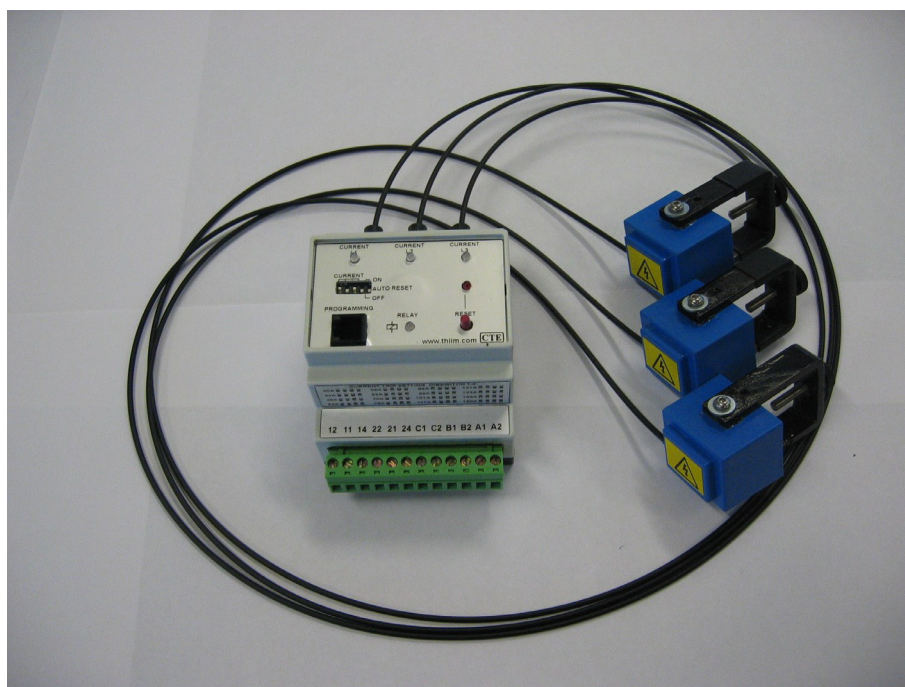
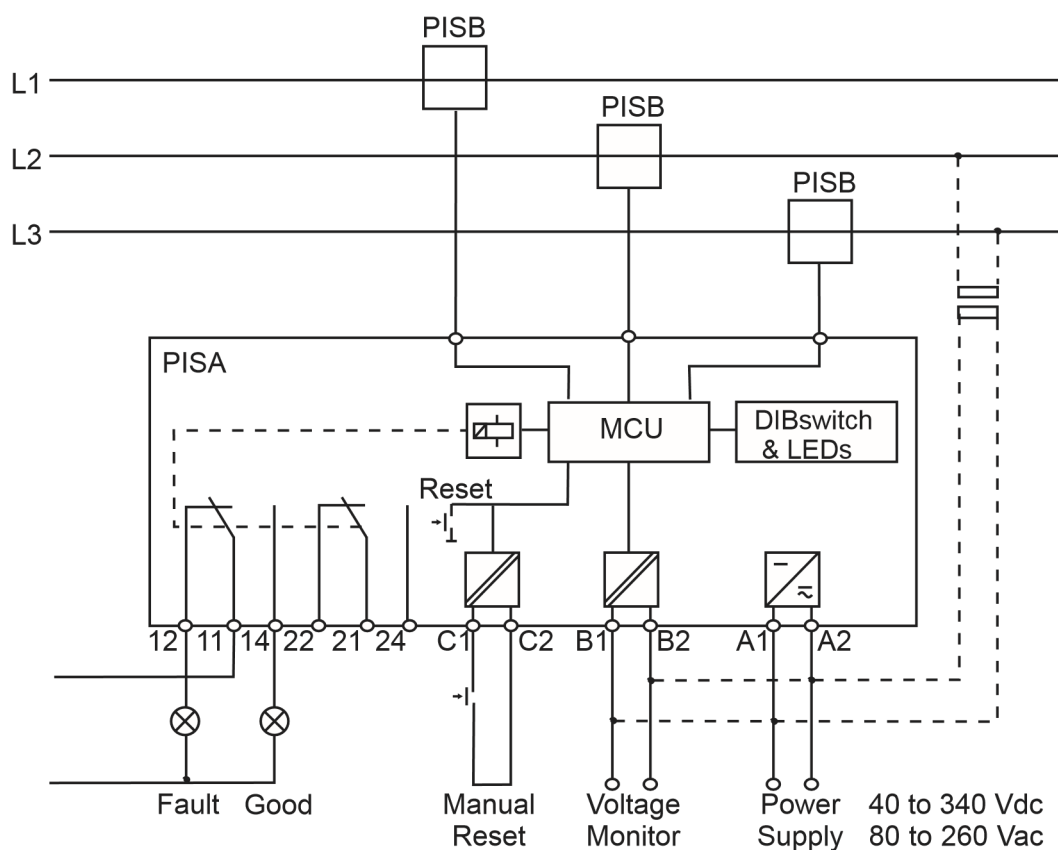


Short circuit detector PISA / PISB

Function and installation



Central unit (PISA) and 3 detectors (PISB)



Schematic showing the connection of the unit

Installation of the PISA and the PISB:

The Central unit PISA can be mounted on a Din-Rail TS 35 according to EN 50022. Connection between the central unit and the sensors (PISB) are made with a standard 1 mm core jacketed plastic fibre cable (e.g. SH4001). The distance between the PISA and the PISB can be up to 5 meters in the standard version.

The Sensor PISB is mounted direct on the cable being monitored. When mounting the PISB the U-frame can be taken off, and placed around a cable or a bar. Please notice that, after repositioning the two screws in either side, they will need to be tightened, as the accuracy of the measurement depends on a good magnetic connection. If the PISB is fitted with a U-frame for a Cable, the PISB can be fixed in position by tightening the screw in the middle of the U-frame.

Basic function:

The PISB - that is self-supplied - measures and transmits continuously information about the actual current. The information is transmitted 20 times or more pr. mSec. allowing the PISA to calculate a precise current average in perodes of 1 mSec.. If the current, in a 1 mSec. period exceeds the limit - set by the DIP-switches - the PISA will start monitoring the voltage on the "Logical Input Terminals" B1 and B2. If the voltage - 300 mSec. after - is below either 20 Vdc or 40 Vac, indicating that there have been a short circuit current and the line have been disconnected, then the internal bi-stable relay will change the position to fault. When the relay is in the fault position there are two ways of resetting it to the original position. Manually the relay can be reset using the reset switch on the unit, or by using an external switch connected to C1 and C2. If the DIP-switch for "Auto Reset" is ON, the PISA can both be manually reset and it will be automatically reset after 4 hours with the supply power on.

The PISA is provided with enough back-up power to control the relay, even if the PISA loses its supply at the time of the measured over current.

The currents, related to the DIP-switch settings, are the corresponding sine wave currents that will trigger the over current setting. A current setting of 40 Amp will correspond to a peak current of $40 \times 1.41 = 56.4$ Amp. The actual maximum allowed current in 1 mSec. - for the 40 Amp setting - will thus be 56.4 Amp.

In other words: Any current that is higher than 56.4 Amp in a 1 mSec. period, followed by a voltage sensing - 300 mSec. after - below either 20 Vdc or 40 Vac, will be detected as a short circuit current in the 40 Amp range.

Indication and DIP-switches:

Current input LED's L1, L2, L3: Individually Green when the current is below the setting and Red if a current above have been detected. The Red light will stay on indicating the line with the fault until the PISA is reset. Removing the supply and reconnecting it will have no effect on the colour of the LED.

Relay LED: Green when the relay is in the good position and Red when it is in the fault position.

Reset LED: Red if either the Reset switch on the unit or the external switch is closed.

Current switches: Sets the tripping current. The setting is explained on the side of the PISA.

Auto reset switch: The switch controls the Reset of the PISA. In the Auto ON position the PISA can be reset manually or it will automatically reset itself after 4 hours (with supply power on). It can be reset at any time manually. In the OFF position only manual Reset is possible.



Directive 2002/95/EC of 27. January 2003
EMC directive 89/336

Low voltage directive 73/23

International Standarts

RoHS
Emission and
Immunity

EN50263:2000
EN61000-3-2
EN61000-3-3
Electrical Relays