Measuring transdurcer for direct current power installations up to 1000 V (CAT III)

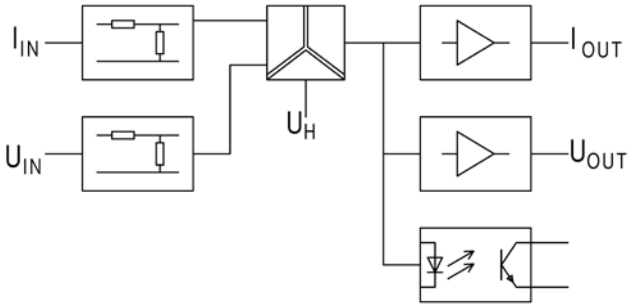
Type:
PGsT-MU

Application

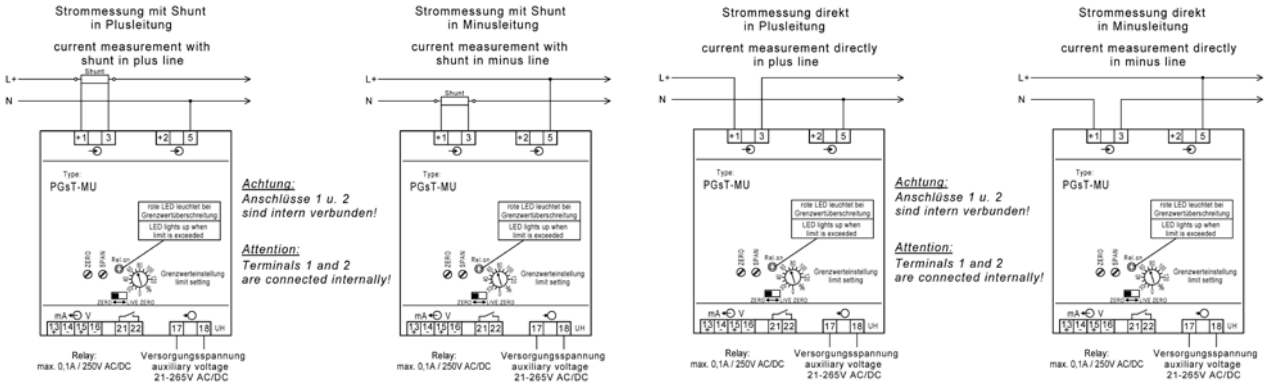
The measuring transducer PGsT-MU is used for the transformation and isolation of a DC power into an impressed direct current and direct voltage signal. An integrated limit monitoring serves for monitoring the input signal.

Function

The parameters to be measured are transmitted to the microcontroller via internal voltage dividers or shunts. The instantaneous values are then multiplied and formed as the mean value of a direct voltage matching the DC power in a subsequent integration stage. The galvanic isolation is realized using an optocoupler. An downstream amplifier supplies the impressed direct current and direct voltage signals. Both outputs are no-load proof and short-circuit proof. Connecting the two outputs is not permissible. The limit value may be adjusted within a range of 0-120 % of the input signal. An auxiliary voltage is required.



Connection



Types and variants

Input	50-150 % of the DC power P = U x I
	Voltage: a value of 0-1000 V or 0-1500 V (other values on request)
	Current: shunt …A/60 mA (please specify current!) or direct measurement 0-5 A
Output	0-20 mA and 0-10 V as well as 4-20 mA and 2-10 V switchable on front side
Surcharge	Bidirectional energy directions
	Note: There is no limit value monitoring with bidirectional energy direction!

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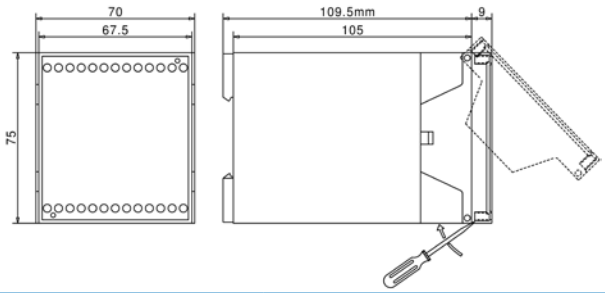
Technical data

Input	Input variables	DC power, pulsed DC power (e.g. PWM) within a range of 20 Hz-30 kHz
	Nominal power	50-150 % of the DC power P = U x I
	Rated current	via seperate shunt with 0-60 mV, Ri ≥ 10 M Ω or direct measurement 0-5 A
	Rated voltage	a value of 0-1000 V or 0-1500 V (other values on request) Ri ≥ 2 M Ω
	Overload permanent	current input (shunt) 1,2-fold
	High surge load	current input 5-fold 5 s
Output	Output variables	double output
	Rated values	0-20 mA/0-500 Ω load and 0-10 V max. load 10 mA as well as 4-20 mA/0-500 Ω load and 2-10 V max. load 10 mA switchable at front side ● bipolar output (e.g. –20 mA – 0 – +20 mA and –10 V – 0 – +10 V, without limit monitoring) ● zero point rise (e.g. 0-10-20 mA and 0-5-10 V)
	Limit value output	● NO contact, Hysteresis approx. 4 % of limit value, contact load max. 0,1 A AC/DC, 250 V AC/DC
	Function indicator	red LED if limit value is exceeded
Transfer behavior	Accuracy	± 0,5 %
	Temperature range	-15 °C to +20 °C to +30 °C to +55 °C
	Temperature influence	< 0,3 % at 10 K
	Auxiliary voltage influence	no
	Load influence	no
	External magnetic field influence	no (400 A/m)
	Residual ripple	< 50 mVss
	Response time	< 300 ms
	Open circuit voltage	max. 24 V
	Current limiting	max. 2-fold in case of overload
	Test voltage	7,4 kV between input to output, input to auxiliary voltage and input to relay contact 4 kV between output to auxiliary voltage and to relay contacts
Standards	EMC	DIN EN 61326
	Mechanical strength	DIN EN 61010 part 1
	Electrical safety	DIN EN 61010 part 1 Housing insulated, protection class II, for working voltages up to 1000V (phase to neutral) pollution level 2, measuring category CAT III
	Accuracy, overload	DIN EN 60688
	Isolation	DIN EN 61010 part 1, 3,52 kV 50 Hz 10 s and 7,4 kV 50 Hz 10 s
	Air and creep distances	DIN EN 61010 part 1
	IP code	DIN EN 60529 housing IP30, terminals IP20
	Connection	DIN 43807
Auxiliary voltage		21-265 VAC+DC, 2 VA
Weight		220 g
Dimensions		
Installation	Fastening	Snap-on fastening on top hat rail 35 mm acc. to DIN EN 60 715
	Electrical connection	Screw terminal max. 4 mm²