

Security Expert

WARNING: The equipment is to be installed in accordance with:

The Product installation instructions, UL 681 - Installation & Classification of Burglar & Holdup Systems, UL 827 - Central-Station Alarm Services, CAN/ULC-S301, Central & Monitoring Station Burglar Alarm Systems, CAN/ULC-S302, Installation & Classification of Burglar Alarm Systems for Financial & Commercial Premises, Safes & Vaults, CAN/ULC-S561, Installation & Services for Fire Signal Receiving Centers & Systems, The National Electrical Code, ANSI/NFPA 70, The Canadian Electrical Code, Part I, CSA C22.1, The Local Authority Having Jurisdiction (AHJ).

SP-PSU-4A Security Purpose Power Module 4A

Installation, Power Limited and Non-Power Limited Wiring

- All circuits comply with the requirements for inherent power limitation and are Class 2 except the battery wires and AC wires which are not power limited.
- A minimum of 1/4" (6.35mm) physical separation must be respected between power limited and non power limited wiring (Battery Wires and AC Wires).
- The connection to the mains supply must be made as per local authorities rules and regulations.

Servicing

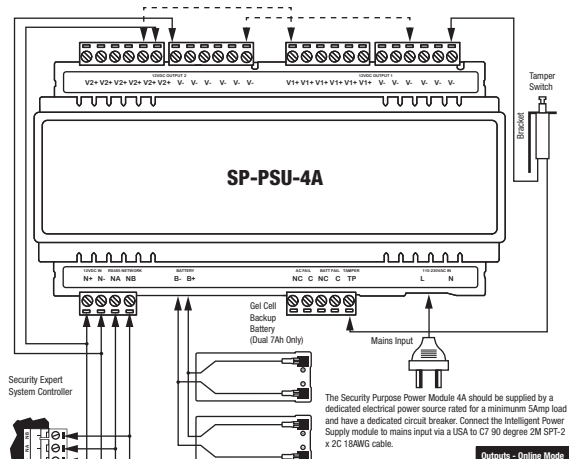
- Disconnect Mains Power and Battery Cable before servicing.

Earth Ground Connection

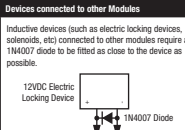
- Metallic enclosure must be grounded to earth ground.

CAUTION: INCORRECT WIRING MAY RESULT IN DAMAGE TO THE UNIT

Mains Input Voltage	120VAC (90-264VAC, 47-63Hz)
Operating Current	120VAC 1500mA (Full Load)
DC Output (Auxiliary)	4.0A Max (V1Out + V2Out Total)
Battery Charging	500mA (Typical)
Battery Low	10.5VDC
Battery Restore	11.5VDC
Communication (Serial)	Isolated RS-485 Communication Interface Port
Outputs	2 Solid State Relay Outputs, 50mA 12V Max each
Tamper Input	Dedicated Hardware Tamper Input
Trouble Inputs	8 (Internal)
Dimensions (L x W x H)	156.8 x 90 x 60mm (6.17 x 3.54 x 2.36")
Weight	434g (15.33oz)
Operating Temperature	0° to 49°C (32° to 122°F)
Storage Temperature	-10° - 85°C (14° - 185°F)
Humidity	0% to 83% non condensing, indoor use only (Relative Humidity)



The Security Purpose Power Module 4A should be supplied by a dedicated electrical power source rated for a minimum 5Amp load and have a dedicated circuit breaker. Connect the Intelligent Power Supply module to mains input via a USA to C7 90 degree 2M SPT-2 x 2C 18AWG cable.



Devices connected to other Modules
Inductive devices (such as electric locking devices, solenoids, etc) connected to other modules require a 1N4007 diode to be fitted as close to the device as possible.

Federal Communications Commission (FCC) and Industry Canada (IC) Compliance Statement
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

SP-PSU-4A has been evaluated for UL 294, UL 1076, UL1610, UL1635, CAN/ULC-S319 and CAN/ULC-S559

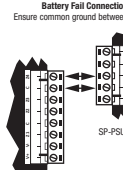
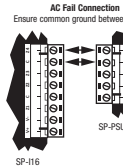
Outputs - Offline Mode

Until connection to any Security Expert Controller is established, the outputs operate in Offline Mode. While in offline mode, the 2 outputs function as status outputs.

AC Fail Status Output:
The output relay contacts disconnect (Normally Open) when AC power is removed and unit remains running on backup battery power. Upon restoring AC power, the output relay will revert back to its default state (Normally Closed).

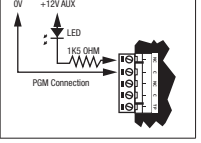
Battery Fail Status Output:
The output relay contacts disconnect (Normally Open) when either the backup battery has been disconnected, or when the Power Supply is running on backup battery power without AC power and the backup battery voltage drops below 10.5V. Upon reconnecting a backup battery with a voltage greater than 11.5V, the output relay will revert back to its default state (Normally Closed).

The outputs are shown to be connected to a Security Purpose Input Expansion so the statuses can be externally monitored.



Outputs - Online Mode

Upon successfully completing the initial registration with any Security Expert System Controller, the outputs operate in Online Mode. While in online mode, the 2 outputs function as PGM and can be used to activate bell sirens, lighting circuits, door locks, relay accessory products and other automation points.



Wiring

AUX WIRING: Min 22AWG Max 16AWG. (Depends on length and current consumption). For wire cable size, a maximum of 5% voltage drop at the terminals of the powered device has to be observed.
MIDDLE NETWORK WARNING: Recommended Belden 9842 or equivalent, (24AWG twisted pair with characteristic impedance of 120ohm or CAT5e / CAT6 are also supported for Data Transmission when using ground in the same cable. Do not use extra wires to power devices.) max 900m (3000ft).

Battery Characteristics

Battery Type to be used: VRLA (valve regulated sealed lead acid type rechargeable battery)
Recommended Battery: Yuasa model: NP7-12, (24V) www.yuasabatteries.com
Nominal Voltage: 12V
Nominal Capacity: 7Ah
Battery Maintenance: It is recommended to replace the battery every 3-5 years.

LED

LED	Description	
Power	Green Correct module input voltage applied. Off Incorrect module input voltage applied.	
Status	Slow Green flashing Module successfully registered with controller. Fast Green flashing Module attempting registration with controller. Single Red flash Module communication activity. Slow Red flashing Module is in boot mode awaiting firmware update.	
Fault	Module is in error state. Error code is displayed by flashing the Red Status indicator ON and OFF rapidly with a delay of 1.5-second between each display cycle.	
	Number of Flashes	Error Description
	1	Unknown Error Code
	2	Firmware Version
	3	Address Too High
	4	Address in Use
	5	Controller Secured
6	Serial Number Fault	
7	Locked Device	
For further details, please refer to the Error Code Display section in the Installation Manual.		
V1 Out / V2 Out	Green 12VDC output operating OK. Red 12VDC output failure.	
Battery	Red flashing Backup battery is disconnected. Red Backup battery failed its dynamic battery test. Green Last backup battery dynamic test successful.	
	Red Core temperature exceeded. Over Temp Shutdown Activated. Red flashing Core temperature within 10°C of Over Temp Shutdown.	
	Green Core temperature OK.	
Temp	Only Red Output current exceeded. Over Current Shutdown Activated.	
Output Current	Red/Green flashing Output current exceeded maximum, approaching Over Current Shutdown. Green (All) Maximum output current level reached. Green (Partial) Indicated output current level reached.	

Mounting

The Security Purpose Power Module 4A is supplied as a DIN Rail mount module and is designed to mount on standard DIN Rail. Ensure that there is adequate clearance around all sides of the Intelligent Power Supply and air flow to the vents of the unit is not restricted.
Installation:
1. Hook the lower tabs under the bottom edge of the DIN Rail.
2. Push the Intelligent Power Supply against the DIN Rail mount and press firmly on the top centre of the Intelligent Power Supply until the upper tab slips over the upper rail.
Remove:
1. Insert a flat blade screwdriver into the hole in the white tab at the top centre of the Intelligent Power Supply.
2. Lever the tab up and rotate the unit off the DIN Rail mount.

Address Configuration

The address of the Security Expert 12V 4A Power Supply is configured via programming and will require reference to the module serial number. The serial number can be found on the identification sticker on the side of the module.
Please refer the Security Expert System Controller Installation Manual for address programming details.

External Power Supply

For UL applications, must be powered by a UL Listed UL 603 or UL 2941, power limited power supply capable of supplying at least 4 hours of standby power. For ULc applications, must be powered by a ULc Listed (CAN/ULCS318 or CAN/ULCS319), power limited power supply capable of supplying at least 24 hours.