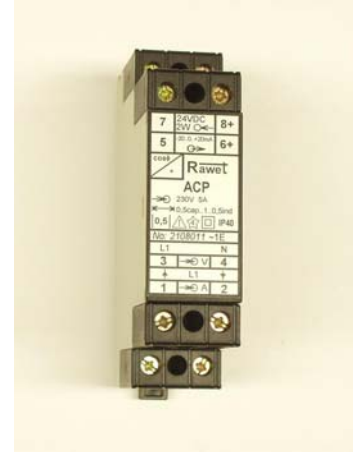


CONVERTER OF PHASE SHIFT BETWEEN CURRENT AND VOLTAGE OR TWO GRID VOLTAGES

- zero level crossing method
- the output is a linear function of the phase shift between the inputs
- voltage-to-current, voltage-to-voltage
- frequency range: from 45 to 65Hz
- input-to-output-to-power supply isolation: 4000Vr.m.s.
- measuring range: 20 to 120% of rated input
- conversion accuracy: < 0.5%
- compact design
- designed for DIN 35 rail mounting

The converter has been designed to convert the magnitude of a phase shift between two voltages of the same frequency into a unified DC voltage or current. Its operation is based on comparing the time difference between the zero point crossing time instants with the duration of the period. The current input is isolated from the voltage input by means of a measuring transformer. After the signal waveform is shaped and the phase difference is calculated, the signal is fed via an isolating optocoupler into the output amplifier. It is converted into a unified output signal. The output is proportional to the phase shift between the inputs. Both the input and the output circuit are overload-protected.

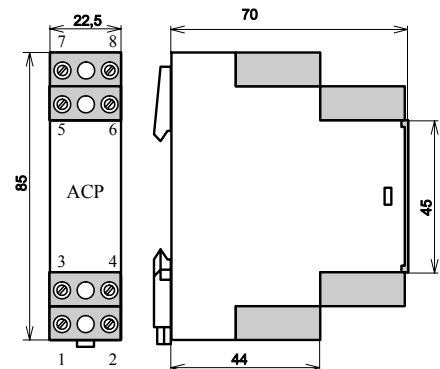
Owing to the measuring principle used, the converter cannot be applied to heavily distorted waveform voltage or currents.



Electrical specifications:

- | | |
|------------------------------------|---|
| - operating temperature range: | -25...+80°C |
| - storage temperature range: | -40...+80°C |
| - supply voltage: | 24V DC ±30% |
| | 230V ± 15%, 50 - 60Hz, max. 2VA |
| | other options (80..300V DC, 60..250V AC) by arrangement |
| - protection: | resettable thermal cut-out in primary circuit |
| - rated inputs: | 1A, 2.5A, 5A AC |
| | 57.7V, 100V, 110V, 220V, 230V |
| | 380V, 400V, 500V AC |
| - voltage input current load: | 0.5mA |
| - current input power demand: | typically 0.015VA |
| - input overload capacity | voltage: 2 Inom – 1s |
| | current: 2 Inom - 1min, 20 Inom - 1s |
| - standard measuring range | ∅ ± 60° |
| | ± 90 |
| | ± 120°, other ranges by arrangement |
| - output: | L2 stands for reference when measuring the phase shift between voltages |
| - output current limit: | 4-20mA, 0-20mA, 0-10V, ± 10V, ± 5mA, ± 20mA |
| - current output maximum load: | typically 28mA (electronic cut-out) |
| - voltage output maximum load: | 15 / Iout (ohm) |
| - transfer function: | linear |
| - transfer function maximum error: | < 0.5% |
| - temperature induced error: | < 0.02%/°C |
| - test voltage: | 4000Vr.m.s. |
| - output signal settling time: | 300ms |
| - weight: | 120g |
| - enclosure: | casing: IP40 |
| | terminal board: IP10 |

Dimension sketch:



Terminal designation:

- 1,2 ... input current (second voltage is L2)
- 3,4...voltage input (first voltage is L1)
- 5, 6 ... output terminals (6 is +)
- 7, 8... power supply terminals, polarity insensitive

Ordering instructions:

Your order should include:

- converter type
- supply voltage
- rated input voltage
- rated input current (second voltage)
- measuring range (phase)
- output range
- quantity (No. of pieces)

Type tests:

Standard type test: to ČSN EN 60688
EMC: to ČSN EN 61326-1
Safety: assessed acc. to ČSN EN 61010-1