

# Isolating signal converter TV 500H

Integrated hold- and setpoint adjuster function

## Features

- Universal -inputs 0/4 ... 20mA and 0/2 ... 10V
- Output 0/4 ... 20mA or 0/2 ... 10V
- 2-colour LED for status indicating
- Full 3-port isolation
- Supply voltage 230V AC or 24V DC
- 22,5mm case for DIN rail mounting



## General

The TV500H brings the function of an isolating signal converter together with a setpoint adjuster and offers comparator and hold function. This combination meets the demand of field engineers of simulating a measured sensor signal to remove it for maintenance without triggering an alarm (see operating description on page 2).

## Short information

comp. / send	Selecting the device function via front- DIP switch or external voltage free contact.
comp.(are) →	Normal operation; the measured signal will be transmitted, supplied to the output and additionally compared with the internal adjusted setpoint value.
send →	Simulation mode; internal adjusted setpoint value signal will be supplied to the output and additionally compared with the input signal.
Output	from voltage to current signal will change output by setting a link between terminal 8 and 9.
Range switching	In- and output switchable with DIP switch from 0/4...20mA or 0/2...10V.

Ihr kompetenter Ansprechpartner / Your competent contact partner :

**SCHRIEVER & SCHULZ** & Co. GmbH Ing.- und Verkaufsbüro \* seit 1958 \* Eichstr. 25 B , D - 30880 Laatzen  
Tel. (+49) (0) 511 86 45 41 / Fax (0049) (0) 511 86 41 56 \* [www.schriever-schulz.de](http://www.schriever-schulz.de) | [schriever-schulz@t-online.de](mailto:schriever-schulz@t-online.de)

## Technical data

### Power supply

Supply voltage	: 230V AC $\pm 10\%$ 47...63Hz or 24V DC $\pm 15\%$
Power consumption	: < 3VA
Operating temperature	: -10 ... 50°C
Rated voltage	: 250V acc. to VDE 0110 group 2 between input / output / supply voltage
Test voltage	: 4kV-between input / output / supply voltage
CE - conformity	: EN55022, IEC1000-4-3/4/5/11/13, EN60555

### Input

Current input	: 0/4 ... 20mA switch selectable, $R_i = 43\Omega$ , overload max. 100mA
Voltage input	: 0/2 ... 10V switch selectable, $R_i = 175k\Omega$ , overload max. 100V

### Output

Switch selectable voltage to current	: Link between terminal 8 and 9
Current output	: 0/4...20mA switch selectable, burden < 500 $\Omega$
Voltage output	: 0/2...10V switch selectable, load max. 10mA

Accuracy	: < 0.2%
Temperature coefficient	: < 0.01%/°K
Rise time ( $t_{90}$ )	: < 40ms

Case	: DIN rail case polyamide 8020 UL94V-1
wight	: appr. 200 g
Connection	: Screw terminal with pressure plate, max. 2,5mm <sup>2</sup> wire
Protection	: Case IP30, Terminals IP20 fingersafe acc. to German BGV A2

## Operating description

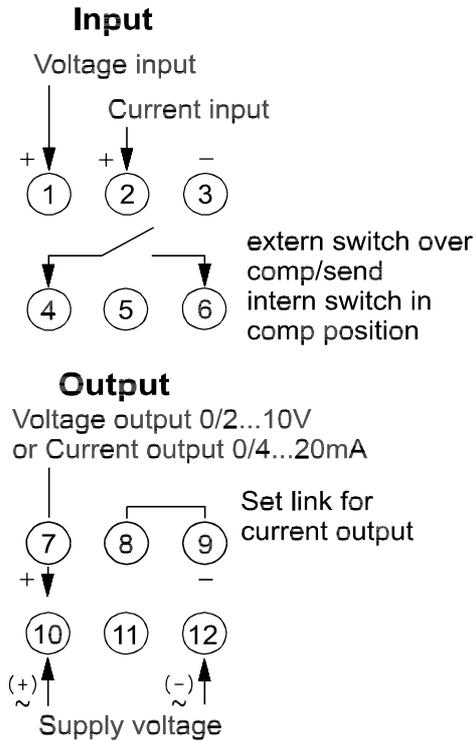
The device offers 2 operating modes, selectable by front-DIP switch. In position "comp." (**LED lights up green**) the device operates as an isolating signal converter. Additional the input signal will be compared with an internal setpoint value. The internal setpoint value can be adjusted. If both values have the same level, the LED switches from flashing green to continuous green.

A frontside knob with a scale of 0... 100 enables the adjustment of setpoint values independent of an input signal.

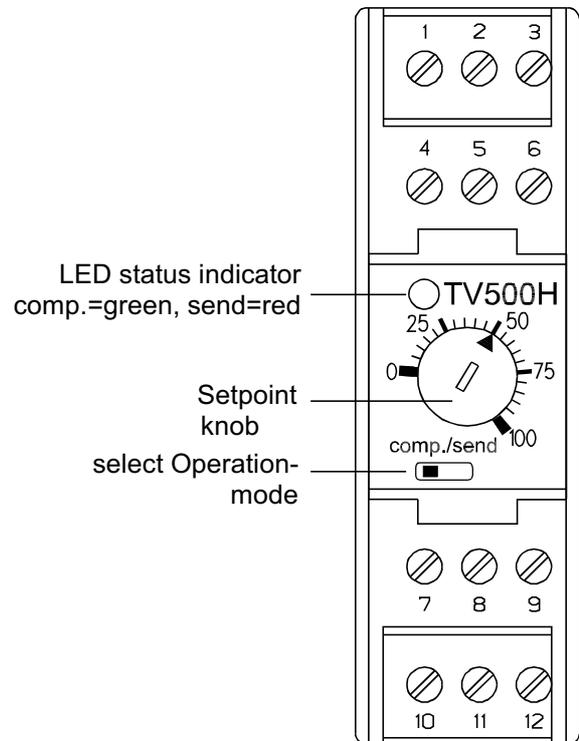
In DIP switching position "send " (**LED lights up red**) the internally setpoint value will be supplied to the output. Additional it will be compared with the input signal.

If both signals have the same level, the LED switches from flashing red to continuous red. If after this the input signal level will change or cut off the LED flashes red again. When cut-off the power supply all conditions at the device will be stored.

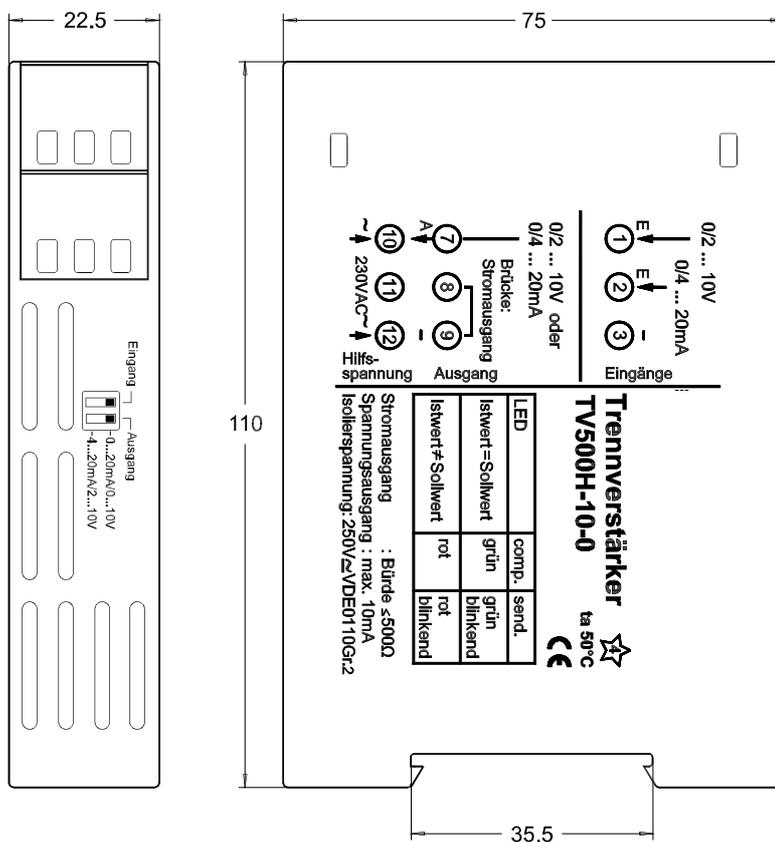
## Connection diagram



## Indicator and controls

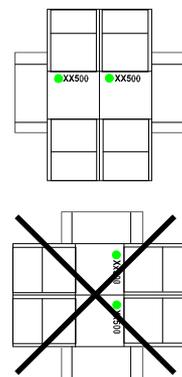


## Dimensions



### Note:

Mounting of multiple units without distance is only permitted in vertical installation!



DIN rail mounting TS35  
 acc. to DIN46277 and DIN EN50022

## TV500H in the field

If maintenance work is to be executed in a measuring set of a control system, it maybe favourable, if this will be possible without interrupting the process. Using the TV500H, the sensor signal (actual value) can be copied and supplied to the output in operation mode "send ". The measuring set continues working with this simulated signal. Subsequently, the sensor can be removed. Since no measuring signal of the sensor fits now, the LED changes from continuous red to flashing red. If after installation another sensor the measuring signal achieves the same value as the removed sensor, the LED changes again from flashing red to continuous red. In this case the operating mode of the TV500H can be switched back from "send " to "comp." . The measuring set operates in normal operation. The LED lights continuous green.

If the measuring signal does not achieve the old value after installation another sensor, the LED continuous flashing red. Now the output setpoint value can be balanced to the connected measuring signal by operating the front knob. The pulse duration increases with decreasing difference of the signal levels . If both signals have the same level, the LED will lighting continuous red. A interrupted-free switching from operating mode "send " to the operating mode "comp." can take place.

Naturally the TV500H even offers advantages when putting control systems into operation. Individual measuring sets can be driven in simulation mode, without any risk of damage.

## Order code

TV500H - 10 - <sup>1.</sup>

### 1. Supply voltage

0	230V AC ±10%
5	24V DC ±15%

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