

# 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  $\pm 5\%$
- 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= acc. VDE 0110 Group 2 between input/output/supply voltage
Test voltage	: 4 kV= 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 $\Omega$ (5 A input) or 100 m $\Omega$ (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 $\Omega$ (125 V input) or 1.2 M $\Omega$ (250 V input)
Overload	: max. 500 V=
Special range	
Voltage input	: End value in range 0.1 ... 400 V=
Input resistance	: 4.8 k $\Omega$ /V
Overload	: 5-times nominal input voltage, max. 500 V=
Current input	: End value in range 0.001 ... 5 A=
Input resistance	: $\frac{100 \text{ m}\Omega}{(\text{Meas. range [A]})}$
Overload	: 2-times, 4-times for max. 5 sec.
Measuring end value	: Adjustable $\pm 5\%$

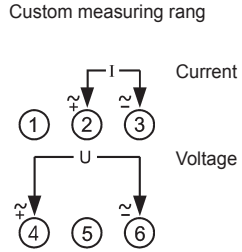
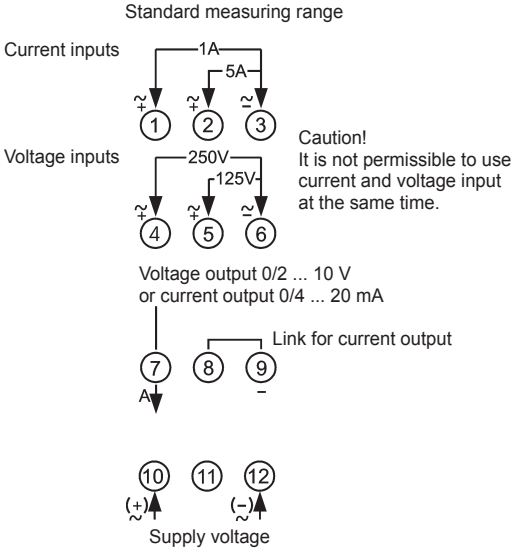
### Output

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 <sub>90</sub> )	: < 650 ms
Burden error	: < 0.1 % (R <sub>L</sub> = 0 ... 200 $\Omega$ ), < 0.2 % (R <sub>L</sub> = 0 ... 500 $\Omega$ )
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	: $\leq 0.01\%/K$

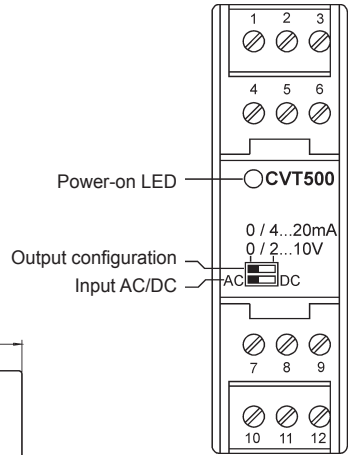
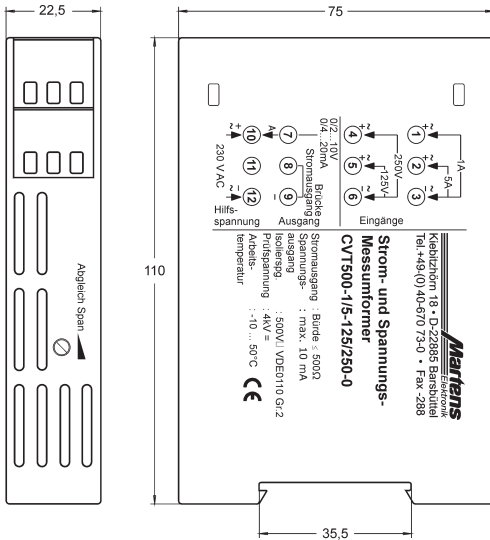
### Case

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

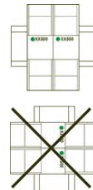
## Connection diagram



## 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.