



MEASURING TRANSDUCERS FOR DIRECT CURRENT AND DIRECT VOLTAGE WITH ELIGIBLE, CALIBRATED INPUTS AND OUTPUTS

NgT-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 NgT-MU serve to convert and isolate a direct current standard signal into a load-independent direct-current and direct-voltage signal. The calibrated inputs are eligible between the standard signals 0-20 mA, 4-20 mA, 0-10 V or 2-10 V. The calibrated double-outputs can be switched over between 0-20 mA / 0-10 V and 4-20 mA / 2-10 V, 0-10mA / 0-5V and 2-10mA / 1-5V.
Function	The measurable variable gets via an input protective circuit to the amplifier or impedance transformer. The direct voltage obtained is converted into a load-independent direct-current and into an impressed direct voltage. The electrical isolation is effected by means of an optocoupler. Both outputs are no-load resistant and short-circuit proof. Any connection between both outputs will be unacceptable. An auxiliary voltage will be required for all types.

Technical data

Input	Input quantity Rated values Overload permanent Surge overload	direct voltage resp. direct current 0-20 mA, 4-20 mA, $R_i = 100 \text{ Ohm}$, 0-10 V, 2-10 V, $R_i = 50 \text{ kOhm}$ Current 2-fold, voltage 5-fold Current 20-fold 1 sec., voltage 5-fold 1 sec.
Output	Output quantities Double-output Option	Load independent direct current and direct voltage 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 or 0-10mA/0-500 Ohm of load and 0-5V max. load 10 mA as well as 2-10mA/0-500 Ohm of load and 1-5V max. load 10 mA front-laterally switchable • Frequency module - a value of 0 – 5 Hz up to 0 – 10 kHz ○ „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 Temperature range Temperature influence Influence of aux. Load influence External magnetic field influence Residual ripple Response time No-load voltage Current limitation Testing voltage	+/- 0,5 % -15°C up to +20°C up to +30°C up to +55 °C < 0,1 % at 10 K none none none (up to 400 A/m) < 15 mV _{ss} < 50 μs (with frequency module < 400 ms) max. 24 V max. 2-fold in case of saturation 4 kV between input and output, input and aux., output and aux.



MÜLLER + ZIEGLER GmbH & Co. KG, Industriestr. 23, D-91710 Gunzenhausen
 Tel. +49 (0) 98 31.50 04 0, Fax +49 (0) 98 31.50 04 20
<http://www.mueller-ziegler.de> , e-mail: info@mueller-ziegler.de

Regulations	EMC	DIN EN 61326
	Mechanical strength Electrical security	DIN EN 61010 part 1 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
	Accuracy, overload Separation	DIN EN 60688 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 Connection	DIN EN 60529 housing IP30, terminals IP20 DIN 43807

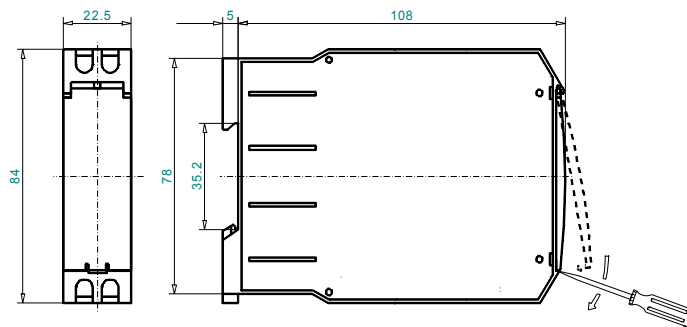
Auxiliary voltage

- 230 V AC \pm 20 %, 45-65 Hz, 2,5 VA
- Option
- 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

180g

Dimensions

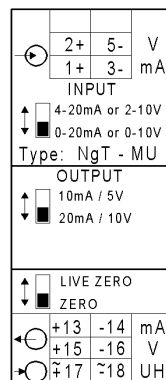


Installation

Attachement snap-on mounting according to DIN EN 50 022
Electrical connection threaded terminal end 4 mm² max.

Connection

standard signal inputs



- 1+ und 3- = 0-20mA
- 1+ und 3- = 4-20mA
- 2+ und 5- = 0-10V
- 2+ und 5- = 2-10V

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.



MÜLLER + ZIEGLER GmbH & Co. KG, Industriestr. 23, D-91710 Gunzenhausen
Tel. +49 (0) 98 31.50 04 0, Fax +49 (0) 98 31.50 04 20
<http://www.mueller-ziegler.de> , e-mail: info@mueller-ziegler.de