

True RMS current and voltage transducer for alternating and direct signals

CPL35L **LOREME**

- **RMS measures AC + DC:** Dc to 440Hz
PWM, phase angle variations,
wave train, high level harmonics signals
- **Multi-sensor input current:**
Shunt, transformer, Rogowski coil,
Hall effect sensor or direct input 1A and 5A
- **Programmable:**
voltmeter, ammeter, frequency meter
- **4 digits measure display**
U, I, Hz
- **2 isolated analog outputs**
simultaneous current and voltage transducer
- **3 relay outputs**
- **Ethernet link Modbus-TCP and SNMP**
- **Wide range ac/dc power supply**



The CPL35L is a programmable voltage and current transducer. The various output options allow a wide range of application: measurement, protection, control. The second analog output allows simultaneous measurement of voltage and current in total isolation.

Measurement:

- Direct input of AC or DC voltage and current or with transformer or shunt (configurable PT and CT ratios or shunt sensitivity).
- AC voltage up to 1200V or up to +/-1800V for DC.
- 3 current input ranges: 200mV (external shunt) , 1A - 5A internal shunt.
- Hall effect current sensor (+/- 4V rating signal, +/- 10V peak)
- Programmable integration time from 10 ms to 60 seconds for the measurement in slow waves train applications.
- Frequency range from 1Hz to 440 Hz.
- Peak value detection function on voltage measure with programmable hold time.

Front face:

- 4 digit alphanumeric LED matrix display for the measurement
- 3 red LEDs for relays status indication
- 2 push buttons for:
The fully configuration of device
Selection of displayed value (U, I, Hz)
Setting of alarm thresholds,

Relays (/R option):

Up to 3 relays configurable in alarm with selection of monitored value (U, I, Hz). Threshold, direction, (and window alarms) hysteresis and delays are individually adjustable on each relay (activation and deactivation delay).
Hold function (alarm memorization and Reset by front face)

Analog output (/S option):

- 1 or 2 isolated analog outputs. Fully configurable:
type and measure range to monitor (U, I, Hz),
type and range of output signal (0 .. 10 Volts, 0 ... 4 ... 20 mA),
+/-10V output by coupling the two outputs,
Response time (filter), limitation... for each outputs.

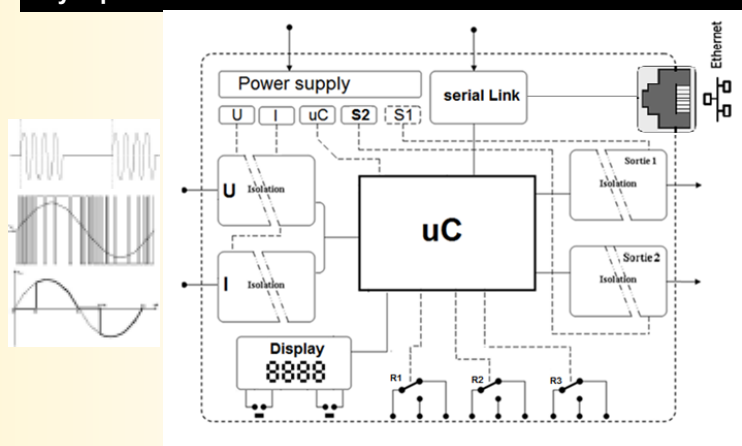
Configuration:

- The CPL35L can be configured via the front face or with the serial link (USB cable -> 3.5 jack plug available separately)
- Firmware update is possible via the USB-serial link.

Feature:

- DIN rail mounting (symmetrical), pluggable terminal blocks
- protection rating: IP20, conformal coating,
- Hinged front face (pushbuttons and serial access).

Synoptic



Associated current sensors



Version and order code:

[Request a quote](#)

CPL35L	1 analog output, 1A/5A/shunt and voltage inputs
CPL35L/R1	+ 1 electromechanical relay /RS1 +1 static relay
CPL35L/R2	+ 2 electromechanical relays /RS2 +2 static relay
CPL35L/R3	+ 3 electromechanical relays /RS3 +3 static relay
CPL35L/S2	2 analog outputs
CPL35L/CMTCP	Ethernet link, Modbus TCP
CPL35L/CM	RS485 link, Modbus RTU
CPL35L/R1-NAV1	Specific version for NAVAL GROUP

CPL35L-Rogo Input for Rogowski coil sensor (40 ... 70Hz)
Type: Rogoflex LT (Up to 2000 Arms)

CPL35L-Hall + Input Hall effect sensor, +/-15V supply, 4V output
Note : all options are cumulative (except communication et analog output)

INPUT

2 ranges for ac voltage	150Vac / 600 Vac	+/- 0.3%
2 ranges for dc voltage	+/-225Vdc / +/-900Vdc	+/- 0.3%
High voltage	+/-1200Vac / +/-1800Vdc	+/- 0.5%
Input impedance	500Kohms - 4Mohms - 8Mohms	
Overload	2 x full range during 3 s	
Measure Threshold	0.5% of Full Range	
Power consumption	0.12 W	
Ac current on 4 ranges	200mV ; 1A ; 5 A	+/- 0.3% of F.R +/- 4V for Hall effect sensor (internal sensor supply +/-15V 50mA)
Dc current on 4 ranges	+/-250mV; +/-1A; +/-5 A	+/- 0.3% of F.R +/- 4V for Hall effect sensor (internal sensor supply +/-15V)
Input impedance	0.05 ohms: 5A / 0.25 ohms: 1A	
Overload	6 x full range during 3 s	
Measure Threshold	0.5% of F.R	
Power consumption	max 1.25 W	
Frequency	1Hz....440 Hz	+/- 0.2 %

Other input range on request.
- measures / response time:
sampling integrator programmable from 10ms to 60s.

COMMUNICATION

Ethernet (RJ45) 10 /100 Base T HTTP / Modbus-TCP / SNMP
- Embedded web server measures display

RELAYS

Change over contact, switching power:
dc: 220VDC, 0.24A, 60W ; 125VDC, 0.24A, 30W ; 30VDC, 2A, 60W
ac: 250VAC, 0.25A, 62.5VA ; 125VAC, 0.5A, 62.5VA
Dielectric strength 3 kV coil/contacts, 2.5 kV contacts/contacts.
Mechanical life: 10⁸ operations
Shock resistance: 300G functional

ANALOG OUTPUT

TYPE	RANGE	ACCURACY
Current S1 and S2	0 ... 4 ... 20 mA	+/- 20 µA
max Load:	0.....850 Ohms	
Voltage S1 and S2	0 ... 10 V	+/- 10 mV
Output impedance:	500 Ohms (internal 0.1% shunt)	
or 1 bipolar output	-10V ... +10V (by coupling of 2 outputs)	

POWER SUPPLY

Universal: (2 versions: not polarized standard or low voltage)
standard: 21Vdc, 55Vac.....to.....265Vac/dc, 3VA
low voltage: 12Vdc....to.....30Vdc, 3VA

ENVIRONMENT

Operating temperature	-20 / 60 °C (75°C peak)
Storage temperature	-40 / 85 °C
Drift (% of full scale)	< 0.03 % / °C
Humidity	85 % not condensed

Weight	~ 250 g
Protection rating	IP20
Shock IEC 60068-2-27 (operating)	15 G / 11 ms
Bump IEC 60068-2-29 (transportation)	40 G / 6 ms
Vibration IEC 60068-2-6 (operating)	1 G / 10 - 150 Hz
Vibration CEI 60068-2-6 (transportation)	2 G / 10 - 150 Hz

Dielectric strength (Inputs/Power-Outputs-Relays) 2500 Vrms

MTBF (MIL HDBK 217F)	> 3 000 000 Hrs @ 25°C
Life time	> 200 000 Hrs @ 30°C

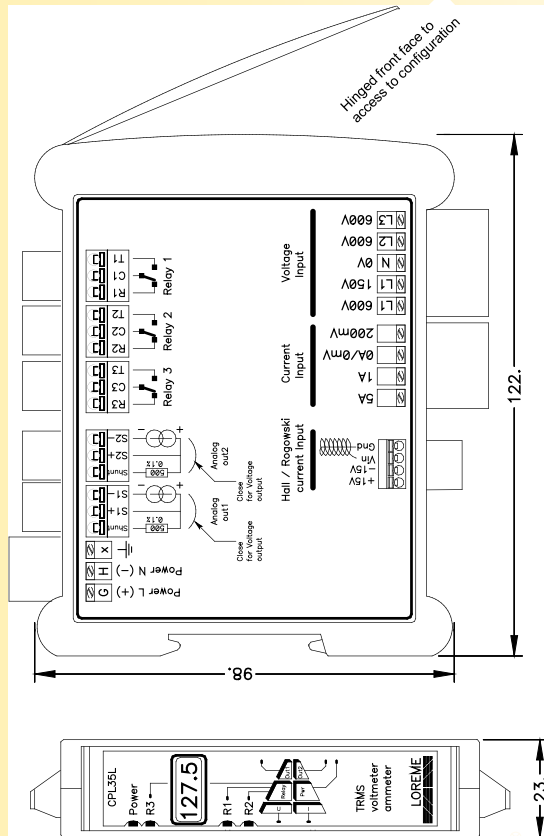
Electromagnetic compatibility 2014/30/UE / Low Voltage Directive 2014/35/UE

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	

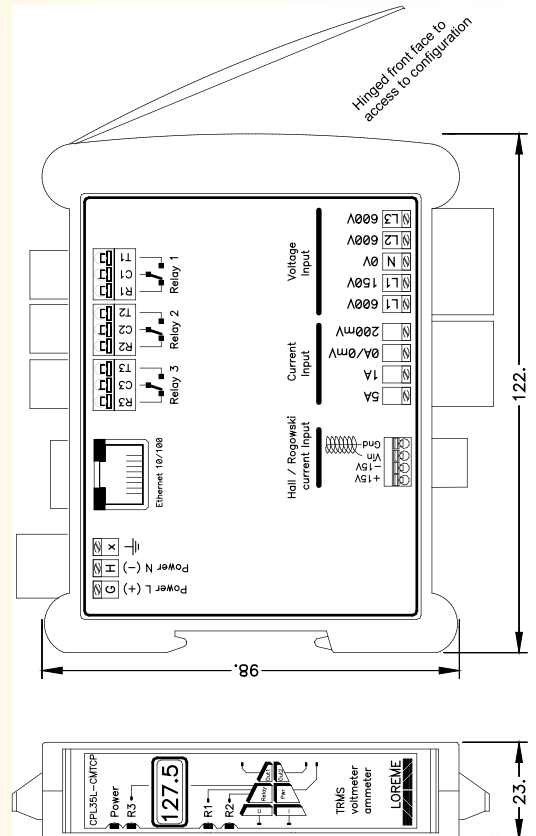


WIRING AND OUTLINE DIMENSIONS:

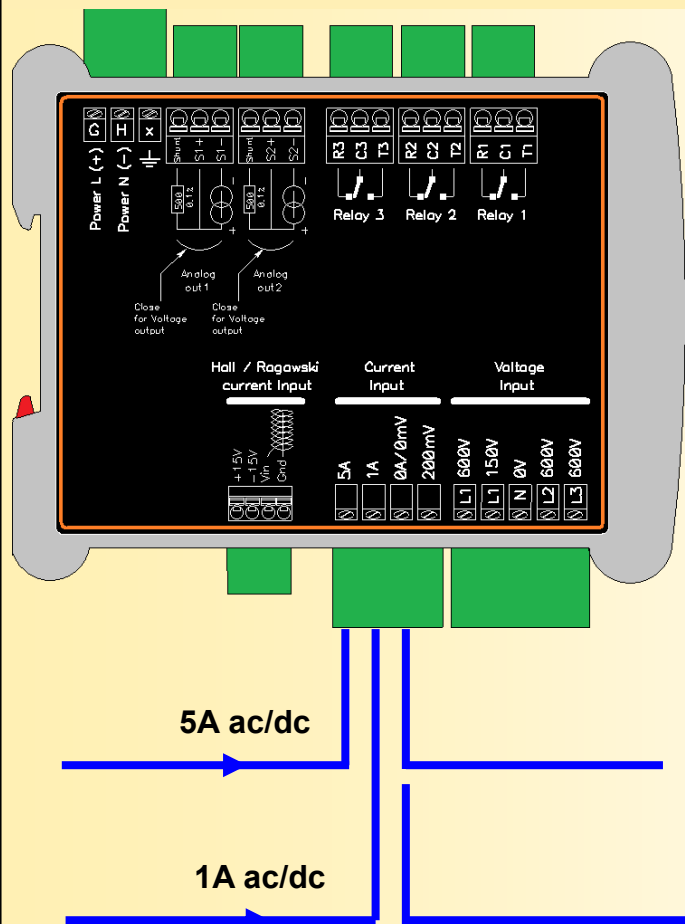
CPL35L: up to 2 analog outputs + 3 relays maxi



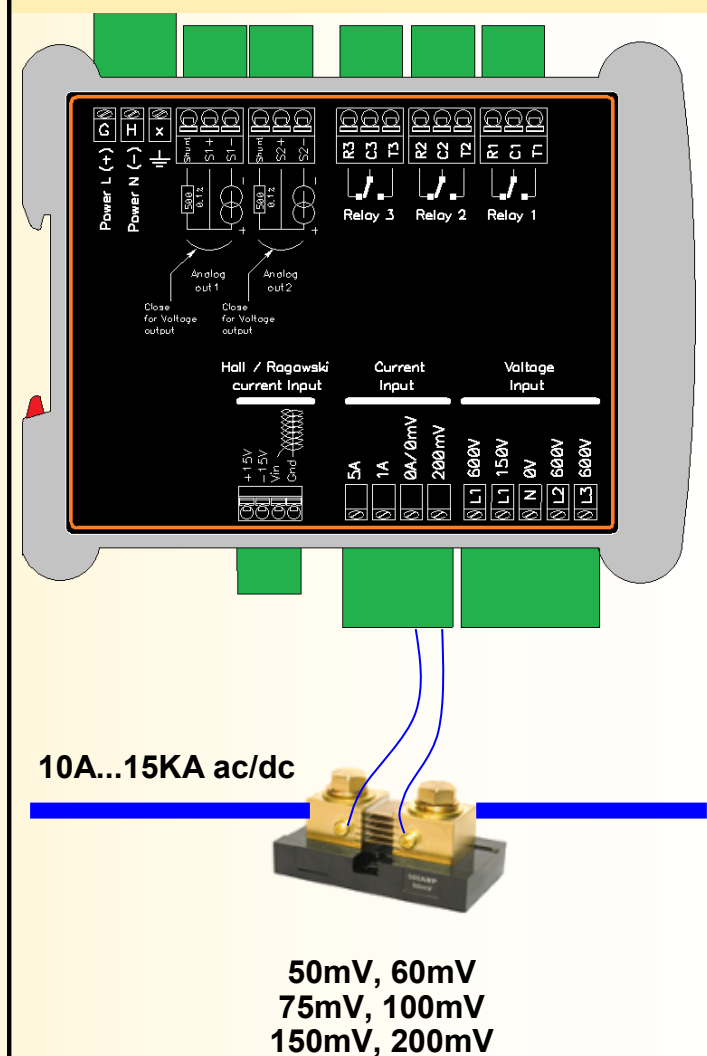
CPL35L/CMTCP: Ethernet link Modbus TCP + 3 relays maxi



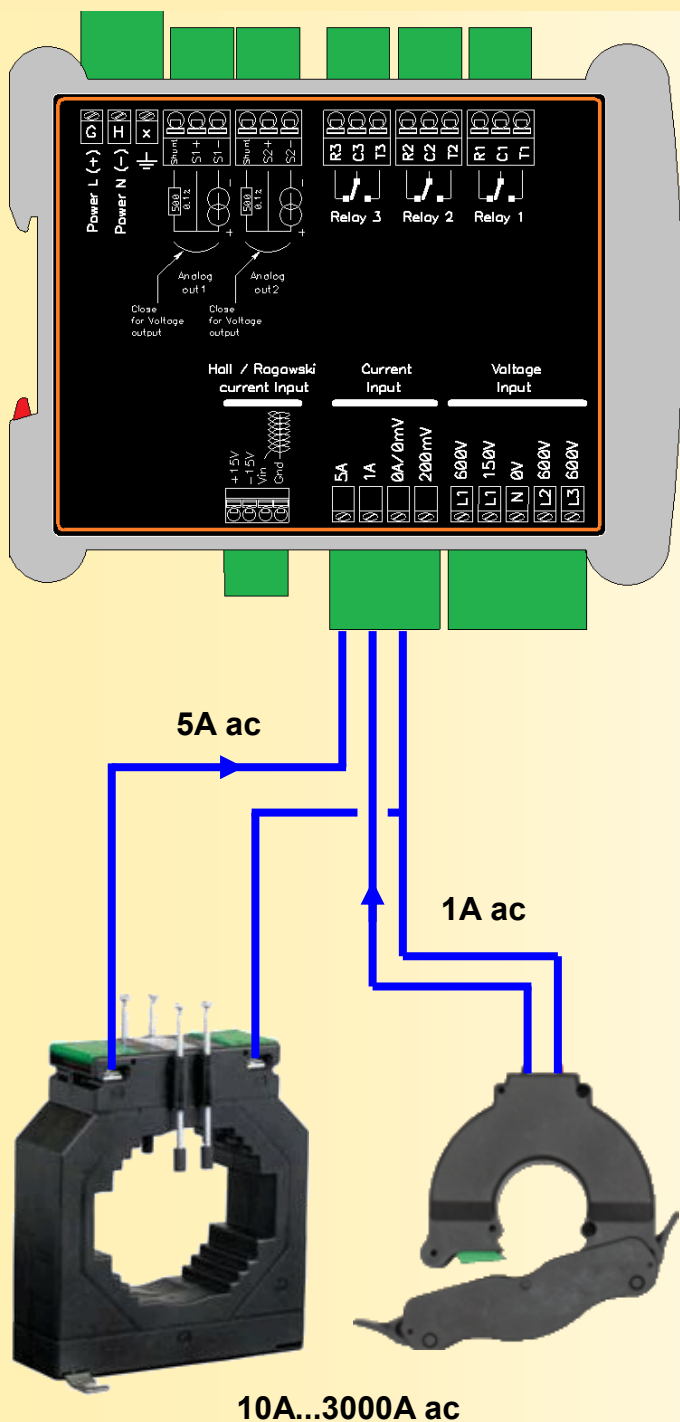
**Direct current input
1A or 5A AC or DC input range**



**AC or DC current input
on external shunt**



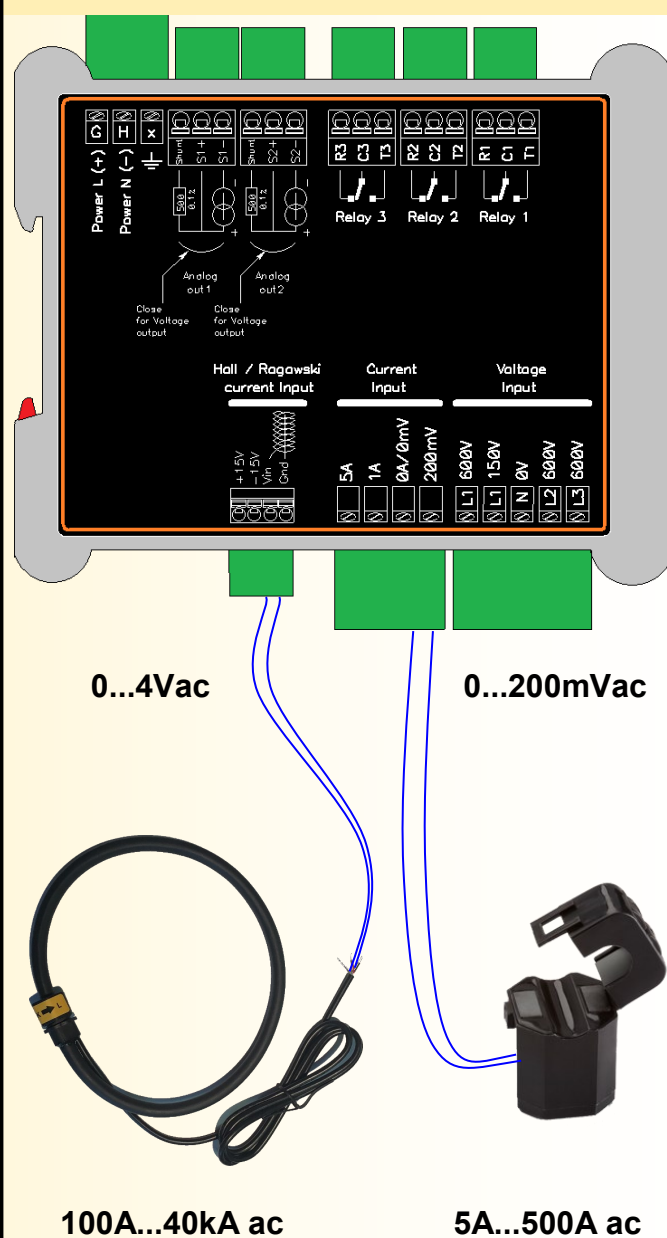
AC Input with current transformers 1A or 5A range



[Current transformer](#)

[Split core current transformer](#)

AC Input with Rogowski coil or mV output split core current transformer

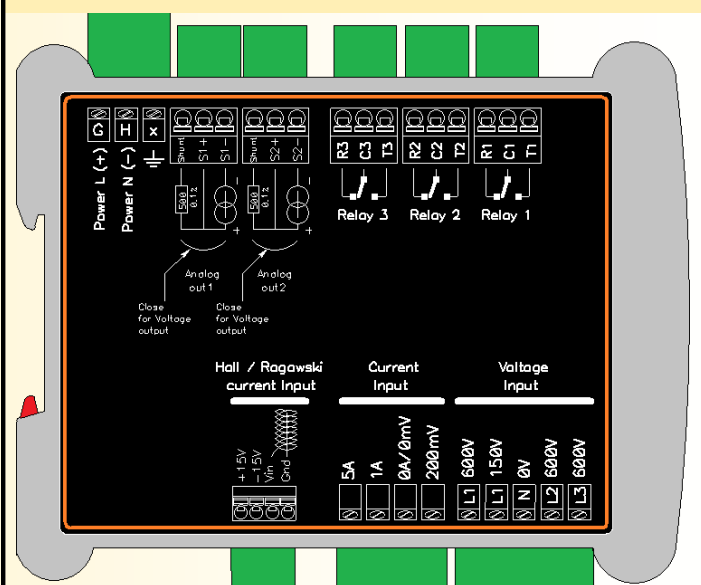
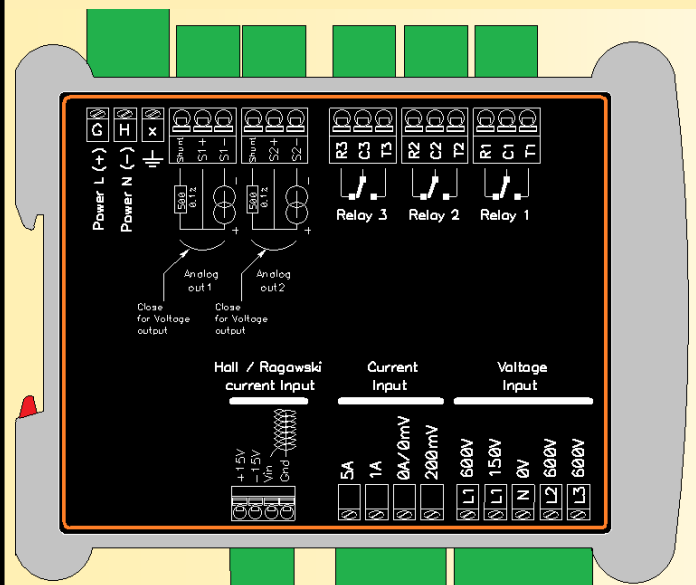


[Flexible split core current sensor \(Rogowski coil\)](#)
Type : [ROGOFLEX](#)

[mV output split core current transformer](#)

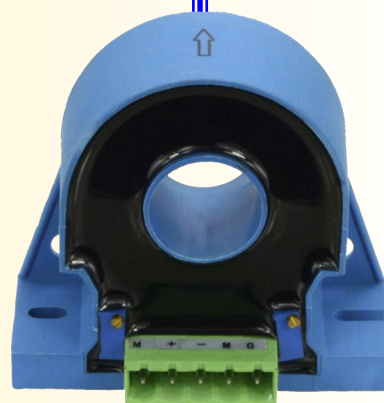
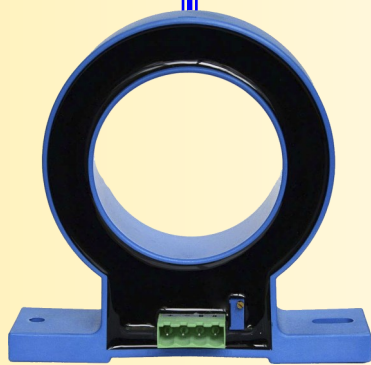
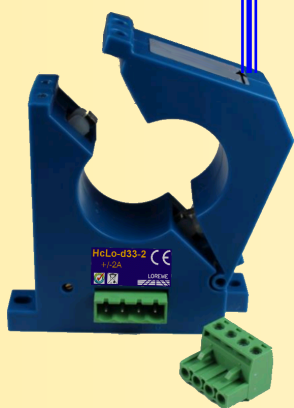
AC or DC input with Hall effect current sensors for leakage current

AC or DC input with Hall effect current sensor for high current



Signal 4V ac/dc and +/-15V sensor power supply

Signal 4V ac/dc and +/-15V sensor power supply



40...2400 mAdc

DC Leakage current sensor

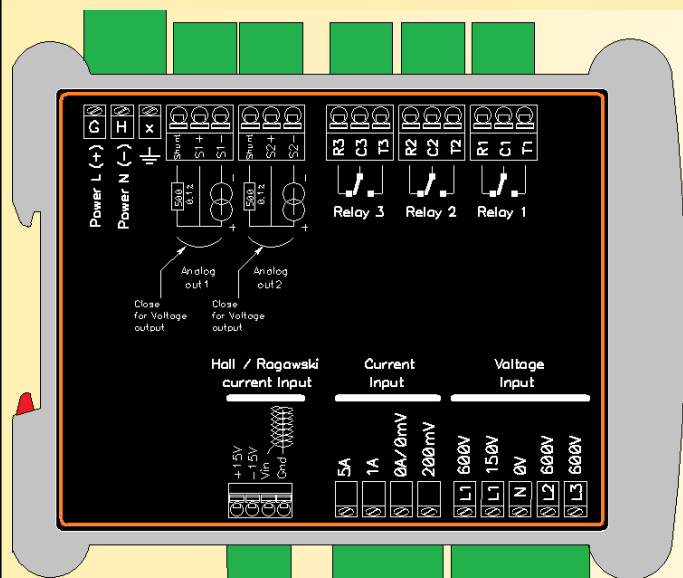
10...100 mA ac/dc

AC or DC leakage current sensor

50...20KA ac/dc

Current sensor for AC and DC currents

Input with core balance current transformer for AC leakage current



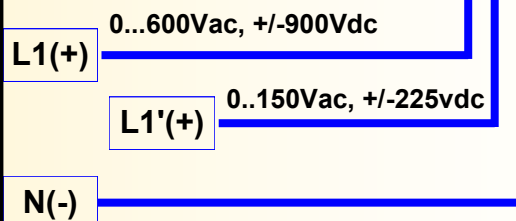
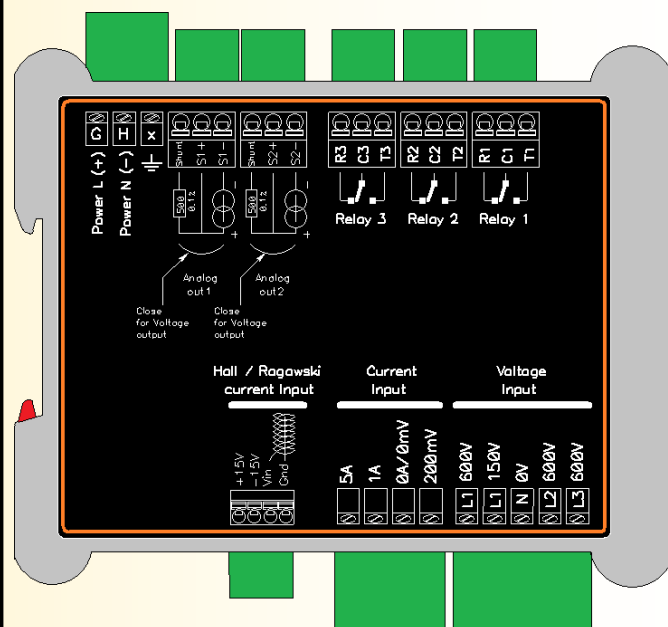
200mVac



30...600 mA ac

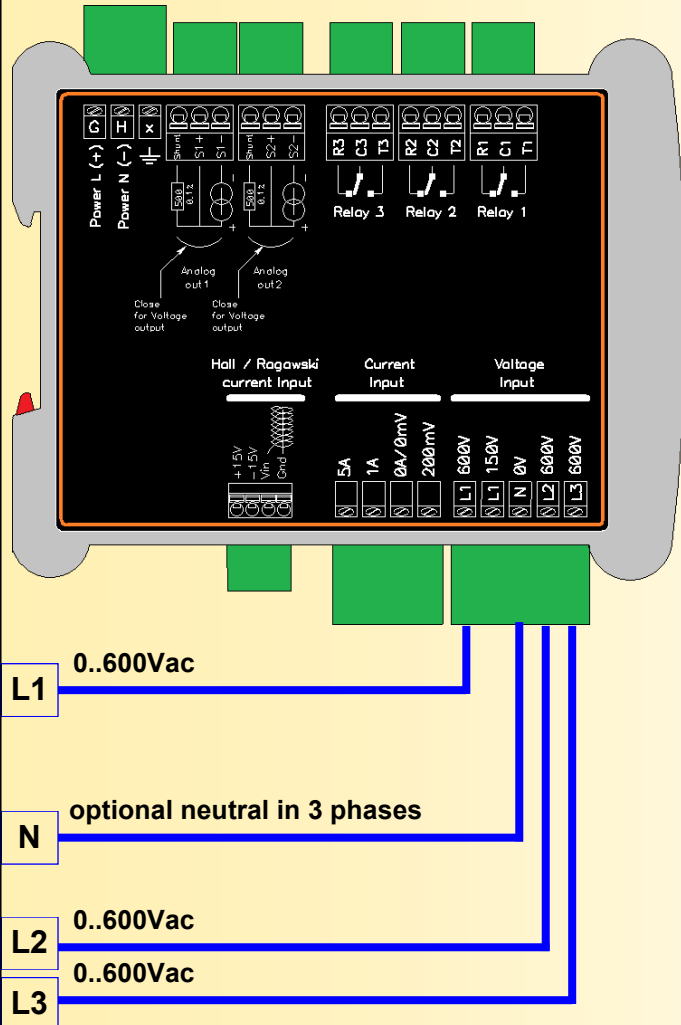
[Core balance current transformer](#)

Wiring of voltage input for single phase or DC



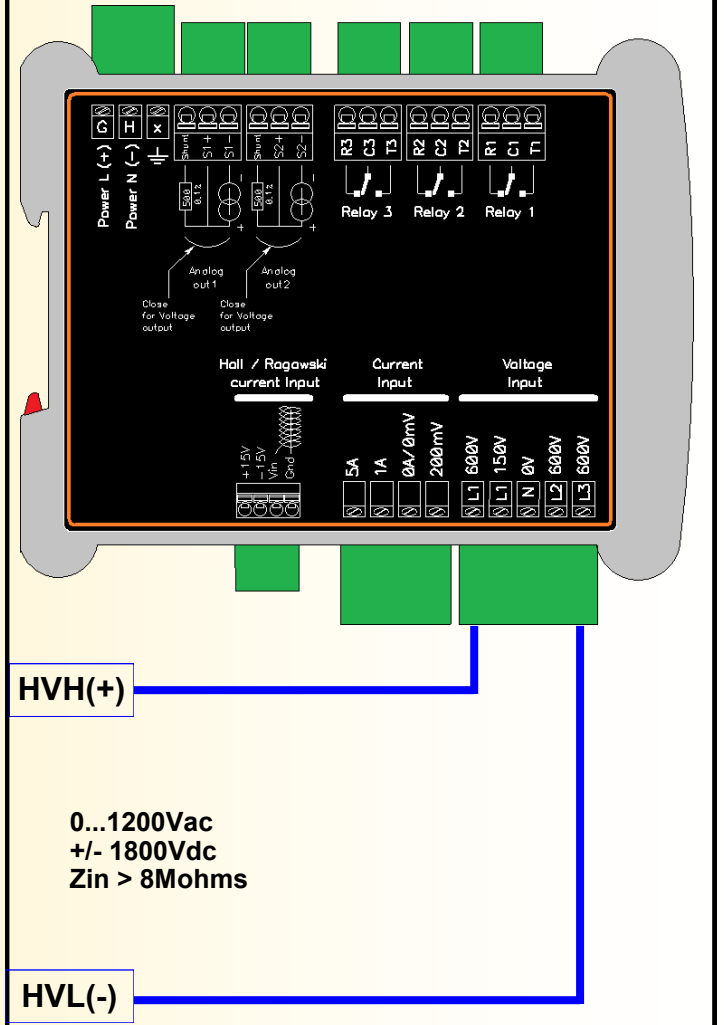
Measurement of direct or alternating voltage, single phase or bi-phases

Wiring of voltage inputs in three-phases



Voltage measurement, Tree-phase, with or without neutral

Wiring of voltage inputs for DC or AC High voltage



High voltage measurement. DC, AC, single phase or two phases