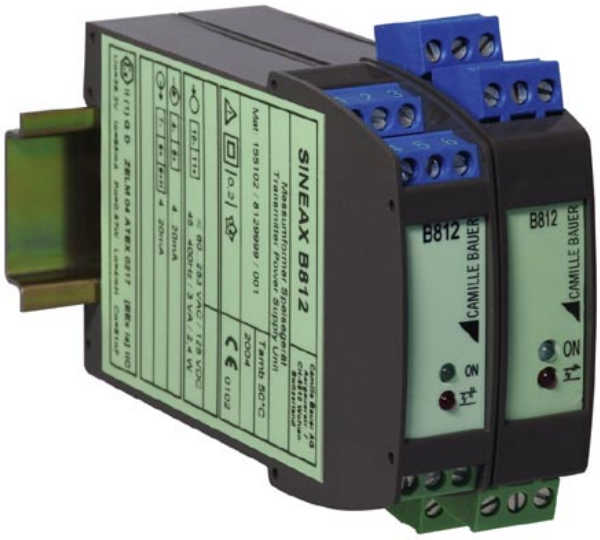
CAMILLE BAUER

SINEAX B812
Transmitter – Power Supply Unit

for intelligent and conventional 2-wire transmitters, in housing P12/17 for rail mounting

CE 0102 Ex II (1) GD HART



Application

The transmitter-power supply unit **SINEAX B 812** (Fig. 1) provides the DC power supply for **2-wire transmitters** and transfers the measured variable unchanged to the **electrically insulated** output.

All versions of the SINEAX B 812 are **designed for FSK[1] communication**. They are used in conjunction with "intelligent" 2-wire transmitters which are capable of dialogue and operation according to the FSK principle and the HART or user-specific protocol.

The series also includes "intrinsically safe" versions [EEx ia] IIC with an intrinsically safe input. These operate in conjunction with intrinsically safe 2-wire transmitters located in explosion hazard areas.

Provision is made for monitoring the measurement/supply to detect short and open-circuits . Either of these faults is signalled by the red LED.

The instrument fulfils all the important requirements and regulations concerning electromagnetic compatibility **EMV** and **Safety** (IEC 1010 resp. EN 61 010). It was developed and is manufactured and tested in strict accordance with the **quality assurance standard** ISO 9001.

Production QA is also certified according to guideline 94/9/EG.

Features / Benefits

- **Designed for FSK communication / This facilitates operation in conjunction with an "intelligent" 2-wire transmitter designed for FSK and with a HART or user-specific protocol**
- **Electrically insulated between input, output and power supply / Fulfils IEC 1010 resp. EN 61 010**
- **AC/DC power supply / Universal**
- **"Intrinsically safe" version [EEx ia] IIC available (see section "Explosion protection data")**
- **Measurement/supply circuit monitored for open and short-circuits / Faults signalled by red LED**
- **Green power on LED**
- **Compact and narrow**

Technical Data

Input

Measurement / supply circuit

Signal range	4 … 20 mA
Power supply voltage (I = 20 mA)	18.0 V ± 1 V
No-load voltage (I = 0 mA)	25.5 V ± 1 V
Short circuit current limitation	25 mA ± 2 mA
Source resistance	330 Ω ± 5 Ω
Open circuit detection	3.5 mA ± 0.1 mA
Short circuit detection	21.2 mA ± 0.2 mA

Output

Signal range	4 … 20 mA
No-load voltage (I = 0 mA)	17.0 V ± 1 V
Internal communication resistor R_C	250 Ω
Permitted load	0 … 750 Ω 0 … 500 Ω (via R_C)

[1] *FSK = **F**requency **S**hift **K**eying*

SINEAX B812
Transmitter – Power Supply Unit

Power supply →◯

Universal power supply for DC and AC

	Low-range version	High-range version
Voltage range AC/DC (absolute limits)	20 – 70 V	60 – 265 V *)
Switching-on current I / τ	2.5 A / 1.0 ms at 24 V DC	20 A / 0.15 ms at 325 V DC
Frequency range AC	45 … 400 Hz	
Power consumption max.	3 VA / 2.4 W	

*) Voltages > 125 V DC require external protection with max. 10 A trip current. For the Ex version, the data in the EC type examination certificate are valid (Um = 253 V AC or 125 V DC).

Accuracy

Reference conditions	Tamb = 23 °C, laod = 300 Ω Warm up time 20 minutes Power supply = 24 V DC or 230 V AC Range = 16 mA ≙ 100%
Error tolerance incl. linearity error under reference conditions	± 0.2%
Effect of output load	< 0.1%
Temperature effect	< 0.1% / 10 K
Effect of power supply	< 0.05%

Transfer

Signal current over-range	10%
Response time	< 0.3 ms
HART®	Transparent for HART signals in both directions

Galvanic isolation

All three circuits (input / power supply / output) are galvanically isolated from each other.

Regulations

Electromagnetic compatibility:	EN 50 081-2 EN 50 082-2
Intrinsic safety:	EN 50 020
Protection:	IEC 529 resp. EN 60 529 Terminals IP 20 Housing IP 40
Electrical safety:	IEC 1010 resp. EN 61 010
Working voltage:	< 300 V
Contamination level:	2
Overvoltage category:	III
Test voltage:	3.6 kV
Flammability class	UL 94 V0

Ambient conditions

Operating temperature	–20 … +50 °C
Storage temperature	–20 … +70 °C
Relative humidity average	≤ 75%

Installation data

Mounting:	For snapping onto top hat rail (35 x 15 mm or 35 x 7.5 mm) acc. to EN 50 022
Position of use:	Any
Terminal cross section:	0.14 mm² to 2.5 mm²
Plug-in terminals:	Coded to prevent incorrect connection
Weight:	Approx. 100 g

Versions

Device Ex-versions [EEx ia] IIC

Power supply	Connection terminals	Order number
60 – 253 V AC / 125 V DC	not plugable	155 102
60 – 253 V AC / 125 V DC	plugable	155 144
20 – 70 V AC / DC	not plugable	155 095
20 – 70 V AC / DC	plugable	155 136

Device standard versions

Power supply	Connection terminals	Order number
60 – 265 V AC / DC	not plugable	155 087
60 – 265 V AC / DC	plugable	155 128
20 – 70 V AC / DC	not plugable	155 079
20 – 70 V AC / DC	plugable	155 110

Explosion protection data

Type examination certificate:	ZELM 04 ATEX 0217
Type of protection:	[EEx ia] IIC
Marking:	EX II (1) GD

U_o	28.2 V
I_o	95 mA
P_o	670 mA
Characteristic	linear

	IIC	IIB
C_o	81 nF	641 nF
L_o	4 mH	15 mH

Indicator LEDs

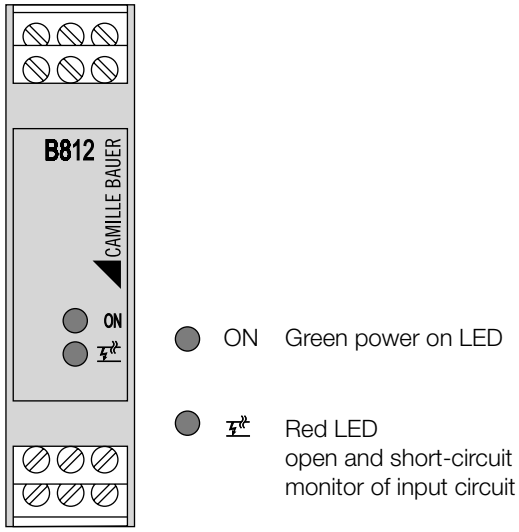


Fig. 2

Electrical connections

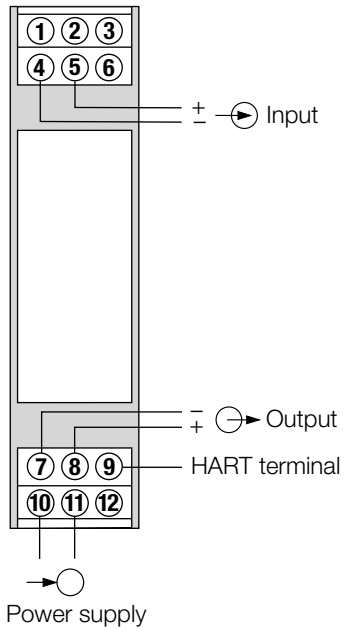


Fig. 3

Dimensional drawings

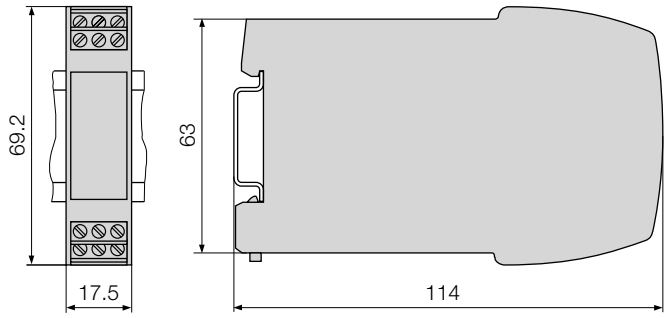


*Fig. 4. SINEAX B812 in housing **P12/17** clipped onto a top-hat rail (35 x 15 mm or 35 x 7.5 mm, acc. to EN 50 022). **Connection terminals not plugable.***

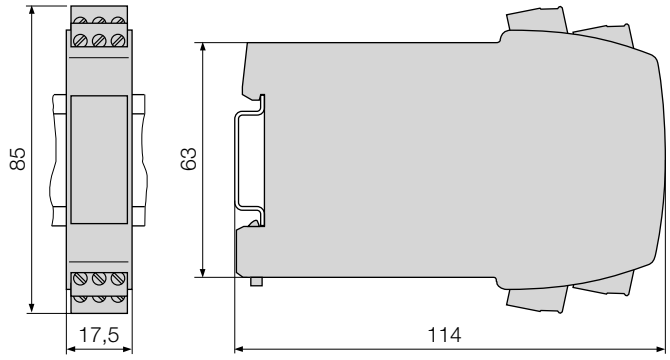


*Fig. 5. SINEAX B812 in housing **P12/17 St** clipped onto a top-hat rail (35 x 15 mm or 35 x 7.5 mm, acc. to EN 50 022). **Connection terminals plugable.***

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