50Hz...400Hz AC voltage and current transmitter

4-20mA loop powered

CAL45CA



- Measure of sinusoidal alternating signals (voltage or current)
- Direct input up to 250A and 1000V
- Galvanic insulation (up to 5000V)
- Accuracy: +/- 0.5 %
- CAL45CA: measure 5Aac/dc: 500Vac/dc
- CAL45CAD:

measure: up to 50Aac; 1000Vac

 CAL45CAH: high current version (11 switchable input ranges from 10A to 200A) (Hole diameter: 18 mm)



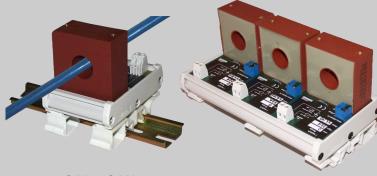
Version allowing the memorization of high speed phenomena ~ 10mS settling time.







CAL45CA



CAL45CAH

CAL45CA-H3

The CAL45CA family allow to transform alternating voltages or current into a 4-20 mA output current proportional to the input value. The use of loop powered (the converter is powered by 4-20mA loop) allow to reduce the wiring.

DESCRIPTION:

Measures: (according to model)

- Alternating voltage from 250 mV to 1000V
- Alternating current from 100uA to 5A on terminal block
- Alternating current from 5A to 250A on through hole toroidal transformer (any range possible)

hole diameter: 6 mm on CAL45CA-D (50A)

(frequency range, 20 to 1000 Hz according to model)

Output:

- current 4-20 mA (2 wires technique, loop powered)

Features:

- DIN rail mounting (IP20 case),
- connecting on screw terminals (2,5 mm² wire gauge).
- galvanic insulation (input/output)
- Setting to the user's measure range at the end of manufacturing,
- scale readjustment possible with multi-turn potentiometers,
- protection against overvoltage or overcurrent,
- protection against reverse polarity,
- output current control by "test terminals" without open the current loop (green LED is off),
- green Led power on indicator.

Version and order code:



- DC or AC sinusoidal signals.
- Maximum input measure 5Aac/dc; 500Vac/dc (all ranges from 100uA to 5 Adc, from 20 to 1000 Hz)

- Dedicated version for sinusoidal alternative signals measurement.
- Improved insulation > 5 KV
- Input > 5A on through hole toroidal current transformer (hole diameter: 6 mm)
- Maximum measure capacity 50Aac; 1000Vac (all ranges from 1A to 50 A, from 40 to 500 Hz)

CAL45CAH:

- · Version for sinusoidal alternative current measurement.
- Improved insulation > 5 KV
- Input on through hole toroidal current transformer (hole diameter: 18 mm)

- Maximum measure capacity: 250Aac. (11 switchable input range: 10A, 20A, 40A, 60A, 80A, 100A, 120A, 140A, 160A, 180A and 200A from 40 Hz to 500 Hz)

CAL45CAH-iwatch: (single phase model)

· Monitoring and memorization of high speed phenomena: short circuit current, overload, rise time 10 mS, fall time 500mS

CAL45CAH3-iwatch: (Three-phase model)

· Monitoring and memorization of high speed phenomena: short circuit current, overload, rise time 10 mS, fall time 500mS

INPUT (standard) **VALUE**

TYPE:

CAL45CA and CAL45CAD

Voltage (ac) 500 V > 1 MOhms Impedance Continuous overload 2 VN Absorbed power 0.25 W

Current (ac) 5 A 0.05 Ohms Impedance Continuous overload 1.5 IN 6 IN during 3 s Peak overload Absorbed power 1.25 W

Current (ac) Input impedance 0.25 Ohms Continuous overload 3 IN Peak overload 6 IN during 5 s

CAL45CAD

Absorbed power

Current (ac) 50 A on through hole CT

Continuous overload 6 IN

Peak overload 10 IN during 5 s

Absorbed power 0.25 W

CAL45CAH

Current (ac) 10A to 200A on through hole CT

0.25 W

with 11 switchable input ranges 6 IN

Continuous overload

Peak overload 10 IN during 5 s

0.25 W Absorbed power

dc or 20...1000 Hz(CAL45CA) Using frequency range 40...500 Hz (CAL45CA-D and -H)

all specific inputs (measure scale) on request

OUTPUT / POWER SUPPLY

10 to 40 Vdc (CAL45CAD, CAL45CAH) Loop power supply

14 to 40 Vdc (CAL45CA) 4 ... 20 mA current loop Current output

Load with 24V power 750 Ohms (CAL45CAD, CAL45CAH)

500 Ohms (CAL45CA)

Power supply influence: 20 ppm / V

Load influence: 40 ppm / 100 Ohms 0.25 % typical Linearity error

Accuracy +/- 0.5 %

Response time < 200 ms (for 63% of step)

Residual ripple (noise) < 20 mV

ENVIRONMENT

Operating temperature -10 to 60 °C Storage temperature -25 to +85 °C Influence (% of the full scale) 0.05 % / °C

Relative humidity 85 % not condensed

Weight 200 g

2 g p.p at 100 Hz Vibration resistance IP20

Protection rating

Recommended assembly direction Vertical / horizontal Dielectric strength 2000 Vac (CAL45CA) 5000 Vac (CAL45CAD) (Inputs/Outputs)

MTBF (MIL HDBK 217F) > 4 000 000 Hrs @ 25°C Life time > 170 000 Hrs @ 30°C

Electromagnetic compatibility 2014/30/UE / Low Voltage Directive 2014/35/UE Emission standard for industrial environments Immunity standard for industrial environments EN 61000-6-2 EN 61000-6-4 EN 55011

EN 61000-4-2 ESD EN 61000-4-8 AC MF EN 61000-4-9 pulse MF EN 61000-4-3 RF EN 61000-4-11 AC dips EN 61000-4-4 EFT EN 61000-4-5 CWG EN 61000-4-12 ring wave

EN 61000-4-6 RF EN 61000-4-29 DC dips

group 1 class A



WIRING AND OUTLINE DIMENSIONS:

