AC Isolation Amplifier

AC-Isolation Amplifier/Limit Switch

AD-TV 588 GVD

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	AD-KSW 5/50/100/200/400/600 A AC
Display/control module	AD-VarioControl, VarioConnect
USB programming adapter	AD-VarioPass
Configuration software	AD-Studio

Information

Downloads

Operation manual VarioControl	man-variocontrol-ad-en.pdf
Safety instructions	ad-safety-instructions.pdf

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, Terminals	0 ... 1,66 mA AC, 200 Ohm, 5/6
Measuring range, Re, Terminals	0 ... 16,6 mA AC, 20 Ohm, 6/7
Measuring range, Re, Terminals	0 ... 33,3 mA AC, 10 Ohm, 7/8 (alle AD-KSW XXX)
Measuring range, Re, Terminals	0 ... 66,6 mA AC, 5 Ohm, 8/1

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

Subject to technical changes and printing errors.

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Technical specifications

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

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 mm²
Bolting torque screw terminals	0,5 Nm
Weight	~ 120 g

Environmental conditions

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

EMC

Product family standard	EN 61326-1 [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

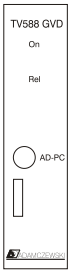
Galvanic isolation, test voltages

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

Display and operating elements

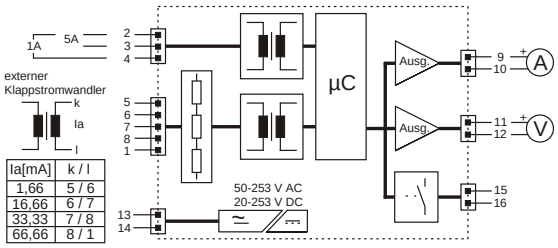


On: LED for operating display in green
on - normal operation
flashing - Signal failure, signal outside range limits
Rel: LED for relay in red
on - relay activated

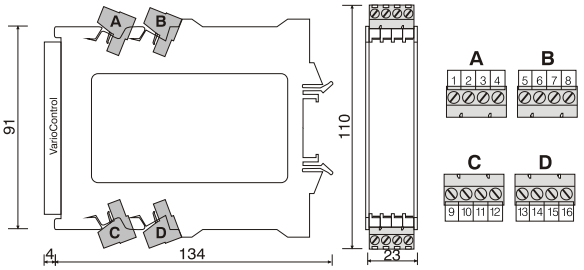
AD-PC: Communication interface for configuration by a PC

Communication interface for VarioControl

Block and wiring diagram



Dimensions



Modbus/RTU Communication

The optional AD-VarioConnect operating module is required for communication via Modbus/RTU. It has an RS-485 interface. The data format is 19200,e,8,1. The slave address is 1. These settings can be changed using the AD-VarioConnect operating module. The following data can be communicated.

Start address	Number of registers	Name	Unit	Data type	read	write
40701	2	Scaled input	A AC	float	1	0
40801	2	Output signal current	mA	float	1	1
40803	2	Output signal voltage	V	float	1	1

Use of the Adamczewski AD-KSW XXX folding current transformers

All AD-KSW XXX folding current transformers provide an output current of 33.33 mA regardless of the input current. Therefore, when using these transformers, ALWAYS use input terminals 7/8.

SALES & ADVICE
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