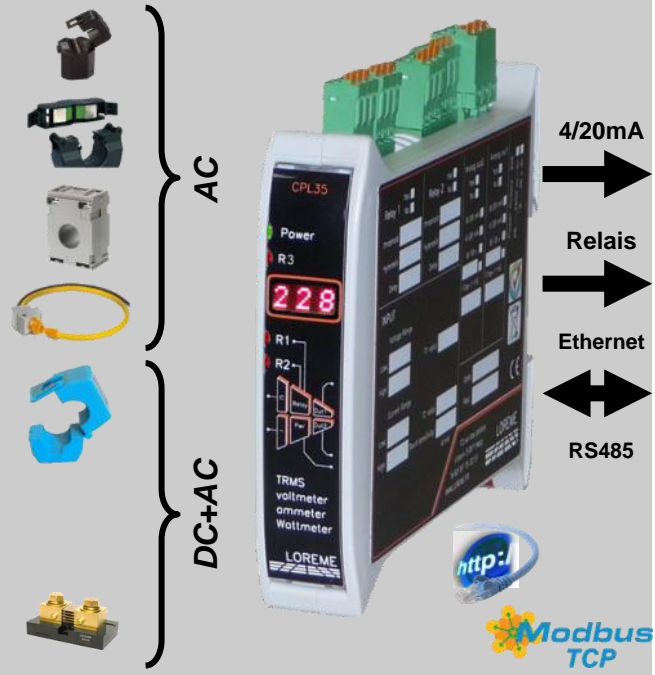


Measure transducer TRMS AC and DC Wattmeter, Voltmeter, Ammeter,....

- **RMS measure AC + DC: 0...440Hz**
Single-phase, bi-phase, balanced three-phase with or without neutral
PWM, wave train, phase angle variation, high level harmonics signals
- **multi-sensor for current measurement:**
Shunt, transformer, Rogowski coil, Hall effect sensor or direct input 1A and 5A
- **Programmable:**
Voltmeter, ammeter, wattmeter, varmeter, power factor, Cos phi, frequency meter
AC or DC energy counter
- **4 digits measure display: U, I, Cos, P, Q, Hz**
- **Outputs : 2 analog outputs, 3 relay outputs, Ethernet link Modbus-TCP and SNMP**
- **Wide range universal ac/dc power supply**



The CPL35 is a converter for measuring, monitoring and retransmission of electrical parameters. Implementation is fast by simple setting of transformer ratio or shunt sensitivity. The various output options allow a wide range of application : measurement, protection, control.

Measurement:

- DC or AC network, single-phase, bi-phase, balanced three-phase (configurable PT, CT ratio or shunt sensitivity),
- 2 voltage input ranges: 150V, 600V others on request up to 1200V
- 3 current input ranges: 250mV (external shunt) ,1A or 5A internal shunt
- current by Hall effect sensor (+/-4V nominal input, +/-10V peak)
- power (P, Q, S), active energy
- cos φ (power factor) , frequency 1Hz.....440 Hz,
- configurable integration time from 10 ms to 60 seconds for the measurement in slow waves train applications.

Front face:

- 4 digit alphanumeric LED matrix display for the measurement
- 3 red LEDs for relay status indication
- 2 push buttons for:
 - * The full configuration of device
 - * Selection of displayed value (U, I, Cos, P, Q, S, Hz, KWhrs)
 - * Setting of alarm thresholds, reset of energy counter,

Relays (/R option): Up to 3 configurable relays:

- In alarm, monitoring measure : U, I, Cos, P, Q, S, Hz,
- Threshold, direction, (window alarms) hysteresis and delay individually adjustable on each relay (activation and deactivation delays),
- HOLD function (alarm memorization with RESET by front face)
- with the integrator option, the relay may be used to have pulse output for energy counter (configurable pulse weight).

Analog output (/S option):

- 1 or 2 isolated analog outputs, fully configurable: type and measure range to monitor: U, I, Cos, P, Q, S, Hz, type and output range (0 .. 10Volt, 0 ... 4 ... 20mA), +/-10V output with coupling of the two outputs, Response time (filter), limitation... setting for each outputs.

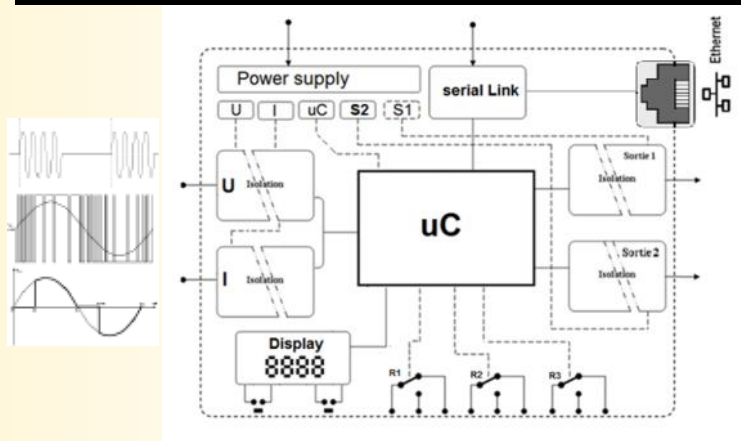
Configuration:

- The CPL35 can be configured via the front face or via the RS232 link. (USB -> 3.5mm jack cable available separately)
- Firmware update is possible via this USB-serial link.

Feature:

- 23 mm width case, DIN rail mounting (symmetrical),
- pluggable terminals blocks,
- protection rating: IP20, conformal coating,
- Hinged front face (buttons and serial access),

Synoptic:



Version and order code:		Request a quote
CPL35	1 analog output, 1A / 5A / shunt and voltage inputs	
CPL35/R1	+ 1 relay	
CPL35/R2	+ 2 relays	
CPL35/R3	+ 3 relays	
CPL35/S2	2 analog outputs	
CPL35/CMTCP	Ethernet Modbus TCP link (no analog outputs)	
CPL35/CM	Modbus RS485 (no analog output)	
CPL35-Rogo	Input for Rogowski coil. Type: Rogoflex LT (Up to 2000 Arms)	
CPL35-Hall	+ input for Hall effect sensor, supply +/-15V, output 4V	
CPL35i	+ integrator option for Ac and Dc energy counting (in standard for the CMTCP model)	

Note : All options can be combined (except communication and analog outputs).

INPUT

ac voltage on 2 ranges 150Vac / 600 Vac +/- 0.3% Full Range
 dc voltage on 2 ranges 225Vdc / 900Vdc +/- 0.3% of F.R
 High voltage 1200Vac / 1800Vdc +/- 0.5% of F.R
 Input impedance 500Kohms - 4Mohms - 8Mohms
 Overload 3 x full range during 3 s
 Measure Threshold 0.5% of F.R
 Power consumption 0.12 W

TRMS ac+dc current 250mV / 1A / 5 A +/- 0.3% of F.R
 on 4 ranges +/- 4V for Hall effect sensor
 (+/-15V 50mA sensor supply)

Input impedance 0.05 ohms: 5A / 0.25 ohms: 1A
 Overload 6 x IN during 3 s
 Measure Threshold 0.5% of F.R
 Power consumption 1.25 W
 Frequency 1Hz...440 Hz +/- 0.2 %

Other input ranges on request.

Note: use transformer for higher range.

METROLOGY

(the accuracies are given in percentage of full scales)

Active or dc power +/- 0.5%
 Reactive power +/- 1% (in % of apparent power)
 Cos phi +/- 0.5%
 (conditions: Freq 45/65 Hz, power factor > 0.7; peak factor 1.4; input U/I 10 to 90%)
 - 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

Changeover 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
 Mechanical life: 10⁸ operations
 Shock resistance: 300G (functional)
 max counting rate : 5 pulses / second

ANALOG OUTPUT

TYPE	RANGE	ACCURACY
current S1 and S2:	0 ... 4 ... 20 mA	+/- 20 µA
permissible load:	0.....850 Ohms	
voltage S2 and S2:	0 ... 10 V	+/- 10 mV
output impedance:	500 Ohms (internal shunt 0.1%)	
or 1 bipolar output	-10V ... +10V (coupling of 2 outputs)	

POWER SUPPLY

Universal: (2 not polarized versions: 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

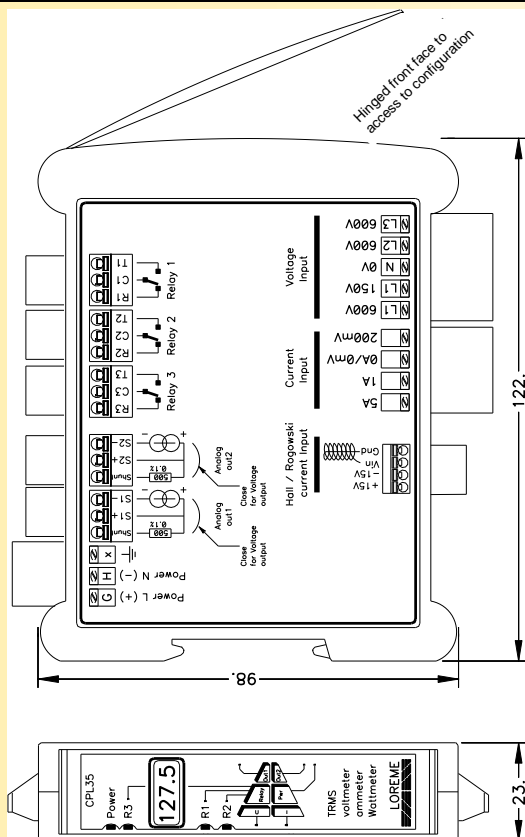
Electromagnetic compatibility 2014/30/UE / Low Voltage Directive 2014/35/UE

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	

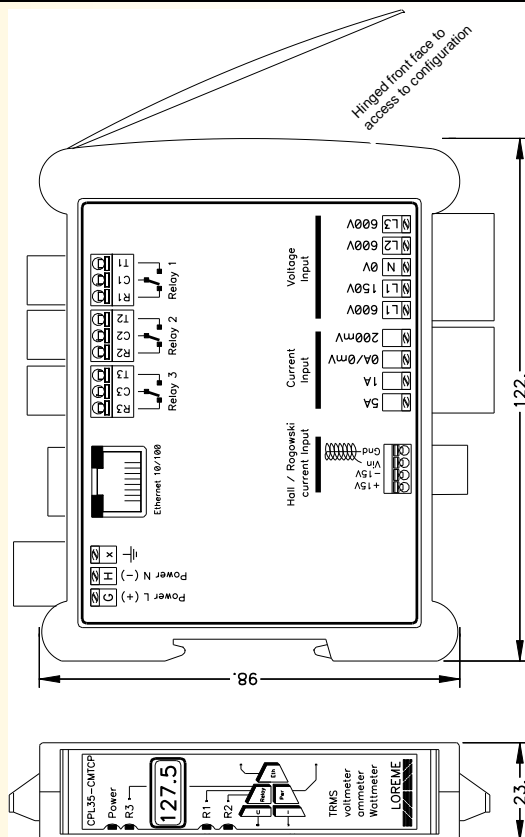


WIRING AND OUTLINE DIMENSIONS:

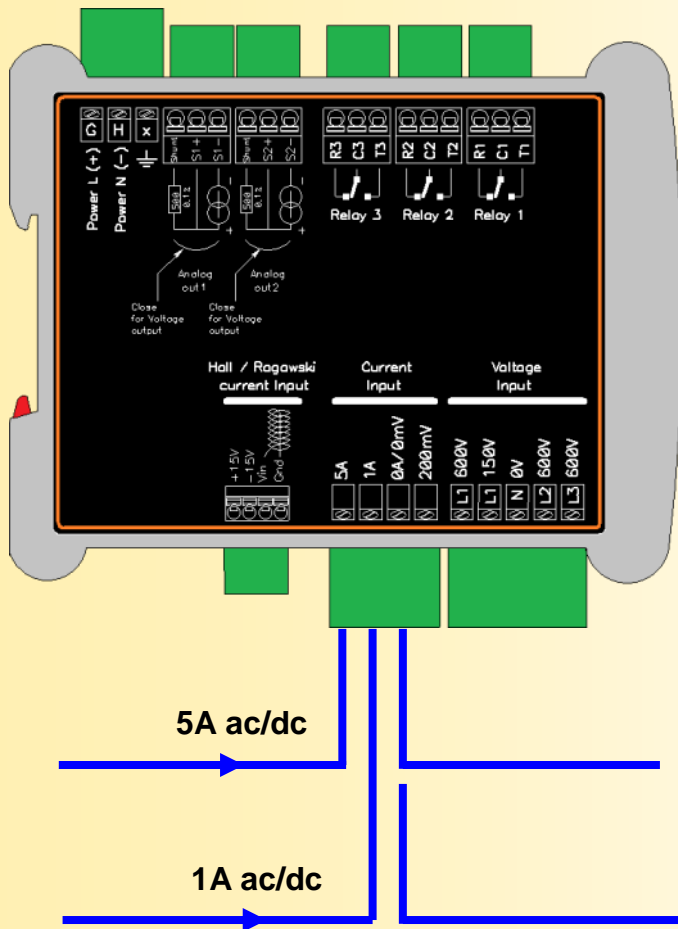
CPL35: up to 2 analog outputs + 3 relays maxi



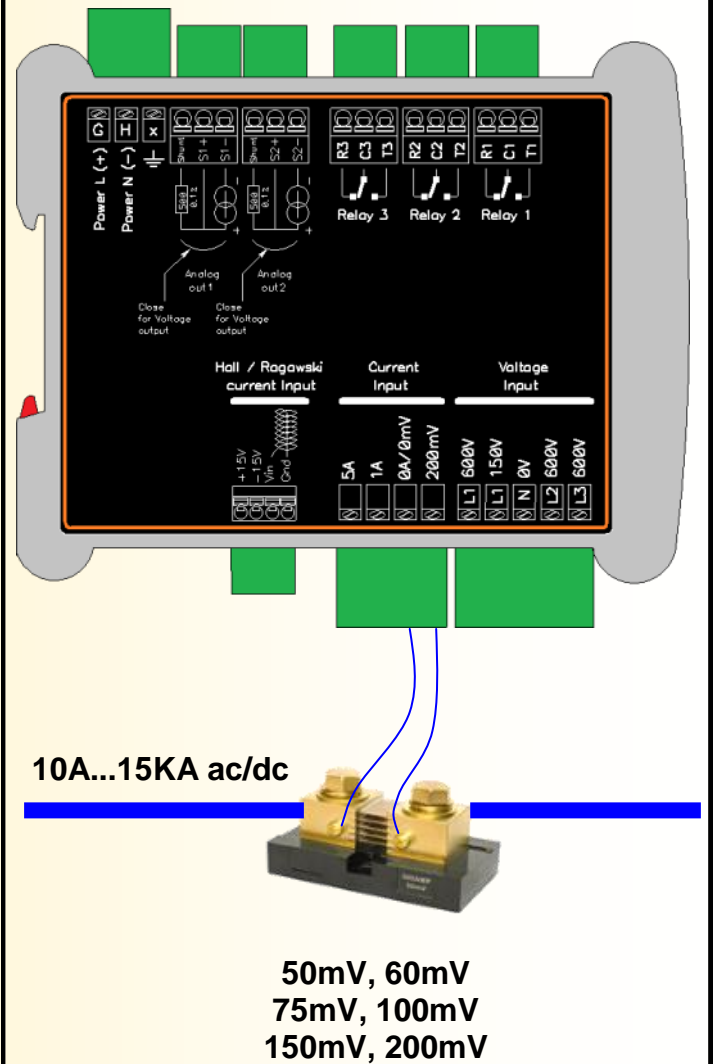
CPL35/CMTCP: Ethernet link Modbus TCP + 3 relays maxi



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

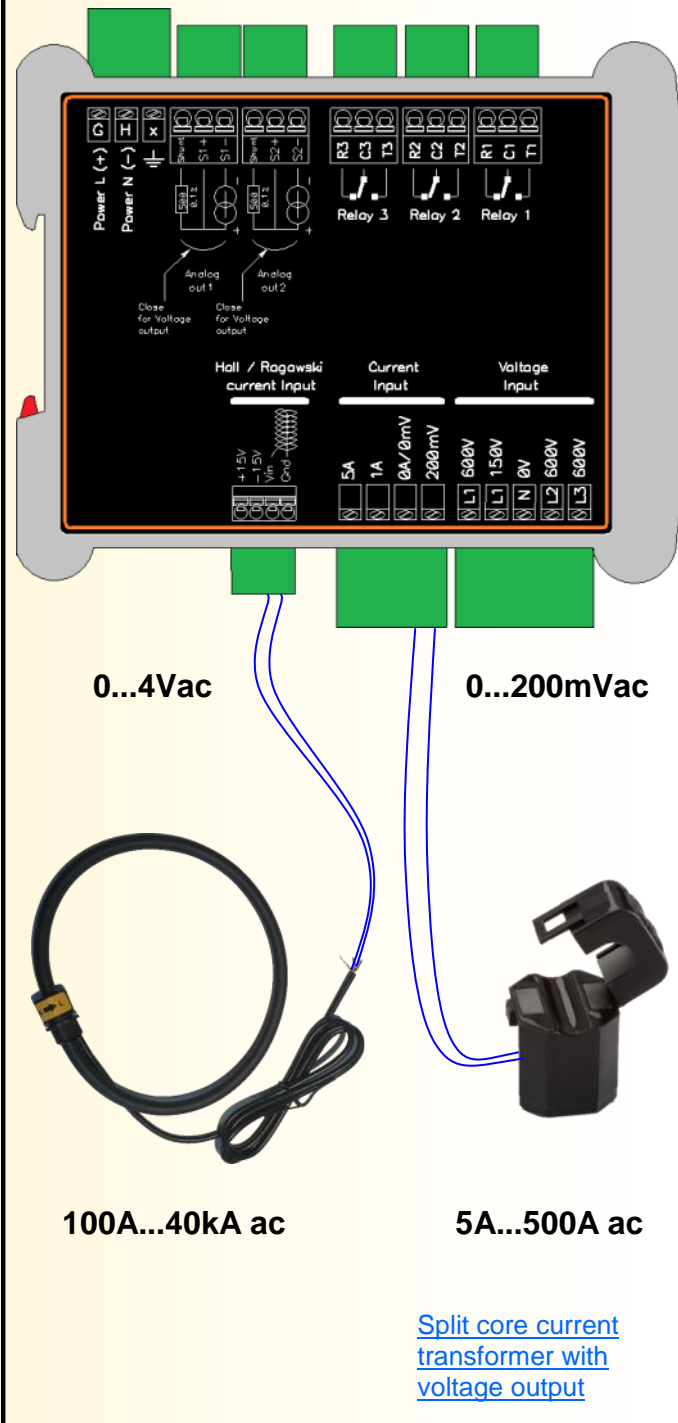
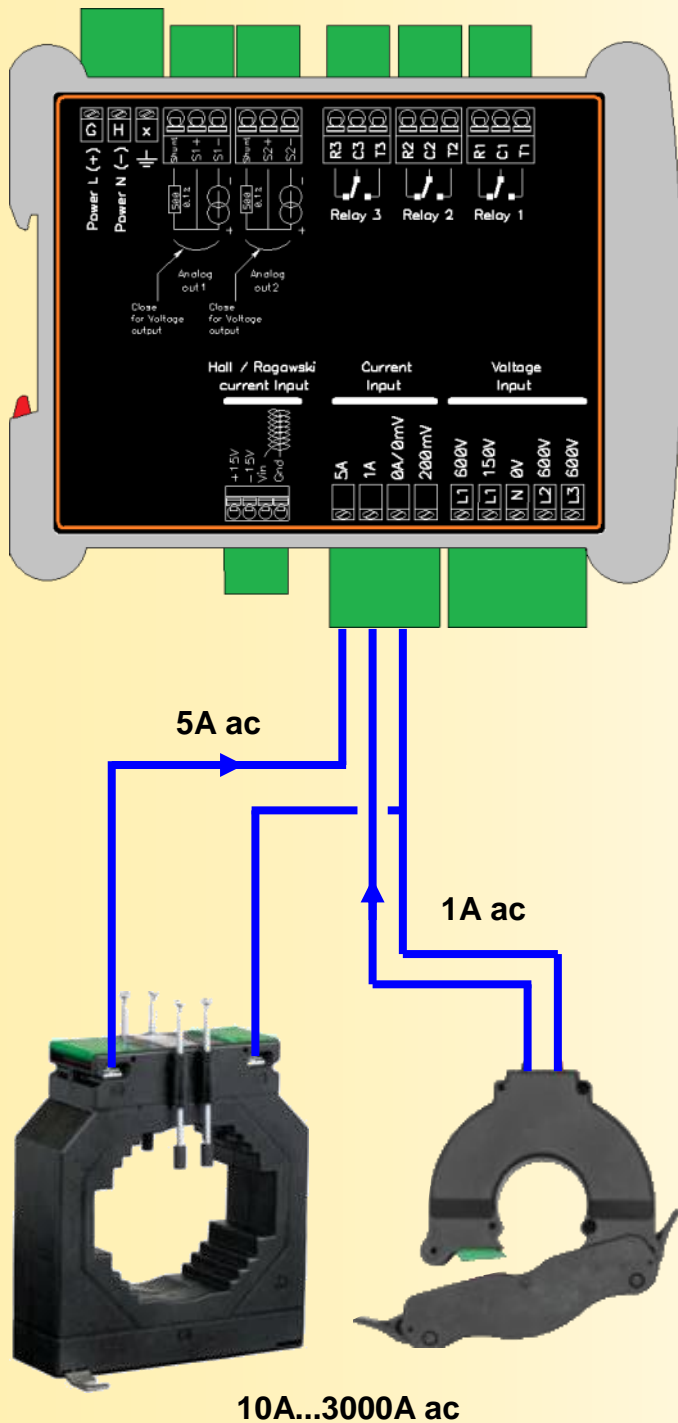


AC or DC current input
on external shunt



AC Input via current transformers
1A or 5A range

AC Input via Rogowski coil or
miniature current transformer
with voltage output



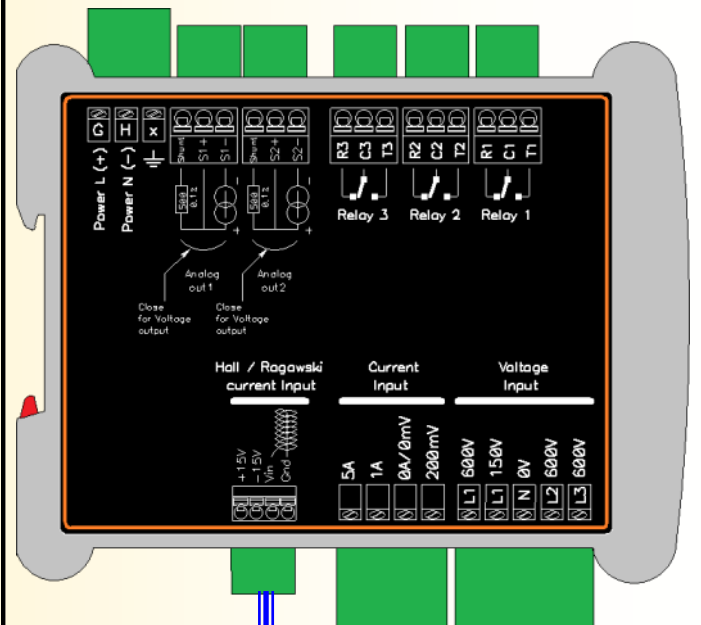
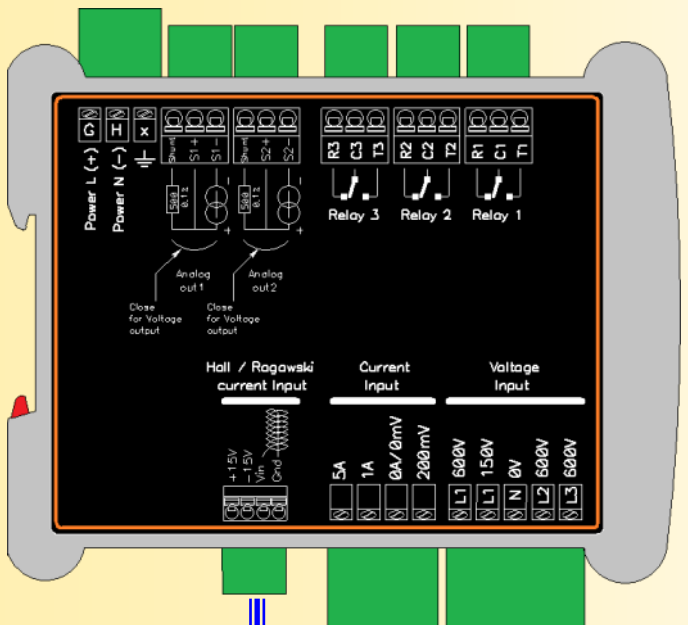
[Current transformer](#)

[Split core current transformer](#)

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

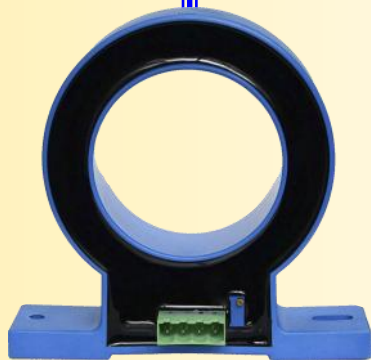
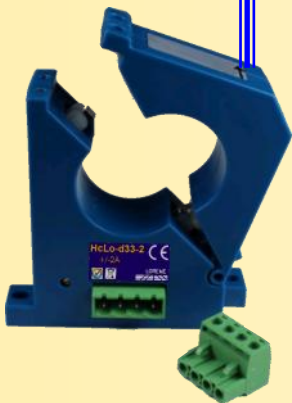
AC or DC input via Hall effect current sensors for leakage current

AC or DC input via 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

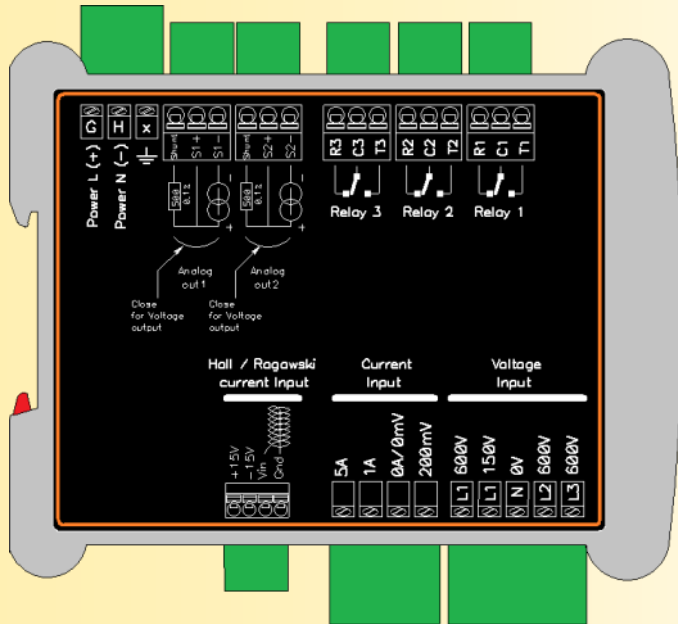
10...100 mA ac/dc

AC or DC leakage current sensor

50...20KA ac/dc

Current sensor for AC and DC currents

Input via core balance current transformer for AC leakage current



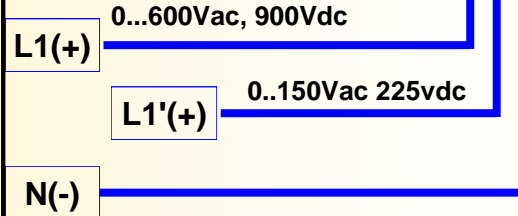
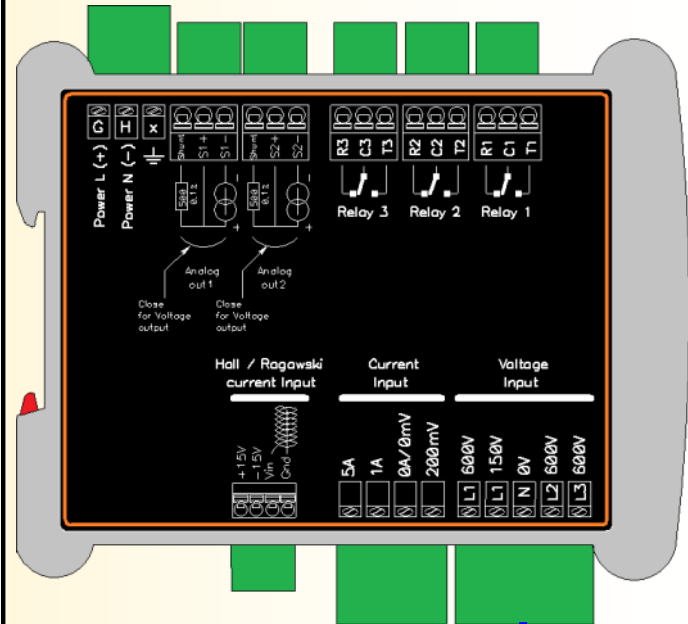
200mVac



30...600 mA ac

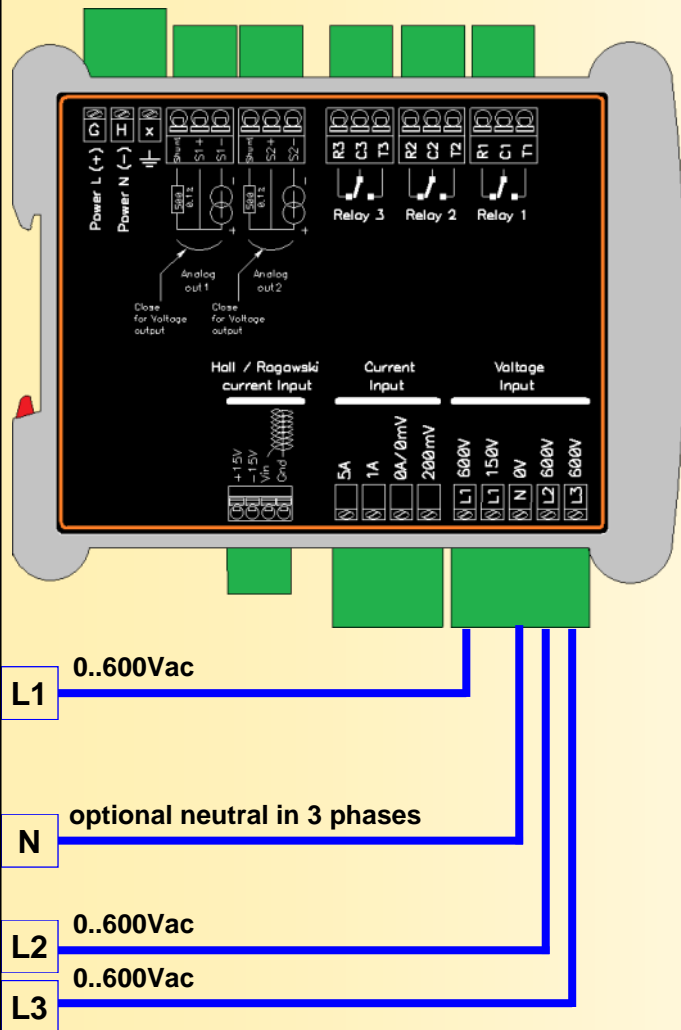
Core balance current transformer

Wiring of voltage input for single phase or DC



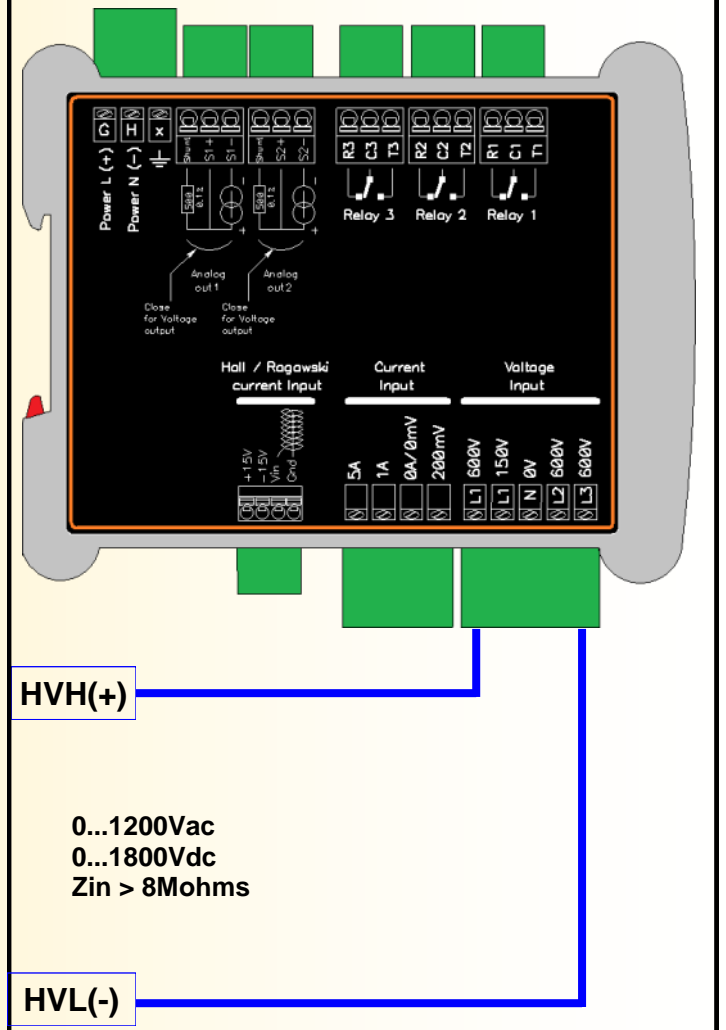
Measurement of direct or alternating voltage, single or two phases

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