relcross door controls®
distributors of ANSI grade & CE marked commercial door hardware

PS01.N–ACC*.N 12Vdc 2A Power Supply - Installation Instructions

INSTALLATION WARNING – This equipment MUST BE EARTHED and supplied from a switched fused 3A spur on 30mA RCD mains protection.
The enclosure must be fixed internally on a vertical flat surface at a maximum ambient temperature of 45°C (unit weighs 4.3kg w/out battery) in a well ventilated area. This power supply must be installed in accordance with the Wiring Regulations BS7671. Installation by qualified personnel only, precluding use by persons (including children) with reduced physical, sensory/mental capabilities and those with a lack of experience and knowledge.

230V 50Hz 250VA 1A supply

WARNING - DISCONNECT FROM MAINS SUPPLY BEFORE CARRYING OUT ANY WORK

If the supply cord is damaged, it must be replaced by the manufacturer, their service agent or similarly qualified persons in order to avoid a hazard.

Features:

- Two stage current protection
- Short circuit protection
- Thermal overload protection
- Constant voltage regulation for battery charging
- Mains failure or low battery voltage warning, user selectable
- Relay interface to building management system
- Enclosure door 3 LED status indicators
- PCB mounted engineering status LED indicators, show:
    - Over current
    - Building management system relay status (Field Relay)
- Battery management electronics providing:
    - Low voltage trip to disconnect battery and extend battery life
    - Reverse battery polarity protection

First stage current protection
If the load exceeds the power supply current rating, an electronic sensor detects this overload, folds the voltage back to 11.5 volts and provides current limiting, this is indicated by the red overload LED on the circuit board.

Second stage current protection
A short circuit or severe overload will shut down the regulator and output voltage will be zero until the fault is removed.

Battery management (if battery fitted)
Under normal conditions, the battery floats at 13.8 Volts. If the mains power fails the battery takes the load. Eventually the voltage will drop to 10.5 Volts and a relay disconnects the battery. This is reset automatically once the mains has been re-energized. This feature extends battery life by preventing deep discharging and prevents equipment malfunction.

User selectable warning voltage free relay contacts
The electronic voltage detection circuit is configured by selecting a link switch on the PCB.
The relay will trigger as set: **FR** – Field relay, **MF** - Mains failure or **LB** - Low battery 11.5 Volts.

Field Relay – terminals +NO & +NC
Terminals FR & FR (Field Relay) can be connected to a voltage free contact, switch and/or access control system. Relay operation is indicated via the external yellow LED. If the field relay is used, the positive supply is from either +NC (normally closed) and/or +NO (normally open) depending on desired relay operation.

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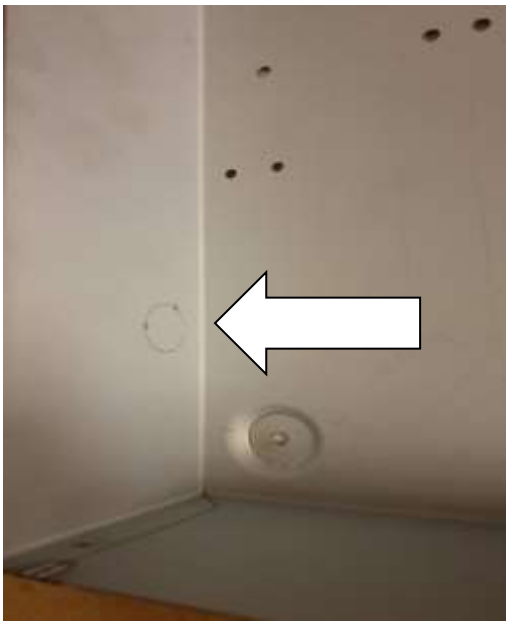
Cabinet dimensions in mm 325H * 255W * 90D | Weight 4.3kg (all 4 fixing holes to be used)

Fixing Holes - There are four fixing holes - one at each corner of the cabinet. All four are to be secured to a vertical platform (unit is 4.3kg without batteries).

Gland knockouts -The cabinet has laser cut, easy pop 20mm gland holes for 20mm compression glands:

Top location DC Input/DC Output

Lower left side location - Mains Input



Commissioning Test

Prerequisites:

Disconnect battery – if supplied with a battery
Disconnect all supplied equipment
Place the handbag link to LB low battery (on PCB)

Test procedure

Switch on mains power; the following indicators should be illuminated:

- Red and Green – on the front panel

Field Relay

Switch off mains power and connect a link between terminals FR & FR
Switch on mains power – the yellow LED on front panel should now be lit
Connect a meter between terminals 0V & +NO - this should be live at PSU output voltage
Switch off mains power and remove the link between terminals FR & FR, switch on mains power and connect a meter between terminals 0V & +NO which should be live at PSU output voltage
The FR FR input will change over the contacts as above between +NO and +NC to the device

Battery Functionality (Optional) – Only if Fitted

Switch off the mains power and connect the battery. Place the handbag link to MF (mains failure), switch on the mains power, then switch off. The power supply is now running on the battery. Note the green LED on the front panel will be on. The relay contacts WNO to WNC will change over.

Tests with the Load Connected - Battery not Connected (if Supplied)

With the load connected, switch on the mains supply. The following LEDs should be on: red and green on the front panel and yellow (if using relay FR). This indicates the test and the power supply loading is correct.

If only the red LED is illuminated, there is a short circuit with the load connected. If the red and green LEDs on the front panel (and red (overload) LED on the PCB) are illuminated then the connected load has exceeded the power supply rated output and it must be reduced.

Front panel LED	PCB LED	Means
Red + Green	None	Normal operation
Red + Green + Yellow	None	Normal operation with field relay energized
Green only	Red if MFW*	Power supply on battery
Green + Yellow	Red if MFW*	Power supply on battery with field relay energized
Red only	None	Dead short on output
Red + Green	Red	Current rating exceeded

* MFW – mains failure warning if configured

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Connection & Operation

The timer requires a constant supply to the positive and negative terminals.

Switching a positive 12Vdc supply onto terminal **T** triggers the timer.

If there is a need for another initiation trigger before the time has elapsed then this input will be a positive 12V trigger into terminal **TR** (re-trigger).

The timer may be delay-on or delay-off, selectable via a jumper.

To change the timer orientation, remove the jumper and replace, connecting the two other pins.

Pins 1-2 = Delay-On
Pins 2-3 = Delay-Off (in this mode the trigger may must be 'momentary' only)

The time is adjustable from 0 to 45 seconds via the rotary potentiometer.

An 'alternate' trigger is achieved by constantly applying a 12Vdc trigger to terminal **TR. Relay**

The relay is single pole with common, normally closed and normally open contacts rated at 10A breaking.

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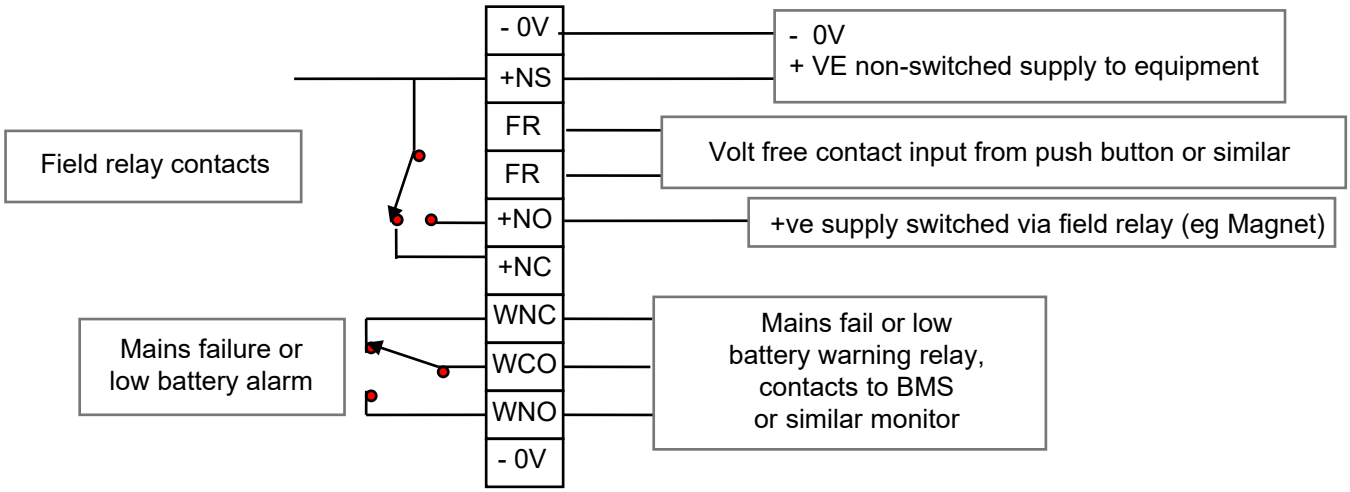
Connections -

Belden cable is not recommended. Use only multi-strand DC cable which is suitable for loads and locations.

Positive and negative is supplied from +NS & 0V.
For building management and other relay connection options see diagrams below



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