TCA-C

Distribution Automation RTU with embedded FPI

RTU with built-in directional **Fault Passage Indicator (FPI)** for **non-extensible 2-feeder** and **3-feeder RMU**

General characteristics

- ✓ Powerful programmable logic engine
- ✓ Up to 48 digital inputs
- ✓ 8 configurable digital outputs for alarm signalling or LBS control commands
- ✓ 14 analogue channels
- ✓ Automation applications of compact / non-extensible RMU with a maximum of 2 or 3 feeders
- ✓ Up to 2 FPI functions embedded
- ✓ Transformer fuse-protection bay can also be supported by RTU function
- ✓ Diagnosis and Maintenance WebUI
- ✓ Cybersecurity: Authentication and encryption

Cybersecure Monitoring and Automation solution for **non-extensible Ring Main Units (RMU)** in **underground Distribution networks.**

Suitable for a variety of **grounding systems** (solidly-grounded, impedance grounded, isolated or compensated-Petersen coil grounding).

It connects with **SCADA** and Control Centers systems using standard protocol **IEC 60870-5-104**, making **FLISR** solutions possible for Distribution System Operators (DSO).
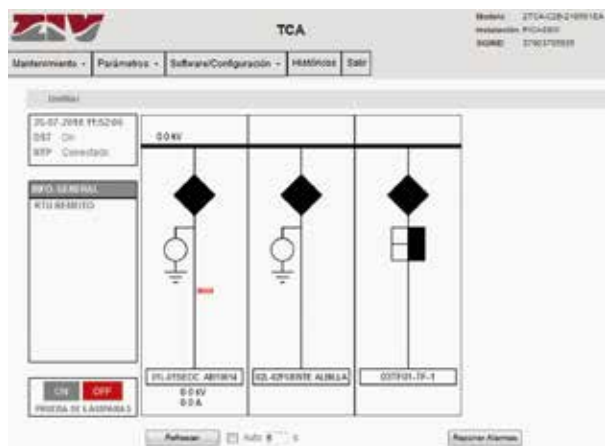
Making the Smart Grid Real

Other features

Monitoring & Management via WebUI

Single line diagram and the status of the different elements of the installation can be monitored for diagnosis and maintenance operations.

No proprietary software tools are required.

Local HMI

A full - local interface is provided to perform the most common local operations such as Remote / Local control or Open / Close local commands. Security mechanisms for lock / unlock commands are integrated in the device firmware.

Event logger and Oscillography recorder

RTU function also includes an event logger (2,500 registers) and oscillography recorder function (sampling rate 7,200 Hz). Up to 5 COMTRADE files are available for each monitored switchgear. Trigger options and associated digital signals for oscillographic function can be configured.

Programable logic

A powerful programmable logic engine can be accessed by means of the built-in WebUI. The TCA-C allows the user to define global alarms of the secondary substation or several interlockings (electrical or mechanical) for each controlled switchgear.

Automatic service restoration (FIA)

It has been designed to operate as part of an automatic service restoration system. Settings and configurations can be adaptatively modified for optimal network operation.

Communication Protocols & Cybersecurity

IEC 60870-5-104 communications protocol.

Remote firmware update, device configuration, remote commands execution and many other operations can be performed through WebUI or web services on the device.

All remote commands are transmitted over secure transport protocols like HTTPS or SSH.

Role-based access control is managed via authentication using LDAP and TACACS+ protocols.
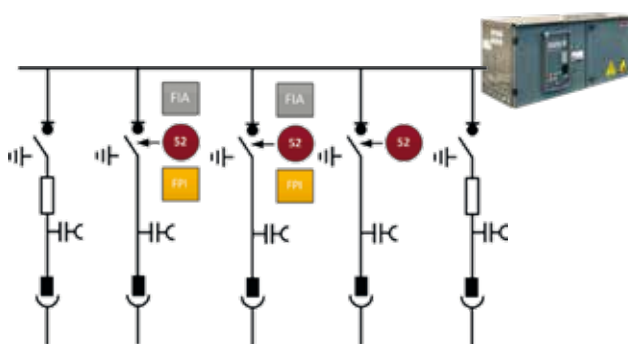
3-feeder RMU application

Protection units

ANSI	FUNCTIONS	
50	Phase instantaneous overcurrent	3
51	Phase time overcurrent	3
50N	Neutral instantaneous overcurrent	3
51N	Neutral time overcurrent	3
50SG	Sensitive Ground Instantaneous Overcurrent	1
50Ni/C	Instantaneous isolated/compensated neutral overcurrent	1
27	Undervoltage	1
59	Overvoltage	1
67	Phase directional overcurrent	1
67N	Directional neutral overcurrent	1
50FD	Fault pass detector	1
47	Negative sequence overvoltage	1
60VT	VT supervision and fuse failure detector	1
60CT	CT supervision	1
52 SUP	LBS supervision & control	
FIA	Fault Isolation Automatism	

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