Fault current detection and measurement

One of the following modules can be linked to each channel (switch):
- A current measuring and fault current detection module
- A single-phase or three-phase voltage measuring module
- A digital input acquisition module.

Combinations of these modules can be used. The module type is detected automatically.

Current measurement and fault current detection

Current measurement and fault current detection on a single channel requires the installation of a kit comprising:
- A current acquisition card which is installed on the switchgear interface card. This module provides direct acquisition and electrical isolation of the signal from the current transformers.
- A set of current sensors comprising (depending on the chosen assembly):
  - 3 phase sensors
  - 2 phase sensors and 1 zero sequence sensor
  - 1 zero sequence sensor.

These current measurement kits are ordered separately from the T200 I control unit. They can be added later on site without modifying the Easergy T200 I configuration.

Phase-to-phase and phase-to-earth fault current detection
- Detection thresholds and sensing times are configurable.
- Memorised faults can be cleared:
  - by remote control
  - by a time delay configurable for each channel
  - by return of AC supply configurable for each channel
  - by manual action on the operator panel.
- Faults are indicated:
  - by the red LED opposite the rack
  - outside the station by flashing light
  - remotely via the communication protocol to the SCADA system.

Load current measurement on the line
- The load current on the MV line measured by the detector's current sensors can be recorded and sent to the control centre.
- The measurements can be recorded in various ways (see “Management of variables”).

Voltage measurement and monitoring

In addition to LV power supply presence monitoring by the supply module, there are two options for measuring and monitoring the medium voltage:
- From measurement voltage transformers
  - the voltage acquisition module T200-AT is responsible for the acquisition and isolation of the three phase-to-neutral voltages produced by the measurement voltage transformers
  - detection of voltage drops and presence of a residual voltage. The detection and presence thresholds are configurable.
  - this option can be added at a later date on site.
- From the LV power supply source for the Easergy T200 I unit
  - the measurement is scaled to provide a picture of the MV voltage
  - the detection and presence thresholds are configurable
  - this option has to be ordered with the control unit. It is installed on the last channel of the control unit.

Voltage presence monitoring via capacitive dividers
Reconfiguration systems such as the power supply source changeover switch require monitoring of three-phase voltages on the various channels. In such a case we use the Easergy VD3H voltage presence relay, which can be found in the accessories section.