

# Supply Isolation Amplifier

## AD-STV 40 GVC

### Application

The supply separation amplifier AD-STV 40 GVC serves the galvanic separation and amplification of transmitter signals (0/4-20mA) and analog standard signals (0/4-20mA and 0/2-10VDC).

If a 2-wire transmitter is connected, supplied directly with a galvanically separated and limited supply voltage.

The standard signals 0/4–20 mA and 0/2–10 V are freely selectable via switches or terminals, at the input as well as at the output. All measuring ranges are fixed calibrated, however, they can be adjusted via potentiometer, which can be switched in at the front, in a range of +/-20%.

Furthermore, this series of devices is equipped with a configuration interface AD-PC as standard, with which the input and output measuring signal can be freely programmed with the optional programming software AD-Studio in a range of max. 20 mA or 10 VDC (only output).

The selected output signal follows the input variable linear and is independent up to a limiting value from the connected burden.

Input, output and the supply voltage are separated from each other galvanically with high isolation. An integral electronic wide-range power pack with high-efficiency prevents high heating and permits high output loads.



### Specific characteristics

- All standard signals at input and output are freely selectable
- with integrated transmitter supply
- Zero point trimmer and final value trimmer can be switched on
- Programming via optional AD-Studio Configuration software possible
- 18 mm narrow housing with connection terminals, which can be pulled off

### Specification

<b>Input current</b>	
measuring range	0-20 mA; 4-20 mA
resolution	10 Bit
input resistance	50 Ohm
<b>Input voltage</b>	
measuring range	0-10 V; 2-10 V
resolution	10 Bit
input resistance	> 700 kOhm
<b>Transmitter supply</b>	
supply voltage	minimum 24 V (no load running) minimum 20 V (20 mA)
current limiting	approx. 30 mA
<b>Input filter (optional programmable with AD-Studio)</b>	
filter	10 ms/filter value (0...30.000)
<b>Output current</b>	
output range	0-20 mA; 4-20 mA
resolution	11 Bit
max. burden	400 Ohm
residual ripple	< 50 µAss
<b>Output voltage</b>	
output range	0-10 V, 2-10 V
resolution	11 Bit
max. burden	10 kOhm
residual ripple	< 20 mVss
<b>Accuracy</b>	
unit	0,3%
temperature influence	< 100 ppm / K
response time	approx. 70 ms
<b>Trimmer function</b>	
trim range	approx. +/-20%
<b>Configurations interface</b>	
AD-PC -> USB	
(optional programmable with AD-Studio software)	
<b>Supply</b>	
supply voltage	20-253 VDC or 50-253 VAC
max. power consumption	1,2 W/3,9 VA
<b>Housing</b>	
dimensions (WxHxD)	18x110x128mm
type of protection	IP 20
connection method	detachable terminal clamp
manner of fastening	DIN rail 35mm (EN 50022)
weight	approx. 130 gr.
<b>Environmental conditions</b>	
ambient temperature	0...+50°C
storage und transport	-10...+70°C
<b>EMC</b>	
Product family standard	EN 61326
Emitted interference	EN 55011, CISPR11 Cl. B
During checking, slight signal deviations are possible	
<b>Electrical safety requirements</b>	
Product family standard	EN 61010-1
<b>Galvanic separation. test voltages</b>	
input/output	2,5 kV RMS (1 min.)
signal/auxiliary voltage	4 kV RMS (1 min.)
<b>Protective systems</b>	
input/output	over voltage and over current
power supply	over voltage, over current and over temperature

*please turn over --->*

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**ADAMCZEWSKI**  
Elektronische Messtechnik GmbH

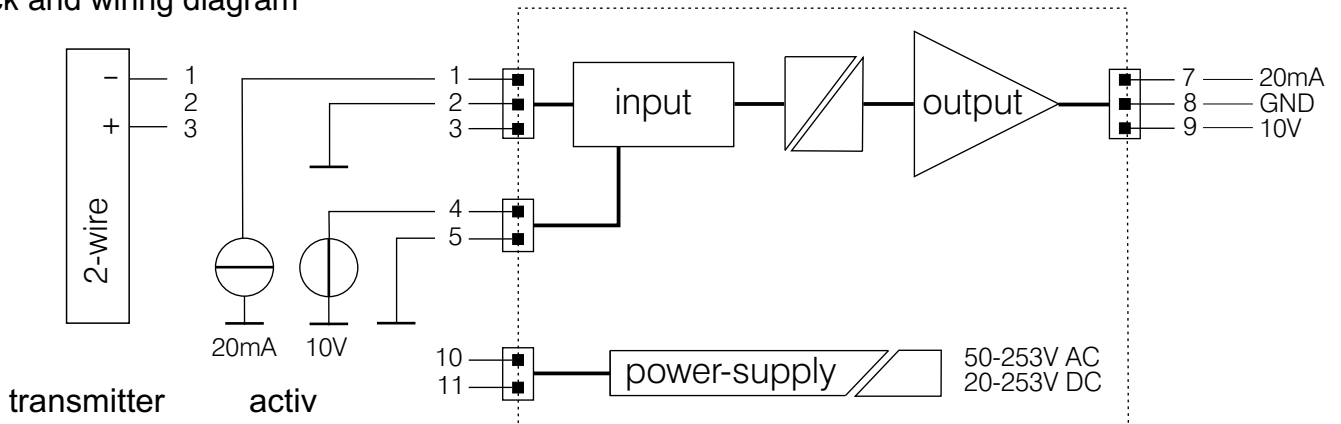
Felix-Wankel-Str. 13  
Tel. +49 (0)7046-875  
vertrieb@ad-messtechnik.de

74374 Zaberfeld  
Fax +49 (0)7046-7678  
www.adamczewski.com

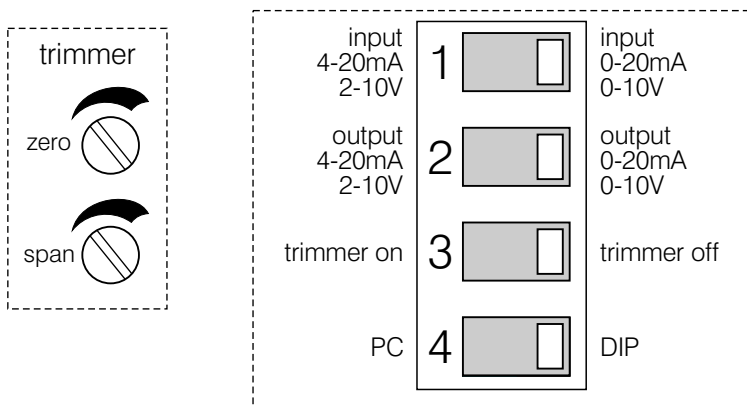
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## Block and wiring diagram



## Functional DIP-switch



## Terminology

### trimmer off:

= signals compare to DIP-switch 1+2, trimmer on frontpanel inactive

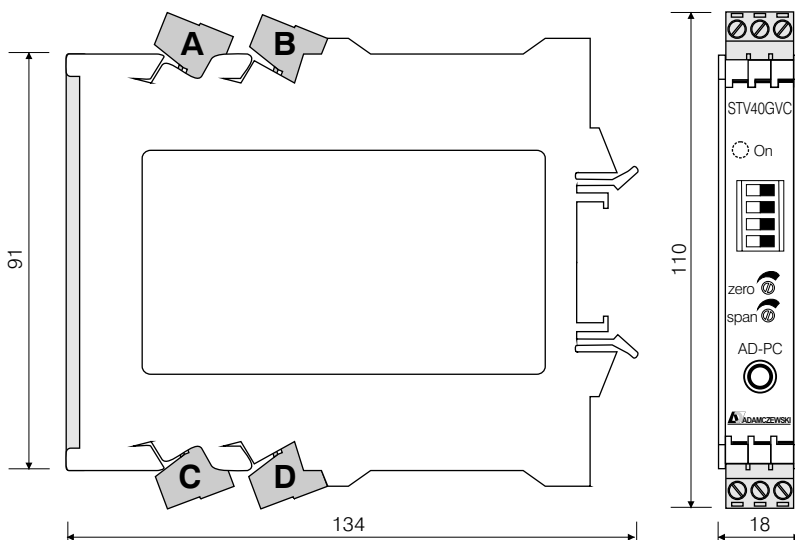
### trimmer on

= trimmer on frontpanel active for zero (offset) and (span) trim range: +/-20%

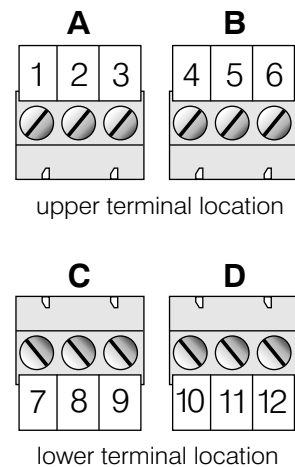
**DIP** = input and output signals compare to switch 1, 2 and 3

**PC** = configuration port active for programming software AD-Studio  
DIP-switch 1-3 inactive

## Dimensions



## Terminal location



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74374 Zaberfeld  
Fax +49 (0)7046-7678  
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