

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)

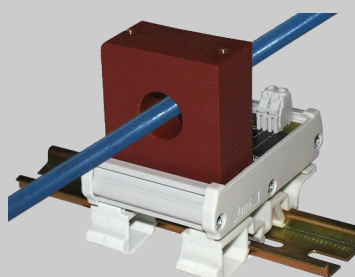
- **CAL45CAH-iwatch:**
Version allowing the memorization
of high speed phenomena
~ 10mS settling time.



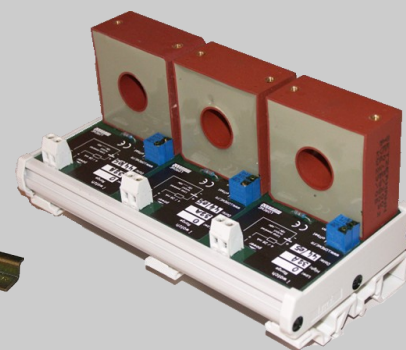
CAL45CAD



CAL45CA



CAL45CAH



CAL45CAH3

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 :

[Request a quote](#)

CAL45CA :

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

CAL45CAD :

- 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)

TYPE:	VALUE
CAL45CA and CAL45CAD	
Voltage (ac)	500 V
Impedance	> 1 MOhms
Continuous overload	2 VN
Absorbed power	0.25 W
Current (ac)	5 A
Impedance	0.05 Ohms
Continuous overload	1.5 IN
Peak overload	6 IN during 3 s
Absorbed power	1.25 W
Current (ac)	1 A
Input impedance	0.25 Ohms
Continuous overload	3 IN
Peak overload	6 IN during 5 s
Absorbed power	0.25 W
CAL45CAD	
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 with 11 switchable input ranges
Continuous overload	6 IN
Peak overload	10 IN during 5 s
Absorbed power	0.25 W
Using frequency range	dc or 20...1000 Hz(CAL45CA) 40...500 Hz (CAL45CA-D and -H)
all specific inputs (measure scale) on request	

OUTPUT / POWER SUPPLY

Loop power supply	10 to 40 Vdc (CAL45CAD , CAL45CAH)
	14 to 40 Vdc (CAL45CA)
Current output	4 ... 20 mA current loop
Load with 24V power	750 Ohms (CAL45CAD , CAL45CAH)
	500 Ohms (CAL45CA)
Power supply influence:	20 ppm / V
Load influence:	40 ppm / 100 Ohms
Linearity error	0.25 % typical
Accuracy	+/- 0.5 %
Response time	< 200 ms (for 63% of step)
Residual ripple (noise)	< 20 mV

ENVIRONMENT

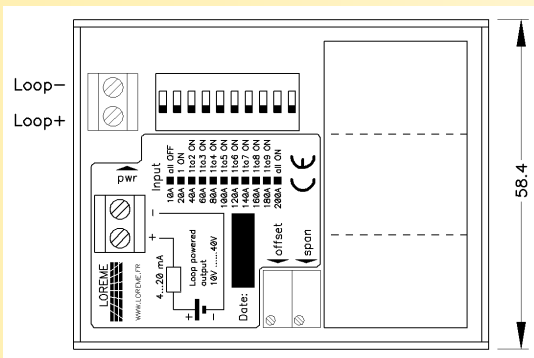
Operating temperature	-10 to 60 °C
Storage temperature	-25 to +85 °C
Influence (% of the full scale)	0.05 % / °C
Relative humidity	85 % not condensed
Weight	200 g
Vibration resistance	2 g p.p at 100 Hz
Protection rating	IP20
Recommended assembly direction	Vertical / horizontal
Dielectric strength	2000 Vac (CAL45CA)
(Inputs/Outputs)	5000 Vac (CAL45CAD)
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

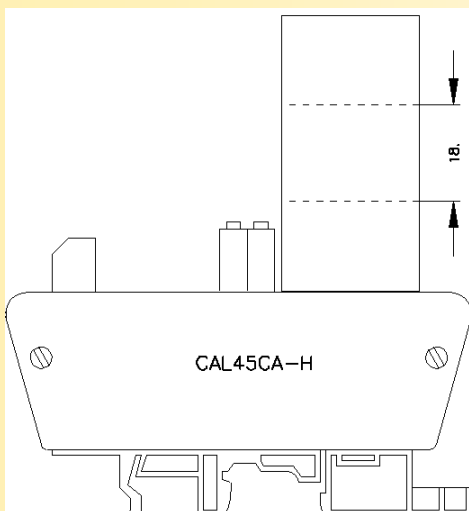
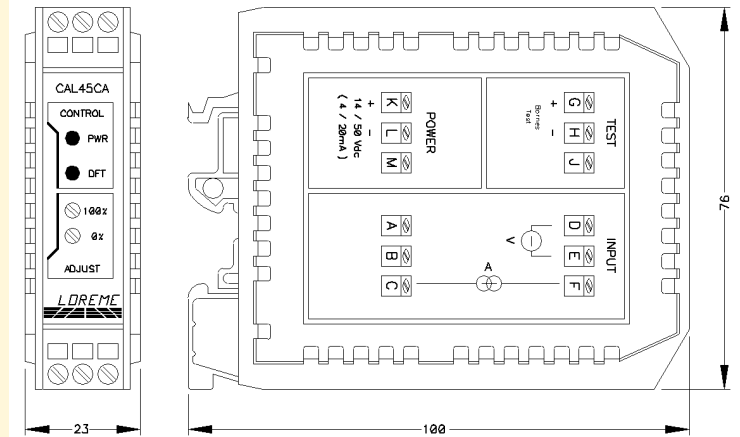
Immunity standard for industrial environments EN 61000-6-2		Emission standard for industrial environments EN 61000-6-4
EN 61000-4-2 ESD	EN 61000-4-8 AC MF	EN 55011 group 1 class A
EN 61000-4-3 RF	EN 61000-4-9 pulse MF	
EN 61000-4-4 EFT	EN 61000-4-11 AC dips	
EN 61000-4-5 CWG	EN 61000-4-12 ring wave	
EN 61000-4-6 RF	EN 61000-4-29 DC dips	



WIRING AND OUTLINE DIMENSIONS:



CAL45CA



CAL45CAD

