

**Description**

The multiplier isolation amplifiers AD-TV 452 GVC and AD-TV 454 GVF are used for galvanic isolation, amplification and transformation, or adjustment of analog measurement signals with simultaneous multiplication of the input signal. The compact housing contains 2 or 4 completely independent output channels, which are galvanically isolated from the input, the supply voltage and the other outputs. The signal types at the input and the output can be selected via clamps. At the front side there are spindle trimmers (Zero Z1..2/4 / Span S1..2/4) for direct adjustment. The efficient wide range power supply allows operation in a wide supply voltage range with low heat generation.

**Application**

Galvanic isolation, transformation, amplification and conversion of an analog measurement signal and additional multiplication into 2 or 4 independent output channels.

**Specific characteristics**

- 2 galvanically isolated outputs (AD-TV 452 GVC)
- 4 galvanically isolated outputs (AD-TV 454 GVF)
- Wide range power supply
- Signal type selectable via terminals
- Start and end of measuring range adjustable via trimmer

**Business data****Order number**

|               |                                    |
|---------------|------------------------------------|
| AD-TV 452 GVC | two galvanically isolated outputs  |
| AD-TV 454 GVF | four galvanically isolated outputs |

**Technical specifications****Input current**

|                  |                          |
|------------------|--------------------------|
| Measuring range  | 0 ... 20 mA, 4 ... 20 mA |
| Input resistance | 50 Ohm                   |

**Input voltage**

|                  |                        |
|------------------|------------------------|
| Measuring range  | 0 ... 10 V, 2 ... 10 V |
| Input resistance | 100 kOhm               |

**Output current**

|                 |                          |
|-----------------|--------------------------|
| Output range    | 0 ... 20 mA, 4 ... 20 mA |
| Max. burden     | 400 Ohm                  |
| Residual ripple | 40 µAss                  |

**Output voltage**

|                 |                        |
|-----------------|------------------------|
| Output range    | 0 ... 10 V, 2 ... 10 V |
| Min. burden     | 10 kOhm                |
| Residual ripple | 20 mVss                |

**Supply**

|                           |                           |
|---------------------------|---------------------------|
| Voltage range AC          | 50 ... 253 V AC, 50/60 Hz |
| Nominal voltage AC        | 230 V AC                  |
| Voltage range DC          | 21 ... 253 V DC           |
| Nominal voltage DC        | 24 V DC                   |
| Power consumption AC / DC | max 3 VA / 2 W            |
| TV 452 GVC                |                           |
| Power consumption AC / DC | max 5 VA / 4 W            |
| TV 454 GVF                |                           |

**Transmission behaviour**

|                       |              |
|-----------------------|--------------|
| Basic accuracy        | < 0,2 %      |
| Temperature influence | max 50 ppm/K |
| Response time         | ~ 20 ms      |

**Housing**

|                               |  |
|-------------------------------|--|
| Outlines TV 452 GVC (bxhxt)   | 18x110x134 mm  |
| Outlines TV 454 GVF (bxhxt)   | 33x110x134 mm  |
| Type of protection            | IP 20  |
| Connection method             | detachable terminal clamp                                  |
| Terminals, wire cross section | 2,5 mm <sup>2</sup> flex wire / 4 mm <sup>2</sup> one wire |
| Bolting torque terminals      | 0,5 Nm   |
| Weight TV 452 GVC             | ~ 130 g  |
| Weight TV 454 GVF             | ~ 210 g  |
| Manner of fastening           | 35 mm DIN rail 35mm  |

**Environmental conditions**

|                       |                                 |
|-----------------------|---------------------------------|
| Ambient temperature   | -10 ... 50 °C                   |
| Storage and transport | -10 ... 70 °C (no condensation) |



# Isolation Amplifier

# Multiplier Isolation Amplifier

AD-TV 452 GVC

AD-TV 454 GVF

## Technical specifications

### EMC

Product family standard EN 61326-1 <sup>1)</sup>  
 Emitted interference EN 55011, CISPR11 Cl. B, Gr. 1

### Electrical safety requirements

Product family standard EN 61010-1  
 Overvoltage category II  
 Elevation max. 2000 m  
 Pollution degree 2

### Galvanic isolation, test voltages

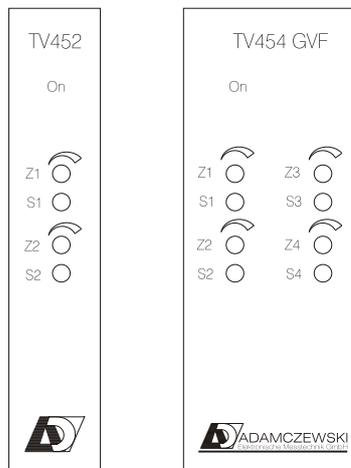
Input / output 2,5 kV, 50 Hz (1 min.)  
 Output to output 2,5 kV, 50 Hz (1 min.)  
 Signal / supply unit 3 kV, 50 Hz (1 min.)

### Protection circuits

Input electrical surge protection  
 Output electrical surge protection  
 Power supply electrical surge and reverse current protection

<sup>1)</sup> During checking, slight signal deviations are possible.

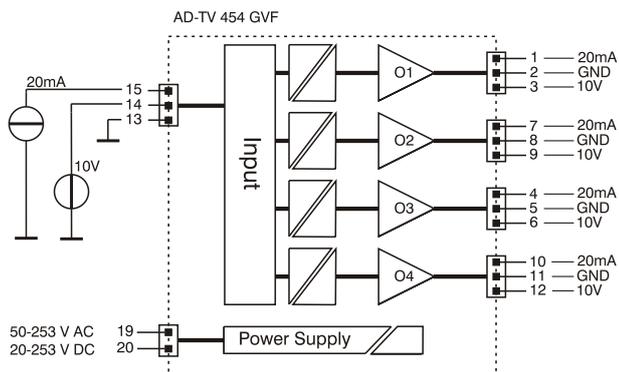
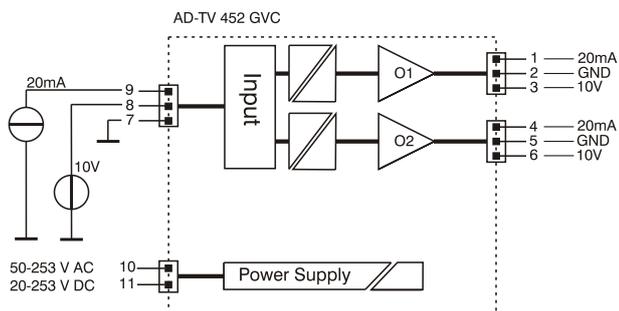
## Display and operating elements



Zx = Zero trimmer - begin of measuring range  
 Sx = Span trimmer - end of measuring range

x = Output

## Block and wiring diagram



## Dimensions

