



DLX

Line Differential Protection IED



Complete and Flexible Protection for **Overhead** and **Underground Lines**

Designed for installation in **Reduced Spaces** and combines with external IEDs for **Flexible Architecture**. Easy integration using **Standard Protocols**: IEC870-5; DNP3; ModBus and IEC61850.

- 87** Phase Line Differential.
- 87Q** Neg. Sequence Line Differential.
- 87P** Phase Directional Comparison
- 87PN** Neutral Directional Comparison
- 87PQ** Neg. Sequence Directional Comparison.
- 50/51** Phase O/C.
- 50N/51N** Neutral O/C.
- 50Ns/51Ns** Sensitive Ground O/C.
- 50Q/51Q** Negative Sequence O/C.
- 67** Phase Directional Units.
- 67N** Neutral Directional Units.
- 67Q** Negative Sequence Directional Units.
- 67Ns** Sensitive Neutral Directional Units.
- 51V** Voltage Dependent Phase Overcurrent.
- 85** Teleprotection Schemes.
- 59/27** Phase Over/Under Voltage.
- 59N** Neutral Overvoltage.

- 81M/m** Over/Underfrequency.
- 81ROC** Frequency Rate of Change.
- 50/62BF** Breaker Failure Protection.
- 50SOF** Swith-onto-Fault.
- 25** Synchronism Check Unit.
- 79** Three-Phase Recloser.
- 60CT** Current measurement supervision.
- 60VT** Fuse failure Detector.
- 3** Trip Coil Supervision.
- 2** Pole Discrepancy Detector.
- 46** Open Phase Detector.
- 49** Thermal Image.
- FL** Fault Locator.
- Cold Load.
- Phase Selector.



Application

ZIV model DLX is designed to provide selective, fast, and reliable protection for **overhead lines** and **underground cables**.

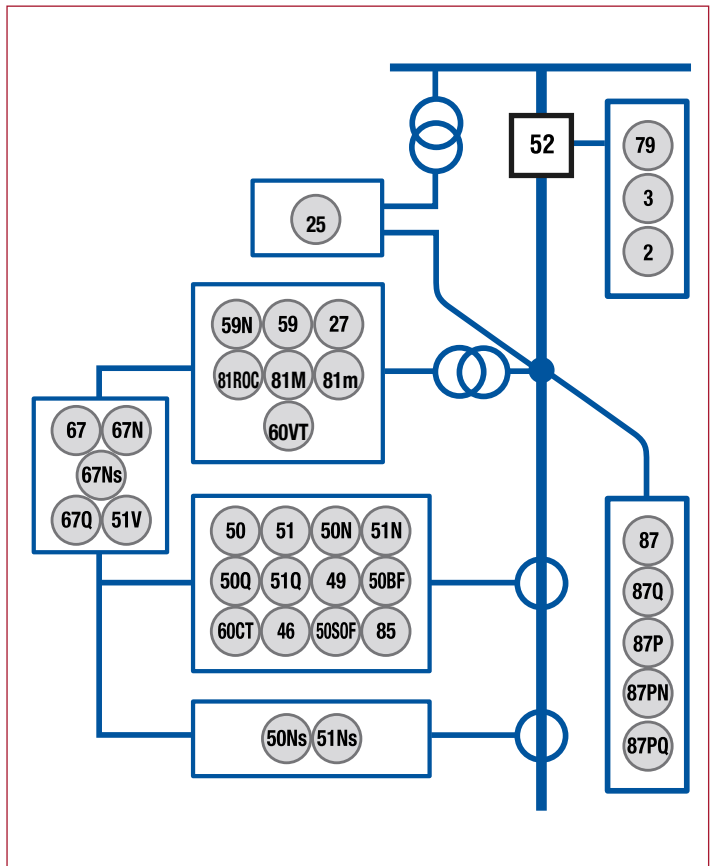
DLX models include a complete set of **protection functions** to cover every application requirement. Complementing the protection functions, the unit includes **control functions** that support **commands, logic, and metering** both from measured and calculated parameters.

The **versatile communication structure** makes the units an optimal solution for **stand alone applications and integrated systems**, either conventional or based on the IEC61850 standard.

The **DLX modular construction and reduced size** are features specifically designed with distributed switchgear and metal clad applications in mind.

Directional Comparison Units

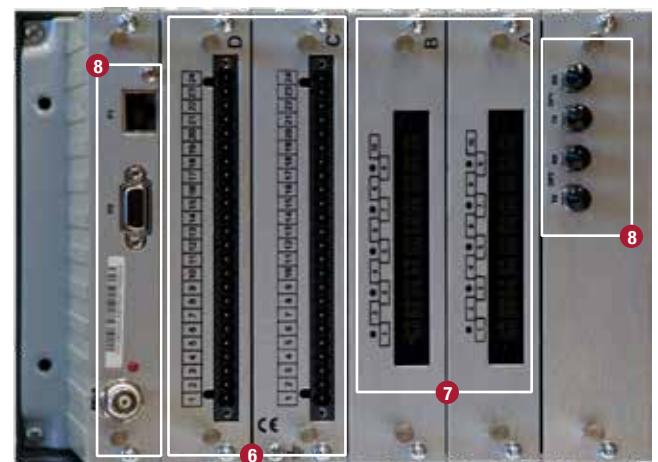
DLX relays incorporate Phase, Ground, Positive Sequence and Negative Sequence Directional Comparison Elements to support the Differential Elements, providing, with no need for reducing their sensitivity, a great security on external faults with CT saturation.



Physical Description



- 1 **LEDs:** One (1) In Service LED and eight (8) configurable LEDs.
- 2 **Alphanumeric Display.** 320 x 240 pixels resolution with 16 bits depth of colour (65536 colours).
- 3 **Keypad.** 6 push-buttons to viewing and modifying settings and control the information displayed (measures, events, fault indications, I/Os status, etc.)
- 4 **Control Push Buttons:** 3 buttons to operate the system elements, setting tables or protection units configured in the unit: closing and open controls (I / O) and button 79 for reclosing.
- 5 **Local Communication Port** type RS232C and USB.
- 6 **Slots C & D.** 24-pin terminal blocks for digital I/Os, transducer inputs, trip and close contacts and power supply connection.
- 7 **Slots A & B.** 10-ring lug terminal blocks for current and voltage analog inputs.
- 8 **Remote Communications Ports:** Up to 3 Remote Fiber Optic Ports (ST Glass or 1mm Plastic), electrical interface RS232/RS485 or LAN on connector RJ45 for Ethernet and IIRIG-B.



ZIV continually strives to improve products and services. The technical information included in this document is subject to change without prior notice.

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