

Description

The isolation amplifier AD-TV 420 GVD serves the galvanic separation of analogue signals and of transmitter signals. When a 2-wire transmitter is connected, this will be supplied directly via a galvanically separated and current-limited supply voltage. All measuring ranges and outputs can be freely parameterized. This can be carried out via the optional operating panel AD-VarioControl or via the programming software AD-Studio. The wide bipolar input measuring range makes this buffer amplifier into the universal type for almost all applications in the area of standard signals and beyond. All supply ranges are covered with the wide range power pack.

Application

Amplification, transformation and electrical isolation of current or voltage signals



Specific characteristics

- bipolar current input (+/- 0,5 mA bis +/- 50 mA)
- bipolar voltage input (+/- 1 V bis +/- 100 V)
- Power supply for 2- / 3-wire transmitters
- 2 bipolar current or voltage output
- Operating module as an accessory
- 23 mm narrow housing with detachable terminal clamp

Business data

Order number

Isolation amplifier AD-TV 420 GVD

Accessory (optional)

Operating module [AD-VarioControl / AD-VarioConnect](#)
USB programming adapter [AD-Variopass](#)
Configuration software 70|AD-Studio

Information

Downloads

Operation manual VarioControl [man-variocontrol-ad-en.pdf](#)



Tender text

[tv420gvd.zip](#)

Technical specifications

Input current

Measuring range -50 ... + 50 mA DC
Input resistance 40 Ohm

Input voltage

Measuring range -100 ... + 100 V DC
Input resistance 1 MOhm

Transmitter supply

Off-load voltage 24,5 V
Voltage at 20mA 19,5 V
Current limit ~ 25 mA

Current outputs

Max. output range -21,5 ... 21,5 mA DC
Max. burden 400 Ohm
Residual ripple 40 µAss

Voltage outputs

Max. output range -10,5 ... 10,5 V DC
Min. burden 10 kOhm
Residual ripple 30 mVss

Resolution

Input 16 bit
Output 12 bit

Transmission behaviour

Linearity error 0,2 % of full scale
Rise time 200 ms (output auf 90 %)
Temperature influence +/- 100 ppm/K of full scale

Supply

Voltage range AC 50 ... 253 V AC, 50/60 Hz
Nominal voltage AC 230 V AC
Voltage range DC 20 ... 253 V DC
Nominal voltage DC 24 V DC
Power consumption AC / DC 4,4 VA / 2,8 W

Housing

Dimensions (WxHxD) 23x110x134 mm
With operating module (bxhxt) 23x110x138 mm
Type of protection IP 20
Connection method detachable terminal clamp
Terminals, wire cross section 2,5 mm² flex wire / 4 mm² one wire
Bolting torque terminals 0,5 Nm
Weight ~ 150 g
Manner of fastening 35 mm DIN rail 35mm

Isolation Amplifier

AD-TV 420 GVD

Technical specifications

Environmental conditions

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

EMC

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

¹⁾During electromagnetic disturbance minor changes in output signal are possible.

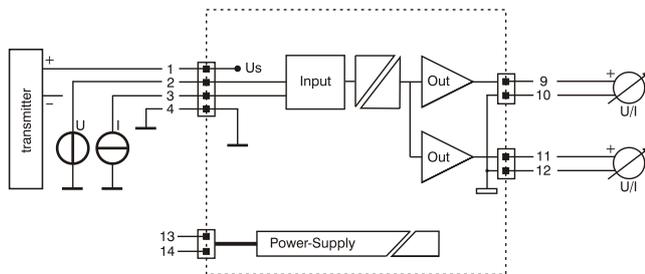
Electrical safety requirements

Product family standard	EN 61010-1
Overvoltage category	II
Pollution degree	2

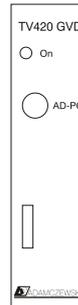
Galvanic isolation, test voltages

Input/output	3,51 kV (1 min)
Signal/auxiliary voltage	3,75 kV (1 min)

Block and wiring diagram



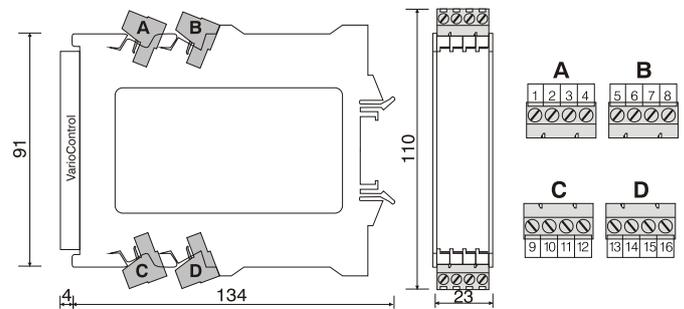
Display and operating elements



On: LED for operating display in green
 on - normal operation
 flashing - Signal failure, signal outside range limits

AD-PC: Communication interface for configuration by a PC
 Communication interface for VarioControl

Dimensions



Modbus Communication

The optional AD-VarioConnect operating module has an RS-485 interface. The data is transferred via the Modbus RTU protocol, the AD-VarioConnect operating module represents a Modbus slave. Communication takes place according to the master-slave procedure and starts with a request from the master, e.g. from a PLC or a PC. Each bus participant must have a unique address. If a slave detects that its address has been addressed by the master, the slave always sends an answer. The slaves never communicate with each other. They are also not able to start a communication with the master.

The Modbus master can read out the individual registers of the AD-TV 420 GVD via the addresses.

The default standard data format is 19200,e,8,1 with slave address 1. These settings can be changed via the AD-VarioConnect operating module.

Start address	Number of registers	Name	Unit	Data type	read	write
Measured values:						
40805	2	Scaled input		7	1	0
40809	2	Input signal	mA / V	7	1	0
40909	2	Output signal 1	mA / V	7	1	1
40911	2	Output signal 2	mA / V	7	1	1

Legend of the datatypes:

U08: 1	S08: 2	U16: 3	S16: 4	U32: 5	S32: 6	float: 7
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