

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

Type: **PGsT-MU**



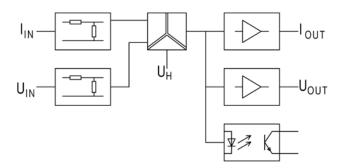
Application

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.



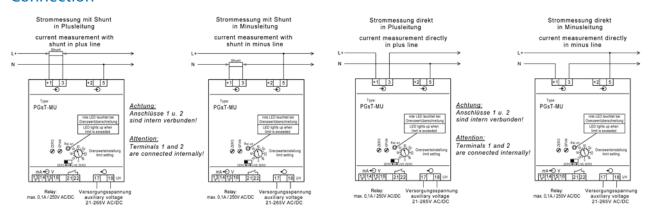
Function

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





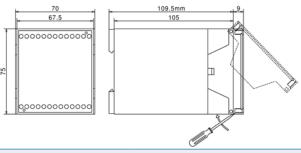
Types and variants

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!	



Technical data

within a range of 20 Hz-30 kHz Nominal power 50-150% of the DC power P = U x 1 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 4 cursey 1-15 °C to +20 °C to +30 °C to +55 °C Temperature range -15 °C to +20 °C to +30 °C to +55 °C Temperature influence -10 Auxiliary voltage influence -10 Load influence -10 Load influence -10 Residual ripple -10 NO sontact -10 NO contact -			
Nominal power Rated current Rated current Rated voltage a value of 0-1000 V or 0-1500 V (other values on request) Ri≥ 2 M Ω Overload permanent High surge load Current input (shunt) 1,2-fold High surge load Current input 5-fold 5 s Output Output variables A-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 as well as 4-20 mA/0-500 Ω load and 2-10 V max. load 10 mA as well as 4-20 mA/0-500 Ω load and 2-10 V max. load 10 mA as witchable at front side bipolar output (e.g20 mA - 0 − +20 mA and −10 V − 0 − +10 V, without limit monitoring) 2 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 10,5 % Temperature range 15° C to ±20°C to ±30°C to ±55°C Temperature influence Auxiliary voltage influence Load influence Load influence Ceternal magnetic field influence no External magnetic field influence no External magnetic field influence no Ceternal magnetic field i	Input	Input variables	
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Ri ≥ 2 M Ω Overload permanent current input (shunt) 1,2-fold High surge load current input 5-fold 5 s 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 swell as 4-20 mA/0-500 Ω load and 2-10 V max. load 10 mA switchable at front side ■ bipolar output (e.g20 mA − 0 − +20 mA and −10 V − 0 − +10 V, without limit monitoring) ■ 2ero 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 1 cmperature range −15 °C to +20 °C to +30 °C to +55 °C Temperature influence − 00		Rated current	via seperate shunt with 0-60 mV, Ri \geq 10 M Ω or direct measurement 0-5 A
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High surge load Current input 5-fold 5 s			$Ri \ge 2 M \Omega$
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bipolar output (e.g20 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 External magnetic field influence no External magnetic field influence no (400 A/m) Residual ripple < 50 mVss Response time -0 (300 ms -0			4-20 mA/0-500 Ω load and 2-10 V max. load 10 mA
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 Auxiliary voltage influence Load influence Load influence External magnetic field influence no External magnetic field influence on (400 A/m) Residual ripple 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,			switchable at front side
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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,			max. 0,1 A AC/DC, 250 V AC/DC
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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,		External magnetic field influence	no (400 A/m)
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,		Residual ripple	< 50 mVss
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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,		Test voltage	7,4 kV between input to output, input to auxiliary voltage and
Standards EMC DIN EN 61326 Mechanical strength DIN EN 61010 part 1 Electrical safety DIN EN 61010 part 1 Housing insulated, protection class II,			input to relay contact
Mechanical strength Electrical safety DIN EN 61010 part 1 Housing insulated, protection class II,			4 kV between output to auxiliary voltage and to relay contacts
Electrical safety DIN EN 61010 part 1 Housing insulated, protection class II,	Standards	EMC	DIN EN 61326
Housing insulated, protection class II,		Mechanical strength	DIN EN 61010 part 1
		Electrical safety	DIN EN 61010 part 1
for working voltages up to 1000V (phase to neutral)			Housing insulated, protection class II,
			for working voltages up to 1000V (phase to neutral)
pollution level 2, measuring category CAT III			pollution level 2, measuring category CAT III
Accuracy, overload DIN EN 60688		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		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		Air and creep distances	DIN EN 61010 part 1
IP code DIN EN 60529 housing IP30, terminals IP20		IP code	DIN EN 60529 housing IP30, terminals IP20
Connection DIN 43807			-
	Auxiliary voltage		
	Weight		
	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

