

Terminal Protection to IP20



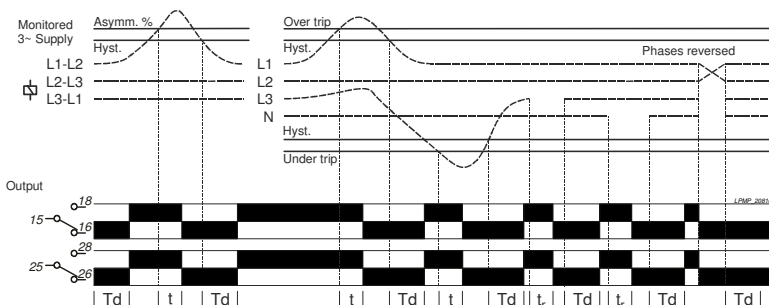
Dims: to DIN 43880
W. 17.5mm

- Compact 17.5mm DIN rail housing
- Microprocessor based
- True R.M.S. monitoring measuring phase to phase (3-wire) or phase to neutral (4-wire) voltages
- Selectable nominal voltages to suit most popular 3-wire or 4-wire supply voltages
- Monitors own supply, detects phase asymmetry and if fixed Under or Over voltage trip levels are exceeded
- Detects incorrect phase sequence, phase loss and neutral loss¹
- Adjustment for phase asymmetry/unbalance
- Adjustment for Restart delay
- Adjustment for Time delay
- DPDT relay output 5A
- Green LED indication for supply status
- Red LED indication for relay status

¹ Only when 4-wire monitoring selected



FUNCTION DIAGRAM



INSTALLATION AND SETTING



Installation work must be carried out by qualified personnel.

- BEFORE INSTALLATION, ISOLATE THE SUPPLY.
- Connect the unit as required. The Connection Diagram below shows a typical installation, whereby the supply to a load is being monitored by the Phase monitoring relay. If a fault should occur (i.e. fuse blowing), the relay will de-energise and assuming control of the external Contactor, de-energise the Contactor as well.
- Only connect the Neutral if available and 4-wire monitoring is required.

Applying power.

- Set the "Nominal (Un)" ③ voltage selector to match that of the voltage being monitored.
- Set the "Asymmetry %" ⑥ adjustment to maximum.
- Set the "Delay (t)" ⑤ and "Restart delay" ④ adjustments to minimum.
- Apply power and the green "Power supply" ① LED will illuminate. The red LED ② will illuminate and relay energise after the short delay period (Td).
- Refer to the troubleshooting table if the unit fails to operate correctly.

Setting the unit (with power applied).

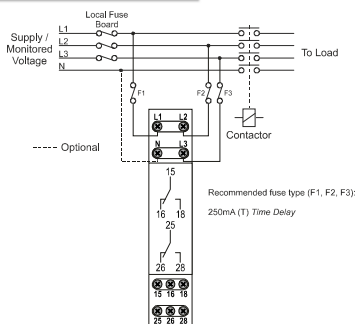
- Assuming all phases are perfectly balanced it should be possible to set the "Asymmetry (%)" adjustment to minimum which will ensure that it will detect the smallest of changes in the phase voltages. However, if large changes in phase voltages are likely, then the "Asymmetry (%)" setting should be increased.
- The formula used for calculating phase asymmetry is shown on the right at the bottom of the Technical Specification.
- Set the "Delay (t)" and "Restart delay" as required. (Note that the delay "t" is only effective should any phases exceed the set trip point. However, if the supply drops below the 2nd under voltage trip level, any set time delay is automatically cancelled and the relay de-energises immediately).

Troubleshooting.

The table below shows the status of the unit during a particular fault condition.

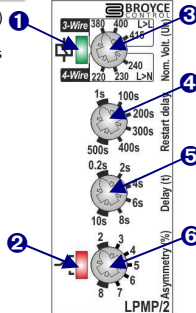
Supply fault	Green LED ①	Red LED ②	Relay
Phase or neutral missing	LED's flash alternately	Off	De-energised
Phase or neutral restored (during restart timing)	On	Flashing (x2)	De-energised for delay (Td)
Phases reversed (no delay)	Flashing	Off	De-energised
Under or Over voltage condition (during timing)	On	Flashing	Energised for delay (t)
Under or Over voltage condition (after timing)	On	Off	De-energised
Voltage returned from Under/Over volt. (during restart timing)	On	Flashing (x2)	De-energised for delay (Td)
Phase asymmetry trip point exceeded (during timing)	On	Flashing	Energised for delay (t)
Phase asymmetry trip point exceeded (after timing)	On	Off	De-energised
Phase asymmetry below trip point (during restart timing)	On	Flashing (x2)	De-energised for delay (Td)
Phases < fixed under trip level [2]	On	Off	De-energised

CONNECTION DIAGRAM



SETTING DETAILS

- Power supply status (Green) LED
- Relay output / Timing status (Red) LED
- "Nominal (Un)" voltage selector
- "Restart delay" adjustment
- "Delay (t)" adjustment
- "Asymmetry %" trip adjustment



DIMENSIONS

