



- ✓ AC/DC active current measuring
- ✓ Multifunction transducer
- ✓ Measuring range 0 ... 100 A AC/DC
- ✓ Supply voltage: 24 ... 240 V DC
48 ... 240 V AC
- ✓ Built-in current transformer (15 mm)
- ✓ Analog output
(4-20 mA, 0-20 mA, 0-10 V)
- ✓ Ratiometric analog output selectable:
(10 mA ±10 mA, 12 mA ±8 mA, 5 V ±5 V)
Measuring range 0 ... 100 A DC
- ✓ Width 45 mm

Control elements

- ✓ Function selector
- ✓ Zero point
- ✓ Fine setting of zero point
- ✓ Span

Status indication

- ✓ LED U: Supply voltage
- ✓ LED Err: Output overdriving
- ✓ LED C_{Out}: Analog output
4(0) - 20 mA active;
10 mA ±10 mA; 12 mA ±8 mA
active
- ✓ LED V_{Out}: Analog output
0 - 10 V active;
5 V ±5 V active



TECHNICAL DATA

SUPPLY CIRCUIT

Terminals	A1-A2	
Supply voltage	AC	48 ... 240 V
	DC	24 ... 240 V
Supply voltage tolerance	AC	-10 / +10 %
	DC	-15 / +20 %
Rated frequency	16,6 ... 400 Hz or DC	
Rated frequency including tolerance	16,0 ... 420 Hz	
Rated consumption	230 V AC @ 50 Hz	typ. 0,65 W / 1,2 VA
	24 V DC	typ. 0,55 W
Duty-cycle	100 %	
Backup power time	< 6 ms	
Recovery time	≥ 400 ms @ 24 V DC	

MEASURING CIRCUIT

Terminals	Built-in current transformer	
Measurand	current 1-phase	
Measuring method	True RMS	
Measuring range	100 A AC/DC	
Frequency	sinus	16,6 ... 400 Hz
	non-sinusoidal signals	50 / 60 Hz (arbitrary waveform)



RANGE OF FUNCTIONS

Functions	Zero	Zero point adjustable 0 %, 25 %, 50 %, 75 % of nominal value
	Zero Fine	Fine setting of zero point 0 ... 25 % of nominal value
	Span	Measuring Span 25 %, 50 %, 75 %, 100 % of nominal value
	Analog output	0 ... 20 mA, 4 ... 20 mA, 0 ... 10 V 10 mA \pm 10 mA*, 12 mA \pm 8 mA*, 5 V \pm 5 V*

* Potentiometers „Zero“ and „Zero Fine“ have no function when ratiometric analog output is selected.
For ratiometric outputs, only the measured DC current is generated as an analog signal

STATUS INDICATION

Supply voltage	LED U (green) on	supply voltage applied
Analog output	LED C _{out} (yellow) on	Analog output 4 (0) ... 20 mA, 10 mA \pm 10 mA, 12 mA \pm 8 mA active
	LED V _{out} (yellow) on	Analog output 0 ... 10 V, 5 V \pm 5 V active
Current monitor	LED Err (red) on	Error (output overdriving)

OUTPUT CIRCUIT CURRENT

Terminals		CO+; CO-
Kind of output	Analog output	4 ... 20 mA
		0 ... 20 mA
		10 mA \pm 10 mA
		12 mA \pm 8 mA
Step response 0 \rightarrow 100A	90% of final value	typ. 130 ms
Settling time	99% of final value	< 200 ms
Load *1		0 ... 300 Ω *2
Galvanic isolation		Between supply-, output- and measuring circuit
Output overridable		typ. up to 20,4 mA

OUTPUT CIRCUIT VOLTAGE

Terminals		VO+; VO-
Kind of output	Analog output	0 ... 10 V
		5 V \pm 5 V
Step response 0 \rightarrow 100A	90% of final value	typ. 130 ms
Settling time	99% of final value	< 200 ms
Load *1		min. 1,5 k Ω *2
Galvanic isolation		Between supply-, output- and measuring circuit
Output overridable		typ. up to 10,5 V

*1 Either the voltage or the current output may be used!

*2 Only resistive loads allowed



ACCURACY (@AMBIENT TEMPERATURE +25 °C, SPAN = 100 %

Base accuracy	DC, AC Sinus 50/60 Hz	< 2 % typ. 0,5 %
	AC Sinus 16,6 ... 400 Hz	< 2,5 % typ. 0,5 %
	CF < 2,8 @ 50 Hz I peak max = 160A	< 4 %
Setting accuracy		< 5 % (of full scale of „Zero Fine“ potentiometer)
Repeat accuracy		< 1 % typ. 0,1 %
Temperature influence		< 0,05 % per °C
Damp influence	> 85 % rel. humidity	+3 % of base accuracy

ENVIRONMENTAL CONDITIONS

Ambient temperature	operation	-25 ... +60°C
	storage	-40 ... +70°C
Relative humidity		5 ... 95 % (non - condensing)
Vibration	GL VI-7-2 category C	2 ... 13,2 Hz: 1 mm; 13,2 ... 100 Hz: 7 m/s ²
Shock	IEC 60068-2-27	150 m/s ² 11 ms
Installation altitude		up to 2000 m above sea level

GENERAL DATA

Dimensions	W × H × D	45 x 67 x 76 mm
	Ø Built-in current transformer	15 mm
Mounting		DIN rail (EN60715)
Mounting position		any
Housing material		PA 66, self-extinguishing plastic, class V-0
Degree of protection	housing	IP40
	terminals	IP20
Electrical connection		Screw terminal
Wire size	flexible with wire end ferrule	0,5 ... 2,5 mm ² (20 AWG ... 13 AWG)
	flexible without wire end ferrule	0,5 ... 4 mm ² (20 AWG ... 12 AWG)
	rigid	0,5 ... 4 mm ² (20 AWG ... 12 AWG)
Stripping length		8 mm
Tightening torque		max. 1Nm
Weight		147 g



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ACTIVE CURRENT TRANSDUCER / 1-PHASE CURRENT

V4IA100A 24-240V AC/DC

Art.Nr.: 2104420



ISOLATION DATA

Pollution degree (IEC 61010-1)	2	
Overvoltage category (IEC 61010-1)	II (III for measuring circuit with phase-to-neutral voltages $\leq 300 V_{eff}$)	
Rated insulation voltage (IEC 61010-1)	supply circuit / output circuit	300 V
	measuring circuit / output circuit	550 V
	supply circuit / measuring circuit	550 V
Rated impulse withstanding voltage (IEC 61010-1)	supply circuit / output circuit	4 kV
	measuring circuit / output circuit	6,4 kV
	supply circuit / measuring circuit	6,4 kV
Degree of protection	supply circuit / output circuit	protective separation
	measuring circuit / output circuit	protective separation
	supply circuit / measuring circuit	protective separation

STANDARDS

Product standard	IEC 61010-1 / IEC 61326-1
Interference immunity	IEC 61000-6-2
Interference emission	IEC 61000-6-4
Approvals	CE

IMPORTANT NOTES

Unlabeled terminals may not be used!





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ACTIVE CURRENT TRANSDUCER / 1-PHASE CURRENT

V4IA100A 24-240V AC/DC

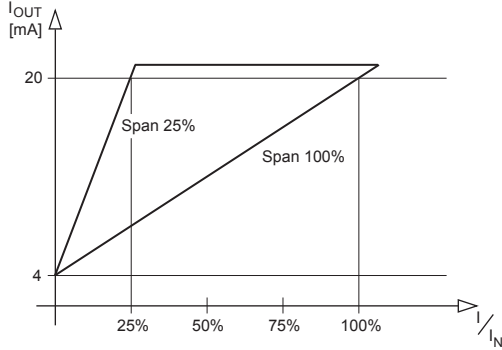
Art.Nr.: 2104420



FUNCTIONS

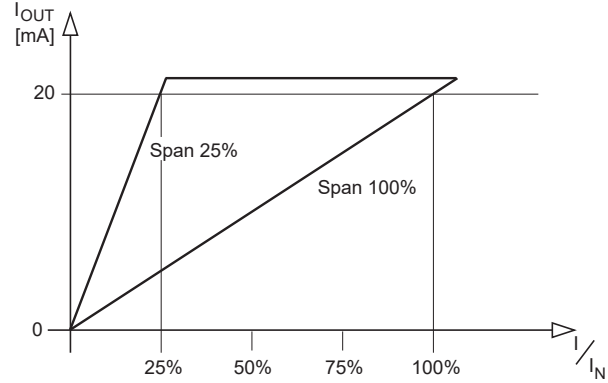
Output: 4-20 mA

Zero = 0% / Span = 25% ; Zero = 0% / Span = 100%



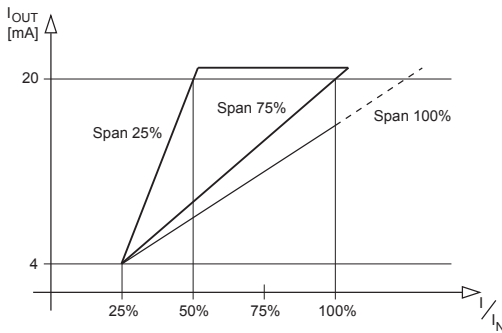
Output: 0-20 mA

Zero = 0% / Span = 25% ; Zero = 0% / Span = 100%



Output: 4-20 mA

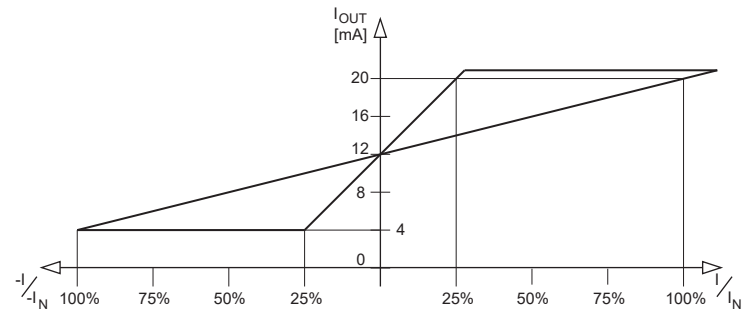
Zero = 25% / Span = 25% ; Zero = 25% / Span = 75%



Output: 12 mA ± 8 mA

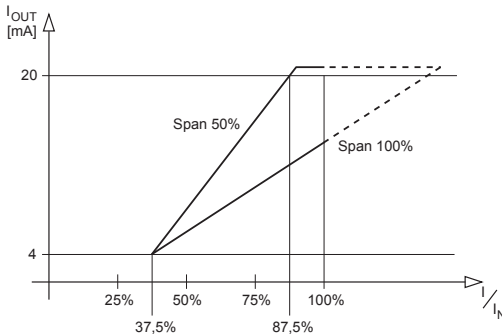
Zero = 0%* / Span = 25% ; Zero = 0%* / Span = 100%

*Potentiometers „Zero“ and „Zero Fine“ have no function



Output: 4-20 mA

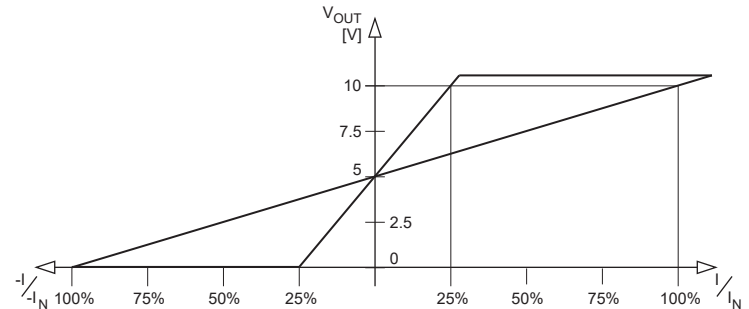
Zero = 37,5% / Span = 50% ; Zero = 37,5% / Span = 100%



Output: 5 V ± 5 V

Zero = 0%* / Span = 25% ; Zero = 0%* / Span = 100%

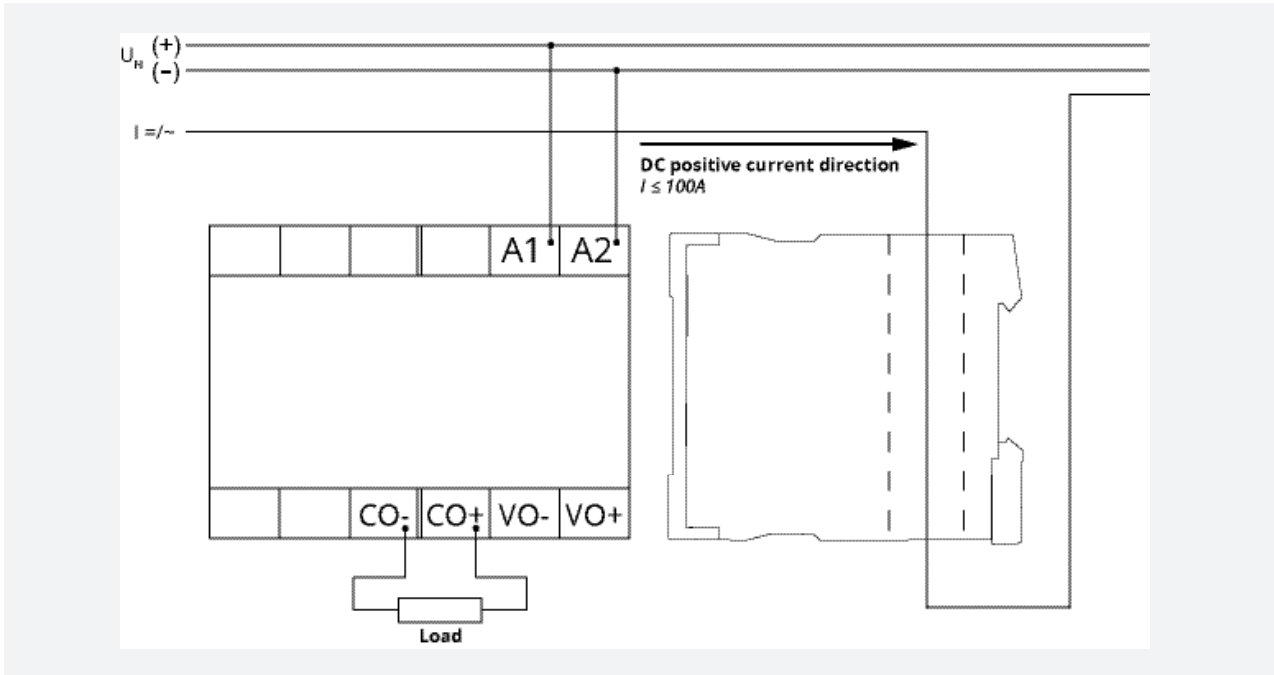
*Potentiometers „Zero“ and „Zero Fine“ have no function



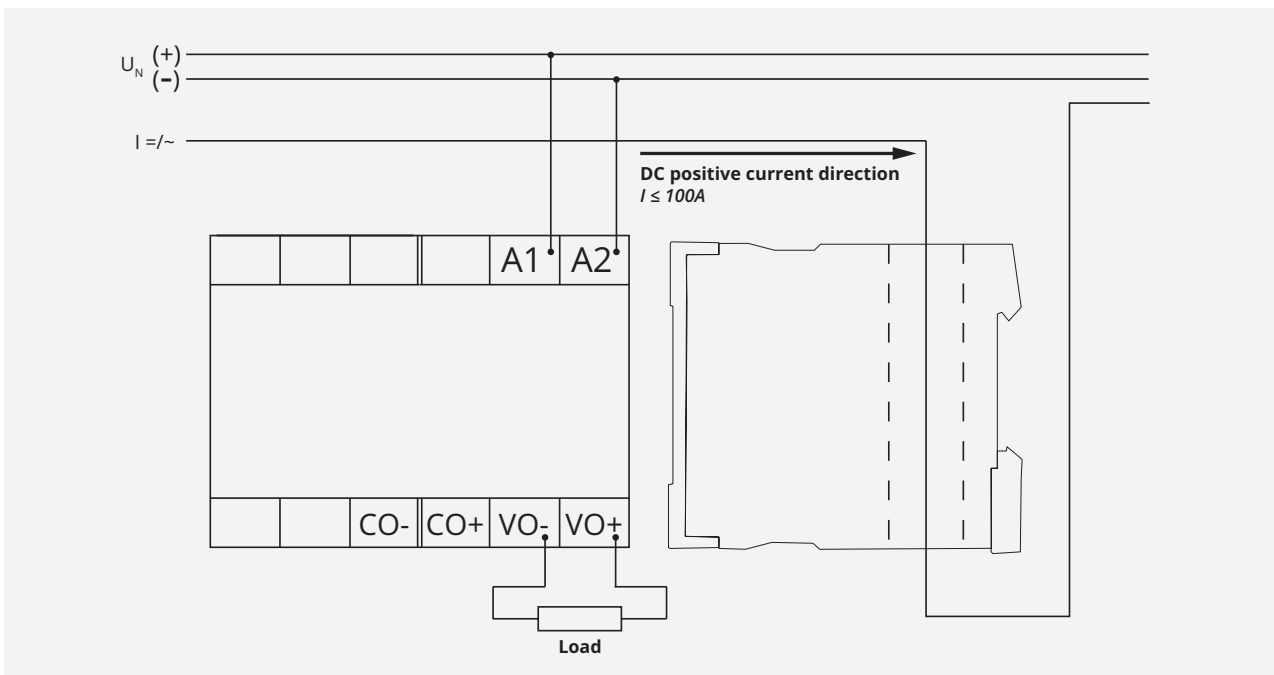


CONNECTIONS

Output: 4-20 mA; 0-20 mA; 12 mA \pm 8 mA; 10 mA \pm 10 mA



Output: 0-10 V; 5 V \pm 5 V





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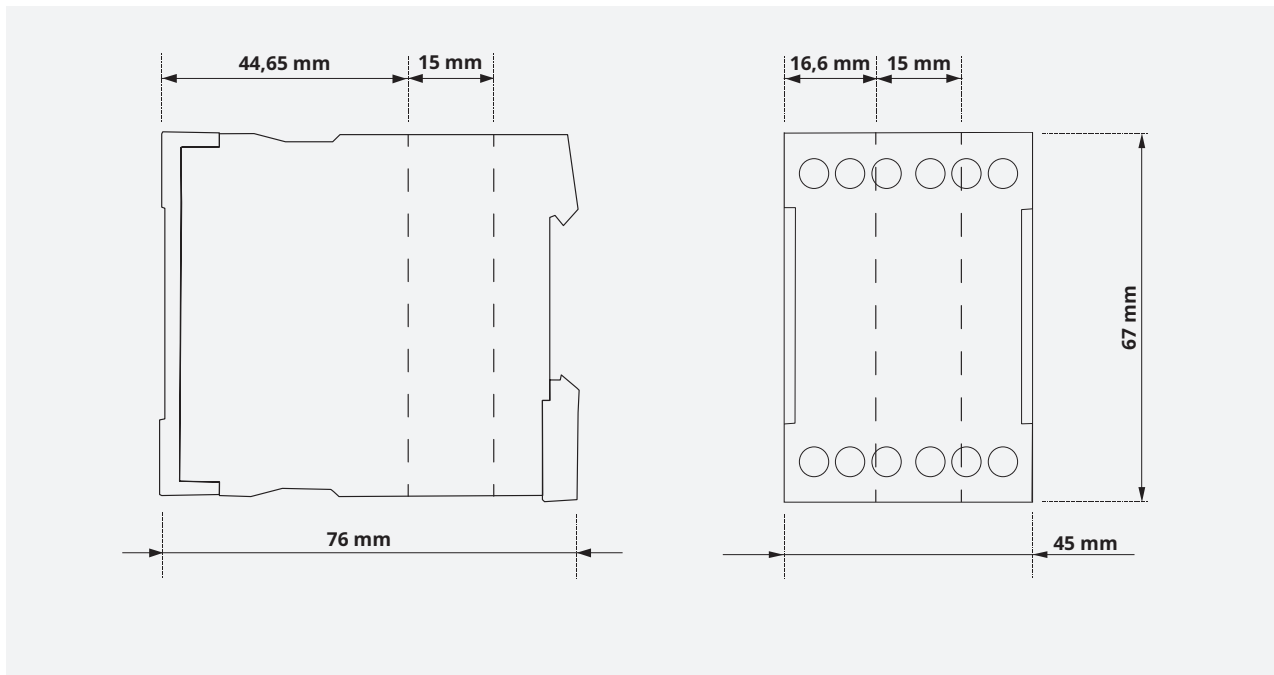
ACTIVE CURRENT TRANSDUCER / 1-PHASE CURRENT

V4IA100A 24-240V AC/DC

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DIMENSIONS



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