

MEASURING TRANSDUCERS FOR DC POWER

Type PGs-MU

General information	This operating manual is included with the equipment as standard. It contains the information required for correct usage. It is aimed at trained personnel and specialist staff who are familiar with the assembly, installation and commissioning of the product described here. If additional information is required, further details can be requested by the address given below.
Conformity	This equipment conforms to the requirements of the Directive from the Council of the European Community on the harmonisation of the member states regarding electromagnetic compatibility, EMC Directive 2004/108/EC, as well as Low Voltage Directive 2006/95/EC.
Application	The measuring transducers PGs-MU serve to convert and isolate the DC power into a load-independent direct-current and direct-voltage signal. The calibrated double-outputs can be switched over between 0-20 mA / 0-10 V and 4-20 mA / 2-10 V.
Function	The quantities to be measured will get via voltage divider or shunts to the analog multiplier where the instantaneous values of current and voltage will be multiplied and in a subsequent integrating step be formed as mean value of a direct voltage which corresponds to the DC power. The galvanic separation between input and output signals is effected by means of an optocoupler. The secondary amplifiers will supply the load-independent direct current and direct-voltage signals. Both outputs are no-load resistant and short-circuit proof. Any connection between both outputs will be unacceptable. An auxiliary voltage will be required.

Technical data

Input	Input quantity	DC power
	Rated power	50-150 % of DC power $P = U \times I$
	Rated current	via shunt 0-60 mV, $R_i \geq 100 \text{ Mohm}$
	Rated voltage	0-10 V up to 0-600 V, $R_i \geq 4 \text{ kOhm/V}$
	Overload, permanent	Current input (shunt) 1,2-fold, voltage input 5-fold/max. 830 V
	Surge overload	Current input 5-fold 5 sec., voltage 5-fold/max. 1000 V 1 sec.
Output	Output quantities	Double output
	Rated values	0-20mA /0-500 Ohm of load and 0-10V max. load 10 mA as well as 4-20mA /0-500 Ohm of load and 2-10V max. load 10 mA front-laterally switchable
	Option	<ul style="list-style-type: none"> • Frequency module - a value of 0 – 5 Hz up to 0 – 10 kHz <ul style="list-style-type: none"> ○ „Open-collector“ NPN, max. 30V 100 mA loadable, impulse/break 50/50 % ○ Square wave signal 5V, max. 10 mA loadable, impulse/break 50/50 %
Dynamic system behaviour	Accuracy	+/- 0,5 %
	Temperature range	-15°C up to <u>+20°C up to +30°C</u> up to +55 °C
	Temperature influence	< 0,3 % at 10 K
	Influence of aux.	none
	Load influence	none
	External magnetic field influence	none (up to 400 A/m)
	Residual ripple	< 30 mV _{ss}
	Response time	< 300 ms (with frequency module < 400 ms)
	No-load voltage	max. 24 V
	Current limitation	max. 2-fold in case of saturation
	Testing voltage	4 kV between input and output, input and aux., output and aux.
Adjustment	After taking off the plexiglass cover it is possible to adjust with the potentiometer which is named "SPAN" the final value and with the potentiometer which is named "ZERO" the zero-point (zero point elevation only). With the slide switch the output can be changed over between "LIVE ZERO" (4-20 mA/2-10 V) and "ZERO" (0-20 mA/0-10 V).	

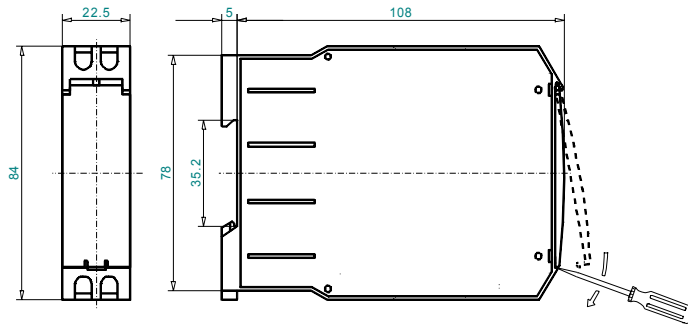


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Regulations	EMC	DIN EN 61326
	Mechanical strength	DIN EN 61010 part 1
	Electrical security	DIN EN 61010 part 1
		Housing all insulated, protection class II, at a working voltage up to 300V (network to neutral conductor) degree of pollution 2, overvoltage category CAT III
		at a working voltage up to 600V (network to neutral conductor) degree of pollution 2, overvoltage category CAT II
	Accuracy, overload	DIN EN 60688
	Separation	DIN EN 61010 part 1, 3,52 kV 50 Hz 10 sec.
	Air gaps and creep distances	DIN EN 61010 part 1
	System of protection	DIN EN 60529 housing IP30, terminals IP20
	Connection	DIN 43807

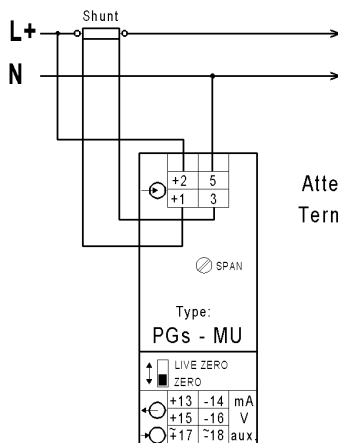
Auxiliary voltage		230 V AC \pm 20 %, 45-65 Hz, 2,5 VA
	Option	<ul style="list-style-type: none"> • 110 V AC \pm 20 %, 45-65 Hz, 2,5 VA • 24 V DC, -15 % bis +25 %, 2 W, (EMC DIN EN 61326 class A) • 6-30 V AC + DC or 36-265 V AC + DC, 2 VA, (EMC DIN EN 61326 class A)

Weight 190 g
Dimensions



Installation	Attachement	snap-on mounting according to DIN EN 50 022
	Electrical connection	threaded terminal end 4 mm ² max.

Connection



Attention:
Terminals 1+2 are internal connected

Transducers with frequency module have no further outputs and no "LIVE-ZERO"-switching. At the clamps +13 and -14 the frequency output is available.

Warning! Before starting any work on or in a device, it must be disconnected from the mains or switched to a voltage-free state.

Maintenance The device is maintenance-free when used correctly.

Caution! Servicing or maintenance work must only be carried out by trained specialist personnel.



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