



Current Leakage Detection unit for AC/DC power systems - type: PDU4865

General description:

The CL Detection unit is a completely isolated current measuring system using a flux-gate principle. By measuring the difference between the in- and out-going current of a power supply, a leakage current can be detected. Therefore the power cords must be lead through the input gate of the unit. A leakage current is guarded by an amplifier/tripper that triggers a relay and a red LED indicates the alarm status. A green LED indicates that the power is on.

An alarming value is set with a potentiometer within a range from 10 ...100 %.

In case of an alarm or power fail, the relay is deactivated. The relays can only be energized when the power is on and/or a reset is made. A reset can be made with the reset button on the unit, but there is also an external connection.

Specifications

Power consumption	$I(\text{nom}) = 65 \text{ mA}$
Power input voltage	$U(\text{nom}) = 25\text{Vdc} (\pm 10\%)$
Reset input	Momentarely to the 0 volt power
Tamb	-10 + 70 °C
Monitored current range I(mn)	Depends on the transducer type
Type range A	0...100mA
Type range B	0...200mA
Type range C	0...400mA
Setpoint alarm range (tripper)	10...100%
Alarm Relais	Normaly Energized
Contacts	Changeover (protected)
Max. Ratings	30Vdc / 4A
Alarm action	Relay de-energizes
Reaction time	$\pm 200\text{msec.}$
Indications	
Power on	Green LED
Overrange (alarm)	Red LED
Housing	DIN-rail enclosure
Dimensions (mm.)	53.0x50.3x86.7 (WxHxD)
Material	Polycarbonate (UL94-V0)

Isolation characteristics

Vb Nominal Voltage 150 V(rms) with IEC 61010-1 standard + (1)
Vb Nominal Voltage 250V (rms) with EN 50178 standard + (2)

Vd Rms Voltage for AC isolation test, 50/60 Hz, 1mn 2.5 kV
Ve Rms Voltage for partial discharge extinction @ 10pC >1.2 kV
Vw Impulse withstand voltage 1.2/50µs 6 kV

If insulation cable is used for the primary circuit, the voltage category could be improved with the following table:

Cable insulation (primary)	Category
HAR 03	300V CAT III
HAR 05	400V CAT III
HAR 07	500V CAT III

1) Conditions

- ▶ Single insulation
- ▶ Over voltage category III
- ▶ Pollution degree 2
- ▶ Heterogeneous field

2) Conditions

- ▶ Reinforced insulation
- ▶ Over voltage category III
- ▶ Pollution degree 2
- ▶ Heterogeneous field