

**BATTERY BACK-UP
POWER SUPPLIES**

Types 116-8s and 116-8s/2

User Guide

Document Ref: UD116-8s.vp Rev1



WARNING!

It is important that this guide is read and fully understood before attempting installation or commissioning of the instrument. Instructions appearing in this document, and current safety legislation, must be observed to ensure personal safety and to prevent damage to the instrument or equipment connected to it.

The instrument should be installed, commissioned and operated *only* by suitably qualified and authorised personnel.

Safety and EMC information

Safety: EN61010 -1

Immunity: EN50082-1

Emissions: EN50081-1

CE certified



The specifications for the instrument must not be exceeded. If the instrument is used in a manner not specified, the protection provided by the instrument may be compromised.



The instrument must be installed in an enclosure that provides adequate protection against electric shock.



Ensure that power to the instrument is switched off and signal wiring isolated from hazardous voltages before carrying out installation or maintenance.



The instrument is designed for installation in a clean, dry environment (Pollution degree 1).



Stroud Instruments Ltd strongly recommends that repairs and re-calibration work are done on a return to factory basis in order that our quality standards, product specifications and safety precautions are not compromised.



The instrument is double insulated

Note: Clean with a moist cloth - USE NO SOLVENTS.

Installation



WARNING: Installation should be conducted by appropriately skilled and authorised personnel only.



WARNING: Ensure that power to the unit is switched off and signal wiring isolated from hazardous voltages before carrying out installation.



WARNING: The unit must be installed in a ventilated enclosure that provides adequate protection against electric shock.



WARNING: Batteries may generate inflammable gases in the event of battery misuse. Do not expose to flame or excessive heat. Do not short batteries.

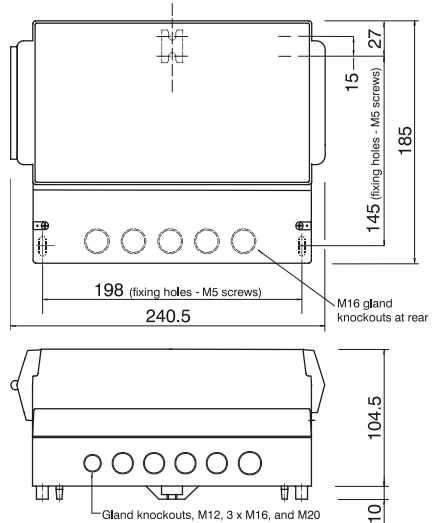
Location

- The unit is designed for installation in a clean, dry, ventilated environment
- Do not install near to switch gear, motor controllers or other sources of strong magnetic fields.
- Avoid exposure to direct sunlight and ensure the ambient temperature inside the enclosure that the unit is mounted in will not exceed our specification.

Fixing

116-8s and 116-8s/2 Battery Back-up Power Supplies are designed to be fitted to a flat dry surface using 4mm screws. Metric sized knockouts for cable glands are provided within the terminal compartment as shown in the diagram above.

Dimensions in mm



Wiring and connections

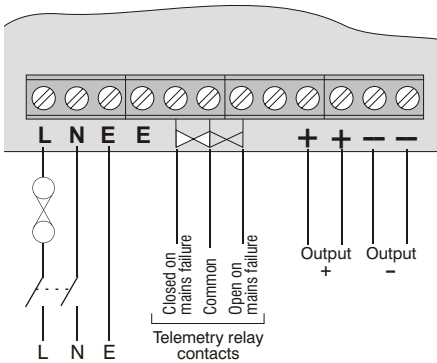
- All connections using stranded wire should be made using ferrules. Screw terminals are provided - wire capacity 0.2mm² - 4mm².



Access to Terminals

WARNING: Ensure that power to the instrument is switched off and signal wiring isolated from hazardous voltages

Loosen the two terminal housing securing screws and lift off cover. (*NB screws are retained in the top section by captive washers*).



Power supply connections

This equipment may be powered by an AC mains supply in the range 85 Vac to 260 Vac, 50/60Hz, 15VA

WARNING: Check that the supply voltage on the data label (on side of instrument), or as shown on the battery connection label, is suitable for the application.

WARNING: Ferrules must be used for AC mains power wiring

Power supply wiring to the instrument should be protected by a suitable fuse and double pole switch - see above diagram. The switch should be clearly marked as the isolating switch for the instrument.

Battery installation

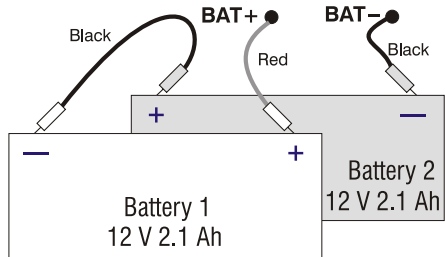
WARNING: Ensure that power to the instrument is switched off and signal wiring isolated from hazardous voltages.

Release the catch on the hinged door to the battery compartment by pressing the grooved area in the moulding on the right-hand side of the door.

116-8s 24 V unit

The 116-8s 24 V unit, is supplied with two 12V, 2.1 Ampere-Hour batteries for connection in series.

1. Locate the black jumper lead supplied and connect the batteries as shown below. Ensure the Faston tabs are pushed fully home.
2. Place batteries upright on the bottom of the battery compartment and then slide back into position against the circuit board. **NB care must be taken to avoid damaging components on the circuit board.**
3. Connect the flying leads from the circuit board to the batteries as shown below.

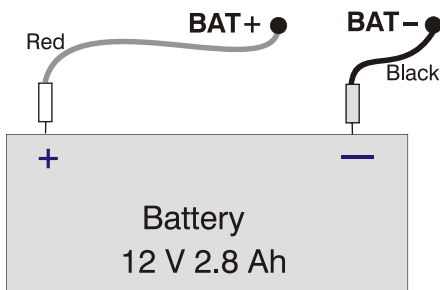


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116-8s/2 12 V unit

The 116-8s/2 12 V unit is supplied with a single 12 V 2.8 Ampere-Hour battery.

1. Place the battery upright on the bottom of the battery compartment and then slide back into position against the circuit board. ***NB care must be taken to avoid damaging components on the circuit board.***
2. Connect the flying leads from the circuit board to the batteries as shown below.



Battery care

Initial charge

After installation, the unit must be connected to the mains supply for 10 hours to fully charge the batteries.

IMPORTANT !

Batteries must not be stored for long periods without receiving a supplementary charge as follows:

Storage temp.	Charging interval
20°C or less	Every 9 months
20-30°C	Every 6 months
30-40°C	Every 3 months

Whilst in storage the battery voltage must not be allowed to fall below 12V. If this occurs, the full capacity may not be realised and service life decreased.

The above will not be of concern once the unit is brought into service. Please note however, the battery must not be left in a discharged condition e.g. in the event of a fault preventing the battery back-up power supply from functioning.

Fuse replacement

The unit is protected by a fusible resistor. The output is protected by a self resetting fuse:

116-8s 24V version: 500mA,

116-8s/2 12V version: 1.1A.

None of the above are user replaceable components and the unit should be returned to the factory for repair.

Specification

POWER SUPPLY OUTPUT

Type 116-8s (Nominal 24V dc @ 250mA max.)

- a) With supply connected (on charge):
Output = 27V (Nominal value with 20mA Load)
- b) On mains failure:
Output = 24V initially (depending on state of charge), dropping to 21.6V when discharged.

Type 116-8s/2 (Nominal 12V dc @ 250mA max.)

- a) With supply connected (on charge):
Output = 13.6V (Nominal value with 20mA Load)
- b) On mains failure:
Output = 12V initially (depending on state of charge), dropping to 10.5V when discharged.

TELEMETRY RELAY CONTACTS

These change state on mains failure.
Rating 5 Amps at 240V AC resistive.

ISOLATION

The outputs are not isolated from each other, but are isolated from the mains supply.

BATTERIES

Sealed lead-acid.

Type 116-8	2 off 12V, 2.1 Ampere-Hour
Type 116-8/2	1off 12V, 2.8 Ampere-hour

BACK-UP TIME

Fully charged batteries should give a back-up time of approximately:

- 50 hours @ 40mA for Type 116-8s
- 70 hours @ 40mA for Type 116-8s/2

(Actual times will depend upon the age and temperature of the batteries).

INITIAL CHARGE

The unit must be connected to the mains supply for 10 hours to fully charge the batteries.

(NOTE: Batteries should not be stored for long periods, and when in storage must be given a supplementary charge - see user guide).

POWER ON INDICATOR

A red light emitting diode shows when the mains supply is connected.

INPUT POWER REQUIREMENTS

85 Vac to 260 Vac, 50/60Hz, 15VA
Protected by a fusible resistor.

TEMPERATURE RANGE

Operating: -10 °C to +60°C
Storage (unit only): -20 °C to +70°C

Continuous development may necessitate changes in these details without notice.