

Analog / Frequency – Converter

FW1

Characteristics:

- Linearity error < 0,01%
- Output frequency max. 100kHz / 200 kHz
- Input 0-10V / 0/4-20mA
- Push-pull output, short-circuit proof
- Frequency configurable by DIP-Switch
- Status display for the output frequency
- Power supply 24VDC
- Mountable on 35mm cap rail TS35
- Clear terminal labeling
- Narrow design
- Shape 17,5mm
- PB - Power -Bus compatible
- High reliability, 5 years warranty



Description:

The devices of the series FW2 analog / frequency – converter have been developed for proportional converting of norm signals into frequencies. With this series norm signals in the range of 0/4...20mA respectively 0...10V can be converted into frequencies of 0Hz to 100 kHz/ 200kHz. The pulse duty factor is 1 : 1. The short-circuit proof push-pull output of the optocoupler is loadable with 100mA. The output frequency has a rough adjustment by the Dip-Switch S1 and by two potentiometers (V), (O) then you will be able to do the fine adjustment. A LED displays the status of the output frequency.

Application:

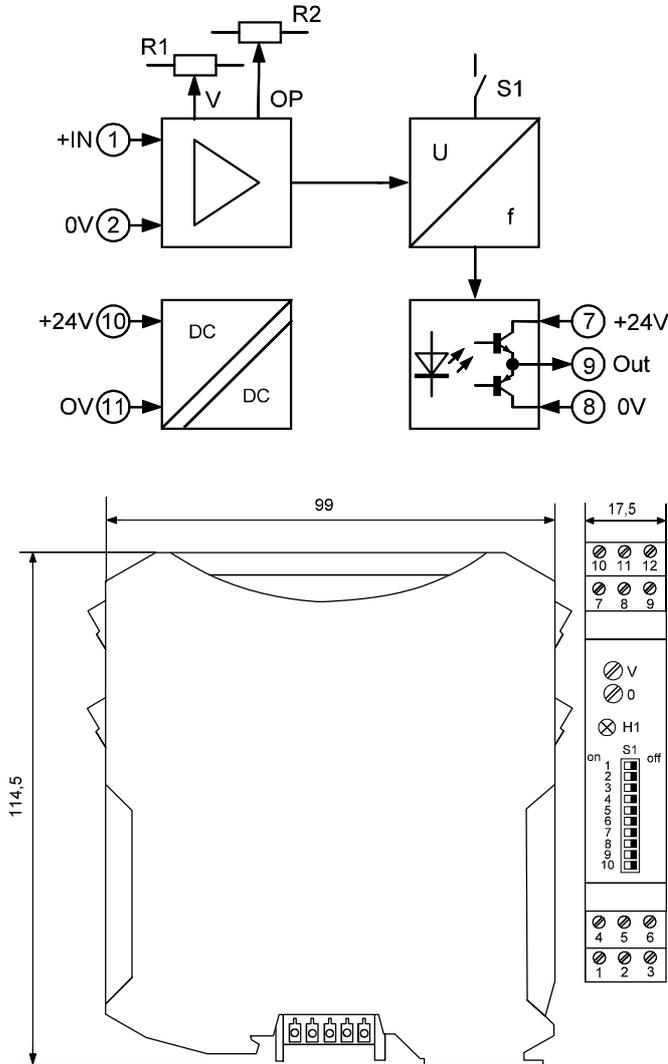
Signal converting analog/frequency

Order-No.:

Input:

Output frequency:

FW1-1-1	0...10V	0...20Hz / 0...100 kHz, 24VDC
FW1-2-1	0/4...20mA	0...20Hz / 0...100 kHz, 24VDC
FW1-1-2	0...10V	0...40Hz / 0...200 kHz, 24VDC
FW1-2-2	0/4...20mA	0...40Hz / 0...200 kHz, 24VDC



Measuring range:

Switch position S1 ● = ein											
Input	8	9	10	Output frequency range*	1	2	3	4	5	6	7
0...10 V	●			0... 20 Hz bis 0...100 Hz**			●			●	●
0...20 mA			●	0... 50 Hz bis 0...250 Hz**			●			●	
4...20 mA		●	●	0...200 Hz bis 0...1,2 kHz**				●	●		
				0... 1 kHz bis 0...7 kHz**				●			
				0... 6 kHz bis 0...50 kHz**		●					
				0...25 kHz bis 0...100 kHz**	●						

Potentiometer V: Fine adjustment for the requested output frequency
 Potentiometer 0: Setting of zero point

Technical data

Auxiliary power:

Power supply : 18...30VDC
 Current consumption : < 2VA

Inputs:

Voltage input	:	0...10V / 100kΩ / overload max. 50V	S1-8 ON
Current input	:	0...20mA / burden 100Ω / overload max. 100mA	S1-10 ON
	:	4...20mA / burden 100Ω / overload max. 100mA	S1-9 + S1-10 ON

Outputs:

Supply	:	16, 8...30VDC / max. 15mA + load		
Current output	:	Max. 100mA, short-circuit proof		
Frequency selector	:	FW1-...-1	/	FW1-...-2 vernier adjustment with poti V
		0...20Hz/100Hz	0...40Hz/200Hz	S1-3 + S1-6 + S1-7 ON
		0...50Hz/250Hz	0...100Hz/500Hz	S1-3 + S1-6 ON
		0...200Hz/1,2kHz	0...400Hz/2,4kHz	S1-4 + S1-5 ON
		0...1kHz/7kHz	0...2kHz/14kHz	S1-4 ON
		0...6kHz/50kHz	0...12kHz/100kHz	S1-2 ON
		0...25kHz/100kHz	0...50kHz/200kHz	S1-1 ON

Accuracy:

Linearity error : < 0,01%
 Temperature coefficient : < 0,015 % / K

General data:

Operating temperature : 0...50°C
 Storage temperature : -25...+85°C, condensation before putting into operation is not allowed
 CE conformity : EN 61326-1, EN 61000-4-2/3*/4/5/6*, EN 61000-6-4
*during measurements are small deviations possible

Body:

Dimension : See drawing, 17,5mm adjoin body, 17,5x114,5x104,5mm (with terminals)
 Material : PA / V0
 Protection category : IP20
 Connection : M3-screw-type terminal 0, 14 - 2,5mm², flexible or inflexible
 Fixing : Snap-on mounting for norm rail TS35
 Weight : 120g

Note on safety:



Disconnect the power supply before attempting to open the unit.

During the operation of this module it is possible that parts of the module, even there is extra-low voltage, (for example shunt measurement) are under dangerous voltage! Therefore a non-observance of this caution may cause damage of property or physical injury.

Only trained qualified personnel should install or operate the unit. Before installation the qualified personnel should read the documentation and should familiarize themselves with the unit.

If there is visible damage to the body of the unit it should be immediately replaced and not put into operation.



Please ensure that there is a sufficient prevention against electrostatic discharge during installation of the unit.

Installation Information:

Pay attention and make sure the unit is far away from mounted sources that may disturb the device such as magnetic coils, transformers, frequency converters etc.

Wiring advice:

Use only shielded cables. The shield is to be connected extensively to ground. Do not mix power- and signal-wires/cables in the same cable tray.

Limited warranty:

The LEG Industrie-Elektronik GmbH warranted that the product does not have any material or processing defects in a period of 5 years after date of delivery.

It is up to the choice of LEG to repair or to exchange an inoperative unit.

Subsequent damages or any claim for indemnification above the functionality of the unit are excluded.

This limited warranty is only valid if ...

1. the product was installed and put into operation according to the LEG operation documentation;
2. the technical configuration of the power supply was abided;
3. the product was not used for unintended purposes;
4. there were no unauthorized modifications or manipulations, misuse or repairs without previous agreement from LEG .

Our Terms of Trade are based on the "General Conditions for the supply of products and services of the Electrical and Electronics Industry" including the "Complementary Clause: Extended Reservation of Property" of the ZVEI e.V. (German Association of Electrical Manufacturers).

Miscellaneous:

We expressly reserve the right, without previous notice, to correct errors contained in any data of this information brochure, and to make alterations to the program and technical modifications.