OPERATING AND INSTALLATION INSTRUCTIONS
FOR 1.25 to 10 AMP 24V DC BOXED POWER SUPPLIES

MANUFACTURED TO THE REQUIREMENTS OF BS 5839 PART 4:

CONTENTS

NOTE – Any details with reference to special modifications to the Power Supply Will be located at the end of this manual.

INTRODUCTION

The Series 600PU /1000PU range of Fire Alarm type Boxed power supplies have been designed to meet the requirements of BS 5839 Part 4. Available in various power sizes from 1.25 amp to 10 amp .
Each power supply has space for standby Sealed Lead Acid Batteries.
The fascia is equipped with high intensity LED's for Supply Healthy & Fault conditions

CONSTRUCTION

The cabinet enclosure and front fascia are constructed from sheet steel and finished in Grey White (Standard).
The power supply are mounted at the rear of the enclosure.
The front panel fascia display PCB is connected to the Power supply motherboard by a pluggable IDT connection
All external connections are by means of screw terminals fitted to the motherboard capable of accepting cables up to 2.5mm^2. Knockout cable entries are provided at the top of the panel.

USER WARNING

The equipment operates from 230v AC Mains.
Only authorised and qualified personnel should have access to the internals of the panel.

STANDARD OPERATION

NORMAL CONDITION

The unit will normally be in its quiescent mode with the Green "Supply Healthy" LED illuminated

FAULT CONDITION

In the event of a fault occurring within the power Supply – The Supply Fault Yellow LED will illuminate, the appropriate internal LED will illuminate, the common fault auxiliary contacts will operate and the common Fault output will NOT switch +VE 24v

FAULT RESET

The Fault condition will automatically reset when the fault has been cleared.

FRONT FASCIA INDICATIONS

SUPPLY HEALTHY

Under normal conditions this indicator is normally illuminated (Green)

SUPPLY FAULT

In the event of the following supply faults – Mains failure, Charger failure, Battery disconnection and Auxiliary 24v DC output fuse failure the Supply Fault LED will illuminate (Yellow). The Supply Healthy indication will extinguish

INTERNAL LED INDICATORS

There are a number of LED's fitted to the internal PCB's to give the more detail of the status of the system

CHARGER FAULT

Yellow LED will illuminate to show either a Mains/Charger Failure

BATTERY FAULT

Yellow LED will illuminate to indicate Battery Disconnection

TECHNICAL SPECIFICATION

The following information applies only to a standard Power Supply

POWER SUPPLY

AC Supply input	……	240v AC 50/60 HZ 500VA MAXIMUM
Nominal supply voltage	……	24v DC
Battery float voltage	……	27.5v DC
Power supply type	……	Constant Voltage with current limit back and thermal shutdown
Low battery cut-off	……	18v +/- 5%

POWER CONSUMPTION (Mains Fail)

Fault condition	……	10ma

AUXILIARY OUTPUTS

Fault	……	1 set CHO rated @ 1 amp 50v (normally energised)
Common Signal	……	+VE 24V (removed on Fault condition)

INSTALLATION

The unit is wall mounted with a lockable hinged front door. Connection from the Front Facia to the motherboards are via pluggable ribbon cables. The front door can be removed for ease of installation by removing the screws (LHS) fixing the hinged door to the back box.

FIXING OF ENCLOSURE

The back box is hinged to the front door on the left hand side. The top of the box has 20mm diameter. knockouts (actual number and position is dependant upon enclosure size). The unit is fixed to the wall via 4 off dished fixing holes located in the corners. The mains supply entry is preferred to located at the last knockout on the right hand side.

TERMINATIONS TO THE POWER SUPPLY

The connections to the control panel are all via screwed terminals located on the motherboards. The Terminals will accept up to 2.5mm² cables.

CONTROL BOARDCONNECTIONS

TERMINAL	LEGEND	FUNCTION
TB1	+	BATTERY +VE INPUT
TB2	-	BATTERY –VE INPUT
TB3	+	24V DC +VE OUTPUT 1
TB4	-	24V DC +VE OUTPUT 1
TB5	FLT	FAULT SIGNAL (+VE WHEN HEALTHY)
TB6	+	24V DC +VE OUTPUT 2
TB7	-	24V DC –VE OUTPUT 2
TB8	NC	N/C FAULT AUXILIARY
TB9	COM	COMMON FAULT AUXILIARY
TB10	NO	N/O FAULT AUXILIARY

POWER SUPPLY CONNECTIONS

The internal power supply requires the following connections-

1) 240v AC supply to the power supply mains terminals
2) 24v DC standby Sealed Lead Acid Batteries supply to the connection leads provided

FUSES AND RATINGS

The following fuses are fitted to the panel. All fuses are 20mm x 5mm Type except for 10 Amp Battery Output which is 32mm x 6.3mm

FUSE FUNCTION	RATING
MAINS INPUT (1.25 Amp power supply) - Ceramic Type	1.00 Amp HRC
MAINS INPUT (3.00 Amp power supply) - Ceramic Type	1.00 Amp HRC
MAINS INPUT (5.00 Amp power supply) - Ceramic Type	2.00 Amp HRC
MAINS INPUT (10.00 Amp power supply) – Ceramic Type	5.00 Amp HRC
BATTERY OUTPUT (1.25 Amp power supply)	2.00 Amp A/S
BATTERY OUTPUT (3.00 Amp power supply)	3.15 Amp A/S
BATTERY OUTPUT (5.00 Amp power supply)	6.30 Amp A/S
BATTERY OUTPUT (10.00 Amp power supply) – Ceramic Type	10.00 Amp A/S

COMMISSIONING

IMPORTANT NOTE – CABLES SHOULD BE MEGGERED BEFORE CONNECTING TO ANY EQUIPMENT

SUPPLY CONNECTIONS

1.1) With the power Supply fixed in its location and all internal/facia cables reconnected, connect the 240v AC Supply to the power supply mains terminals. Ensure that other cables not yet connected are not allowed to touch the printed circuit boards inside the panel.

1.2) Switch on the mains supply and check the following-

a) The Facia Supply Fault LED is illuminated
b) The Internal Battery Fault LED (Power Supply) is illuminated

1.3 Connect the 24v DC Standby battery and check the following –

a) The Facia Supply Healthy LED is illuminated
b) The Facia Supply Fault LED is extinguished
c) All internal Fault LED's are extinguished and the internal buzzer stops

1.4) Switch off the 240v Supply and check the following -

a) The Facia Supply Fault LED is illuminated
b) The Internal Charger Fault LED (Power Supply) is illuminated

1.5) Reconnect the 240v Supply – The control panel will return to its Normal mode

MAINTENANCE

Apart from periodic checking of functions as shown in the Commissioning details and the Battery Charging Voltage, no regular maintenance is required

We would recommend that a discharge test be carried out on the Sealed Lead Acid Batteries in Accordance with the manufactures' instructions

CHECKING THE CHARGING VOLTAGE

1.1) Disconnect the Batteries
1.2) Connect a 10K Resistor (½ Watt) across the Battery Input terminals
1.3) Check voltage across Battery Input terminals – Voltage should be 27.5v DC +/- 0.25v
(An accurate voltmeter MUST be used)
1.4) Adjustments can be made using the Volts Potentiometer located on the power supply motherboard
1.5) Disconnect the 10K Resistor and re-connect the Batteries