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ESTERS ELEKTRONIK

Speed Pressure Flow Rate Temperature

Frequenzy Measurement and Switching Instrument

using time-oriented measurands

Single and multiple period evaluation; Accuracy ±0,05

The µP-controlled frequency measurement and switching instruments of the type range ATM 1600 are suited as an actual value transmitter for analog one-quadrant control and applicable to control time-dependent measurands such as rpm, velocity, flow rate, et cetera, which, with a suitable impulse sensor, are able to be converted to a proportional frequency. Electromagnetic sensors, hall effect impulse sensors, infrared reflex sensor, 2-wire NAMUR sensors or 3-wire proximity switches with pnp-transistor output can be used.

The F/I Converter use the period measurement method. The frequency is calculated as the inverse value of the time based interval of the impulse input. The calculated frequency is scaled on the defined final value and is delivered by the D/A-converter. The calculating time takes approx. 3ms.

Using drives with untrue motions, we advice to measure during several periods. Additionally a software-based pre-divider can be used.

Field of applications

- Actual value for analog one-quadrant control
- Industries manufacturing paper, fibre, sheeting, steel and cranes
- Turbines
- Generators
- Centrifuges
- Emergency diesel
- Textile machinery
- Test stand
- Agitator
- Manufacturing of transmissions
- Flow measurement

Rev.-Nr.: DS 100 E V0.4 2014-01-03

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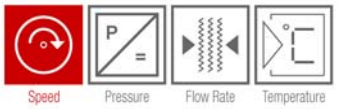

F/I-Transducer ATM 1613

The F/I-Transducer converts an input frequency, in form of a sine wave or square wave, into a proportional current or voltage output.

It is especially suited for high precision measurement and control applications. Provided coding switches are used to program the measurement range.

Technical Data

Measurement range	0,02 Hz - 99,9 kHz
Minimum range	0,02 Hz - 9,99 Hz
Analoge output	0 (4) - 20 mA and 0 (2) - 10 V DC; 600 Ω (10 mA)
Accuracy	± 0,05%
Linearity error	± 0,05%
Input sensivity	50 mV - 80 V_{eff}, 47 kΩ, AC-Coupled, max. 99,9 kHz
Power supply (Sensor)	15/8 V 60 mA
Temperature drift	30 ppm/°C
Ambient temperaure	0 - 60°C
Power supply	115 or 230 V AC 30 ± 10%, 47 - 63 Hz ca. 6 VA Internal wire jumper

Options

N3	Power Supply 18 - 30 V DC, galvanically isolated Current consumption approx. 120 mA
KA	Touch-proof terminals
T1	Frequency output fe (instead of interface)

Accessories

S93	Field case, IP 64

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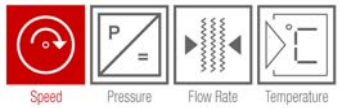

F/I-Transducer / Frequency relay ATM 1615

This instrument is a compact measurement and monitoring device, which combines the functions of an F/I Transducer, a frequency relay and standstill detection.

To define the occurrence of a standstill a time between 0,01s - 300,0s can be programmed.

Technical Data

Measurement range	0,02 Hz - 99,9 kHz
Minimum range	0,02 Hz - 9,99 Hz
Analoge output	0 (4) - 20 mA and 0 (2) - 10 V DC; 600 Ω (10 mA)
Accuracy	± 0,05%
Linearity error	± 0,05%
Frequency relay	0,02 Hz - 99,9 kHz
Standstill detection	0,01 - 300,0s
Hysteresis	2%
Relay contact / max. switching	250 V AC; 1 A
Input sensivity	50 mV - 80 V_{eff}, 47 kΩ, AC-coupled, max. 99,9 kHz
Power supply (Sensor)	15/8 V, 60 mA
Temperature drift	30 ppm/°C
Ambient temperature	0 - 60°C
Power supply	115 or 230 V AC 30 ± 10%, 47 - 63 Hz ca. 6 VA internal wire jumper

Options

N3	Power Supply 18 - 30 V DC, galvanically isolated Current consumption approx. 120 mA
KA	Touch-proof terminals
T1	Frequency output fe (instead of interface)

Accessories

S93	Field case, IP 64

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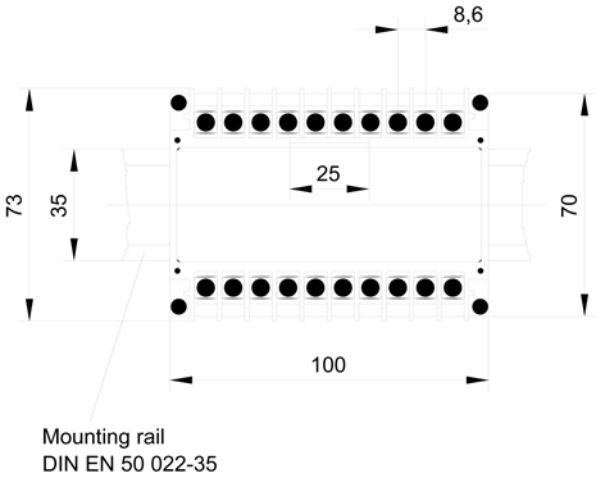
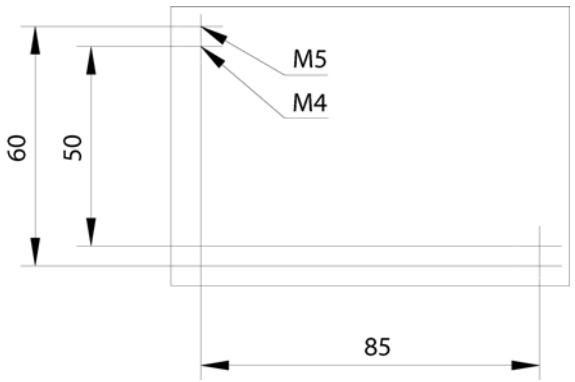
Dimension diagram ATM 1613 / 1615





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