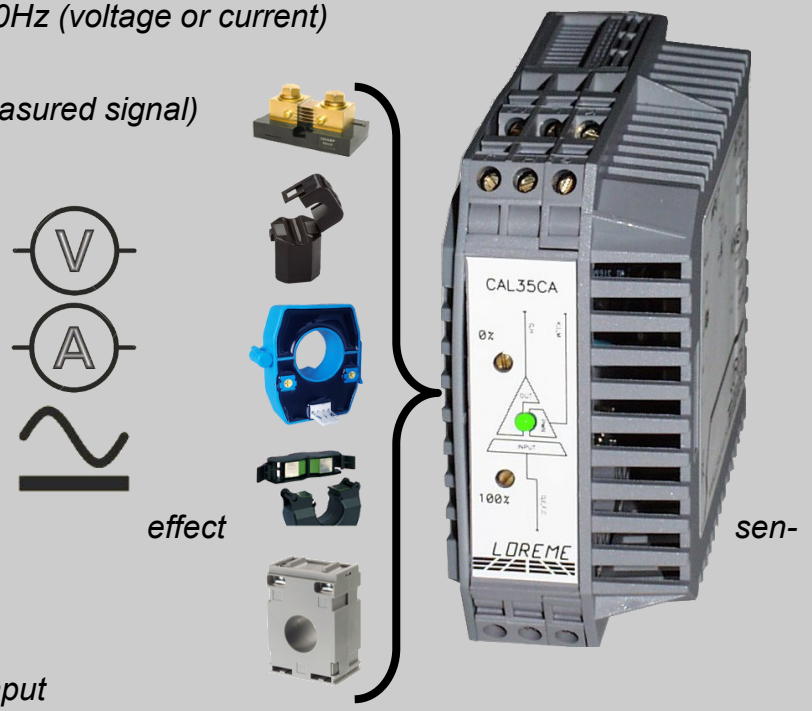
Transmitter for current and voltage measurement RMS (AC) or TRMS (AC+DC)

CAL35CA

LOREME

- ***CAL35CA***
  measure converter for alternative signals
  sinusoidal signals 50Hz, 60Hz and 400Hz (voltage or current)
- ***CAL35CA/A***
  Self-powered version (powered by measured signal)
- ***CAL35RMS*** *True rms version (AC)*
  DC component suppression
  all type of signals up to 500kHz
  PWM, Phase angle variation,
  Wave train,
- ***CAL35TRMS***
  TRMS measure (AC + DC)
  all type of signals up to 500kHz
- ***CAL35TRMS-HALL***
  TRMS measure (AC + DC) with Hall effect sensor
  sensor power supply embedded
- ***CAL35CA-Rogo***
  converter with Rogowski coil sensor input



The CAL35CA series of converters transform alternative voltage or current signals in 0...4...20mA or 0...10V output signals proportional to input measurement.

DESCRIPTION:

Measures: (The frequency range must be defined for adjust the integration constant for RMS value)

- Alternative voltage from 100 mV to 600V
- Alternative current from 100uA to 5A on screw terminals
- Alternative currents from 5A to 150A on split-core current transformer type: Tio (frequency range: 45 to 500 Hz).
- Alternative and direct current from 20mA to 10kA on split-core Hall effect sensor type: Hco (frequency range: 0 to 20kHz)
- Alternative current from 500A to 10kA on Rogowski sensor type: Rogoflex LC (frequency range: 45 to 500Hz)

Outputs:

- Current 0...4...20 mA.
- Voltage 0...10 V.
  Other outputs on request (0 … 5V, …).

Feature:

- DIN rail mounting (IP20 enclosure).
- Connecting on screw terminal blocks 2,5 mm².
- 3-way galvanic isolation (input/output/power supply).
- Standard linear or wide range switching mode power supply.
- Customised measure scale.
- Start and end scale adjustment possible by multi-turn potentiometers.
- Over-voltage or over-current protection.

Associated current sensors

shunt | current transformer | Hall effect sensor | Rogowski

Version and order code : Request a quote

CAL35CA : - Suitable for sinusoidal alternatve signals measurement (50Hz, 60Hz, or 400Hz)

CAL35CA-A: - Powered by measure signal
- Output type 0...10...20 mA, max load of 550 Ohms or 0 ..10 V,.... (50Hz, 60Hz)

CAL35RMS: - True rms measure (AC) with DC component suppression for all not sinusoidal applications or needing a wide bandwidth 0.25Hz … 50kHz or 0.25Hz … 500kHz

CAL35TRMS: - True rms measure (AC+DC) for all not sinusoidal applications or needing a wide bandwidth 0.25Hz … 50kHz or 0.25Hz … 500kHz

CAL35TRMS-HALL: - True rms measure (AC+DC) for all not sinusoidal applications or needing a bandwidth up to 20kHz. (dependant of Hall effect sensor)

CAL35CA-Rogo: - model for Rogowski coil sensor input alternating signal measurement (50Hz, 60Hz, 400Hz)

90 days accuracy (20 °C +/- 2 °C) *DATA SHEET CAN BE DOWNLOADED ON* WWW.LOREME.FR

TECHNICAL SPECIFICATIONS

Direct input

Voltage range	0...100 mV to 0...500 V
Impedance	from 100 kOhms to 10 MOhms
continuous overload	2 VN
Power consumption	< 0.25 W
Current range	0...100uA to 0...5A
Impedance	0.05 ohms @ 5A
continuous overload	1.5 IN
Peak overload	6 IN during 3s
Power consumption	< 0.25 W @ 1A; < 1.25W @ 5A
Frequency range	15 - 500 Hz (CAL35CA) 0.25 Hz to 500 kHz (CAL35RMS) DC to 500 kHz (CAL35TRMS)
Integration time	5 ms to 60 s (CAL35RMS & TRMS) dependant of application

OUTPUT

Current	0... (4) ... 20 mA
Max. load	800 Ohms
Voltage	0 - 10 V
Impedance	500 Ohms
Accuracy	+/- 0.5 %
Response time	< 10 ms + input integration time
Residual ripple (noise)	< 30 mV

POWER SUPPLY (to be defined at the order)

230 Vac 50-60 Hz +/- 10 %, 2.3 VA
115 Vac 50-60 Hz +/- 10 %, 2.3 VA
20 to 70 Vac / Vdc, 2.3 VA
80 to 265 Vac / Vdc, 2.3 VA
9 to 30 Vdc, 2 W
Reverse polarity protected

ENVIRONMENT

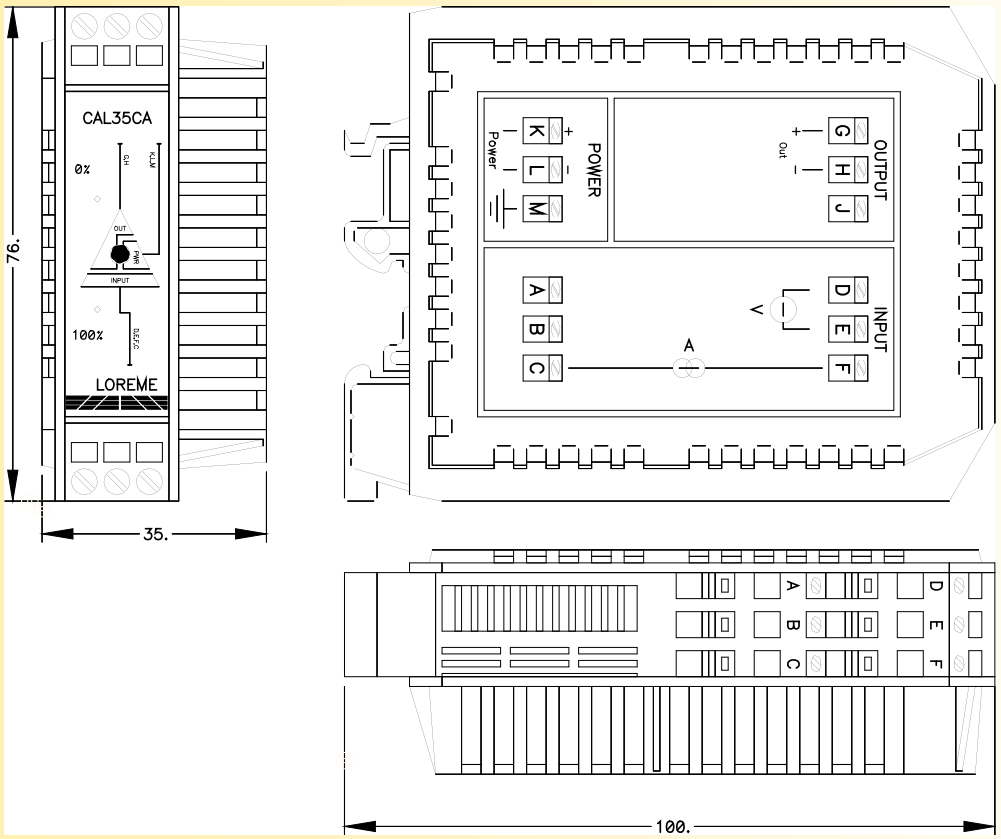
Operating temperature	-25 to 60 °C
Storage temperature	-40 to +85 °C
drift (% of full scale)	0.05 % / °C
Humidity	85 % not condensed
Weight	200 g
Shock IEC 60068-2-27 (operating)	15 G / 11 ms
Bump IEC 60068-2-29 (transportation)	40 G / 6 ms
Vibrations IEC 60068-2-6 (operating)	1 G / 10 - 150 Hz
Vibrations CEI 60068-2-6 (transportation)	2 G / 10 - 150 Hz
Protection rating	IP20
Recommended mounting direction	Vertical
Dielectric strength	1500 Vac continuous
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

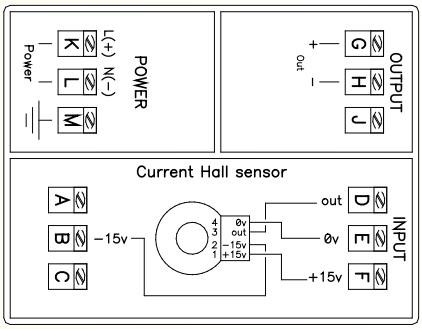
Immunity standard for industrial environments EN 61000-6-2		Emission standard for industrial environments EN 61000-6-4
EN 61000-4-2 ESD	*EN 61000-4-8 AC MF*	*EN 55011* *group 1* *class A*
EN 61000-4-3 RF	*EN 61000-4-9 pulse MF*	
EN 61000-4-4 EFT	*EN 61000-4-11 AC dips*	
EN 61000-4-5 CWG	*EN 61000-4-12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

CE

WIRING AND OUTLINE DIMENSIONS:



Wiring
model with Hall effect sensor input :
CAL35TRMS-HALL



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Due to the constant evolution of techniques and standards, LOREME reserves the right to change specifications without notice of the products listed in this document.