True RMS current and voltage transducer for alternating and direct signals

CPL35L

- ***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 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, ...

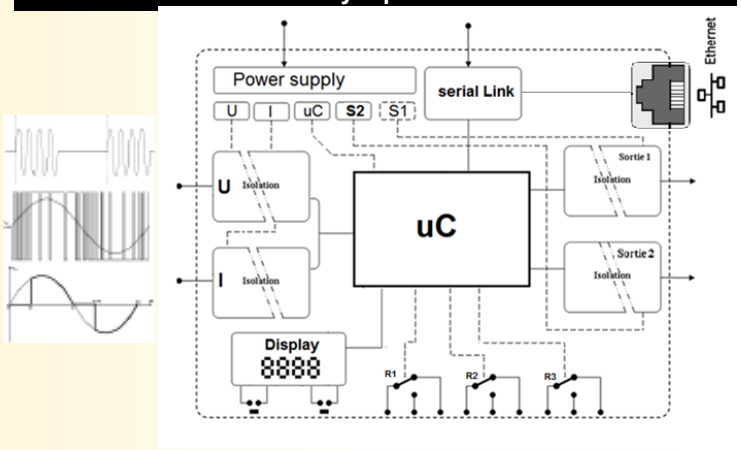
Relays (/R option):
Up to 3 relays configurable in alarm with selection of monitored value (U, I, Hz). Threshold, direction, (and window alarms) hysteresis and delays are individually adjustable on each relay
(activation and deactivation delay).
Hold function (alarm memorization and Reset by front face)

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

shunt | current transformer | Hall effect sensor | Rogowski coil

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 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	200mV ; 1A ; 5 A	+/- 0.3% of F.R
on 4 ranges	+/- 4V for Hall effect sensor (internal sensor supply +/-15V 50mA)	
Dc current	+/-250mV;+/-1A;+/-5 A	+/- 0.3% of F.R
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 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: 10^8 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

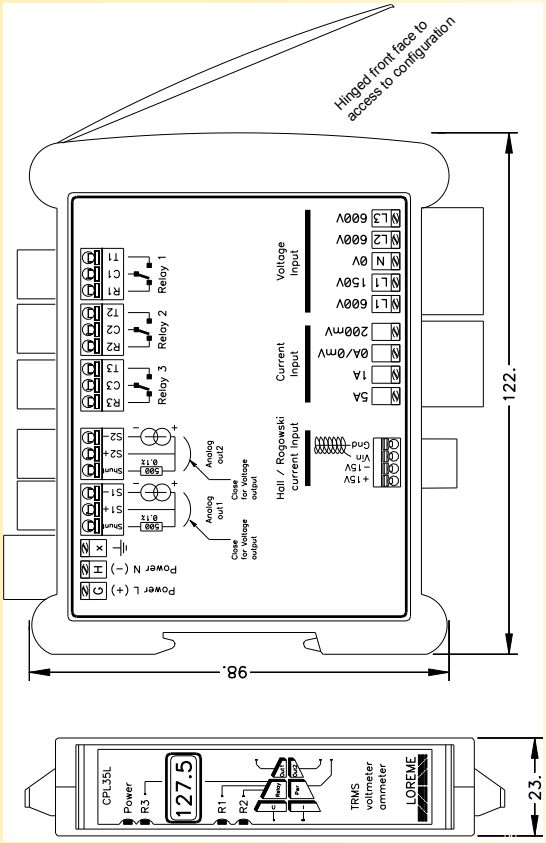
MTBF (MIL HDBK 217F)	> 3 000 000 Hrs @ 25°C
Life time	> 200 000 Hrs @ 30°C

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

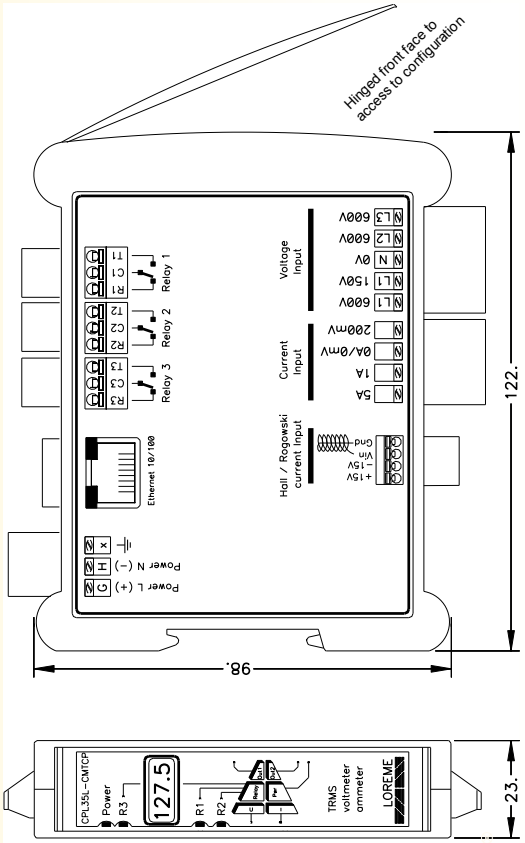
Immunity standard for industrial environments EN 61000-6-2		Emission standard for industrial environments EN 61000-6-4	
EN 61000-4-2 ESD	EN 61000-4-8 AC MF	EN 55011 group 1 class A	CE
EN 61000-4-3 RF	EN 61000-4-9 pulse MF		
EN 61000-4-4 EFT	EN 61000-4-11 AC dips		
EN 61000-4-5 CWG	EN 61000-4-12 ring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

WIRING AND OUTLINE DIMENSIONS:

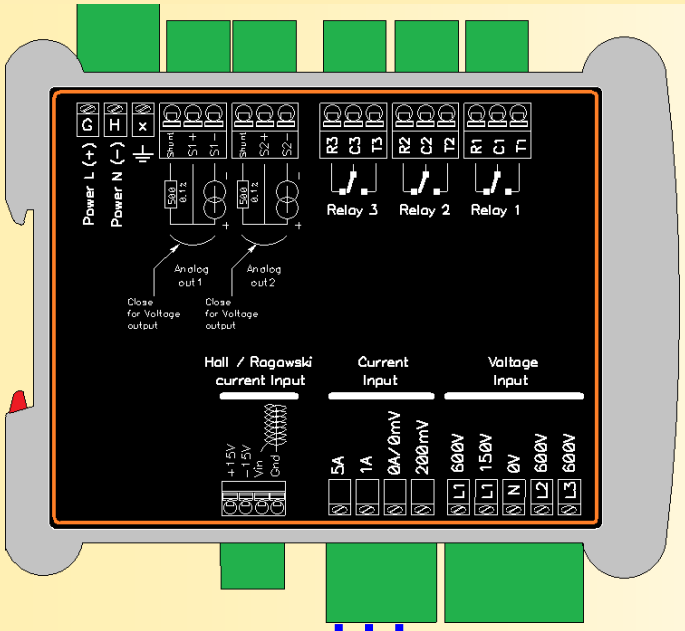
CPL35L: up to 2 analog outputs + 3 relays maxi



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



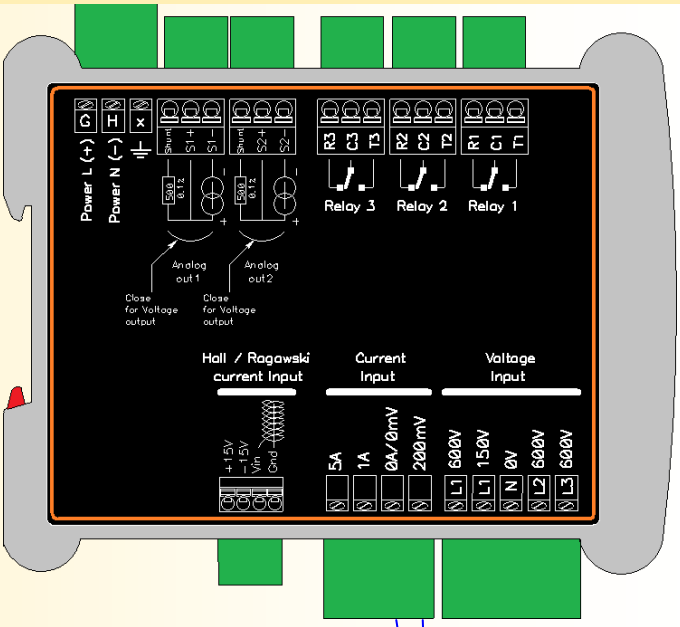
Direct current input
1A or 5A AC or DC input range



5A ac/dc

1A ac/dc

AC or DC current input
on external shunt

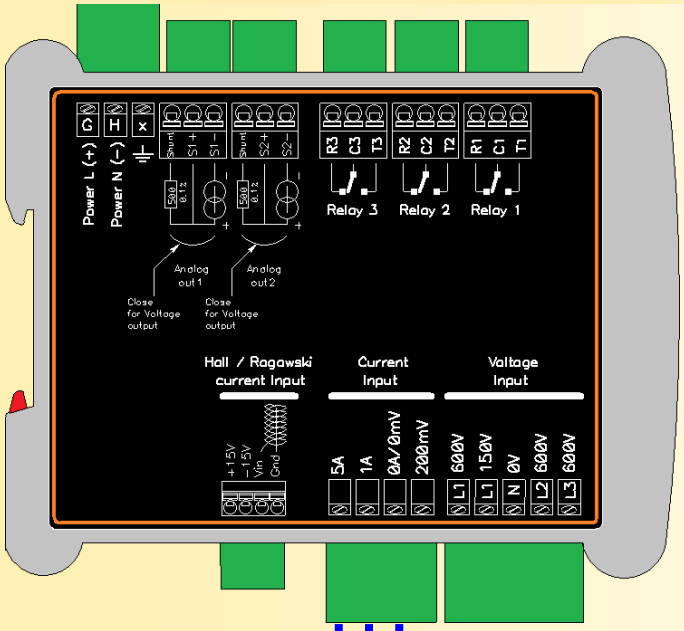


10A...15KA ac/dc

50mV, 60mV
75mV, 100mV
150mV, 200mV

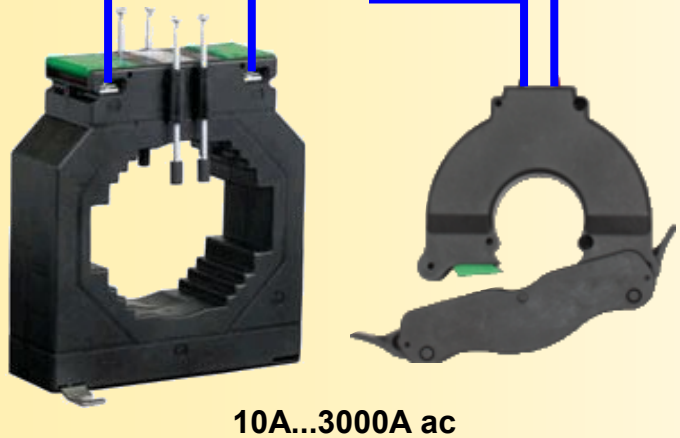
Wiring and using of current input sensors according to the application

AC Input with current transformers 1A or 5A range



5A ac

1A ac

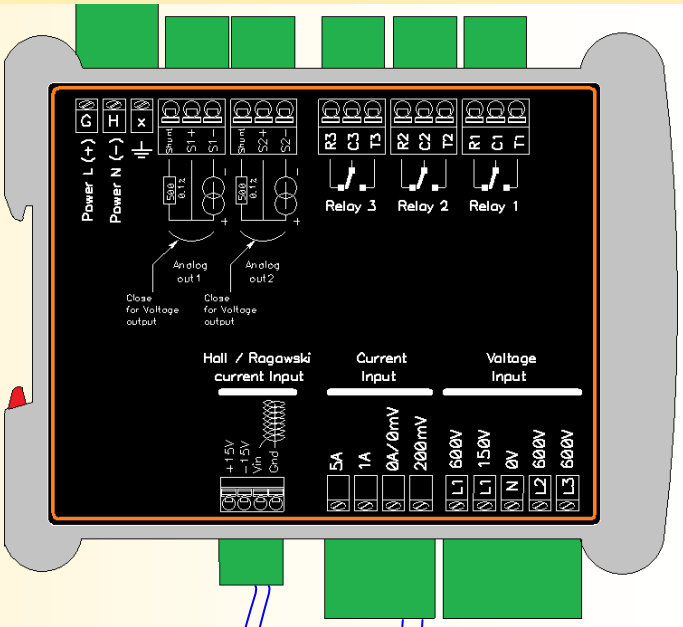


10A...3000A ac

[Current transformer]

[Split core current transformer]

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



0...4Vac

0...200mVac

100A...40kA ac

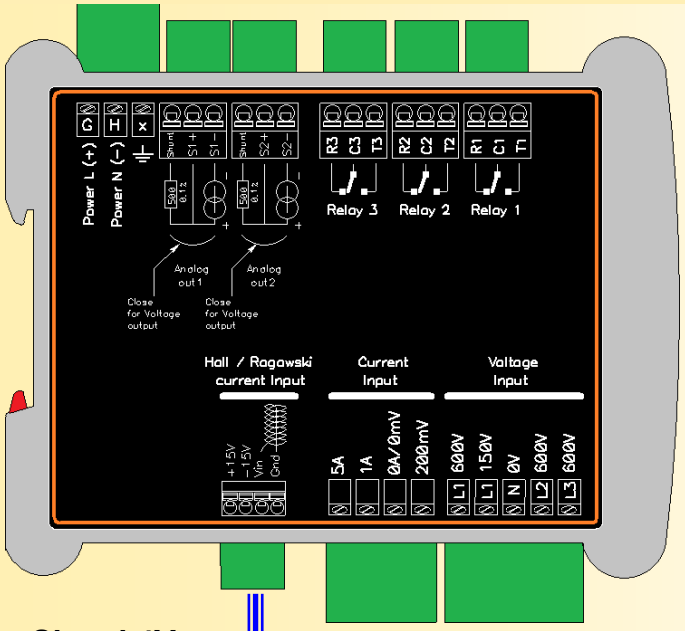
5A...500A ac

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

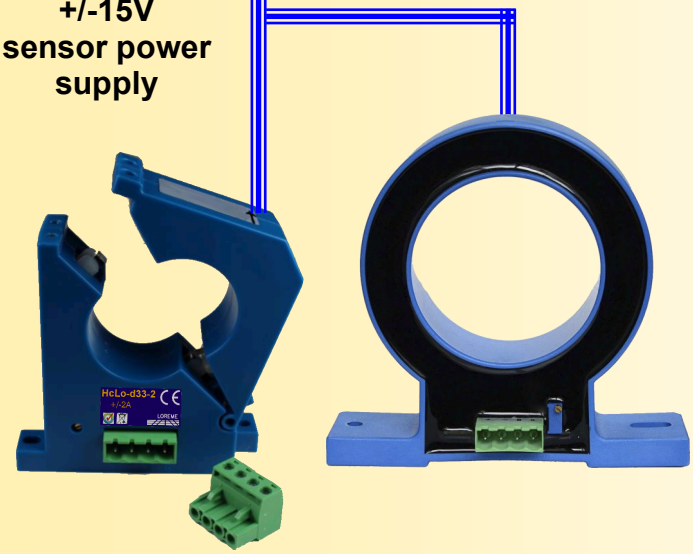
[mV output split core current transformer]

LOREME 12, rue des Potiers d'Etain - 57071 Metz ☎ 03.87.76.32.51 - www.loreme.fr - Email: Commercial@Loreme.fr - Technique@Loreme.fr

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



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



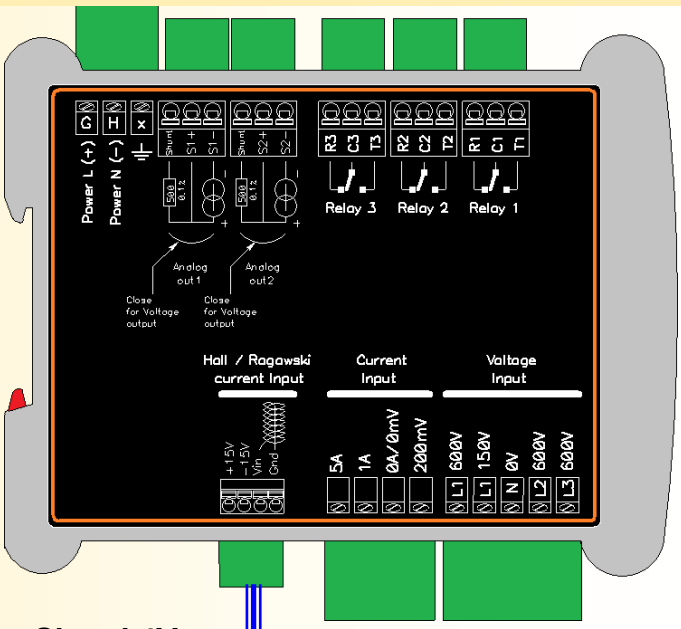
40...2400 mAdc

DC Leakage current sensor

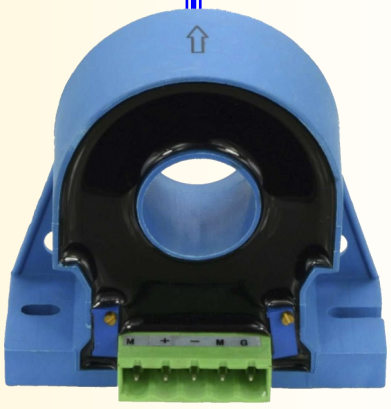
10...100 mA ac/dc

AC or DC leakage current sensor

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



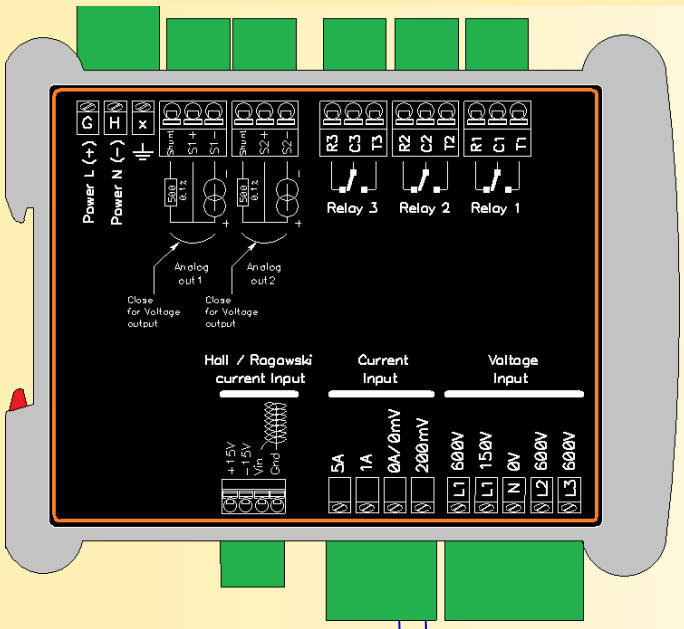
Signal 4V ac/dc and +/-15V sensor power supply



50...20KA ac/dc

Current sensor for AC and DC currents

Input with core balance current transformer for AC leakage current

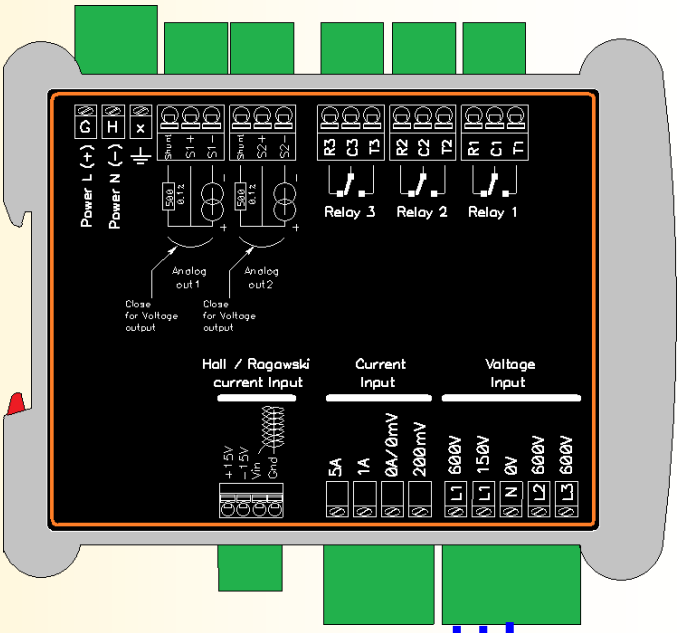


200mVac

30...600 mA ac

Core balance current transformer

Wiring of voltage input for single phase or DC



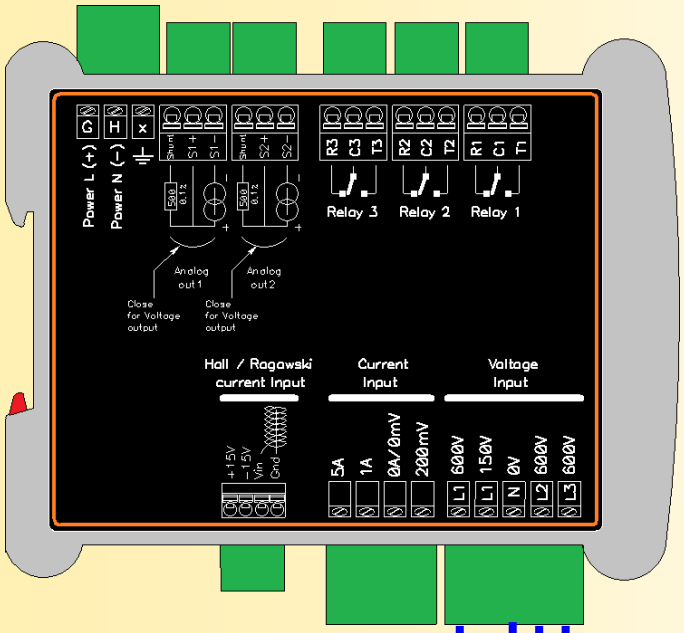
L1(+) — **0...600Vac, +/-900Vdc**

L1'(+) — **0..150Vac, +/-225vdc**

N(-)

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

Wiring of voltage inputs in three-phases



L1 0..600Vac

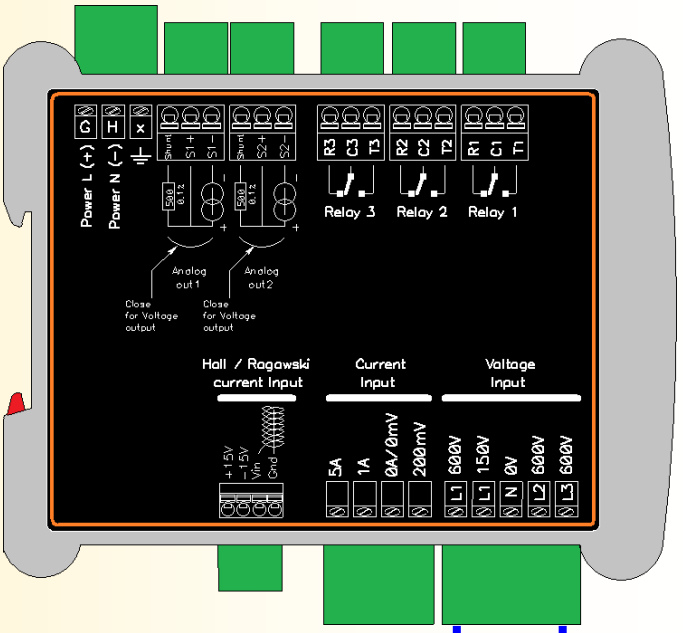
N optional neutral in 3 phases

L2 0..600Vac

L3 0..600Vac

Voltage measurement, Tree-phase, with or without neutral

Wiring of voltage inputs for DC or AC High voltage



HVH(+)

0...1200Vac
+/- 1800Vdc
Zin > 8Mohms

HVL(-)

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