

THREE-WIRE GRID REACTIVE POWER CONVERTER

(Aron connection)

- reactive power in three-wire symmetrical unbalanced grid
- power supply: 24V DC or 230V AC
- frequency range: from 40 to 1000Hz
- input-to-output-to-power supply isolation: 4000Vr.m.s.
- measuring range: 0 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 reactive power of an AC signal into a unified-range DC voltage or current. The converter input includes measuring current transformers and voltage dividers. These are designed to adjust the input levels for processing in an analog multiplier. The multiplier output signal is proportional to the input instantaneous power. After smoothing out and isolation, it is fed into an output amplifier. The output amplifier generates a DC current or voltage, which is fit for further processing and subsequent evaluation. The current signal may also be conveyed to a larger distance even in a higher interference level environment. Both the input and the output circuit are overload-protected.

The converter can handle a wide frequency spectrum. It can also be applied to handling distorted waveform input signals. When measuring in a 50Hz-grid, it can process up to the twentieth harmonic of the fundamental frequency.



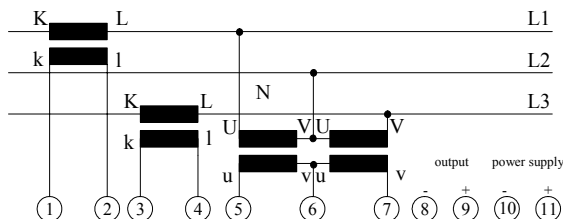
Electrical specifications:

- 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 Unom - 1s
current: 2 Inom - 1min, 20 Inom - 1s
- output: 4-20mA, 0-20mA, 0-10V
- output current limit: typically 28mA (electronic cut-out)
- current output maximum load: 15 / Iout (ohm)
- voltage output maximum load: 10mA

- temperature induced error: < 0.02%/°C
- transfer function maximum error: < 0.5%
- transfer function: linear

- test voltage: 4000Vr.m.s.
- output signal settling time: 300ms
- weight: 220g
- enclosure: casing: IP40
terminal board: IP10

Q2S connecting diagram: Converter capacity: $Q = \sqrt{3} \cdot U_s \cdot I_f \cdot \sin \varphi$

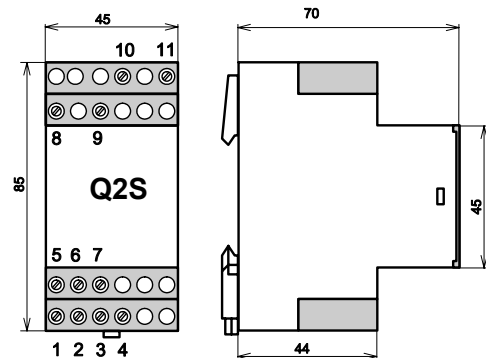


Terminal description: 1,2,3,4... input of the phase current to be measured
5,6,7..... input of the delta voltage to be measured
8,9..... output (9 is +)
10,11..... auxiliary AC power supply; for DC, 11 is +

Type tests:

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

Dimension sketch:



Ordering instructions:

- Your order should include:
- converter type
 - auxiliary supply voltage:
 - rated input voltage
 - rated input current
 - measuring range (power)
 - output range
 - quantity (No. of pieces)