4500 Firmware v2.2 (setting version 604):
    - Added the ‘Control Command Names’ screen to allow the configuration of user settable names for Single Point (SPC) control commands.
    - Added the ability to configure the reset settings for Output Contacts and Target LEDs using Single Point (SPC) control commands.
    - Added Single Point (SPC) control commands into the ProLogic input list to allow the realization of CB open/close commands and various operational interlocks.
    - Added Single Point (SPC) control commands to the Output Matrix to allow direct control of Output Contacts and LEDs.

v3.0 – 2021-03-05

- Enhancement: Added support for L-PRO 4500 v2.1 Firmware:
    - Added Zone 3 starter element as an option in SOTF.
    - Added Zone 2 starter or Zone 3 starter setting option for Carrier aided scheme function in Scheme Selector menu.
    - Enhanced the SOTF function:
        - Provided Enable/Disable option for device 50N.

        - Added pick-up delay timer (C1) setting for device 50/50N.
    - Enhanced single phase Auto Reclose function:
        - 1-Pole Breaker Status settings were added to both Main and Auxiliary CB in Breaker Status Menu.
        - Pole Dead/Live Detection setting was added under 79-1Ph Recloser for both Main and Auxiliary Breaker.
        - Provided Auto Recloser External Initiation setting for all the poles under 79-1Ph Recloser
        - Distance Scheme Trip output was separated as Distance Scheme Phase Trip and Distance Scheme Ground Trip in the Output Matrix.
    - Added the reactance tilt angle setting to the reverse quadrilateral characteristics for the 21P and 21N protection functions.
    - Removed the dependency on positive sequence directional supervision during phase-ground faults. This change results in the addition of two new elements, 'Directional Element-Ground' and 'Directional Valid-Ground', in the ProLogic input list. The existing 'Directional Element' and 'Directional Valid' elements were renamed to 'Directional Element-Phase' and 'Directional Valid-Phase' respectively.
    - Added External Blocking capability to all the protection devices in the Output Matrix via External Input, Virtual Input or ProLogic signals.
    - Added the ability in the Output Contacts menu to individually configure each output contact reset type as Self Reset, Latched or Pulsed and to reset the contacts via External Input, Virtual Input or ProLogic.
    - Added per phase DNP 3.0 points for all the protection functions: 21P, 21N, 50, 50N, 51N, 51.
    - Added the Target Reset screen under the Identification menu to allow selection of the LED reset option as Self Reset or Latched for each LED. As part of this change the External Target Reset setting was moved to this screen from the Protection Functions and the Target Latching On global setting under the System Parameters menu was removed.
    - Renamed the Ring Bus Configuration setting on the System Parameters page as Ring Bus/One and Half Breaker Configuration.

v2.9 – 2019-11-29

- Enhancement: Enhanced the SOTF function:
    - Provided Enable/Disable option for device 50N.
    - Added pick-up delay timer (C1) setting for device 50/50N.
- Enhancement: Updated the default setting file for L-PRO 4000 to disable LEDs from ProLogic settings.
- Major: Fixed issue where the ring bus configuration box gets unchecked when the setting file is saved, closed, and then reopened. This issue was introduced in v2.8 and affects all relays with this feature.
- Minor: Fixed issue on the L-PRO 4000 where Positive Sequence Directional supervision element for phase-ground faults was enabled when it should have been disabled. This change results in the addition of two new elements, 'Directional Element-Ground' and 'Directional Valid-Ground', in the ProLogic input list. The existing 'Directional Element'

and ‘Directional Valid’ elements were renamed to ‘Directional Element-Phase’ and ‘Directional Valid-Phase’ respectively.

v2.8 – 2018-11-06

- Enhancement: Added support for L-PRO 4500 v2.0 Firmware.
  - Added Broken Conductor protection function 46BC.
  - Added support for the following analog input product variants: 10 CT + 6 VT, 5 CT + 4 VT
  - Added support for the following External Input and Output Contact product variants, 8 in + 8 out, 16 in + 16 out, 16 in + 24 out, 24 in + 32 out.
  - Added the ability to reset the front panel target LEDs using the following options: External Inputs, Virtual Inputs, ProLogic.
  - Added phase to phase voltage values to the DNP3 configuration screen.
  - Added A, B and C phase options for Aux. Voltage Input under System Parameters menu.
- Major: Fixed issue where extra settings were saved to the Settings File for L_PRO 2100 setting versions 6 to 12 and L-PRO 4000 setting versions 401 to 406. This resulted in Relay Control Panel blocking the setting file from being loaded to the unit.
- Minor: L-PRO 4000, L-PRO 4500: Fixed issue where the availability of the 94 Phase A, B, C is shown incorrectly in the ProLogic picklist when the 79 Auto-Recloser function is enabled.
- Minor: L-PRO 4000, L-PRO 4500: Fixed issue where the user was able to enable 50BF Aux. when Ring-Bus was disabled under some conditions. This is an invalid setting.
- Minor: L-PRO 4000, L-PRO 4500: Fixed issue where the user was allowed to set the 59-2 AUX Gate Switch setting to an incorrect value under some conditions.
- Minor: L-PRO 4500: Fixed issue where the Positive Sequence Override setting was missing from the setting summary under some conditions.
- Minor: L-PRO 2100, L-PRO 4000, L-PRO 4500: Fixed issue where L-PRO Offliner v2.7 crashes when entering a Mho Characteristic Angle greater than 180°.

v2.7 – 2018-04-16

- Enhancement: Added support for L-PRO 4500
- Minor: Fixed issue that allowed setting the port number or IP address to the same value on more than one DNP master. This setting can put the IED into a non-responsive state.
- Minor: Fixed issue where the setting file is copied to an incorrect folder when imported and then the setting version is increased.
- Minor: Fixed issue where 79-1Ph Reclose cannot be selected in the output matrix in some circumstances when the setting group is greater than one.
- Minor: Fixed issue where user manuals could not be opened from within Offliner when Offliner was installed by different user.
- Minor: Fixed issue where some settings were incorrectly scaled when switching between 1A and 5A CT setting.

v2.6 Rev 2 – 2015-12-15

- Enhancement: Added L-PRO 2100 User Manual v5.0 Rev 0.

v2.6 Rev 1 – 2015-05-11

- Enhancement: Added L-PRO 4000 User Manual v2.5 Rev 1.

v2.6 – 2015-02-14

- Enhancement: Phase segregated trip information in DR, accessible through ProLogic and Output Matrix.
- Enhancement: Elimination 50BF Breaker Fail Auxiliary Circuit Breaker ring bus interlock.
- Enhancement: Modified auto-recloser scheme (refer to manual for operation details)
- Enhancement: Main & Auxiliary Overvoltage second definite time stage.
- Enhancement: Tilt angle setting into QUAD characteristics 21P and 21N functions.
- Enhancement: Virtual Input option for 52CB function.
- Enhancement: Expanded LOP functionality.
- Enhancement: Series Compensation.
- Enhancement: Enhanced Target LED selection capabilities.
- Enhancement: DNP communications enhancements and corrections.
- Enhancement: Enhanced setting data change save operation – multiple screens.
- Enhancement: Corrected issue with Offliner Window resizing.
- Enhancement: Enforce/Standardize unit and feature naming conventions.
- Enhancement: Correct SCADA Summary information when launched from RecordBase View.

CLASSIFICATION OF CHANGES MADE

The issues fixed in software / firmware upgrades are classified as defined below. While the decision to upgrade installed products is the user's, these classifications provide a guideline for the need and priority of the upgrade.

Critical: Critical changes fix issues/problems that prevent the basic operation of the device and have no workaround. Critical changes merit a product upgrade as soon as possible, if that function is being used under the conditions causing the issue

Major: Major changes fix problems that prevent the basic operation of the device but do have a workaround. Any major changes merit a product upgrade as soon as possible if the function is being used under the conditions causing the issue and a workaround is not acceptable.

Minor: Minor changes fix non vital issues that do not prevent the basic operation of the device and may or may not have a workaround. Product upgrades for such changes are not necessary unless they apply to and are needed by the user.

Enhancement: Feature enhancements add a capability or extend existing capabilities of the product. Upgrades for such changes need be made only if and when that feature enhancement is desired**.**