

# Isolating signal converter TV 500 ... with integr. transmitter supply ST 500

## Features

- Switch selectable inputs  
0/4 ... 20mA and 0/2 ... 10V
- Switch selectable outputs  
0/4 ... 20mA simultaneous 0/2 ... 10V
- Supply voltage 100 ... 265V AC  
or 10.8 ... 30V AC/DC
- Full 3-port isolation
- Integrated transmitter supply  
(only ST500)
- Power on LED
- 22.5mm case for DIN rail mounting



## General information

TV500 isolating signal converter can be used to isolate and convert field signals 0/4..20 mA or 0/2...10 V DC into industry standard signals for process control systems. The ST500 provides a fully floating isolated transmitter supply.

## Short information

Current output	max. burden 1 kΩ for direct controlling of I/P transmitter and 20 mA proportional valves
Multi-range	input and output can be configured by DIP-switch at the front panel for 0/4 ... 20 mA or 0/2 ... 10 V DC
Transmission frequency	measuring range 10: max. 18 Hz ( $t_{90} < 20\text{ms}$ ), measuring range 11: max. 1 kHz ( $t_{90} < 100\mu\text{s}$ ) .

## Technical data

### Power supply

Supply voltage : 100 ... 265 V AC or 10.8 ... 30 V AC/DC  
 Frequency AC : 47 ... 63 Hz  
 Power consumption : < 3.5 VA  
 Working temperature : -10 ... +60 °C  
 Rated voltage : 500 V AC according to VDE 0110 Gr. 2  
 between input/output/supply  
 Test voltage : 4 kV DC between input/output/supply  
 -conformity : EN55022, EN60555-2, IEC61000-4-4/5/11/13

### Input

Current input : 0 ... 20 mA, 4 ... 20 mA switch selectable, Ri = 25 Ohm  
 max. 100 mA overload  
 Voltage input : 0 ... 10 V DC, 2 ... 10V DC switch selectable, Ri approx. 40kOhm,  
 max. 100V overload  
 Measuring range : adjustable approx. +/-5%  
 and 4mA

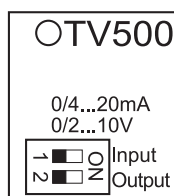
**Transmitter supply** : approx. 24 V DC, Ri approx. 150 Ω,  
 short circuit current approx. 35 mA (ST500 only)

### Output

Current output : 0 ... 20 mA, 4 ... 20 mA switch selectable, burden max. 1 Ω  
 Voltage output : 0 ... 10V, 2 ... 10V switch selectable, max. load 15 mA,  
 short circuit protected(simultaneous to current output max. 5mA)  
 Rise time (t90) : measuring range 10: < 20 ms, max. frequency 18 Hz  
 measuring range 11: <100 µs, max. frequency 1 kHz  
 Accuracy : ≤ 0,2 % (single range adjusted ≤ 0.1 %)  
 Temperature coefficient : ≤ 0.01%/K  
 Repeat accuracy : < 0.1%  
 Supply error : < 0.1%  
 Malfunction (input/output 4 ... 20 mA, both DIP-switches on)  
 - break of wire : output current < 2.5 mA  
 - shorted wire : output current > 23 mA, < 27 mA (between term. 1 and 2, only ST500)

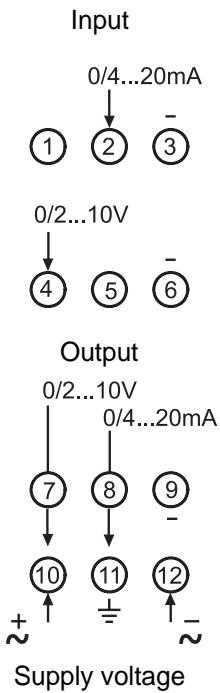
**Case** : standard case of polycarbonate 8020 UL94V  
 Weight : approx. 200 g  
 Protection : case IP30, terminals IP20 finger safe acc. German BGV A3  
 Connection : screw terminals with pressure plate, max. 2,5 mm<sup>2</sup> wire

## Front panel controls



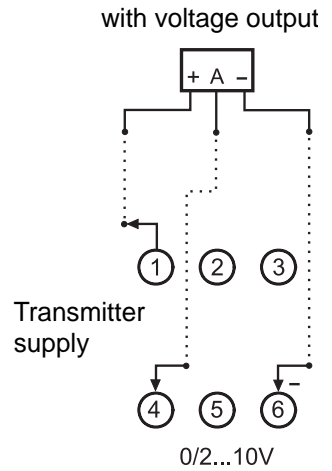
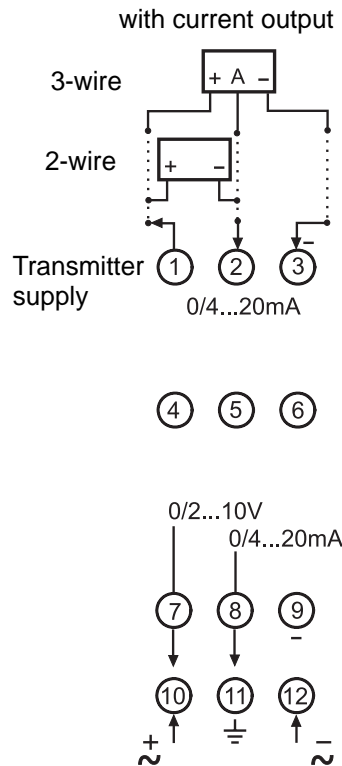
	0 ... 20 mA 0 ... 10 V	4 ... 20 mA 2 ... 10 V
Input	S1 OFF	S1 ON
Output	S2 OFF	S2 ON

### Connection diagrams TV500

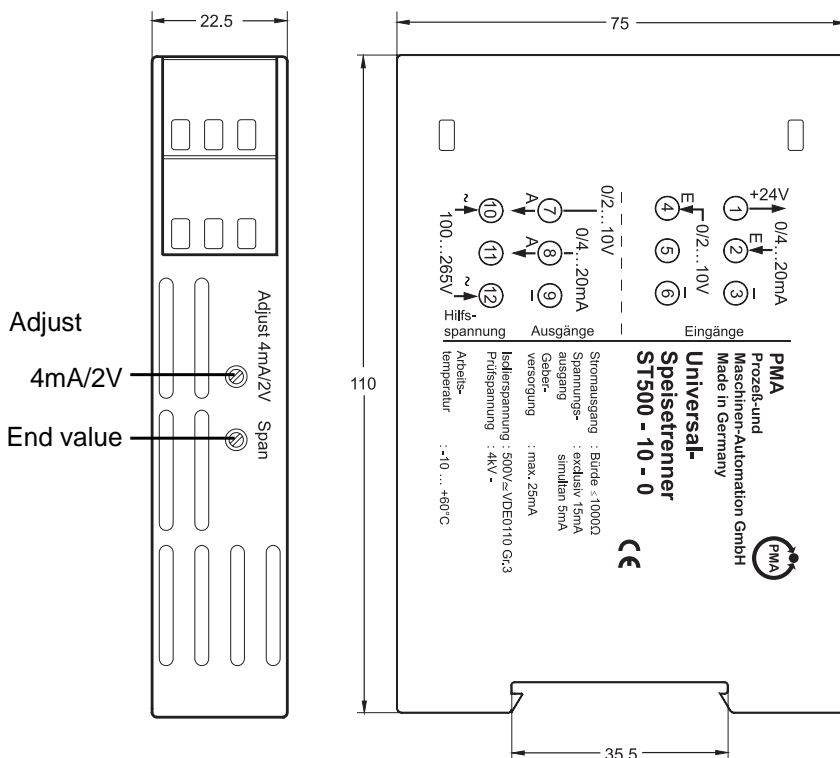


### ST500

#### Connection of sensors

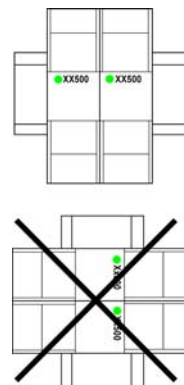


### Dimensions



### 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

1.      2.      3.  
 -  -

**1. Device type**

TV500    Isolating Signal converter  
ST500    Power feed signal converter

**2. Measuring ra**

10        Inputs 0/4 ... 20 mA and 0/2 ... 10 V DC  
            Outputs 0/4 ... 20 mA and 0/2 ... 10 V DC  
11        as 10, but rise time  $t_{90} < 100 \mu\text{s}$

**3. Hilfsspannung**

0         100 ... 265 V AC  
5         10,8 ... 30 V AC/DC



Isolating converter are available as EX-i devices.  
Please ask for more details