General description of measuring transducers

Application

Measuring transducers are designed for the conversion and galvanic isolation of varied measuring signals in heavy-current and weak-current engineering. The input variable is converted to a proportional output signal to standard values of e.g. 20 mA and (or) 10 V. A frequency or pulse output is possible as well. Measuring transducers are indispensable where measuring values must be transmitted over long distances or at different locations for indication and evaluation.

Type and function

The output signal is an impressed direct current and (or) direct voltage; it is nonsensitive to interference signals, external magnetic fields as well as to distortion due to signal lines of varying lengths. Within the load range, the accuracy remains uninfluenced by different internal resistances of individual or also several evaluation instruments, like e.g. switchgear and measuring devices, controlling equipment, recorders, PLC systems etc. (when using both outputs simultaneously, the max. current which may be supplied to the voltage output is 1 mA, connecting both outputs is not permissible). In case of most measuring transducers, an auxiliary voltage is generated from the measuring voltage, an additional auxiliary voltage ist not required.
Measuring transducers have a fully electronic design and dispose of no mechanical parts; they are thus largely immune to environmental influences and suited for use under rough operating conditions.

Special features

- Simple installation, no programming required
- Accuracy class 0,5
- Analog (continuous) measurement
- Analog output immune to noise
- Setting option of zero point and span from front side
- Double output
- Calibrated double output switchable at the front using switch between 0-20 mA / 0-10 V and 4-20 mA / 2-10 V for transducers for direct current variables, rms value, process parameters and operands.
- To be combined with frequency output and relay module
- 4 kV up to 7,2 kV test voltage, also in case of DC auxiliary voltage between input, output and auxiliary voltage
- All transducers also with auxiliary voltage for 36-265 V AC + DC or 6-30 V AC + DC and 4 kV test voltage
- Small design (22.5 mm housing width)

Technical data

General specifications	EMC	DIN EN 61 326
	(for DC auxiliary voltage and multi voltage power supply)	DIN EN 61 326 class A
	Mechanical strength	DIN EN 61 010 part 1
	Electrical safety	DIN EN 61 010 part 1 and DIN EN 61 010 part 2-030 Housing insulated, protection class II, ● for working voltages up to 300 V (phase to neutral) pollution degree 2, measuring category CAT III ● for working voltages up to 600 V (phase to neutral) pollution degree 2, measuring category CAT III ● for working voltages up to 1000 V (phase to neutral) pollution degree 2, measuring category CAT III for types leffT-MU / UeffT-MU / IgTT-MU / UgTT-MU / PGsT-MU
	Accuracy, overload	DIN EN 60 688
	Isolation	DIN EN 61 010 part 1, 3,7 kV 50 Hz, 10 sec.
	Air and creep distances	DIN EN 61 010 part 1
	IP code	DIN EN 60 529, housing IP 30, terminals IP 20
	Connection	DIN 43807
	Housing	Polycarbonat (self extinguishing acc. to UL 94 V-0)
	Max. tightening torque of terminals	0,8 Nm

Test report

Measuring transdurcer	X
Universal measuring transducer:	
Multi-E11-MU	X
Multi-E4-MU	X
Multi-E-MU	X

Dimensions

for measuring transducers