

Frequency Converter

AD-FM 300

AD-FM 600

Description

The FM300(1-channel)/ FM600(2-channel) is a freely programmable frequency / analog transmitters with display unit. Through its multi-function input frequency processing and the up to 2 analog outputs (current/voltage) of each channel and the assessable digital outputs, the device is ideally suited for the display of instantaneous flow with simultaneous assessable for counting pulse water meter with main and secondary points. Especially for water meters with bypass a scaled summation is integrated (only FM600). A low level suppression is shiftable. Both the instantaneous flow rates and the meter quantities are outputted added.

Application

The main area of application is the through-flow measuring at water meters. Further applications are the measuring of rotation speed or energy consumption.



Specific characteristics

- 1 (FM300) or 2 (FM600) channels in just one housing
- Inputs: NAMUR, contact, open collector, 3-conductor Opto, 24V active
- Analog outputs: each channel 1 current and 1 voltage (synchronous)
- Digital outputs: relay respectively optocouple (puls function or limit contact)
- Scaled summation
- Shiftable low level suppression
- Programming directly on the device or via a free programming software
- DIN rail or panel mounting

Business data

Order number

AD-FM 300 FE	1-channel; front mounting
AD-FM 300 GA	1-channel; DIN rail mounting
AD-FM 600 FE	2-channel; front mounting
AD-FM 600 GA	2-channel; DIN rail mounting

Technical specifications

Digital inputs

Input	NAMUR (EN 60947-5-6), reed contact, open-collector, 3-lead opto-transmitter or 24V active
Input frequency	min. 0 ... 10 mHz; max. 0 ... 10 kHz
Frequency generator supply	active: max. 13,5V (max. 20mA); NAMUR:8V/8mA
Contact debouncing	activatable, pulse duration > 40 ms

Current outputs

Output range	0 ... 20 mA; 4 ... 20 mA
Max. burden	400 Ohm
Residual ripple	<50 μ Ass

Voltage outputs

Output range	0 ... 10 V, 2 ... 10 V
Min. burden	10 kOhm
Residual ripple	<20 μ Vss

Relay outputs

Maximum switching load AC	250 V, 2 A
Maximum switching load DC	50 V, 2 A
Contact construction	changeover contact
Switching operations mechanical	10000000
at 230V/2A AC, cos(phi)=1	600000
at 230V/2A AC, cos(phi)=0,4	200000
at 24V/1 A DC	200000

Display

Graphic-LCD	122x32 Pixel, background lit
Digital display	5-digit, can be configured
Display functions each channel	input frequency, scaled instantaneous measuring value, quantity impulse, scaled dimension as quasi analogue bar, channel description and scaling unit in plain language

Accuracy

Unit	0,3%
Temperature influence	<100 ppm / K
Response time	~70 ms

Supply

Supply voltage	20 ... 253 V DC / 50 ... 253 V AC
Max. power consumption	4 W / 5 VA

Housing front mounting

Manner of fastening	Panel-mount-case (DIN 43 700)
Type of protection	IP 65
Connection method	screw clamp
Dimensions (WxHxD)	96x48x131 mm
Front panel cut out	92x44 mm
Switchboard thickness	1,5-10 mm
Weight	~230 g

DIN rail housing

Manner of fastening	DIN rail 35mm (EN 50022)
Type of protection	IP 20
Connection method	screw clamp
Dimensions (WxHxD)	100x74x119 mm
Weight	~230 g



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Environmental conditions

Ambient temperature 0 ... 50 °C
Storage and transport -10 ... 70 °C (no condensation)

EMC

Product family standard EN 61326
Emitted interference EN 55011, CISPR11 Cl. B
In a critical EMC environment, shielded encoder cables are recommended.

Electrical safety requirements

Product family standard EN 61010-1
Overvoltage category II
Pollution degree 2

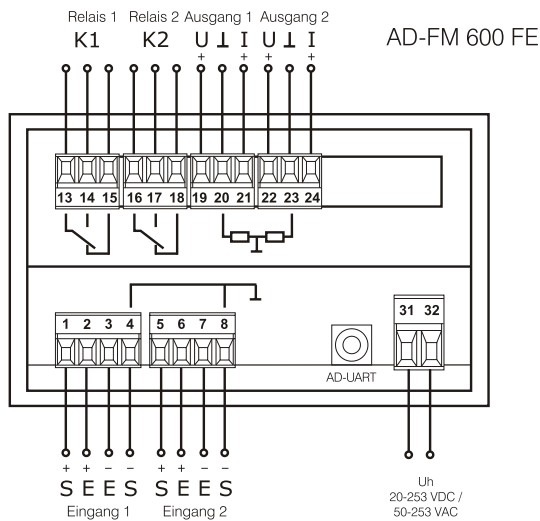
Galvanic isolation, test voltages

Input/output 2 kV RMS (1 min.)
Signal/auxiliary voltage 4 kV RMS (1 min.)

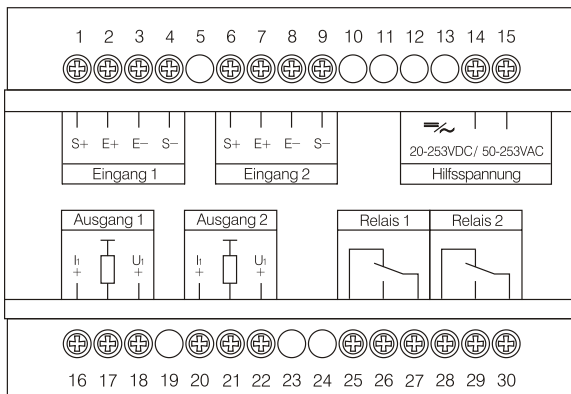
More technical documentation

[instruction manual](#)

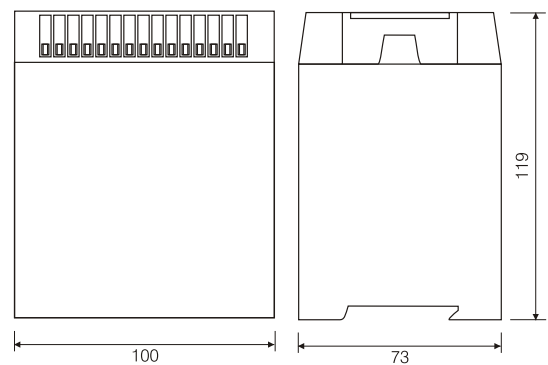
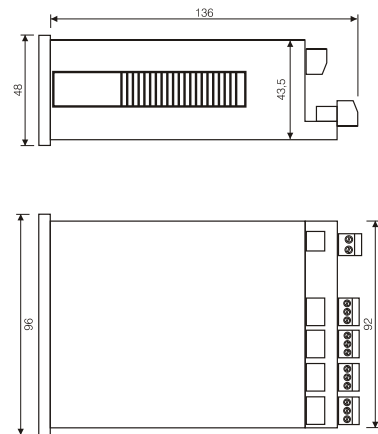
Block and wiring diagram



AD-FM 600 GA



Dimensions



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Circuit examples

