

ZIV e-NET suite

New Solutions for Substation Automation

Monitoring, Protection, Control and
Communication IEDs



The new generation of Monitoring, Protection, Control & Communication IEDs for HV & MV Systems

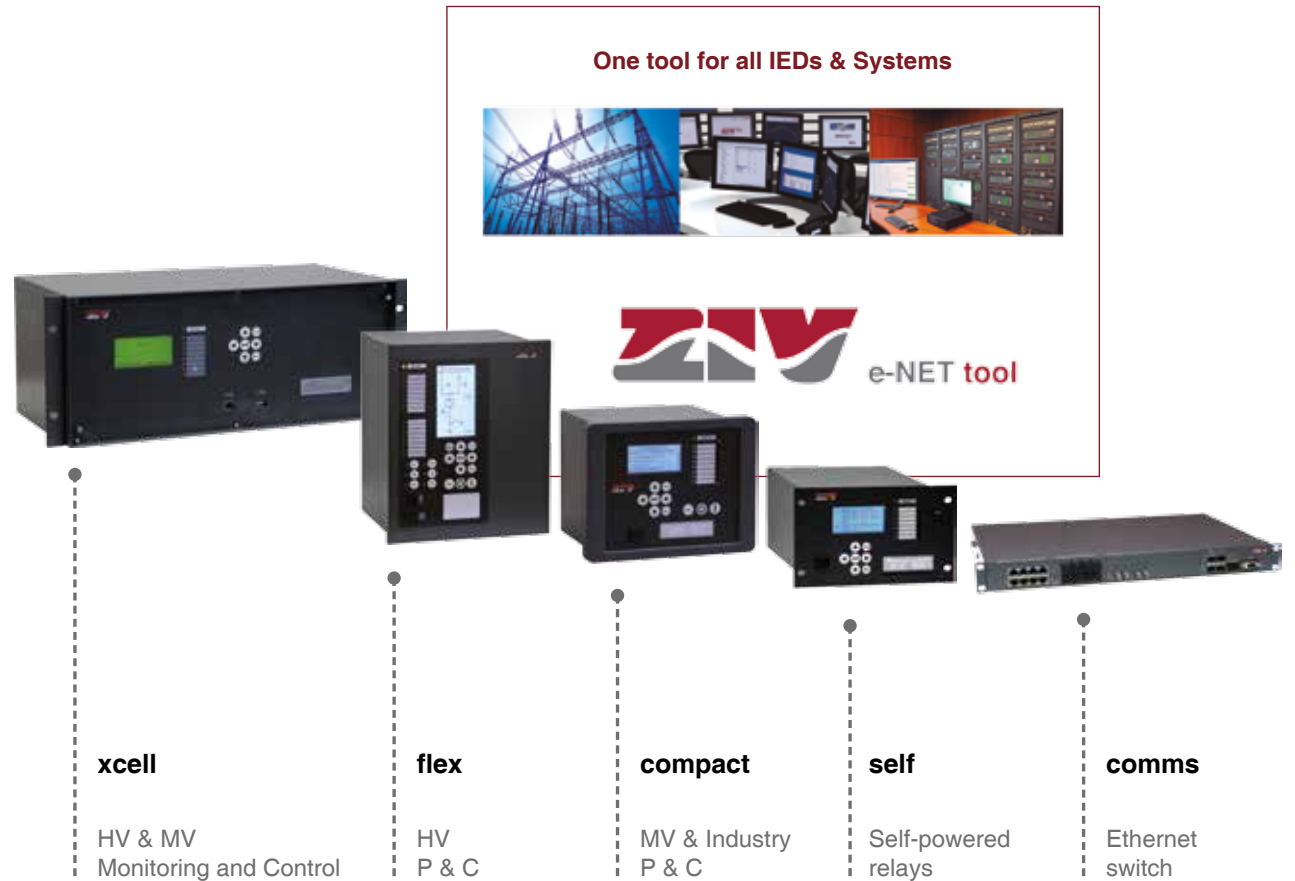
ZIV launches e-NET suite:

Complete and reliable solutions for power transmission and distribution systems

A wide range of powerful IEDs managed by one common user-friendly tool

Designed to meet the most demanding requirements in each application field:

- HV Lines
- Transformers
- Busbars and breakers
- Feeders
- Motors
- Bay control applications
- Grid automation



One tool for all IEDs and Systems

Intelligent Electronic Devices (IEDs)

Substation Central Units (RTUs)

Switches

Terminal Servers

Merging Units

RIO modules

Key features:

- Multiprotocol (IEC 61850, DNP3, IEC 101/104, Modbus)
- Graphic Interface (drag & drop mode)
- Graphic Editor for Logics (IEC 61131, function block diagram)
- Project mode /stand alone mode
- Partial insertion of elements
- Automatic mapping of user signals
- Third-party IEDs integration



The software that makes it easy

Configuration / Communication / Logics





e-NET **xcell**

Monitoring and Control for HV & MV Power Systems



Modular XCell

Compact XCell

Substation Control Unit for centralized & distributed systems in one device

Modular XCell

Real-time access to hardwired plant data, intelligent IEDs, networked IEC 61850 devices and smart meters.

Ideally suited for new substations or upgrade and integration of existing substations.

Compact XCell

Modular Gateway/RTU (19"rack x 4U / 2U).

Two redundant hot-swappable power supplies.

2 multipurpose (independent or redundant) CPUs with 4 Ethernet ports & 10 serial ports.

Extra 2 slots available for additional CPUs or I/Os modules.

Convenient display, control buttons and 9 programmable LEDs.



Relays for HV Power Systems

Overcurrent Multifunction + control (BCPU)
Transformer differential + distance protection
Line differential + distance protection



Adaptable & Modular

Hardware options configurable with software functions.

Up to 40 analog Inputs for Voltage or Current.

Possibility to protect two feeders with only one device.

Up to 180 digital inputs and 70 digital outputs.

Transducer (mA/mV) inputs cards available.

Communications protocols: DNP3, MODBUS, IEC 61850 (Ed. 1 & 2).

Configurable HMI (optional).

Time synchronization: IRIG-B, 1588 & SNTP.

Redundancy protocols: PRP, HSR & RSTP.

Rack & Flush mounting.

CyberSecure

Under IEC 62351 and NERC CIP.



Compact Multifunction Protection for MV Power Systems & Industry

Protection system for Grounded or Ungrounded schemes

Broad range of applications:

- MV feeders
- Machine bays
- Back-up in HV lines

Powerful built-in control logic module

Optimized & compact relay:

- Up to 8 Analog inputs & 24 Digital I/Os
- 8 programmable LEDs
- Convenient display and control buttons
- Multi-protocol: IEC 61850, DNP3 & MODBUS



IRL



Self-powered relay for Industry and Utility Secondary Substations

Multifunction Overcurrent and Earth-Fault protection

Energized either directly from main CTs, AC auxiliary voltage or through the USB front port.

Common applications are:

- Ring Main Units (RMUs) in Industrial and Secondary Substations.
- Retrofitting projects.
- Back-up in HV/MV transformers.



IRS



IEC 61850 Ethernet Switch for Electrical Substations

Flexibility in optical fiber ports for transmitting services from distribution substations

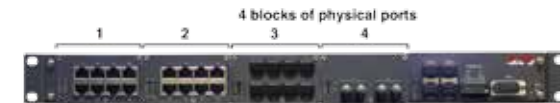
- Configurable priority for each port.
- QoS features to identify critical services.
- Advanced RSTP implementation.
- Local and remote management through a console or a built-in web server (HTTP/HTTPS), SSH and Telnet server.
- SNMPv1, SNMPv2c and SNMPv3 agent.
- GARP/GMRP, DHCP, NTP, VRRP, management access with TACACS+, and client equipment access control with RADIUS.
- IGMP snooping. Q-in-Q operation (double-tagged). Link aggregation by LAG function (static).
- Compact 19"/1 s.u. chassis.



SWT-L3

Key features:

- Complies with IEEE 1613 & IEC 61850-3 standards.
- Brings the necessary capabilities to implement the automation of Electrical Substations according to the IEC 61850 standard.
- Supports IEEE 1588v2 clock synchronization (Precision Time Protocol) standard.
- Flexibility in number and type of ports.
- Front or rear port arrangement.
- 4 Gigabit Ethernet SFP bays and up to 32 Fast Ethernet ports (RJ-45, MT-RJ, ST, SC, LC, LC SM) or up to 24 IEEE 1588 (PTP) ports.
- Digital I/O (managed via SNMP).
- Layer 3 capabilities (RIP, OSPF & BGP routing protocols).



Options of physical ports (Fast Ethernet or PTP)





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