



Oct 2, 2013

ERLPhase Protection Relay Customers,

### **Transition to 4000 Series Protection Relays**

ERLPhase is pleased to announce to our relay customers that our 4000 series of protection products is now complete with the addition of the F-PRO 4000 and the advanced B-PRO 4000 Multibus. These relays provide the latest innovations as well as a smooth transition from older generation relays in your system.

The 4000 series of protection relays are built on a new, fully type-tested hardware platform that reflects the processing power, communications and HMI to accommodate your current and future needs. At the same time they maintain the same footprint and the same easy-to-use configuration as our existing products. If you are using our PRO series of relays, you are already prepared to use the 4000 series. [Refer to page 2](#) to learn more about enhanced protection, recording and communications features available on 4000 series relays.

All products have a life cycle and we will be ceasing production of our 2000 series protection products (including the L-PRO 2100, T-PRO 8700, B-PRO 8700, B-PRO 8701 and F-PRO 5100) at the end of March 2014. We pride ourselves in our 10 year warranty and have reserved sufficient inventory to support current installations, as is expected by our customers.

For additional information on the 4000 series, or to arrange a demonstration, please do not hesitate to contact your [regional sales manager](#). Thank you for your continued business. We look forward to supporting your seamless transition to the new protection products and to speaking with you about the projects you have in mind for the coming year.

Yours sincerely,

**ERLPhase Customer Support**  
[support@erlphase.com](mailto:support@erlphase.com)  
204-477-0591

# Transitioning to 4000 Series Relays

4000 Series Model	Corresponding Older Generation Relay
L-PRO 4000	L-PRO 2100
T-PRO 4000	T-PRO 8700
B-PRO 4000	B-PRO 8700
B-PRO 4000 MBB	B-PRO 8701
F-PRO 4000	F-PRO 5100

## Enhancements common to all relays

### Hardware enhancements:

- New substation hardened, state-of-the-art platform
- Greater processing power for enhanced protection features and communications
- Latest communications with 2 rear 100BASE-TX RJ-45 or 100BASE-FX 1300 nm multimode optical Ethernet ports
- Front panel USB and 100BASE-TX RJ-45 Ethernet port interfaces
- 240 x 128 LCD front panel graphical user interface with navigational controls to check/change specific settings and parameters
- 11 front panel user-selectable target LEDs, which can be mapped to specific internal elements
- 40 x In maximum full-scale ratings of current inputs for capturing higher fault currents
- Wide range power supply to support all substation conditions
- 4U model options providing more digital inputs and output contacts
- Easier to connect terminal strips

### Software enhancements:

- Easy-to-use and intuitive IEC 61850 Configuration Tool and Windows-based Relay Control Panel user settings and analysis software
- IEC61850 station bus communications and enhanced DNP3 SCADA communications, for better substation automation at reduced costs
- Enhanced user-configurable control logic
- Larger capacity and more flexibility for fault and disturbance recording
- More information available on fault logs

## New protection functions added in the L-PRO 4000

- 5<sup>th</sup> zone of protection available for phase and ground distance
- Single pole tripping and reclosing option added to existing 3 pole tripping/reclosing
- Mho characteristics and selectable Quadrilateral characteristics on all 5 zones of phase distance element
- Communication aided Directional Earth Fault protection (Permissive and Blocking options) with dedicated Carrier Receive signal
- CT supervision (60CTS) and zero sequence over voltage (59N) functions added
- Mutual Compensation added to provide improved fault location value for double circuit applications

## Enhancements to protection function in L-PRO 4000

- Enhanced selectable load encroachment logic
- Top and bottom blinders added for power swing/out-of-step detection
- Enhanced SOTF logic
- Greater user flexibility to define directionality for 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> zones
- Adjustable breaker fail pick up current setting for 50BF function
- Wider setting ranges and options for distance protection and backup protection

## New Protection functions added in the T-PRO 4000

- Added 59 over voltage protection
- Added 50 BF breaker fail protection for each of the 5 windings

## Enhancements to protection function in T-PRO 4000

- Increased vector combination for various transformer configurations including Zig Zag
- Over Excitation 24 – Added a second stage of definite time protection
- Wider setting ranges
- Metering – 2<sup>nd</sup> and 5<sup>th</sup> harmonic current values available

## New protection functions added in the F-PRO 4000

- Measured Neutral Over current element 50G/51G/67G with 2 definite time stages and 1 inverse time stage
- 2 mho phase distance elements; each element includes a forward reach and delta current supervisor setting
- Metering functions including demand, energy, and overload

## Enhancements to protection function in F-PRO 4000

- Breaker health monitoring function via I\*I\*t function
- Wider setting ranges