

## Power supply unit NG3-5ib



### Ordering data

Designation	Type	Item no.
Power supply unit	NG3-5ib (42 V <sub>AC</sub> / 50 Hz)	371 008 51 AX
Power supply unit	NG3-5ib (230 V <sub>AC</sub> / 50 Hz)	371 008 52 AX
Power supply unit	NG3-5ib (100 V <sub>AC</sub> / 50 Hz)	371 008 54 AX
Power supply unit	NG3-5ib (240 V <sub>AC</sub> / 60 Hz)	371 008 55 AX
Power supply unit	NG3-5ib (127 V <sub>AC</sub> / 50 Hz)	371 008 56 AX
Power supply unit	NG3-5ib (36 V <sub>AC</sub> / 50 Hz)	371 008 58 AX
Power supply unit	NG3-5ib (24 V <sub>AC</sub> / 50 Hz)	371 008 59 AX

- **Universal power supply unit in different input voltage versions for the power supply of intrinsically safe installations which are protected against firedamp with 5 V direct voltage**
- **Versions for AC input voltages**  
(50 Hz) at 24 V<sub>AC</sub> 36 V<sub>AC</sub> 42 V<sub>AC</sub> 100 V<sub>AC</sub> 127 V<sub>AC</sub> 230 V<sub>AC</sub> and 240 V<sub>AC</sub> / (60 Hz)
- **Constant DC output voltage 5 V<sub>DC</sub> / 2.5 A**  
(limited current and voltage values)
- **Output voltage indication through LED**
- **Output as per protection type "intrinsically safe", cat. Ib**
- **For use in type "e" (increased safety) terminal boxes with PG29 screw-in thread (optionally also available with connecting socket M33x1.5, M36x1.5 or M40x1.5)**
- **Type of protection: I M 2 EEx m [ib] I**

### Application

The power supply unit NG3-5ib enables the power supply of electrical equipment items operated in intrinsically safe systems within hazardous locations which are susceptible to fire-damp.

The power supply unit NG3-5ib is built conform to protection type I M 2 EEx m [ib] I.

Based on a non-intrinsically safe AC input voltage, a regulated, current-limited and intrinsically safe voltage of 5 V<sub>DC</sub> / 2.5 A is generated in the output circuit.

For details of the non-intrinsically safe mains voltage and the intrinsically safe DC output voltage, refer to the nameplate of the power supply unit.

### Configuration

The power supply unit NG3-5ib is installed in a painted grey cast iron enclosure. The enclosure consists of a tub-like bottom section and a vaulted cover. The cover is pressed onto the bottom section by two screws, with an all-around sealing as intermediate layer, and constitutes the intrinsically safe terminal box.

The main compartment of the enclosure bottom section contains the mains transformer and the electronics module which are completely embedded in sealing compound.

Only the 2-pole terminal strip for the connection of the intrinsically safe output circuit and the LED for indicating the functioning protrude from the compound. This LED is on, when the intrinsically safe output voltage is applied and no short-circuit has occurred on the output side. The LED is visible from the outside through a sight glass in the enclosure cover. The electronics module consists of a mains

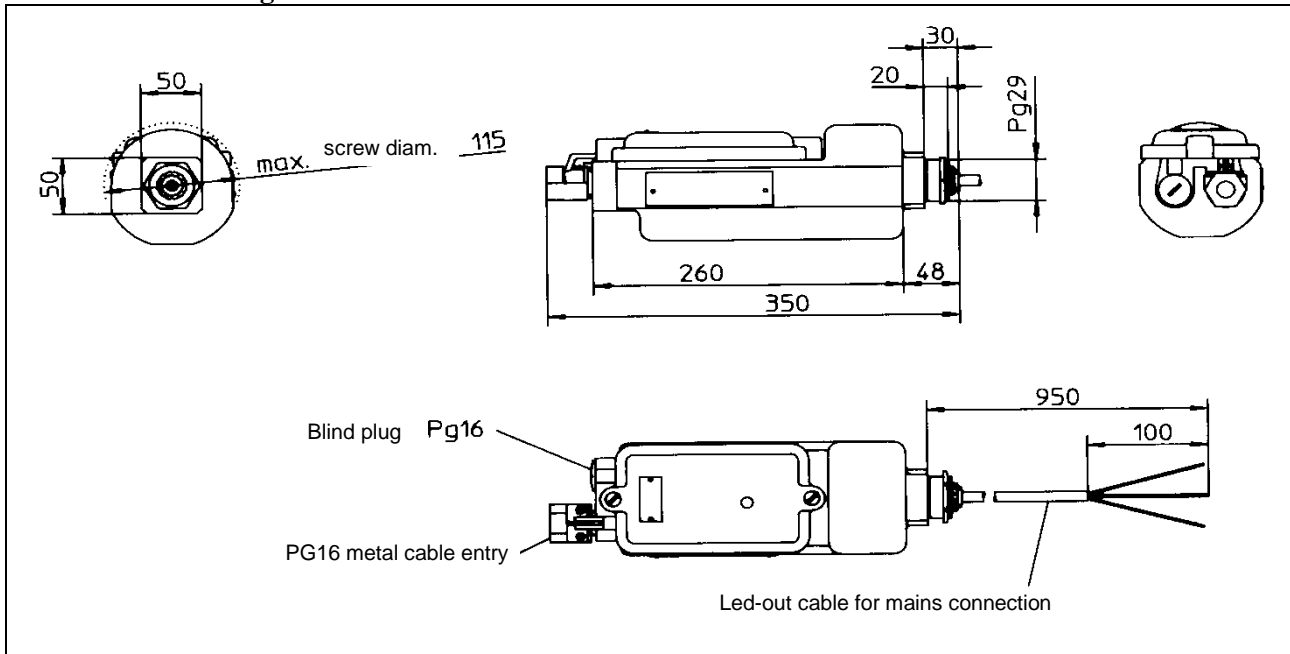
transformer for the electrical isolation between the non-intrinsically safe supply net and the downstream electronic voltage and current control. A voltage transformer and two electronic current / voltage-limiting stages connected in series ensure a stabilised output voltage (within the limits of the non-intrinsically safe input voltage) and limit the output current. Two electronic overload stages which act independently from one another, switch off the intrinsically safe output voltage in case of an overload or a short-circuit on the output side. The switch-off or on again of the intrinsically safe output circuit due to overload is repeated in intervals until the short-circuit or the overload has been eliminated. The LED for indicating the functioning flashes in the cycle of the switch-off and on of the intrinsically safe output voltage.

On the enclosure front side, the power supply unit NG3-5ib has a PG29-

threaded bush (optionally also of size M32x1.5, M36x1.5 or M40x1.5) for leading out a 3-wire connecting cable for the connection to the non-intrinsically safe supply net. By means of the threaded bush, the power supply unit is screwed in and securely fixed in appropriate bores of enclosures offering protection type "increased safety". The temperature at the inlet opening of the enclosure offering protection type "increased safety" must not exceed +60°C.

The opposite enclosure side is equipped with a PG16 gland for cable diameters from 9 to 14 mm (optionally also metric equivalents) and a PG16 blind plug (optionally also metric equivalent). The PG16 cable entry (incl. strain relief, protection against buckling and twist) is used for leading through the connecting cables for the intrinsically safe output circuit.

### Dimensional drawing NG3-5ib



FHF Bergbautechnik GmbH & Co. KG  
Eintrachtstr. 95  
42551 Velbert



Tel: +49 (0) 2051 270 - 0  
Fax: +49 (0) 2051 270-366  
Email: [info@fhf-bt.de](mailto:info@fhf-bt.de)  
URL : [www.fhf-bt.de](http://www.fhf-bt.de)