

Description

The AD-TV 588 GVD is used for measuring the rms value of alternating current via a built-in current transformer up to 5A or via an external clamp on / split core current transformer up to 600A. The detected current is outputted as a galvanically isolated standard current signal in the range 0 to 20 mA and as a standard voltage signal in the range 0 to 10 volts. An additional relay output can indicate a limit value or a window. All parameters such as range, output range, relay functions, limiting values, etc. can be freely set via the configuration software.

Application

Measuring the current of single-phase loads up to 600A. Monitoring of current consumption to certain limits with hysteresis threshold by limit function. Monitoring a certain range of the current consumption by window function.

**Specific characteristics**

- Detection of the rms value of alternating currents up to 600A
- Current and voltage output can be used simultaneously
- Relay output, NO
- Wide range power supply. Supply with 24V DC or 230V AC available
- External clamp on/split core current transformers as accessory available
- Configuration information, such as limits, input current, etc. can be adjusted by the customer via configuration software or be specified when ordering
- Operating module as an accessory

Business data**Order number**

AC Isolation Amplifier AD-TV 588 GVD

Accessory (optional)

Split core current transformer 5/50/100/200/400/600 A AC
 Operating module AD-VarioControl
 USB programming adapter AD-VarioPass
 Configuration software [AD-Studio](#)

Technical specifications**Input current directly**

Measuring range 1 A	0 ... 1 A AC
Measuring range 5 A	0 ... 5 A AC
Remark	DO NOT CONFUSE THE INPUT OF THE CLAMP ON CURRENT TRANSFORMER.

Current input via Clamp on Current Transformer

Measuring range, Re	0 ... 1,66 mA AC, 200 Ohm
Measuring range, Re	0 ... 16,6 mA AC, 20 Ohm
Measuring range, Re	0 ... 33,3 mA AC, 10 Ohm
Measuring range, Re	0 ... 66,6 mA AC, 5 Ohm

All current inputs

Rated frequency	50 Hz
Frequency range	40 ... 400 Hz
Sampling	2 kHz

All signal outputs

Simultaneous use	Yes. Minus (terminals 10/12) may not be connected.
Bit width D/A converter (PWM)	11 Bit

Output current

Maximum output range	0 ... 20 mA
Resolution	~10 uA
Max. burden	500 Ohm

Output voltage

Maximum output range	0 ... 10 V
Resolution	~5 mV
Min. burden	1 kOhm

Relay output

Maximum switching load AC	250 V, 2 A
Maximum switching load DC	50 V, 2 A
Contact construction	closing contact
Switching operations mechanical	10.000.000
At 230V/2A AC, cos(phi)=1	600.000
At 230V/2A AC, cos(phi)=0,4	200.000
At 24V/1 A DC	200.000

Transmission behaviour

Maximum linearity error	0,5 % of full scale
Rise time 0..90%	200 ms
Temperature influence	+/- 100 ppm/K

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	3 VA / 1,5 W



Technical specifications

Housing

Dimensions (WxHxD)	23x110x134 mm
With operating module (bxhxt)	23x110x138 mm
Manner of fastening	DIN rail 35mm (EN 50022)
Type of protection	IP 20
Connector cross section	max. 2,5 mm ²
Bolting torque screw terminals	0,5 Nm
Weight	~120 g

Environmental conditions

Operation	0 ... 50 °C
Storage, transport	-10 ... 60 °C

EMC

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

Electrical safety requirements

Product family standard	EN 61010-1
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Galvanic isolation, test voltages

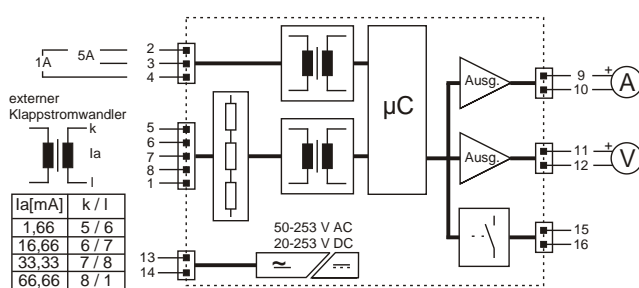
Input/output	4 kV, 1 min
Input, output/supply	4 kV, 1 min

Notifications

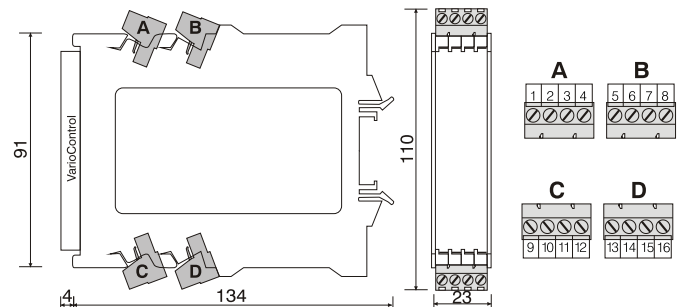
Operation	green LED. Blinks when signal outside range
Relay	red LED. Lit when relay is energized

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

Block and wiring diagram



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 588 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:						
40701	2	Scaled input	A AC	7	1	0
40801	2	Output signal current	mA	7	1	1
40803	2	Output signal voltage	V	7	1	1