L-PRO 4000 Firmware

v2.6b

Release Description

DATE: 2022-09-14

FEATURE ENHANCEMENTS

- Cyber Security:
  - None.
- General:
  - Added support for minor changes to the Main Processor Board hardware to address supply chain issues. This change has no impact on the functionality of the L-PRO 4000 when compared to the v2.6a Firmware release.

CORRECTIONS TO ISSUES

- Cyber Security:
  - None.
- General:
  - None.

COMPATIBILITY:

L-PRO 4000 Offliner	v2.9 or above
Relay Control Panel	v2.5 or above
RecordGraph	v5.3 or above
ERL 61850 IED Configurator:	v2.0 Rev 1 or above
RecordBase Central Station	v4.1 or above
RecordBase View	v3.2 or above
ICD File Version	v3.0 Rev 01
Setting Version	408
L-PRO 4000 User Manual	v2.6 Rev 4

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 204-477-0591 x1 www.erlphase.com

REVISION HISTORY

v2.6a – 2022-02-10

- General:
  - Minor: Modified the CCVT Transient Compensation algorithm, enabled on the System Parameters screen, to apply only to Zone 1. The algorithm was applied to Zone 2 to Zone 5 calculations, resulting in undesirable additional pickup delay in POTT and DCB distance schemes in those zones.
  - Minor: Fixed issue where the phase reported for PUTT and DCB distance scheme send events was incorrect. POTT reported phase correctly.

v2.6 – 2019-11-29

- Enhancements - Cyber Security:
  - Added a message to the event log for user login attempts.
  - Removed “View” user password requirement on the front panel so that users may access read-only parameters without needing to login using a password.
- Enhancements - General:
  - Added support for C37.118-2011 compliant IRIG clock sources.
  - Added the ability to switch between the target event screen and the menu screens on the front panel display to prevent target events from locking the screen.
  - Updated the default setting file to disable LEDs from ProLogic settings.
  - Optimized event handling on the display to improve performance when the IED is heavily loaded.
  - Enhanced the SOTF function:
    - Provided Enable/Disable option for device 50N.
    - Added pick-up delay timer (C1) setting for device 50/50N.
  - Removed the dependency of positive sequence directional supervision during phase-ground faults. This prevents unintended operations of ground overcurrent protection elements during unbalanced operating conditions with sensitive settings.
  - Improved ability to recover from cases where the front screen goes blank or is disturbed after extreme transient conditions.

v2.5b - 2017-06-09

- Enhancement: Add support for enhanced hardware for production use.
- Enhancement: Improved Zone-1 reach accuracy for remote end faults if a series capacitor is enabled.
- Enhancement: Improve performance of 79 lockout with 1-ph recloser under 3 phase fault conditions.
- Critical: Correct issue where operation of Switch On To Fault (SOTF) function due to presence of 2nd Harmonic is not blocked, even when 2nd harmonic blocking setting was enabled.

- Major: Correct issue where the load encroachment impedance setting for the left hand side (LHS) was used for both the left and right sides. If symmetrical settings are used, this has no effect.
- Major: Correct issue of incorrect priority scheme reclosing with persistent faults.
- Minor: Correct issue where 79 auto recloser chatters under certain test conditions.

v2.5a - 2015-05-11

- Major: Correct issue with 21P and 21N operation at low levels.

v2.5 - 2015-02-14

- Enhancement: Series Compensation functionality
- Enhancement: Second definite time stage for Main & Auxiliary Overvoltage
- Enhancement: Phase segregated trip information in data recording, accessible through Prologic and Output Matrix
- Enhancement: Elimination of 50BF Breaker Fail Auxiliary Circuit Breaker ring bus inter-lock
- Enhancement: Virtual Input option for 52CB function
- Enhancement: Auto-recloser scheme modification (refer to manual for operation details)
- Enhancement: Tilt angle setting into QUAD characteristics 21 P/N functions
- Enhancement: User interface enhancements for new feature support and general functional improvement.
- Enhancement: LED and metering enhancements
- Enhancement: DC removal filter for overcurrent elements
- Enhancement: Dual SNTP time server support
- Enhancement: IEC 61850 and DNP communications enhancements and corrections.
- Enhancement: Supports IRIG external clock sources compliant with C37.118-2005

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.

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.

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.