



Measuring transducers for strain gauge

(with 4-arm strain gauge full bridge)

Type:
DMS-MU



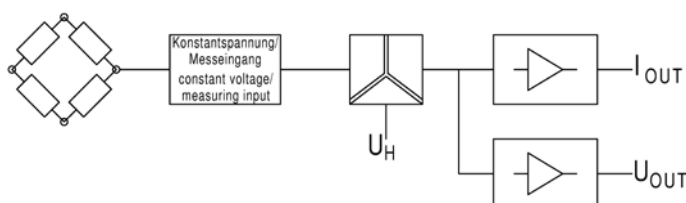
Application

The measuring transducer DMS-MU is used for the transformation and isolation of the change in resistance of a 4-arm strain gauge full bridge into an impressed direct current and direct voltage signal. The calibrated double outputs are switchable between 0-20 mA and 0-10 V or 4-20 mA and 2-10 V.

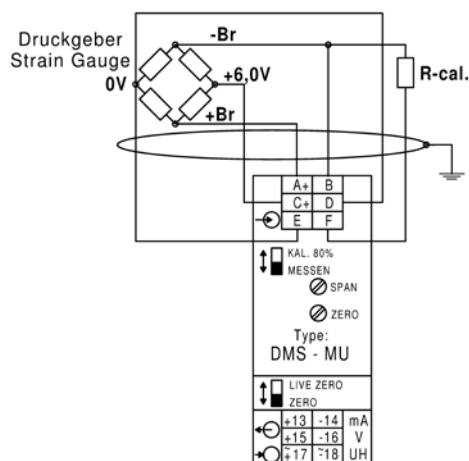


Function

The strain gauge measuring bridge is supplied with a constant reference voltage and the measuring signal is picked up in the form of a voltage difference. The input signal is amplified and transformed into an impressed direct current and in an impressed direct voltage. The input leads at terminals A, B, C and D are monitored for wire breakage. The galvanic isolation is realized using an optocoupler. Both outputs are no-load proof and short-circuit proof. Connecting the two outputs is not permissible. An auxiliary voltage is required.



Connection



Types and variants

Input	4-arm strain gauge full bridge with e.g. 350 Ω
Output	0-20 mA and 0-10 V as well as 4-20 mA and 2-10 V, switchable on front side
Surcharges	Strain gauge full bridge 75 Ω - 450 Ω (housing width 45 mm) Auxiliary voltage other than 230 V AC: 24 V DC 6-30 V AC + DC 36-265 V AC + DC 110 V AC
Frequency module	Type FM (frequency output 0-5 Hz up to 0-10 kHz) - (description page 10)
Relay module	for limit monitoring Type GWM - (description page 11)



Technische Daten

Input	Input variables	change of resistance from a 4-arm strain gauge full bridge with e.g. 350 Ω (170 Ω - 450 Ω)
	Rated values	differential input voltage 2-3,3 mV/V adjustable from 1,8 to 3,6 mV/V (corresponds to 12 to 24,5 mV)
	Bridge supply voltage	ca. 6,0 V
	Zero point	± 3 mV adjustable
Output	Output variables	double output
	Rated values	0-20 mA / 500 Ω load and 0-10 V / max. load 10 mA as well as 4-20 mA / 500 Ω load and 2-10 V / max. load 10 mA switchable on front side
Transfer behavior	Accuracy	$\pm 0,5$ %
	Temperature range	-15 °C to <u>+20 °C</u> to <u>+30 °C</u> to +55 °C
	Temperature influence	< 0,2 % at 10 K
	Auxiliary voltage influence	no
	Load influence	no
	External magnetic field influence	no (400 A/m)
	Residual ripple	< 30 mV _{ss}
	Response time	< 300 ms
	Open circuit voltage	max. 24 V
	Current limiting	max. 2-fold in case of overload
	Test voltage	4 kV between input, output, auxiliary voltage
	Sensor break	if one of the input wires at the terminals A, B, C or D is interrupted, the output of the measuring transducer switches to maximum output signal
Auxiliary voltage		230 V AC ± 20 %, 45-65 Hz, 2,5 VA
	Options	<ul style="list-style-type: none"> ● 110 V AC ± 20 %, 45-65 Hz, 2,5 VA ● 24 V DC - 15 % to + 25 %, 2 W ● 6-30 V AC + DC, 2 VA ● 36-265 V AC + DC, 2 VA
Dimensions	Housing	Housing A, (22,5 mm wide) Page A1
Weight		180 g
Installation	Fastening	Snap-on fastening on top hat rail 35 mm acc. to DIN EN 60 715
	Electrical connection	Screw terminal max. 4 mm ²