

Betriebsanleitung

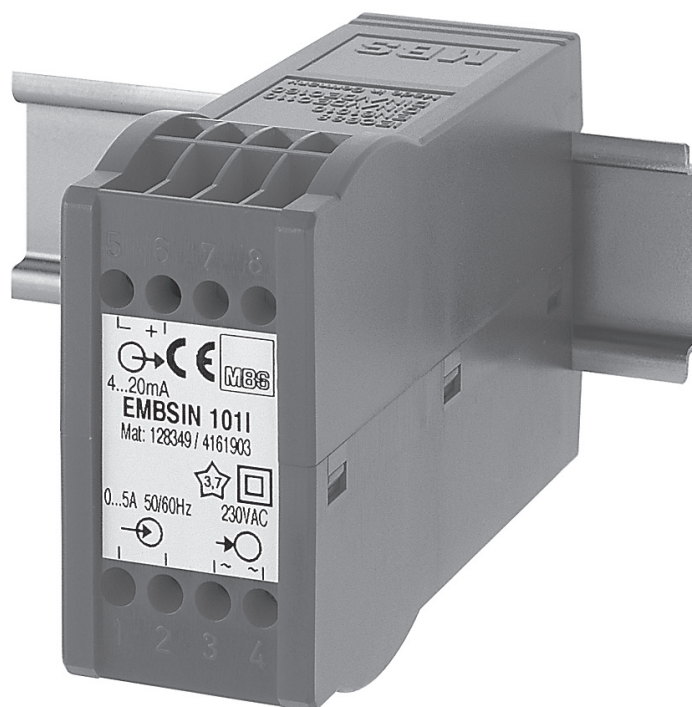
Messumformer für Wechselstrom EMBSIN 101 I

Mode d'emploi

Convertisseur de mesure pour courant alternatif EMBSIN 101 I

Operating Instructions

Transducer for AC current EMBSIN 101 I



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Transducer for AC current EMBSIN 101 I

Safety precautions to be strictly observed are marked with following symbols in the Operating Instructions



The instruments must only be disposed of in the correct way!

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1. Read first and then ...



The proper and safe operation of the device assumes that the Operating Instructions is **read carefully** and the safety warnings given in the various Sections

4. Mounting

5. Electrical connections are **observed**.

The device should only be handled by appropriately trained personnel who are familiar with it and authorised to work in electrical installations.

Unauthorized repair or alteration of the unit invalidates the warranty.

2. Brief description

The transducer EMBSIN 101 I is designed to convert a sinusoidal AC current into a DC current or voltage proportional to the measured value.

3. Technical data

Measuring input

Nominal frequency:	50/60 Hz
Nominal input current:	Acc. to type 0 - 1 or 0 - 5 A non-standard ranges 0 - 0.8 to 0 - 1.2 A or 0 - 4 to 0 - 6 A
Own consumption:	$\leq 5 \text{ mV} \cdot I_N$ with input end value

Measuring output

DC current:	0 - 1 to 0 - 20 mA resp. live-zero 0.2 - 1 to 4 - 20 mA
Burden voltage:	15 V
External resistance:	See Section "5. Electrical connections"
With 2-wire connection:	Power supply via output leads, 4 - 20 mA, External resistance see Section "5. Electrical connections"

Load-independent DC voltage:

	0 - 1 to 0 - 10 V resp. live-zero 0.2 - 1 to 2 - 10 V
External resistance:	See Section "5. Electrical connections"
Response time:	< 300 ms

Power supply

AC voltage:	24, 110, 115, 120, 230 or 400 V $\pm 15\%$, 50 / 60 Hz Power consumption approx. 3 VA, see Fig. 2
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Options

DC voltage:	24 V, $-15 / +33\%$, power consumption approx. 1.5 W, see Fig. 3 With 2-wire connection and output 4...20 mA (power supply via output leads) 24 V, $-50 / +33\%$, power consumption 1.5 W, see Fig. 4
DC or AC voltage:	DC, AC power pack (DC or 40 - 400 Hz) 85 - 230 V DC/AC or 24 - 60 V DC/AC DC $-15 / +33\%$, AC $\pm 15\%$ Power consumption $\leq 1.5 \text{ W}$ resp. $\leq 3 \text{ VA}$, see Fig. 5

Accuracy (acc. to IEC 688)

Reference value:	Output end value
Accuracy:	Class 0.5

Safety

Pollution degree:	2
Installation category:	III

Reference conditions

Operating temperature:	- 10 to + 55 °C
Storage temperature:	- 40 to + 70 °C
Relative humidity of annual mean:	$\leq 75\%$
Altitude:	2000 m max.
Indoor use statement	

4. Mounting

The EMBSIN 101 I can be mounted on a top-hat rail.



Note **“Environmental conditions”** in Section “3. Technical data” when determining the place of installation!

Simply clip the device onto the top-hat rail (EN 50 022) (see Fig. 1).

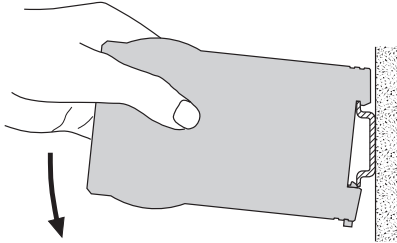


Fig. 1. Mounting onto a top-hat rail 35 × 15 or 35 × 7.5 mm.

5. Electrical connections

Connect the leads acc. to the instructions on nameplate.



Make sure that all cables are not live when making the connections!
Impending danger by high power supply voltage!
Take care of current transformers!



Also note that, ...

... the data required to carry out the prescribed measurement must correspond to those marked on the nameplate of the EMBSIN 101 I (→ measuring input, → measuring output and → power supply, see Fig. 6)!

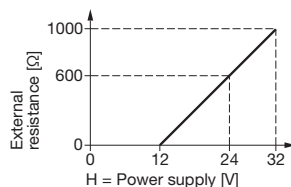
... the resistance in the output circuit

- may not **overrange** the value

$$R_{\text{ext max.}} [\text{k}\Omega] \leq \frac{15 \text{ V}}{I_{\text{AN}} [\text{mA}]}$$

(I_{AN} = current output end value)

- with **power supply via output leads** (2-wire connection, output 4 - 20 mA) dependent on power supply H (12 - 32 V DC)



$$R_{\text{ext max.}} [\text{k}\Omega] = \frac{H [\text{V}] - 12 \text{ V}}{20 \text{ mA}}$$

- may not **underrange** the value

$$R_{\text{ext min.}} [\text{k}\Omega] \geq \frac{U_{\text{AN}} [\text{V}]}{10 \text{ mA}}$$

(U_{AN} = voltage output end value)

... the measurement output cables should be twisted pairs and run as far as possible away from heavy current cables!

In all other respects, observe all local regulations when selecting the type of electrical cable and installing them!

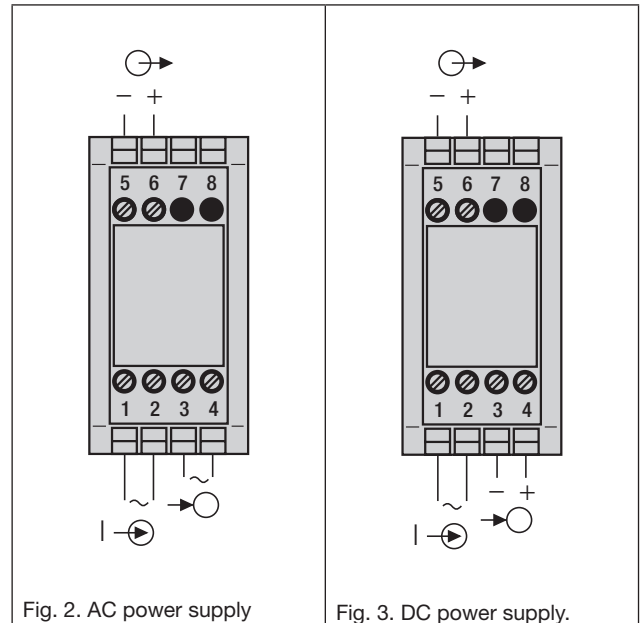


Fig. 2. AC power supply

Fig. 3. DC power supply.

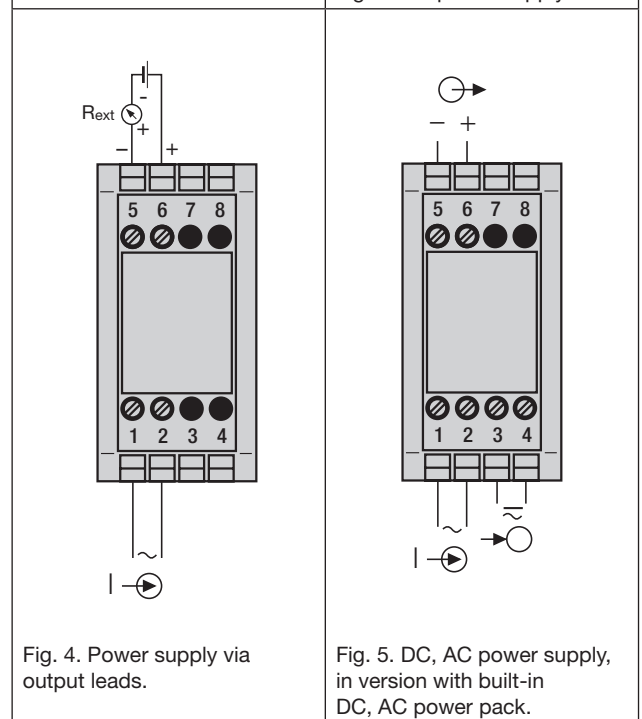


Fig. 4. Power supply via output leads.

Fig. 5. DC, AC power supply, in version with built-in DC, AC power pack.

→ = Current measuring input → = Measuring output
→ = Power supply

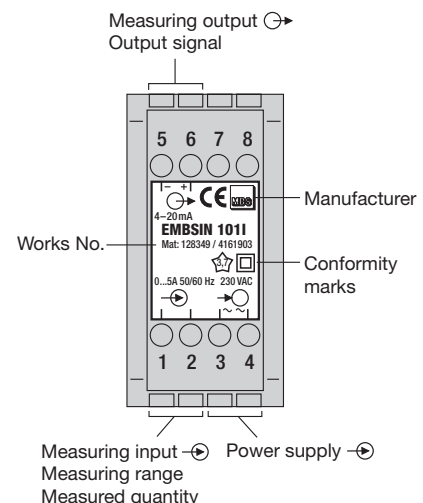


Fig. 6. Declaration to type label.

6. Inbetriebnahme und Wartung

6. Mise en service et entretien

6. Commissioning and maintenance

Hilfsenergie und Messeingang einschalten.
Der Messumformer ist wartungsfrei.

Enclencher l'alimentation auxiliaire et l'entrée de mesure.
Le convertisseur de mesure ne nécessite pas d'entretien.

Switch on the power supply and the measuring input.
No maintenance is required.

7. Demontage-Hinweis

7. Indication pour le demontage

7. Releasing the transducer

Messumformer gemäss Bild 7 von Tragschiene abnehmen.

Démonter le convertisseur du rail support selon Fig. 7.

Release the transducer from a top-hat rail as shown in Fig. 7.

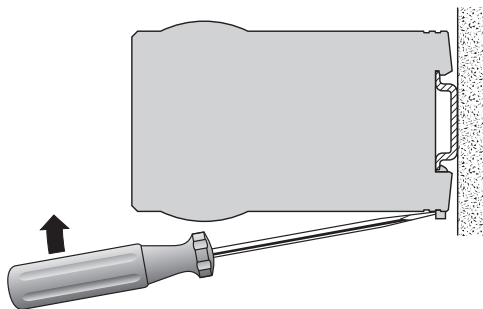


Bild 7
Fig. 7

8. Gerätezulassung

8. Admission d'appareil

8. Instrument admission



Germanischer Lloyd
Lloyd germanique

9. Mass-Skizze

9. Croquis d'encombrement

9. Dimensional drawing

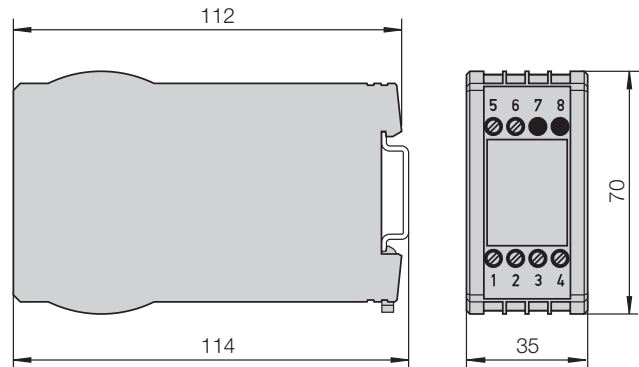


Bild 8. Gehäuse **MBS/SP1** auf Hutschiene (35 × 15 mm oder 35 × 7,5 mm) nach EN 50 022.

Fig. 8. Boîtier type **MBS/SP1** sur rail «à chapeau» (35 × 15 mm ou 35 × 7,5 mm) selon EN 50 022.

Fig. 8. Housing type **MBS/SP1** onto a top hat rail (35 × 15 mm or 35 × 7.5 mm) acc. to EN 50 022.