

Current- and Voltage Transmitter CVT 500

Measuring input DC- and sinusoidal AC-signals

Features

- Arithmetic average value measurement, RMS calibrated or DC
- Output 0/4 ... 20 mA or 0/2 ... 10 V DC switch selectable
- Span adjustable ± 5 %
- Full 3-port isolation
- Supply voltage 230 V AC or 24 V DC
- Power on LED
- 22.5 mm case for DIN rail mounting



General information

Transmitter CVT 500 convert current or voltage signals to proportional industry standard signal 0/4...20 mA; 0/2...10 V DC. Direct measurement of currents up to 5 A and voltages up to 400 V are possible.

Short information

- Output The output is switch selectable on the front panel between 0/4...20m A or 0/2...10 V. For current output a link from terminal 8 to 9 must be connected.
- AC / DC The input signal can be changed from AC to DC by DIP-switch on the front panel.

Technical data

Power supply

| | |
|------------------------|--|
| Supply voltage | : 230 V AC $\pm 10\%$ or 24 V DC $\pm 15\%$ |
| Frequency AC | : 47 ... 63 Hz |
| Power consumption | : <3 VA |
| Working temperature | : -10 ... +50 °C (14 ... 122 °F) |
| Isolation voltage | : 500 V \approx acc. VDE 0110 Group 2 between input/output/supply voltage |
| Test voltage | : 4 kV \approx between input/output/supply voltage |
| CE - conformity | : EN55022, EN60555, IEC61000-4-3/4/5/11/13 |

Measuring inputs

| | |
|---------------------|--|
| Frequency AC | : 40 ... 200 Hz (other ranges on request) |
| Standard range | |
| Current input | : 0 ... 1 A and 0 ... 5 A sinusoidal or DC |
| Input resistance | : 20 m Ω (5 A input) or 100 m Ω (1 A input) |
| Overload | : 2-times, 4-times for max. 5 sec |
| Voltage input | |
| Measuring range | : 0 ... 125 V and 0 ... 250 V sinusoidal or DC |
| Input resistance | : 600 k Ω (125 V input) or 1.2 M Ω (250 V input) |
| Overload | : max. 500 V \approx |
| Special range | |
| Voltage input | : End value in range 0.1 ... 400 V \approx |
| Input resistance | : 4.8 k Ω /V |
| Overload | : 5-times nominal input voltage, max. 500 V \approx |
| Current input | : End value in range 0.001 ... 5 A \approx |
| Input resistance | : $\frac{100 \text{ m}\Omega}{(\text{Meas. range [A]})}$ |
| Overload | : 2-times, 4-times for max. 5 sec. |
| Measuring end value | : Adjustable $\pm 5\%$ |

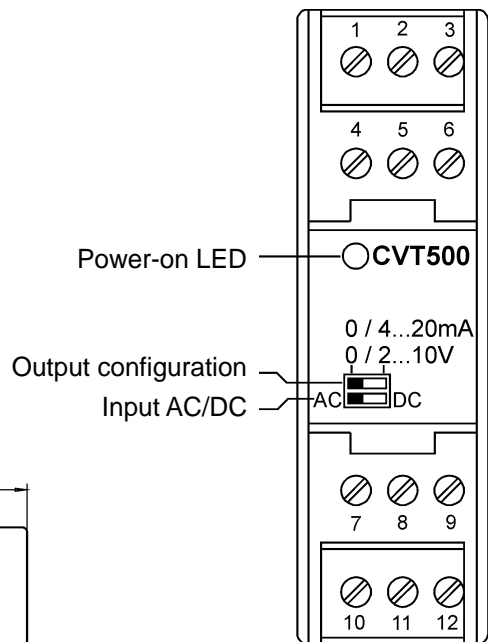
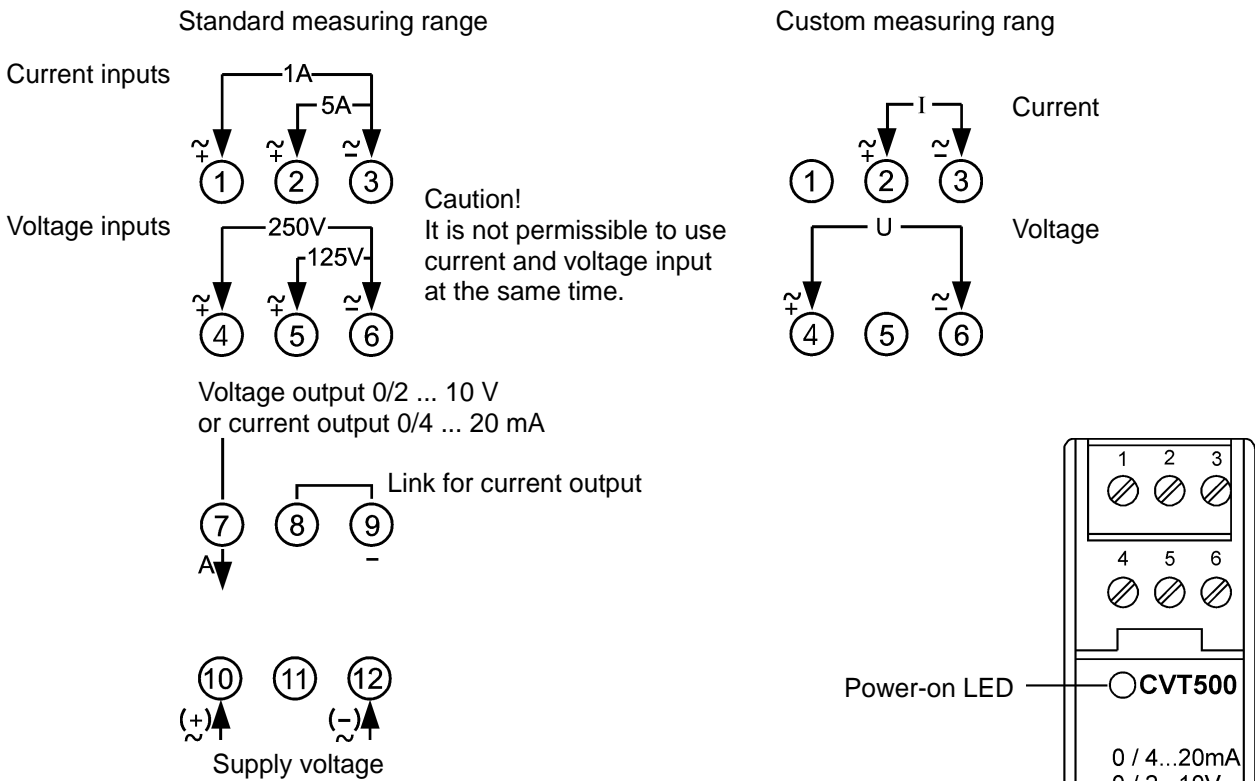
Output

| | |
|---------------------------------------|--|
| Change output from voltage to current | : Link between terminal 8 and 9 |
| Current output | : 0/4 ... 20 mA switch selectable, burden $\leq 500 \Omega$ |
| Rise time (T ₉₀) | : < 650 ms |
| Burden error | : < 0.1 % (R _L = 0 ... 200 Ω), < 0.2 % (R _L = 0 ... 500 Ω) |
| Voltage output | : 0/2 ... 10 V DC switch selectable, load max. 10 mA |
| Accuracy | : $\leq 0.5\%$ ($\leq 0.2\%$ factory adjustment for single range) |
| Temperatur coefficient | : $\leq 0.01\%/K$ |

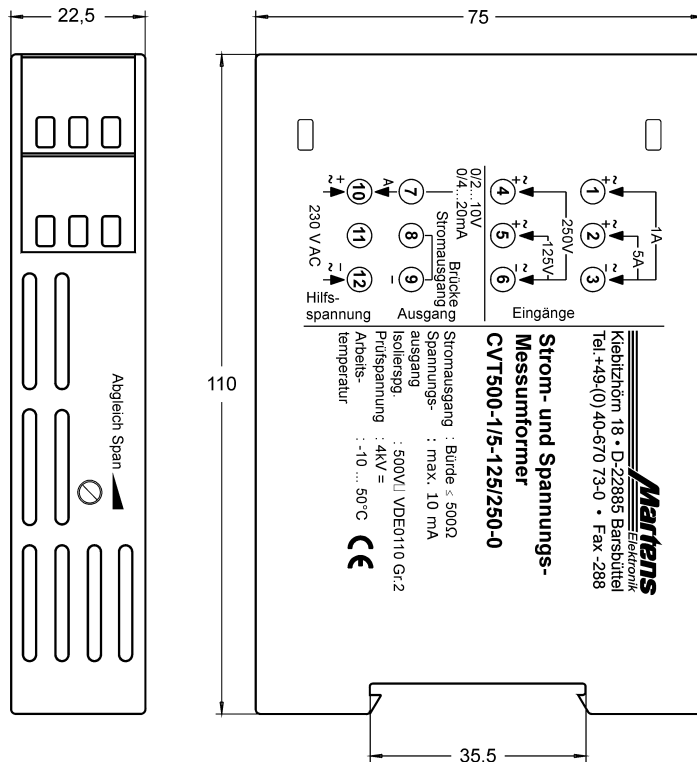
Case

| | |
|------------|--|
| Type | : Standard case of Polycarbonate 8020 UL94V-1 |
| Weight | : Approx. 200 g |
| Connection | : Screw terminals with pressure plate, max. 2.5 mm ² wire |
| Protection | : Case IP30, terminals IP20, finger safe acc. to German BGV A3 |

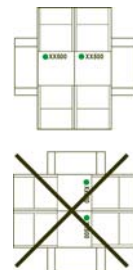
Connection diagram



Dimensions



Caution!
Mounting of multiple units without distance is only permitted in horizontal orientation.



TS35 DIN rail mounting
acc. to DIN 46277 and DIN EN 50022

Ordering code

CVT500 - 1. - 2. - 3.

1. Current measuring ranges

0 not installed (custom measuring range voltage)

1/5 standard type 0...1A and 0 ... 5A AC/DC

Special measuring ranges please state in clear text

2. Voltage measuring ranges

0 not installed (custom measuring range current)

125/250 standard type 0...125V and 0 ... 250V AC/DC

Special measuring ranges please state in clear text

3. Supply voltage

0 230 V AC ±10 %

5 24 V DC ±15%

Note: For special measurements the end value must be in range 0.001 ... 5A or 0.1 ... 400V AC/DC

Example of order: CVT500 with voltage measuring range 0 ... 150mV and supply voltage 230V AC:
CVT500 - 0 - 0.15 - 0

For measurement of higher currents or voltages choose current or voltage transformer.