

True RMS current and voltage transducer for alternating and direct signals

- **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**
- **Universal 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 via transformer, shunt, (configurable TP and CT ratio or shunt sensitivity).
- 2 voltage input ranges: 150V, 600V others on request up to 1000V.
- 3 current input ranges: 200mV (external shunt), 1A and 5A internal shunt.
- Hall effect current sensor (+/- 4V nominal, +/- 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, hysteresis and delays are individually adjustable on each relay (on & off delay).
Hold function (alarm memorization and Reset by front face)

Analog output (/S option):

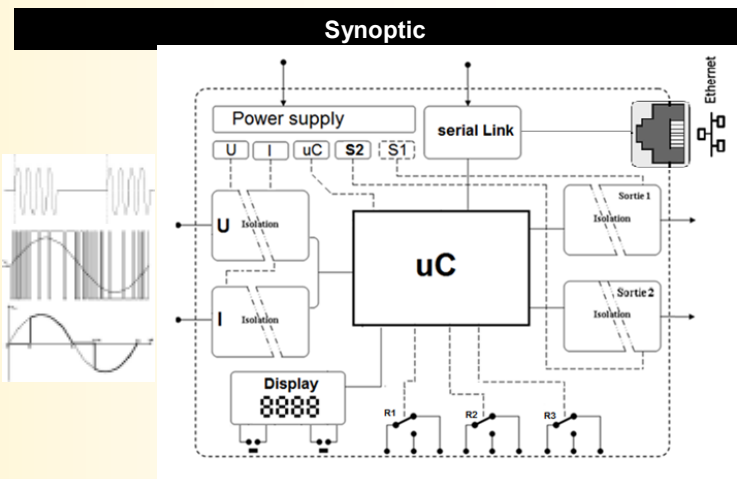
- 1 or 2 isolated analog outputs. Fully configurable:
 - type and measure range to monitor (U, I, Hz),
 - type and range of output signal (0 .. 10 Volts, 0 ... 4 ... 20 mA),
 - +/-10V output by coupling the two outputs,
 - Response time (filter), limitation... for each outputs.

Configuration:

- The CPL35L can be configured via the front face or with the RS232 link (USB cable -> 3.5 jack available separately)
- Firmware update is possible via the USB-serial link.

Feature:

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



Version and order code: [Request a quote](#)

CPL35L	1 analog output, 1A/5A/shunt and voltage inputs
CPL35L/R1	+ 1 relay
CPL35L/R2	+ 2 relays
CPL35L/R3	+ 3 relays
CPL35L/S2	2 analog outputs
CPL35L/CMTCP	Ethernet link, Modbus TCP
CPL35L/CM	RS485 link, Modbus RTU
CPL35L-Rogo	Input for Rogowski coil sensor Type: Rogoflex LT (Up to 2000 Arms)
CPL35L-Hall	+ Input option for split-core Hall effect sensor (Hco type)

Note : all options are cumulative (except communication et analog output)

INPUT

2 ranges for ac voltage 150Vac / 600 Vac +/- 0.3% full range
 2 ranges for dc voltage 200Vdc / 900 Vdc +/- 0.3% full range
 High voltage 1200Vac / 1800Vdc +/- 0.5% full range
 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 200mV ; 1A ; 5 A +/- 0.3% full range
 on 4 ranges +/- 10Vmax for Hall effect sensor
 (internal sensor supply +/-15V)
 dc current +/-250mV; +/-1A; +/-5 A +/- 0.3% full range
 on 4 ranges +/- 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 full range
 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 shunt 0.1%)
 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

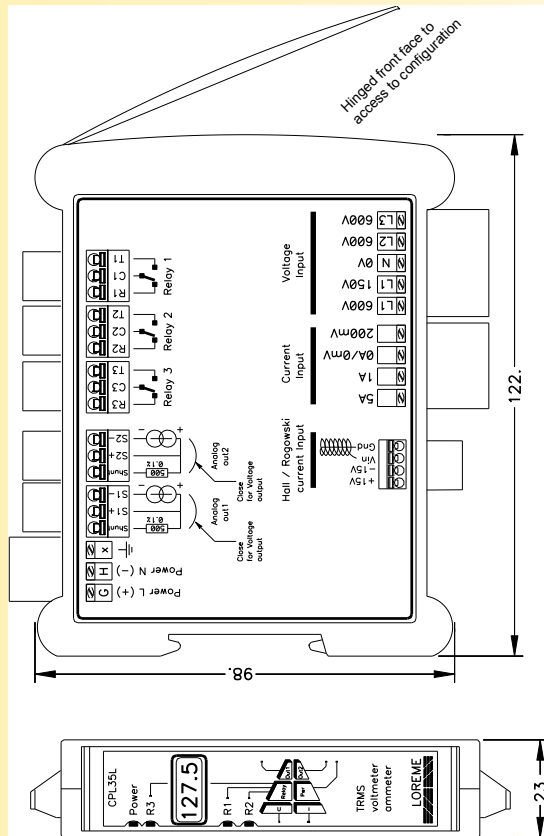
Electromagnetic compatibility 2014/30/UE / Low Voltage Directive 2014/35/UE

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	

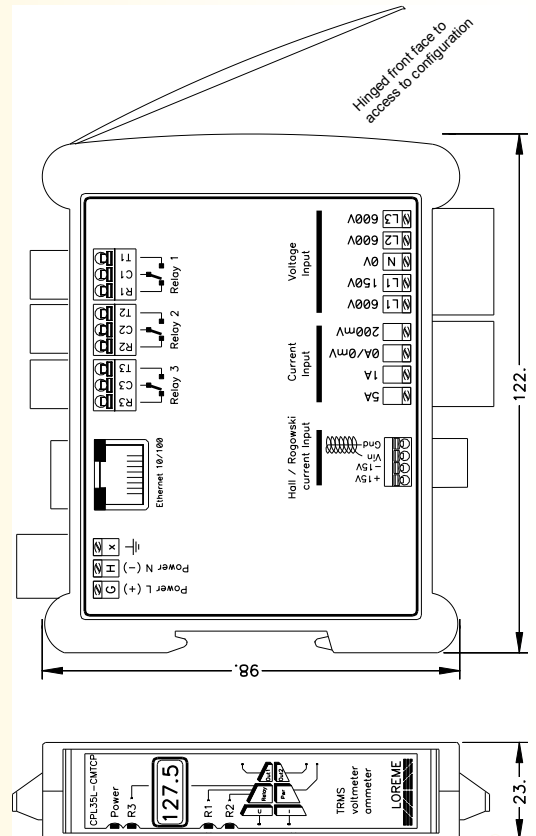


WIRING AND OUTLINE DIMENSIONS:

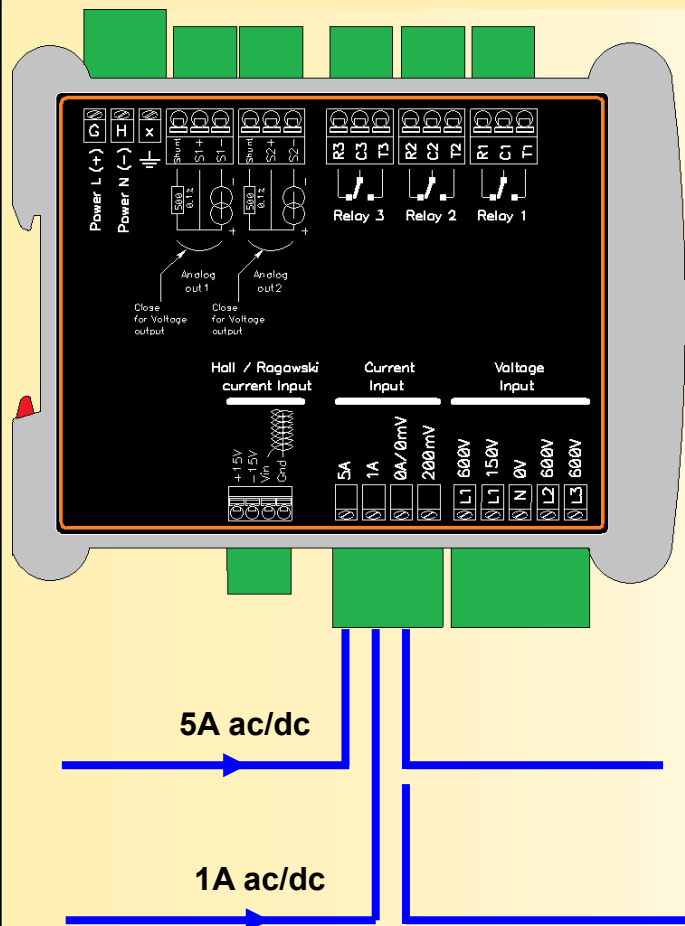
CPL35L: up to 2 analog outputs + 3 relays maxi



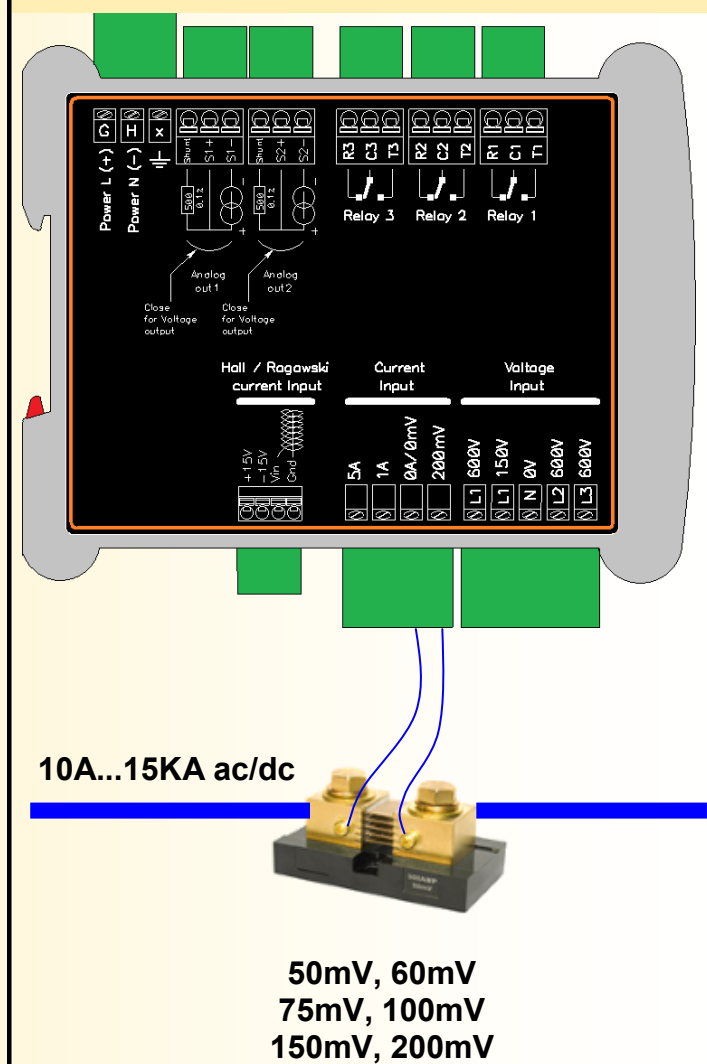
CPL35L/CMTCP: Ethernet link Modbus TCP + 3 relays maxi



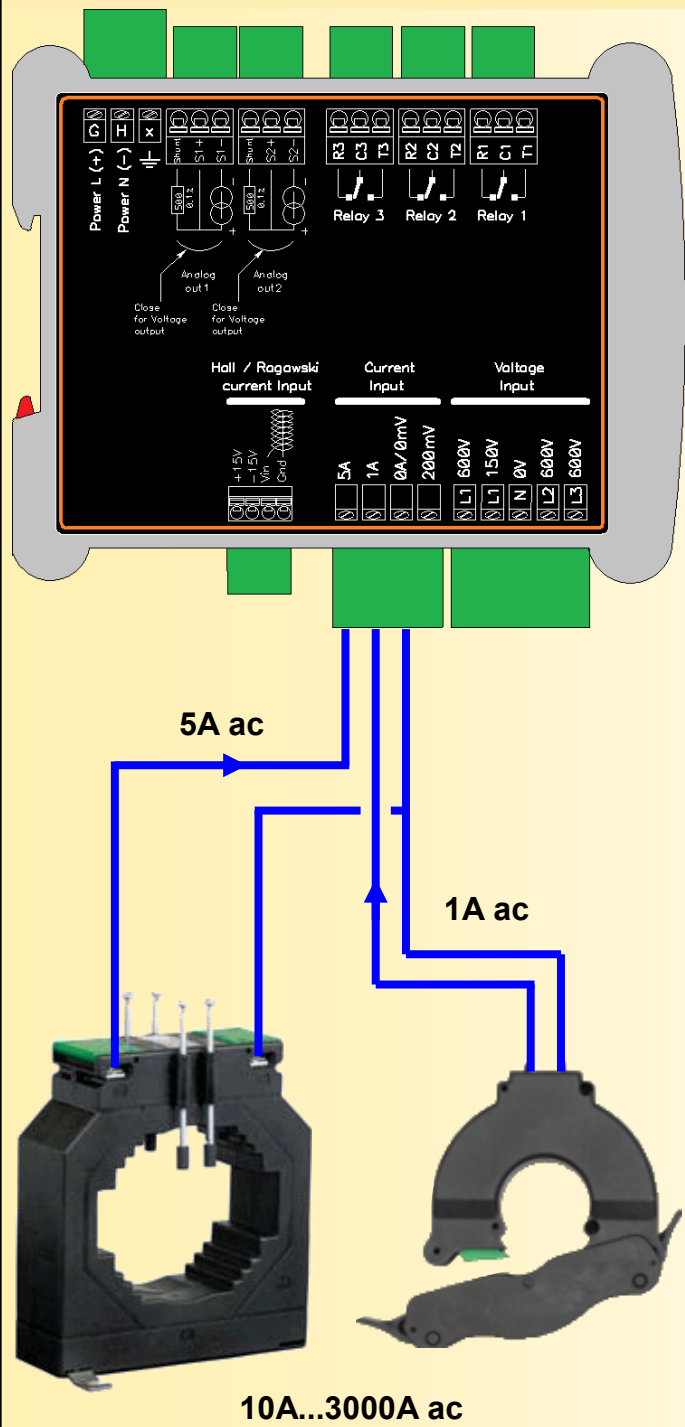
AC or DC Direct current input
1A or 5A input range



AC or DC current input
on external shunt



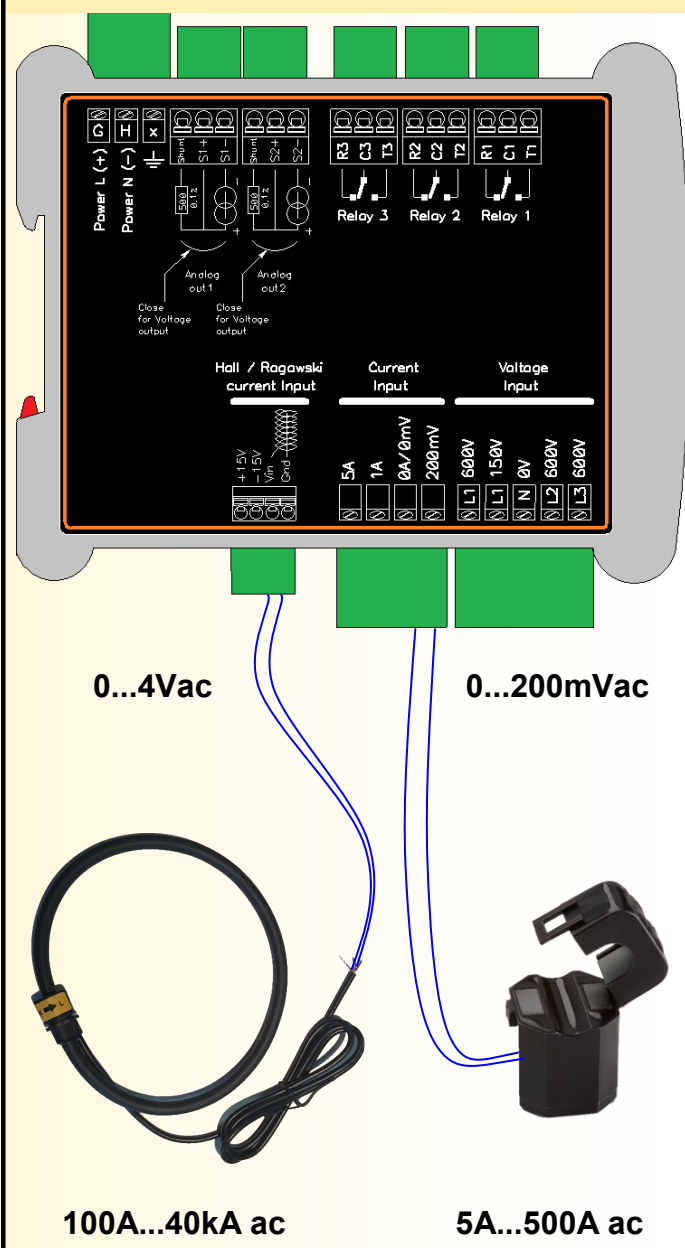
AC Input via current transformers
1A or 5A range



[Current transformer](#)

[Split core current transformer](#)

AC Input via Rogowski coil or split core current transformer with voltage output



100A...40kA ac

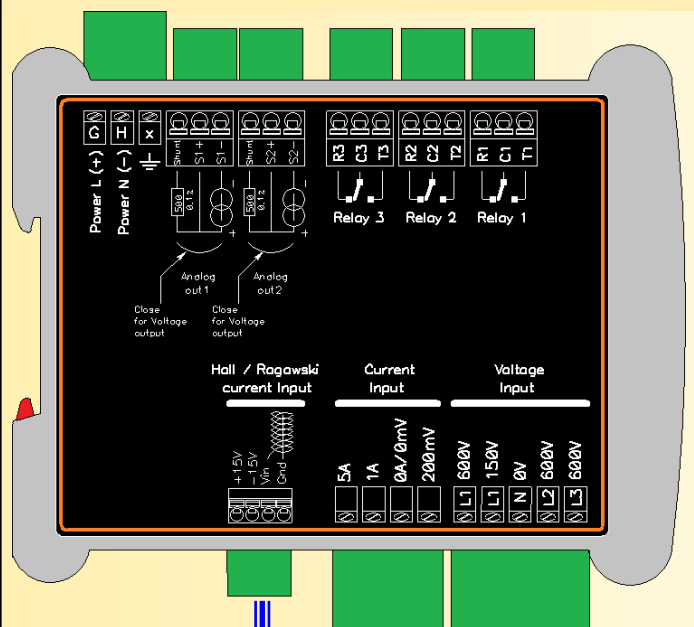
[Flexible split core current sensor \(Rogowski coil\)](#)
Type : ROGOFLEX



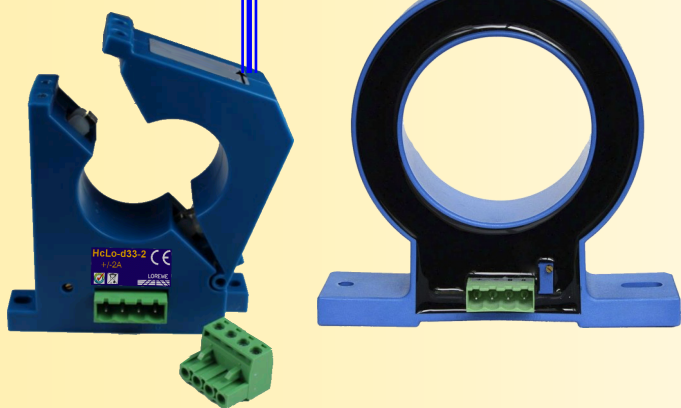
5A...500A ac

[Split core current transformer with voltage output](#)

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



Signal 0...8V ac/dc and +/-15V sensor power supply



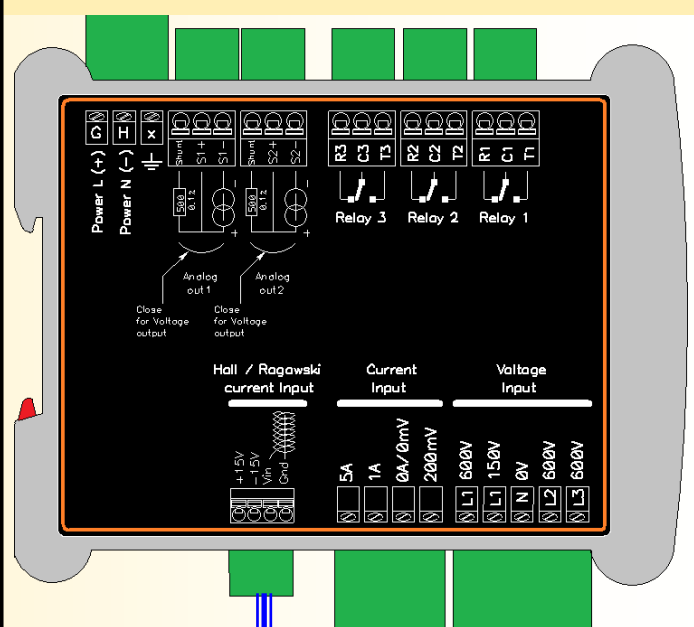
40...2400 mAdc

DC Leakage current sensor

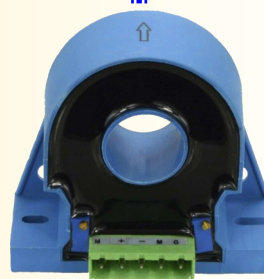
10...100 mA ac/dc

AC or DC leakage current sensor

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



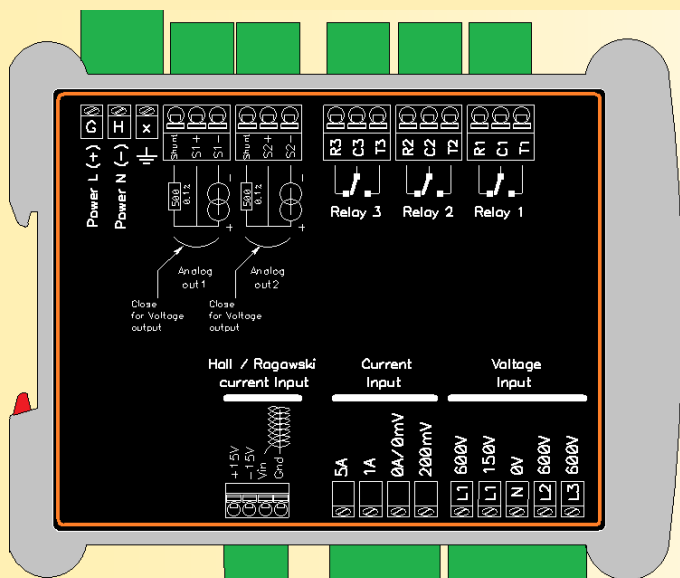
Signal 0...8V ac/dc and +/-15V sensor power supply



50...20KA ac/dc

Current sensor for AC and DC currents

Input via core balance current transformer for AC leakage current



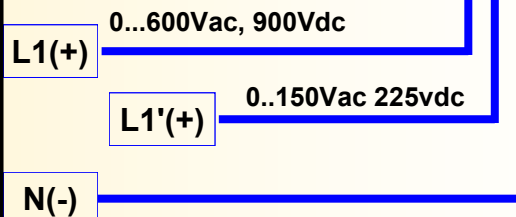
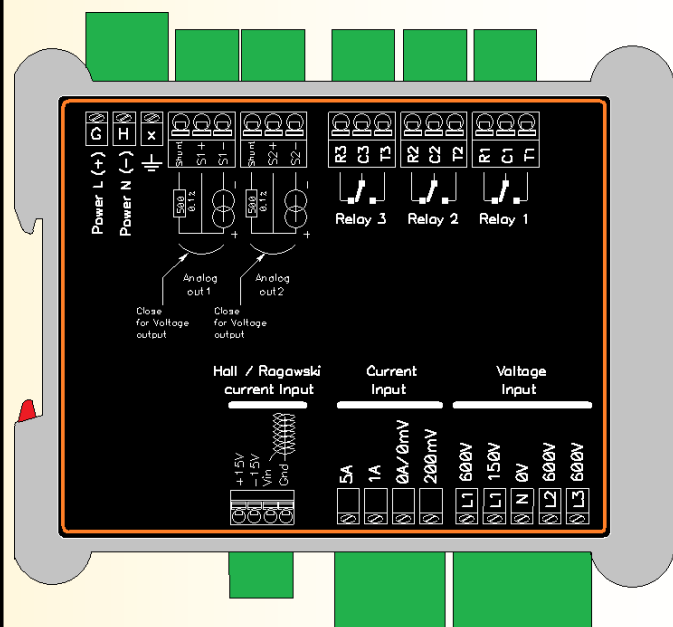
200mVac



30...600 mA ac

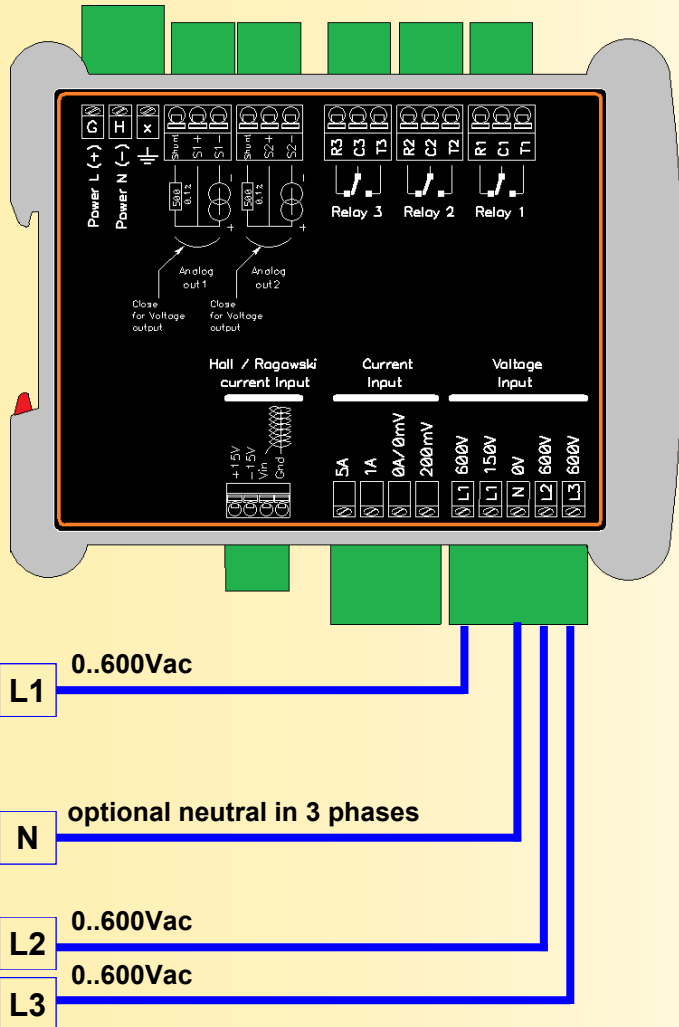
[Core balance current transformer](#)

Wiring of voltage input for single phase or DC



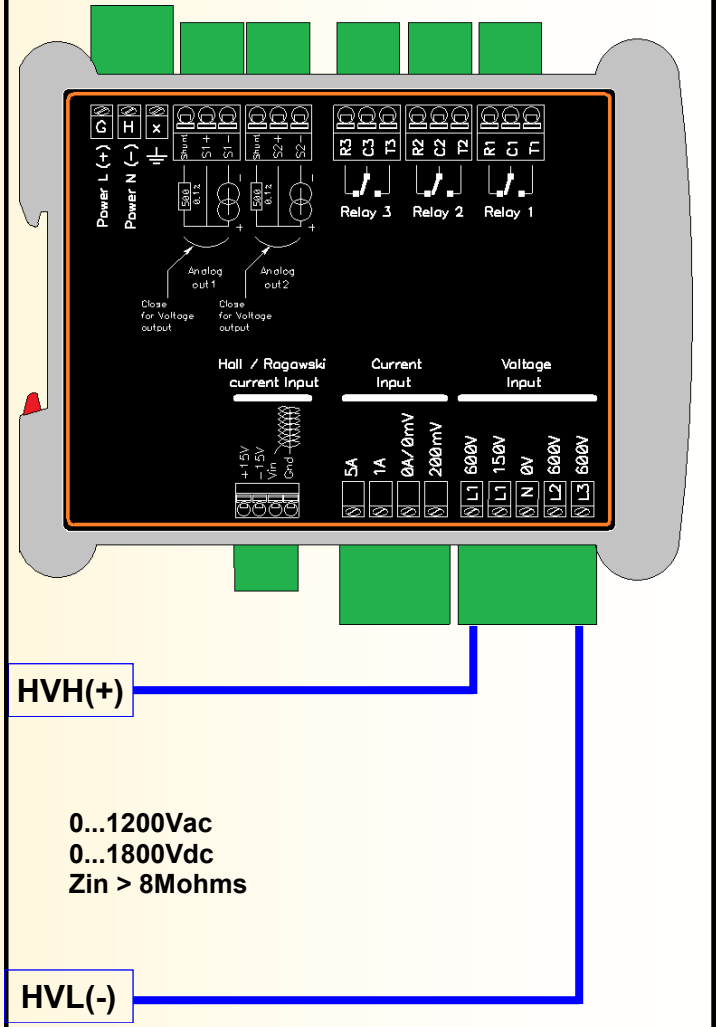
Measurement of direct or alternating voltage, single or two phases

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