

# Digital Multi-function Measuring Transformer

# VarioCheck<sup>®</sup> VC3

The VarioCheck AD-VC3 combines Isolation Amplifier, Measuring Transducer, Indicating Device, Simulator, Linearizer and Limit Switch in one unit.



[www.adamczewski.com](http://www.adamczewski.com)

norm analogue signal

supply of transmitter

2 analogue outputs

4 limiting value relays

# Freely programmable digital measuring transformer

## VarioCheck® VC3

### Function and applications

The digital multi-function measuring transformer of series VarioCheck VC 3 GVF are freely programmable digital measuring transformer with two analogue outputs and up to 4 limiting value relays. Extensive standard equipment and additional options solve almost all imaginable tasks of a modern evaluation. The input of all characteristics is carried out directly at the device or, alternatively, via the configuration software „VarioConfig“.

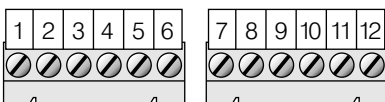
VarioCheck fulfils all tasks of a universal and secure measuring value recording through integral function modules such as limiting value messages, freely adjustable hysteresis, selectable relay functions, time-delayed switching, automatic or manual simulation modus, free linearizing curves and a wide range of supply voltage.

### Features

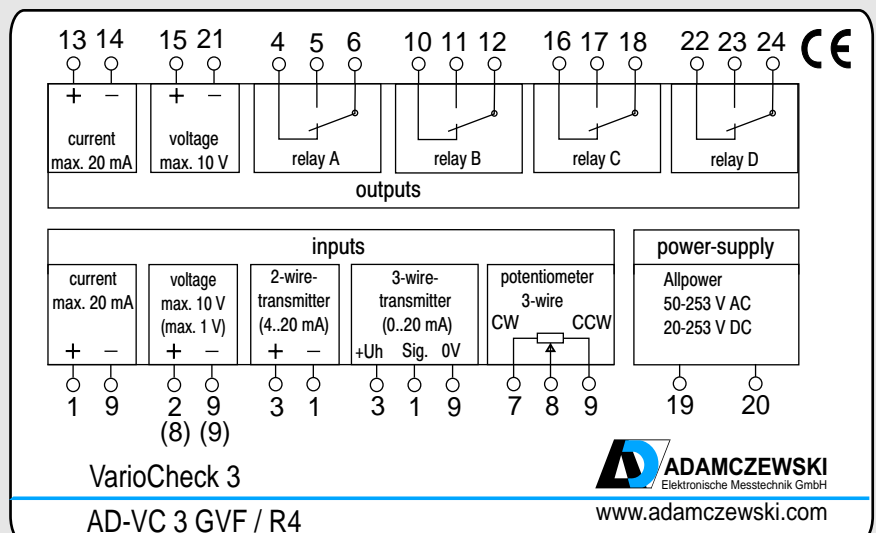
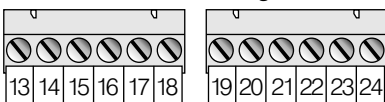
- Bipolar voltage inputs
- Bipolar current input
- Supply of 2-/3-wire transmitter
- Potentiometer input
- Current and voltage output, differently scalable and can be utilised simultaneously
- Galvanic 3-circuit separation of input, output and supply.
- Error message with missing or defective sensor at measuring range 4-20 mA
- LCD for display of different operating modes, lit in several colours (R/Y/B).
- Display backlight detachable, display contrast adjustable
- Freely definable scaling of the quantity to be measured through stating range, decimal point position and unit from the list or defined unit.
- Zoom function, expanded scale, linearizing, inverse modus
- Automatic or manual simulation operation
- Monitoring of the measuring signal with up to 4 freely adjustable limiting values
- Slave pointer function (saving min. and max. value)
- Locking the parameterizing via edit lock
- Non-volatile saving of all set parameter
- Menu languages switchable to: German, English, French
- Pluggable and codable terminal strips

### connecting diagram: AD-VC 3 GVF R4

upper terminal designation



lower terminal designation





## Special functions of the multi-measuring transducer VarioCheck® VC3

### ✓ For instance: ...the simulation mode

In simulation mode, the VC 3 GVF offers the possibility to specify the scaled value manually. This possibility is, for instance, an important aid during commissioning, if no measuring values, or not the required measuring values, from the process exist yet. All other device functions, such as limiting value editing and analogue output, continue to function without limitation, as if the scaled value is derived from the measuring value. This characteristic can also be utilised, for instance, to specify the nominal value on the analogue output.

### ✓ For instance: ...the linearizing of characteristics

A free table with 24 x/y value pairs is available for characteristics linearizing. During this, it is very helpful that the Y-values are entered already in scaled values. The characteristics data for a horizontal cylinder and a ball container are already completely entered and have only to be activated.

### ✓ For instance: ...the diversity of the limiting value functions

The limiting value functions can be set separately for each individual relay. Whether hysteresis function or window function, time delays can also be defined singly for each operating mode. Also, the mode of action of the relays can be adapted to the application.

### ✓ For instance: ...the user-friendly operation

The device is equipped with three short-stroke keys at the front for operating, for display of the measuring value and the parameter in a graphic display with clout background lighting and a communication interface for configuration via a PC. The menu language can be defined directly in the device, the colour of the display immediately indicates the operating mode or errors and with the PC-interface, the documentation of the complete configuration is ensured.

### ✓ For instance: ...the functional housing

With a width of only 33 mm and the proven clip foot, the device can be easily mounted. And with the standard clamps, which can be pulled off, it can be clamped on without problems. The clear hood protects the device against contamination and uncontrolled reconfigurations of the operating indicator.

# Specification VarioCheck® VC3

## Current input

Measuring range	-20 mA to + 20 mA
Resolution/Accuracy	13 bit / 5 ÷ A
Input resistance	60 Ohm

## Voltage input 10V

Measuring range	-10 V...+10 V
Resolution/Accuracy	13 bit / 2,5 mV
Input resistance	1 Mohm

## Voltage input 1V

Measuring range	-1 V...+1 V
Resolution/Accuracy	13 bit / 250 ÷ V
Input resistance	> 1 MOhm

## Potentiometer input

Connection method	3-wire
Admissible total resistance	100 Ohm - 100 kOhm

## Transmitter supply

Supply voltage, no-load running	24,5 V
Supply voltage, 20mA	19,5 V
Current limiting	ca.25 mA

## Current output

Output range	0...20,4 mA
Resolution/Accuracy	10 bit / ca. 20 ÷ A
Maximum burden	500 Ohm
Residual ripple	20 ÷ Ass

## Voltage output 10V

Output range	0 – 10,2 V
Resolution/Accuracy	10 bit / ca. 10 mV
Maximum burden	5 kOhm
Residual ripple	10 mVss

## Relay outputs A...D

Version	up to 4 change-over contacts
Max. switching voltage AC/DC	250 V AC / 50 V DC
Max. switching current AC/DC	2 A AC / 2 A DC

## Transient response

Rise time	100 ms (output to 90% with input of 0-20mA)
Linearity error	<0,2 % of end value
Temperature influence	+/- 100 ppm/K of end value

## Supply

supply voltage	20..253V DC and 50..253V AC
Max. power consumption at 24V DC / 230V AC	2,6 W / 5 VA

## Housing

Manner of fastening	DIN rail 35mm, EN 50022
Type of protection	IP20
Clamp cross section	max. 2,5 mm <sup>2</sup>
Weight	ca. 200 g

## Environmental conditions

Admissible ambient temperature	-10..60 °C
Storage and transport	-10..70 °C

## EMC

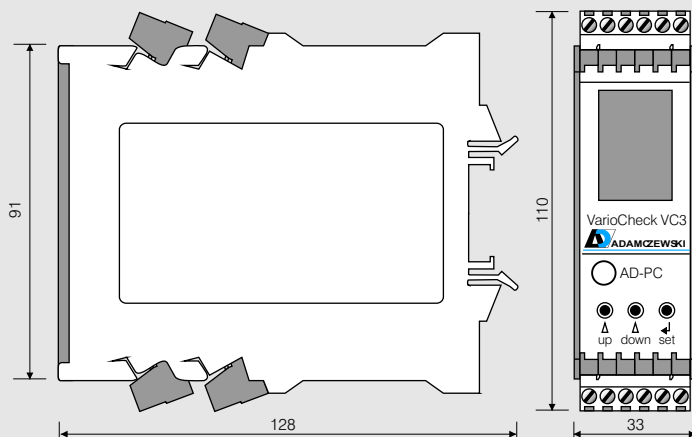
Discharge static electricity, ESD	EN 61326
Electromagnetic fields <sup>1)</sup>	IEC 61000-4-2
Quick transients, burst	IEC 61000-4-3
Impulse voltage, surge	IEC 61000-4-4
Route controlled HF-signals	IEC 61000-4-5
Error transmission	IEC 61000-4-6
	EN55011, CISPR11
	class B, living area

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

## Galvanic separation, test voltages

Input to output	2,5 kV, 1 min
Input/output to auxiliary voltages	4 kV, 1 min

## Dimensions AD-VC3 GVF



## Type key:

Type of device	Charateristics
AD-VC3 GVF R0	- current and voltage inputs - potentiometer inputs - transmitter supply - current output - voltage output - LCD display
AD-VC3 GVF R2	as AD-VC3 GVF R0, however 2 relay outputs
AD-VC3 GVF R4	as AD-VC3 GVF R0, however 4 relay outputs