

Power supply for strain gauges

NGS2

Characteristics:

- Linearity error < 0, 05%
- For full bridges $\geq 120\Omega$
- Universal 4 Wire technique
- Adjustable output 5V / 10V
- Adjustable with 20-turn spindle-operated potentiometers
- Power supply 24VDC
- Mountable on 35mm cap rail TS35
- Clear terminal labeling
- Narrow design
- High reliability, 5 years warranty



Description:

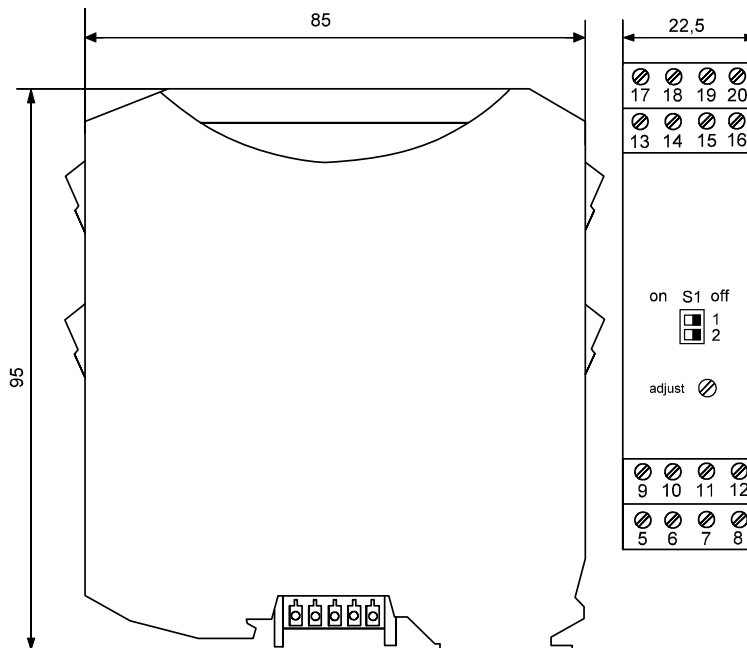
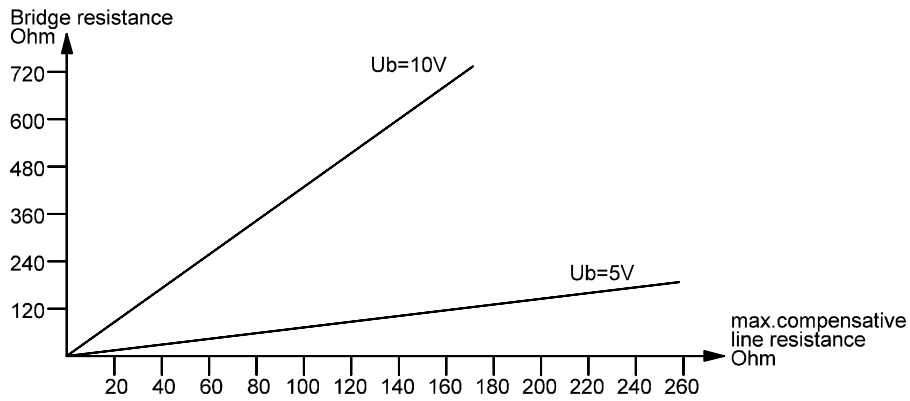
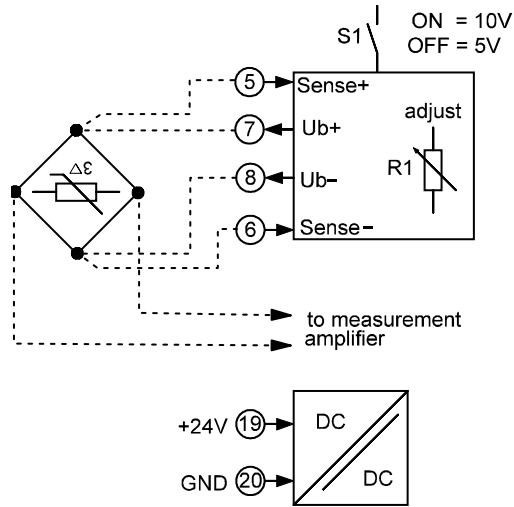
The Series NGS2 are used to power full bridges strain gauges in 6-wire technique. Your application is the extension of an existing 4-wire strain gauge amplifier into a 6-wire technique to improve its accuracy. The output voltage is in two stages, via dip-switch selectable and can be adjusted as needed over a 20-turn spindle potentiometer. The maximum output current is 100mA. Bridges with a resistance $\geq 120\Omega$ can be used. By the use of a 4-wire technique, the voltage drop over the connecting lines to the bridge is corrected. The bridge voltage is now stable independent of cable length and temperature. The units are in a 22.5 mm housing that which is for mounting on DIN rail.

Application:

Extension of a 4-wire strain gauge amplifier to 6-wire technique.

Supply voltage of strain gauge bridges.

Weighing systems, test benches and wherever strain gauge (DMS) in a bridge circuit can be used.



Technical Data

Supply:

Voltage supply : 19, 2...30VDC
Power consumption : 2VA

Output:

Voltage output : 5V or 10V switchable, regulated, short circuit proof
Adjustable : 4, 5...5,5V / 9, 5...10,5V
Output current : max. 100mA, short circuit proof
Ripple : < 10mV
Line resistance : max. 24Ω with 120Ω Bridge and 10V supply can be compensated (other values, see diagram)

Accuracy:

Linearity error : < 0,005%
Temperature coefficient: < 0, 02% / K

General data:

Operating temperature : 0...50°C
Storage temperature : -25...+85°C, condensation before putting into operation is not allowed
MTBF : 68 years mean time between failures – according to EN 61709 (SN 29500).
Requirements: Stationary operation in clean rooms, average ambient temperature 40 ° C, no aeration, continuous operation
CE conformity : EN 61326-1, EN 61000-4-2/3*/4/5/6*, EN 61000-6-4
* during measurements are small deviations possible

Housing:

Dimension : See drawing, 22,5mm adjoin body, 22,5x95x90,5mm (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 : 95g

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.