

## Rapid Frequency Transducer FMU100 0,5 Hz (Min) – 70 Hz (Max)

20mA/10V Class 0.2 Three-way separation Customer settings on demand

### Functional ranges:

#### Input:

15V - 264VAC

Frequency ranges with prompt delivery:

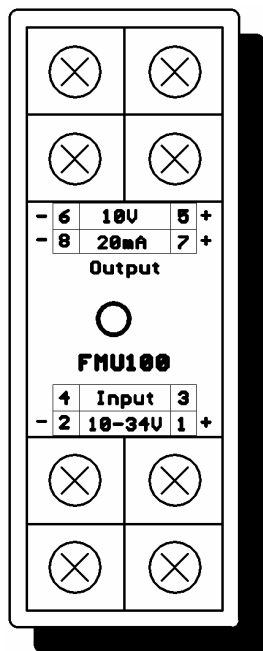
40 – 55 Hz 40 – 70 Hz  
 45 – 55 Hz 0,5 – 60 Hz

#### Output:

0 - 10V 5mA max. load  
 0 - 20mA 400Ω max.

e.g.:

Input	Output
40Hz	0.0V, 0.0mA
50Hz	3.3V, 6.6mA
60Hz	6.6V, 13.3mA
70Hz	10.0V, 20.0mA



### Application:

The frequency transducer FMU100 takes a frequency of between 0,5-70Hz at the input (Cl. 3 - 4) and converts it in linear fashion to an output voltage of between 0-10V or an output current of 0-20mA.

Due to the 3-way separation of the FMU100, there is potential separation between the input and the auxiliary and output voltage.

The transducer has a wide auxiliary voltage range (11-33VDC) and is thus also suitable for mobile operation. As a result of the low self-heating, the FMU100 can be used at increased environmental temperatures (up to 55°C).

The 20mA and 10V outputs can be loaded simultaneously, for example with a 10V signal for an SPS input and simultaneously with -0-20mA for a current loop.

The FMU100 is particularly suitable for rapid control loops as the exact output value is available after each period (20ms at 50Hz).

### Connections and Settings

The 20mA signal or simultaneously the 10V signal is taken from the top terminals of the output circuit. Both output circuits must have potential separation. The supply voltage of 10 - 34V is applied to the bottom terminals (these are protected from wrong polarity). The value of the output signal can be varied by approx. 10% by setting the adjuster on the top of the unit with a screwdriver. This causes the unit to lose the precision set as it leaves the factory; however, inaccuracies in the subsequent control circuits or losses in transmission lines can make it necessary to adjust it in the system.

### Technical Data

Type	Rapid Frequency Transducer FMU100
Construction	Plastic housing on 35 mm hat acc. to DIN EN 50022
Material of housing	Bayblend FR 1439/0240 modified ABS with burning protection UL 94 VO
Dimension/Weight	22,5x68x109mm (WxHxD), appr. 130 g
Supply voltage	11 - 33 VDC, max. 50mA, mispolarisation protection ( or 15-20VAC)
Input	15 – 264VAC 40-70Hz (Input Resistance 1M ) Other frequencies on request
Outputs	0-20mA (max.400 Ohm) or 0-10V (max. 5mA)
Class of accuracy	0.2 (settings are with 0.01% accuracy at 50.0Hz)
Measuring Delay	1 Period of measuring signal (20ms at 50 Hz)
Input filtering	One step low pass filter, cut-off-frequency 320 Hz (-3dB)
Linear distortion	< 0.1%
Temperature drift	< 0.1% / 10°C
On-period	100 %
Voltage protection	Rated isolation voltage 1000V 50Hz (Input- Output, Input- Aux., Output- Aux. )
Connecting terminals	2 Wires per terminal up to 2,5 mm² each
Type of protection	Housing IP 40 , terminals IP 20 (VDE 0106T100/VBG4 )
Ambient temperature	-10 °C to +55°C, 95% Hum
Mains isolating	EN 60 742 (safety transformers)
General regulations	EN 50 178 (electrical units in power current installation)
Radio interference	EN 55 022/B
EMV	EN 61000 und EN V 50 140
Installation position	Any
Maintenance	Maintenancefree