IRL

Multifunction Protection for MV Power Systems & Industry

Protection Relay for **Grounded** or **Ungrounded** Schemes

Compact Feeder Multifunction solution for MV switchgear, with **Load Shedding Function** to ensure the stability of the system, **Back-Up** performing capability in **HV lines** and powerful built-in **Control Logic Module**.

50/51	Phase O/C.
50N/51N	Neutral O/C.
50G/51G	Ground O/C.
50Ns/51Ns	Sensitive Ground O/C.
50Q/51Q	Negative Sequence O/C.
51Ni/c	Isolated / Compensated Neutral O/C.
67	Phase Directional Units.
67N	Neutral Directional Units.
67G	Ground Directional Units.
67P/Q	Neg/Pos. Sequence Directional Units.
67Ns	Sensitive Neutral Directional Units.
67Ni/c	Isolated/Compensated Neutral Directional
85	Teleprotection Schemes.
50V/51V	Voltage Dependent Phase O/C.
59/27	Phase Over/Under Voltage.
47	Negative Sequence Overvoltage.
59N	Neutral Overvoltage.
81M/m	Over/Underfrequency.
81ROC	Frequency Rate of Change.

78	Out-of-Step Tripping.
59V/Hz	Over-excitation Unit.
87N	REF Protection.
50/62BF	Breaker Failure Protection.
25	Synchronism Check Unit.
79	Three-Phase Recloser.
60CT/VT	CT and VT Supervision.
3	Trip Coil Supervision.
2	Pole Discrepancy Detector.
32P/Q	Directional Power (Active/Reactive).
46	Open Phase Detector.
37	Phase Undercurrent.
49	Thermal Image.

e-NET compact

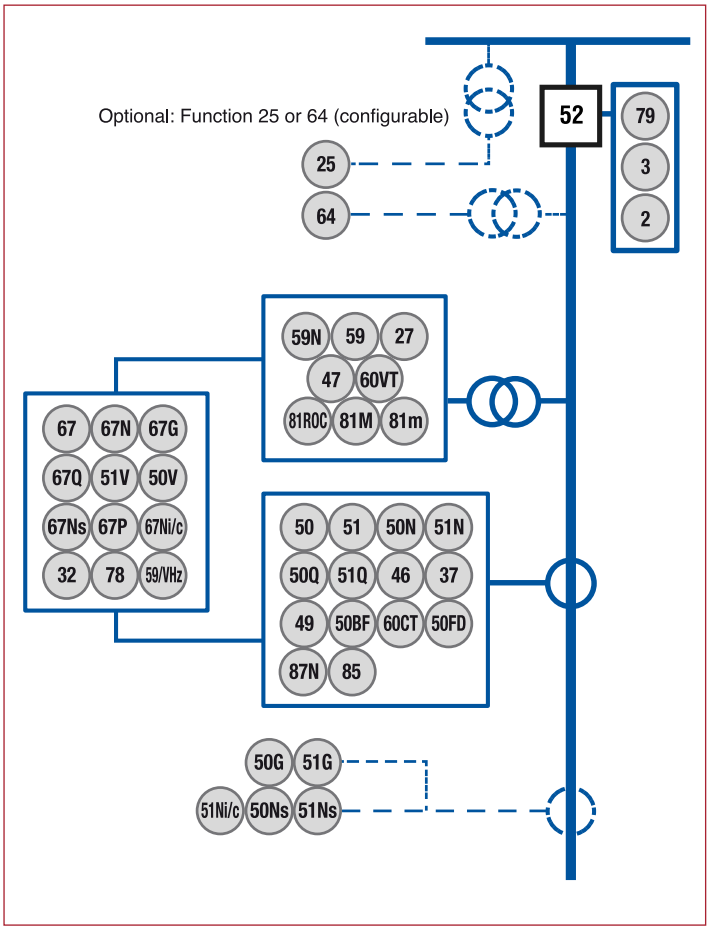
Application

IRL relay models provide **Protection**, **Control** and **Measurement** functions for a great range of applications: MV feeders, machine bays (motors, transformers and generators) or back-up in HV lines.

This device is suitable for systems where the neutral is **rigidly connected to ground** (including those with low impedance), or where the connection is done through a **resistor** or a **Petersen coil** and also for those where the neutral is **isolated** from the ground (ungrounded systems), featuring a long list of protection functions as shown in the diagram.

The highly dependable O/C units by means of a **CT saturation detector** and an algorithm based on **instantaneous values** increase the reliability of the relay

The built-in control logic module allows the implementation of **Load-Shedding Schemes** typical in MV networks as well as any other kind of automatism like load transfer logic, etc.

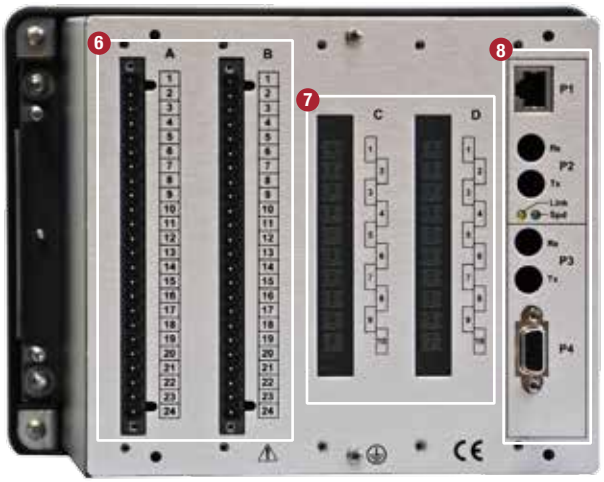


Features

- ✓ Extended sampling rate: 4.800 Hz
- ✓ Enhanced recording capabilities: total oscilo duration up to 100 s, up to 2.000 events and 25 fault reports.
- ✓ Compact and modular design
- ✓ High protection degree : IP54
- ✓ Multi-protocol: IEC61850 (native), DNP3, Modbus RTU and PROCOME.

Physical Description

1. **LEDs**: One (1) In Service LED and eight (8) configurable LEDs.
2. **Alphanumeric Display**. 128 x 64 matrix display.
3. **Keypad**. 7 push-buttons to control the information displayed, such as measures, events, fault indications, I/Os status, etc.
4. **Control Push Buttons:** 3 push-buttons to either control the breaker, change the active setting group or enable/disable any protection function or control automatisms.
5. **Local Communication Port**. 1 x USB front port for local communication with the relay.



6. **Slots A & B.** 24-pin terminal blocks for digital I/Os, transducer inputs, trip and close contacts and power supply connection.
7. **Slots C & D.** 10-ring lug terminal blocks for current and voltage inputs.
8. **Remote Communications Ports**: Serial (RS232/ RS485 or Glass FO-ST) and Ethernet (RJ45 or Multimode Glass FO-ST) (options available depending on model selection).

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