

Measuring Amp. for Effective Values with Threshold Switch EM1

Characteristics:

- Input frequency 6Hz to 1 kHz
- True effective value measurement, TRMS
- High base accuracy
- Crest factor <5
- Diverse in- and output signals possible
- Switching threshold from 0...100% adjustable
- Built-in switching threshold adjustment aid 0 – 10V
- Status display when reaching the threshold value
- 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 EM1 measuring amplifiers are developed for capturing alternating current or – voltage as true effective values and to convert them into standard signals of 0...10V or 0,4...20mA. The built-in threshold switch is adjustable from 0...100%. There is a measuring point from 0...10V as threshold adjustment aid. For more analyses a potential-free relay output as changeover is at disposal. The threshold value limit is displayed by one LED. The devices of series EM1 have a 2-way potential isolation between input/output and auxiliary power. Input and output signals are **not** potential isolated; therefore a transformer absolutely has to be integrated in the measuring circuit during the current measurement.

Application:

Measurement of not sinusoidal alternating current/ -voltage

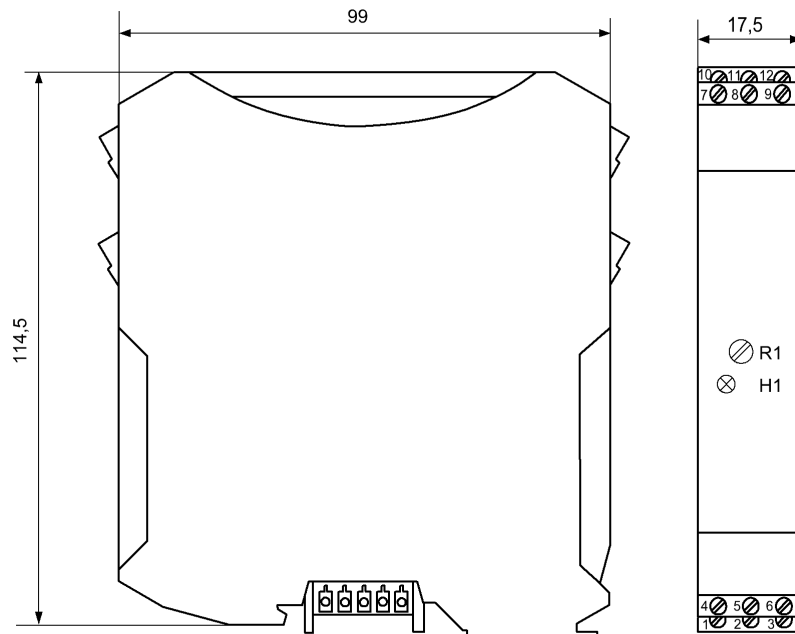
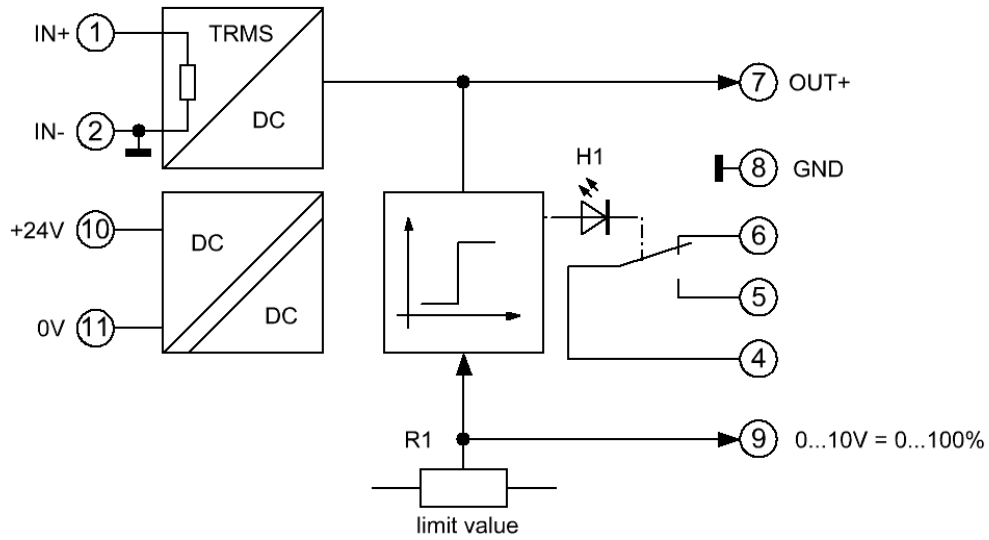
Order-No.:

Input:	EM1-	Output:	
1A	4	0...10V	1
5A	5	0...20mA	2
0...10V	1	4...20mA	3

Order example:

Measuring amplifier EM1:
 Input = 1A / Output = 0...20mA

Order-No. EM1-4-2



Technical Data

Auxiliary power:

Supply voltage : 19, 2...30VDC
Power consumption : < 1,5VA

Inputs:

Voltage input : 0...10VAC, max. 50VAC
Current output : 1AAC, max. 5AAC, 30s Ri= 0,5Ω
5AAC max. 25AAC, 30s Ri= 0,011Ω
Frequency : 6Hz...1 kHz harmonic measuring max. 20 kHz, crest factor ≤ 5

Outputs:

Voltage output : 0...10VDC / max. 20mA
Current output : 0(4)...20mA / load resistor max. 500Ω
Adjustable aid : Measuring point cl. 9
Switching threshold : 0...100 adjustable
Switching hysteresis : 5%
Accuracy : Crest factor < 2, 5 : 1%
> 2, 5 : 5%
Settling time : < 600ms
Relay : 1 changeover, 230VAC / 3A / 24VDC / 1,5A
Delay < 30ms

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 : 114g

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.