

FREQUENCY MEASURING TRANSDUCER

Type: FAMA

FEATURES

- High input resistance
- Low response time
- Excellent linearity
- All ranges class 0.5 according to EN60688.
- 8 outputs available
- Isolation > 4kV. Input, output and supply.
- All standard AC voltages for power supply. Optional combined AC and DC supply.

Description:

The transducer type FAMA is used to measure the frequency of an input voltage. The output is a load independent DC voltage or current signal. The input can be connected directly or via transformers.

Operation:

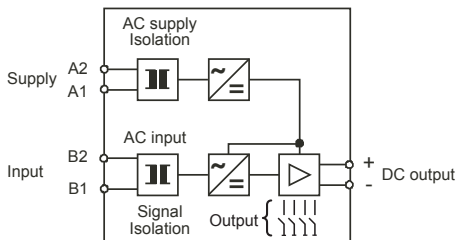
The input voltage is transformed to a suitable signal level. At each zero-crossing the input creates a rectangular pulse with a constant height and width. The pulse train, with a frequency proportional to that of the input voltage, is filtered and in amplifier converted to a load independent DC output. The input voltage can also be used as supply voltage. The supply voltage is galvanically separated by the plug-in transformer.

Applications:

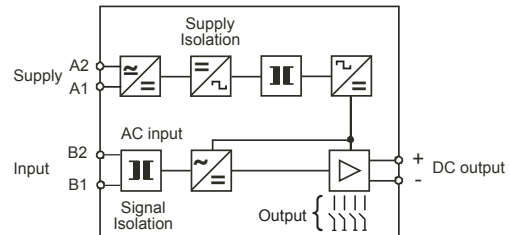
Instrumentation, PLCs, PC and microprocessor control systems .

FUNCTION DIAGRAM

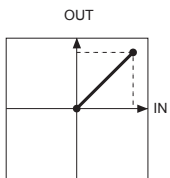
AC Supply



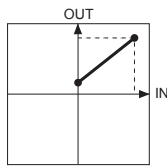
AC/DC Supply



OUTPUT CHARACTERISTICS



Output: 0 - 10 mA, 0 - 20 mA
0 - 5 V, 0 - 10 V

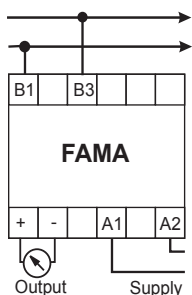


Output: 2 - 10 mA, 4 - 20 mA
1 - 5 V, 2 - 10 V

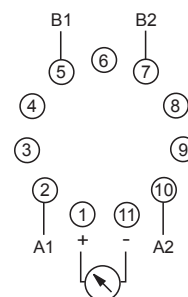
OUTPUT	ACTUATOR
0 - 10 mA	■
2 - 10 mA	■
0 - 20 mA	■
4 - 20 mA	■
0 - 5 V	■
1 - 5 V	■
0 - 10 V	■
2 - 10 V	■

CONNECTION DIAGRAM

Rail mounting



Socket mounting



SPECIFICATIONS

INPUT FAMA

Nominal input V_N	AC voltage
Max. continuous input	Specify from 10 to 600 V $40\sqrt{U_N}$ V rms. $10\text{ V} < U_N < 300\text{ V}$ 720 V rms. $U_N > 300\text{ V}$ approx. 2 K Ω / V
Input resistance	0 to 5000 Hz
AC frequency range	

PERFORMANCE PARAMETERS

TIMING	
Response time	< 200 msec. 0-90% or 100-10%
ELECTRICAL	
Precision	Class 0.5
Linearity	< 0.2 %
Supply dependence	< $\pm 0.01\%$ / % DU supply
Temp. dependence	< $\pm 0.01\%$ / °C
Ripple	< 1 % pp

OUTPUT

The output amplifier is protected against open and short circuit.

SUPPLY

AC and DC	18-360 VDC and 20-264 VAC with isolated switchmode supply
AC supply range	
with transformer	24 V (From 20 to 28 V) 110 V (From 99 to 140 V) 230 V (From 198 to 264 V) 400 V (From 342 to 484 V)
Frequency range	45 to 440 Hz (transformer)
Power consumption	2.5 VA, 1.1 W
Frequency range	45 to 440 Hz
Power consumption	2.5 VA, 1.5 W
PLUG-IN supply module	According to specifications

GENERAL

Temperature range	- 25 °C to + 55 °C
Humidity	Up to 90 % RH non-condensing
Dielectric test voltage	Input to output 4000 VAC Input to supply (internal) 4000 VAC Output to supply (internal) 4000 VAC
Weight	0.20 kg with internal supply



EMC directive 89/336:	International Standards EN50081 - Emission EN50082 - Immunity
Low voltage directive 73/23:	EN60255 - Electrical Relays EN60688 - Measuring transducers

ORDERING INFORMATION

EXAMPLE:

TYPE

Frequency measuring transducer

FREQUENCY RANGE

Lower level
The first three figures of the frequency in Hz, e.g. 45.0 Hz

Followed by:

- 0 for Hz = 1.00 to 9.99
- 1 for Hz = 10.0 to 99.9
- 2 for Hz = 100 to 999

High level

The first three figures of the frequency in Hz, e.g. 55.0 Hz

Followed by:

- 0 for Hz = 1.00 to 9.99
- 1 for Hz = 10.0 to 99.9
- 2 for Hz = 100 to 999

VOLTAGE RANGE

The first three figures of the voltage in Volt, e.g. 400 V

Followed by:

- 1 for V = 10.0 to 99.9
- 2 for V = 100 to 999

SUPPLY VOLTAGE

18-360 VDC and 20-264VAC
20-28VAC
99-140VAC
198-264VAC
342-484VAC
352-576VAC

OUTPUT

Programmable with dipswitch
0 - 10 mA, 2 - 10 mA,
0 - 20 mA, 4 - 20 mA,
0 - 5 V, 1 - 5V
0 - 10 V, 2 - 10 V

HOUSING

Rail mounting with internal supply
Socket 11 pin with internal supply

SIZE

35 mm.

CODE

Code end
Extended code

