58Khz
WiFi Common Platform
EAS Systems

(EAS 5.0 ver 1.6 AM Board)

Installation Manual

December 2013

Manual Ver. 12171401

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As specified by FCC Regulations 15.21, any changes or modifications not expressly approved by the party responsible for compliance of this equipment, will void the user's permission and authority to operate this equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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OVERVIEW

System Overview

Common Platform WiFi EAS Systems differ only in the antennas that are used. All systems use a universal transceiver printed circuit board that performs all the functions of transmitting, receiving and alarm notification. This manual applies to WiFi versions of the Ad Guard, Ad Guard XL, Premier Guard, Premier Pro, and Lane Guard. A separate manual is available for WiFi versions of the Floor Guard and Door Guard.

The common platform line of WiFi products consist of a transceiver pedestal and one external PSU unit (WG SPS-24). The transceiver pedestal has one universal transceiver board which transmits and receives utilizing highly advanced signal process technology, offering unsurpassed stability and detection performance. Each also includes WiFi capability for wireless access to DigiTool and EASNet Cloud access for synchronization (phasing), tuning and firmware upgrades.
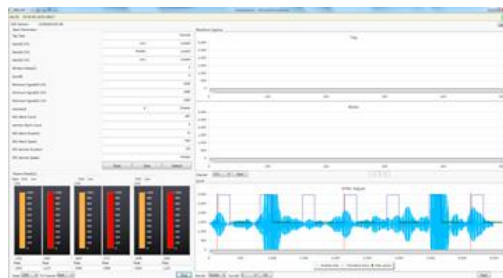

Left to Right
Ad Guard, Ad Guard XL,
Premier Pro, Premier Guard

Lane Guard

Smart Power Supply
(SPS)

DigiTool

Detection Range on Both Sides of Antennas with Micro Pencil Tags

Antenna Type	USA	Europe
Ad Guard	3 ft	0.9 m
Ad Guard XL	4.5 ft	1.4 m
Premier Guard	3 ft	0.9 m
Premier Pro	4.5 ft	1.4 m
Lane Guard	3 ft	0.9 m

System Configurations

Each transceiver pedestal is powered by its own dedicated SPS. The SPS not only provides 24vac power to the transceiver pedestal, but it includes some very important features.
- Accepts a wide AC input voltage ranges
- Controls transmitter bursts for troubleshooting
- Adjusts pedestal alarm volume
- Provides alarm visual & audio indication and relay output
- Provides Jammer Detection alarm and relay output

⚠ Caution! One SPS can only power only one transceiver pedestal.

Product Names and Part Numbers

Product Code	Description	Comment
WG WFAG	Ad Guard	
WG WFAGX	Ad Guard XL	
WG WFPG	Premier Guard	
WG WFPP	Premier Pro	
WG LG	Lane Guard	
WG SPS-24	Smart Power Supply (24vac)	One required per pedestal.
WG DigiTool	DigiTool Software	Wireless Windows PC connection required.

Common Platform Features & Benefits

- All-in-One platform design for the Acousto-Magnetic (AM) product line makes it a perfect AM detection core solution for various antenna forms and needs. There are visible advantages on short term and long term operation along with low cost maintenance.

- Unprecedented Digital Signal Processing Technology
  The common platform line brings an ever advancing DSP technology to an unprecedented level compared with traditional anti-theft solutions, eliminating false alarms and maintaining a considerable detection range.

- Wireless PC Tuning Interface
  Benefiting from its highly performance-rich digital processing controller, the common platform can connect to laptop PC wirelessly.

- Anti-Jammer Alarm
  The Anti-Jammer alarm function addresses the modern high-tech theft actions that defeat the Acousto-Magnetic detection system with DIY jamming devices. WG's common platform design detects and alerts security personnel as soon as the jammer device attempts to defeat the transceiver pedestal.

- Local and Remote Audible and Visual Notification
  Alarm flexibility provides local alarming at the pedestal plus remote alarm notification through the SPS via convenient visual and external ports.

- Transceivers can be individually optimized for label or ferrite tag detection.

Specifications

Smart Power Supply (WG SPS-24) Electrical

Primary Input (Stepdown Transformer)	100vac ±10 % 110vac ±10 % 120vac ±10 % 220vac ±10 % 240vac ±10 %
Secondary Output	26Vac ±5 %
Rated Output Current	1.8A
Maximum Secondary Output Current	1.9 A
Built-in Fuse (self-resettable)	500mA

Smart Power Supply (WG SPS-24) Mechanical

Height	3.15" (80mm)
Width	4.33" (110mm)
Thickness	5.5" (140mm)
Weight	6.6 lbs (3 Kg)

Environmental (Pedestals and SPS)

Operating Temperature	113°F (45°C)
Relative Humidity	0 to 85% non-condensing

Mechanical (Pedestals)

Ad Guard Pedestal	66"H x 12.6"W x 3"D (166 x 33 x 7.6cm) Weight: 47.4 lb (21.5Kg)
Ad Guard XL Pedestal	66"L x 18.5"W x 3.54"H (166 x 48 x 8.6cm) Weight: 58.4 lb (26.5Kg)
Premier Guard	57.9"H x 15.3"W x 1"D (147 x 39 x 2.5cm) Weight: TBD
Premier Pro	57.9"H x 22.8"W x 1"D (147 x 58 x 2.5cm) Weight: TBD
Lane Guard (w/o brackets)	52.8"L x 14.4"W x 1.5"H (134 x 36.7 x 3.8cm) Weight: 33 lb (15Kg)

COMMON PLATFORM ELECTRONICS

Control Board

Resonant Board

SMART POWER SUPPLY (SPS)

SPS Controls and Connections

SPS Front View

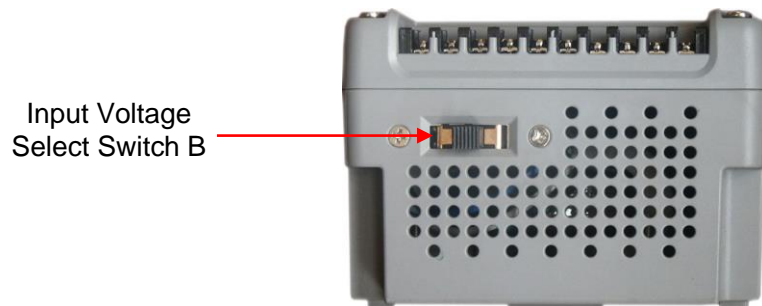SPS Power
On/Off Switch

⚠ **Fuse Replacement:**
**Internal AC Fuse Rating
(T3.15AL, 250V)**

⚠ **Caution! Disconnect
power before servicing.**

SPS Top View

Main AC Power In

Input Voltage
Select Switch A

TX Antenna
On/Off Switch

Pedestal Alarm
Volume Adjust

24vac
Power & Data
Output

SPS Rear View

Input Voltage
Select Switch B
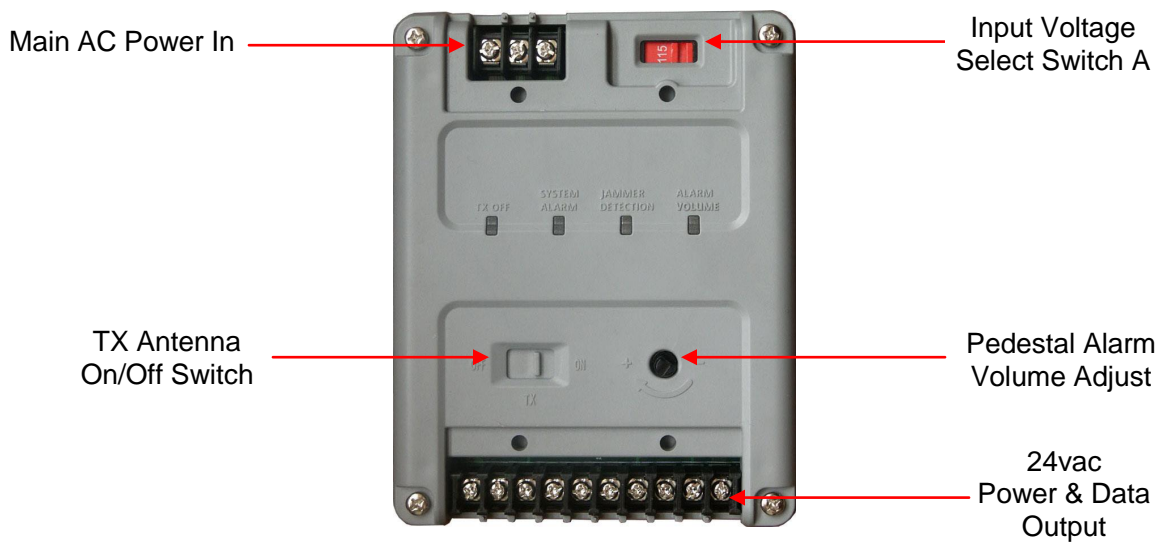
Common Platform WiFi EAS Systems

SPS Terminals

N - GND - L
Pin: 1 2 3

Main AC Input Terminal
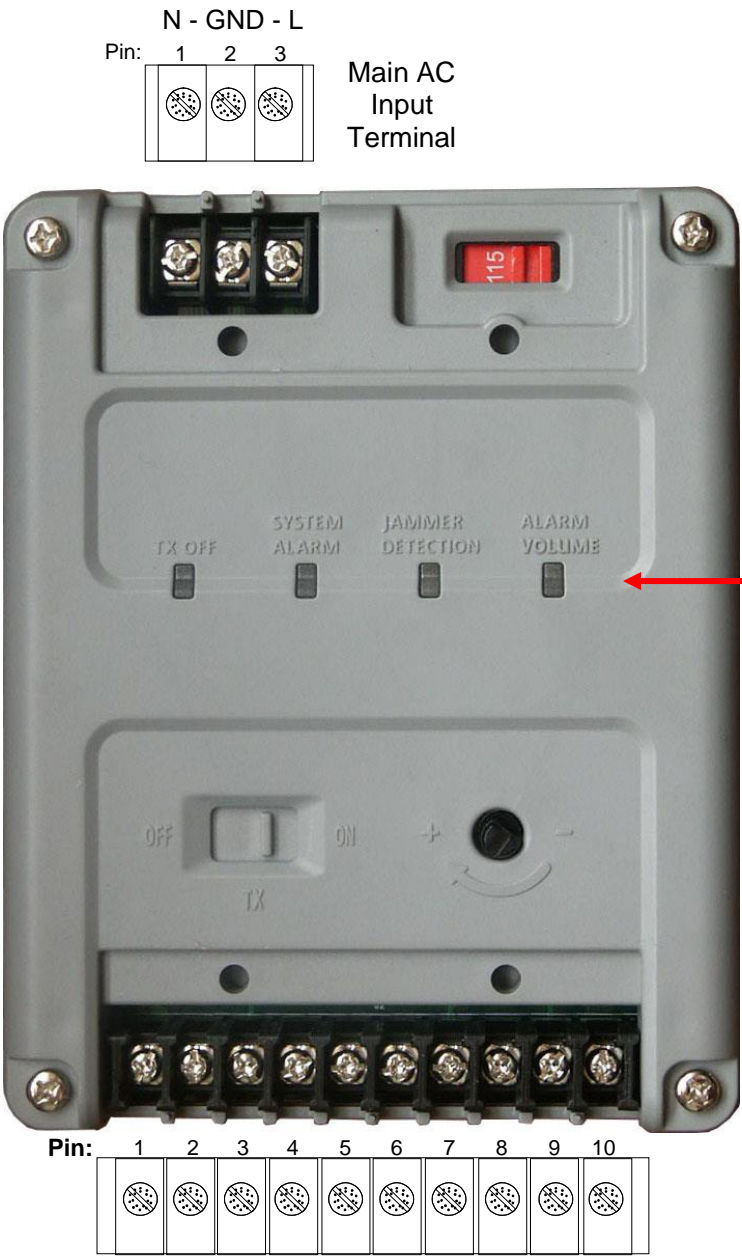
SPS Main AC Input Terminal Layout

Main AC Cable (3 wires)		
Pin	**Function**	**Color**
1	Neutral	White
2	Ground	Green
3	Hot	Black

SYSTEM ALARM · JAMMER DETECTION · ALARM VOLUME · TX OFF

OFF — ON · TX · +

LED Status

LED	On	Off
TX Off	TX is Off	TX is On
System Alarm	Alarm Enabled	Alarm Disabled
Jammer Detection	Detection Enabled	Detection Disabled
Alarm Volume	Dim Means Weaker	Bright Means Louder

Pin: 1 2 3 4 5 6 7 8 9 10

SPS Output Terminal Layout (10 pins)

|	SPS to Pedestal Cable (6 wires)						Alarm Relay		Jammer Relay	
Pin #	1	2	3	4	5	6	7	8	9	10
Function	GND	24VAC	TX OFF	Alarm	Anti-Jammer	Alarm Volume				
Electrical	Common GND	26 VAC	>4.0vdc	<2.5vdc	<2.5vdc	5-15vdc	1A Contact		1A Contact	
I/O	Output	Output	Output	Input	Input	Output	Output		Output	

SPS Box Main AC Input and Voltage Setup

The Smart Power Supply (SPS) box accepts 5 input voltages: 100vac 110vac and 120vac in North America and Japan, 220vac and 240vac in Europe and Australia.

⚠️ **Caution: Set the two Voltage Switches (A and B) on the SPS at the specified combination based on the local incoming voltage value (see picture below).**

AC Power In

Voltage Switch A

230   115
Two Positions

Voltage Switch B

HIGH   MID   LOW
(Three Positions)
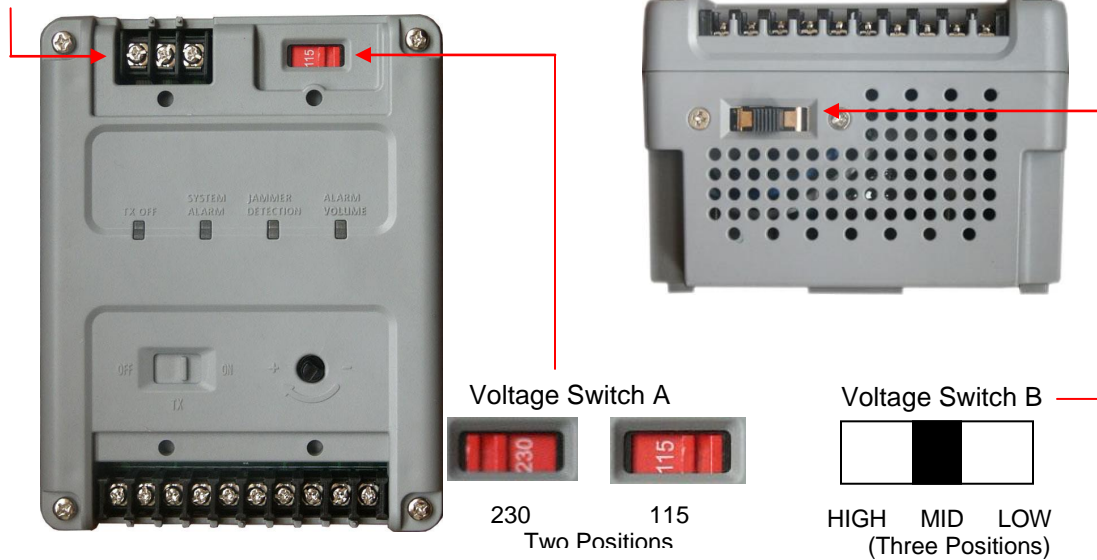
100vac
Voltage Switch A - 115
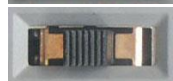
Voltage Switch B - LOW

220vac
Voltage Switch A - 230

Voltage Switch B - MIDDLE

110vac
Voltage Switch A - 115

Voltage Switch B - MIDDLE

240vac
Voltage Switch A - 230

Voltage Switch B - HIGH

120vac
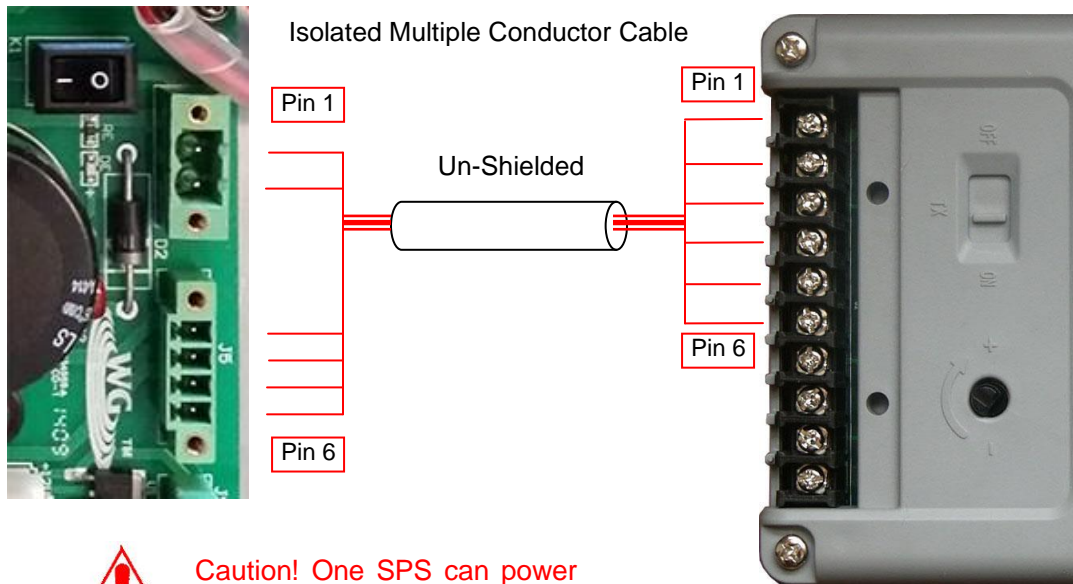Voltage Switch A - 115

Voltage Switch B - HIGH

Interconnection between Smart Power Supply and Pedestal

The system transceiver board has two sockets (combined pins 1 to 6) that connect to SPS output terminal pins 1 to 6 (one-to-one pin connection). The reference diagram shows the pin mapping relation between transceiver board and PSU.

Isolated Multiple Conductor Cable

Pin 1

Un-Shielded

Pin 1

Pin 6

Pin 6

Caution! One SPS can power only one transceiver pedestal.

Cable Conductors Specifications
Note: Specifications are calculated at 30 meters (100 feet) length.

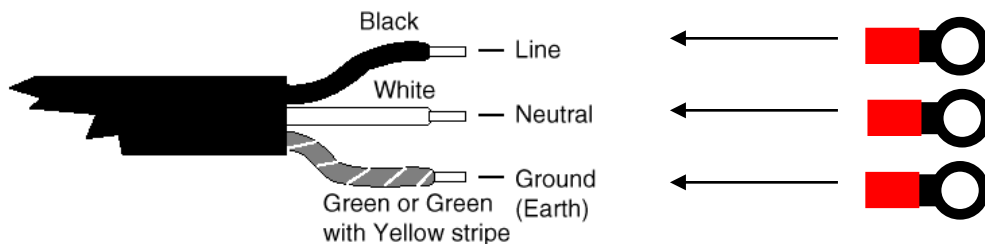| Pin	Conductors	Gauge	AWG	Description
1	Conductor 1	1 mm^2	16	Power (Common Ground)
2	Conductor 2	1 mm^2	16	Power (26 VAC)
3	Conductor 3	0.5 mm^2	20	TX OFF
4	Conductor 4	0.5 mm^2	20	Alarm
5	Conductor 5	0.5 mm^2	20	Jammer-Detection
6	Conductor 6	0.5 mm^2	20	Alarm Volume

Power Cord Notices

The SPS delivered does not include AC cable for installation; we recommend that you use a CE approved power cord H05 VV-F or H05 VVH2-F2 (Refer to the Electrical code which governs your country for installation of an Anti-Theft Unit to the Main power Supply) with the cable specification and gauge provided below.
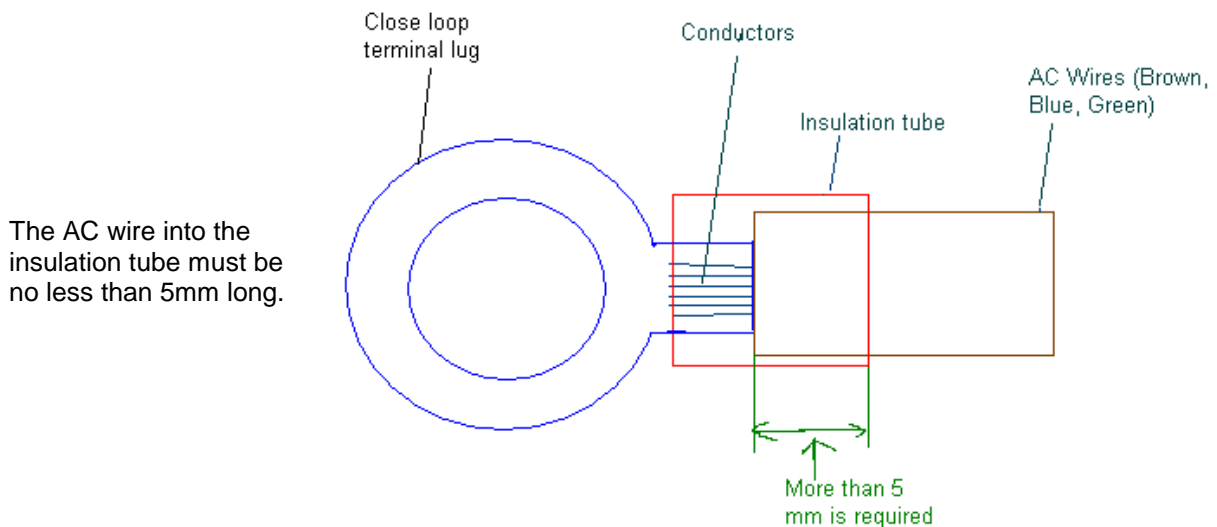
North American Power Supply Cords

Here is a sample of qualified external power line at one end with three close loop lugs connector and a molded receptacle terminal block at the other end. Conductors are color coded white (neutral), black (line) and green or green/yellow (ground).

Operation of this equipment at voltages exceeding 130 VAC will require power supply cords which comply with NEMA configurations.
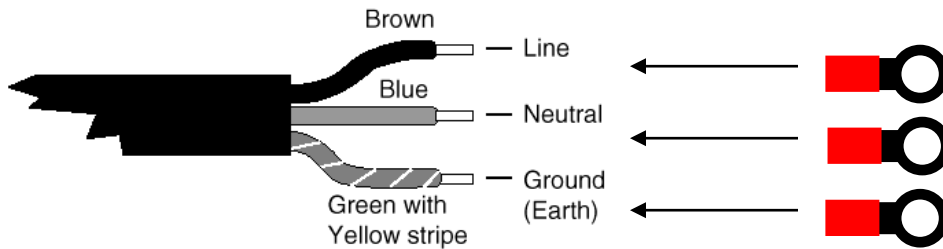

Closed loop lugs must be used as shown.

The AC wire into the insulation tube must be no less than 5mm long.

For North America follow standard building wiring codes as defined by the NEC or CEC. Also for North America, conduit size and knockout sizes are specified in UL 60950-1 Annex NAE, Table NAE.2 and Table NAE.3 or the NEC and CEC. (Licensed electricians should refer to these requirements from the relative regulations.)

International Power Supply Cord

Here is a sample of qualified external power line at one end with three close loop lugs connector and a molded receptacle terminal block at the other end. Conductors are CEE color-coded—light blue (neutral), brown (line) and green/yellow (ground). Other IEC 320 C-13 type power supply cords can be used if they comply with the safety regulations of the country in which they are installed.
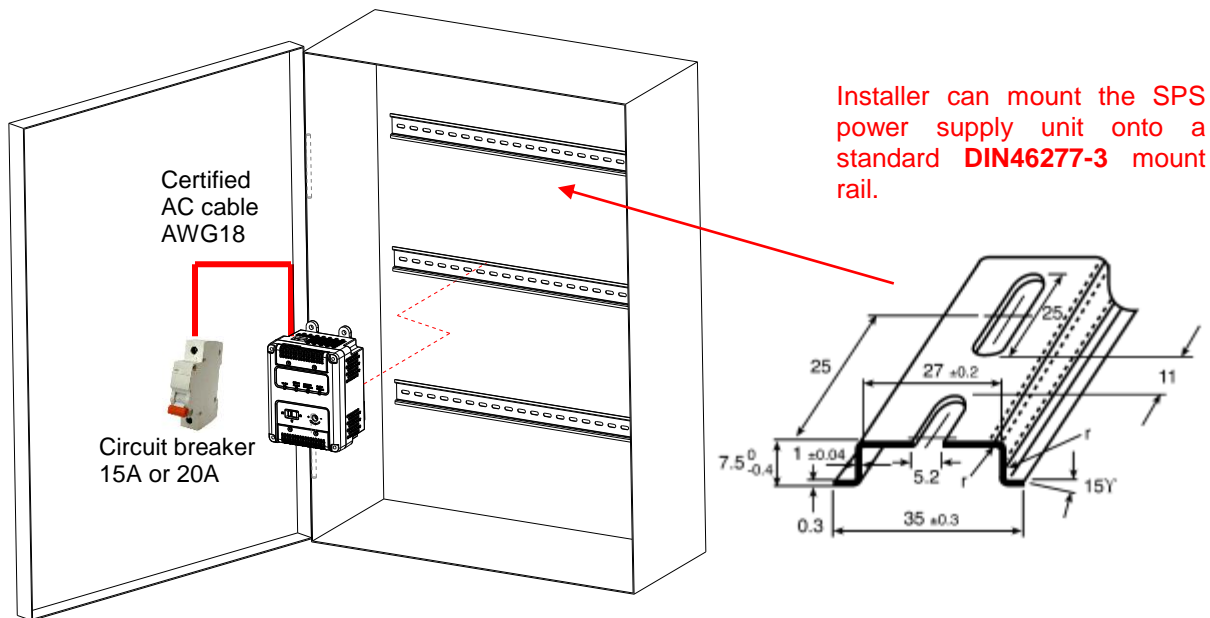

Closed loop lugs must be used as shown.

The AC wire into the insulation tube must be no less than 5mm long.
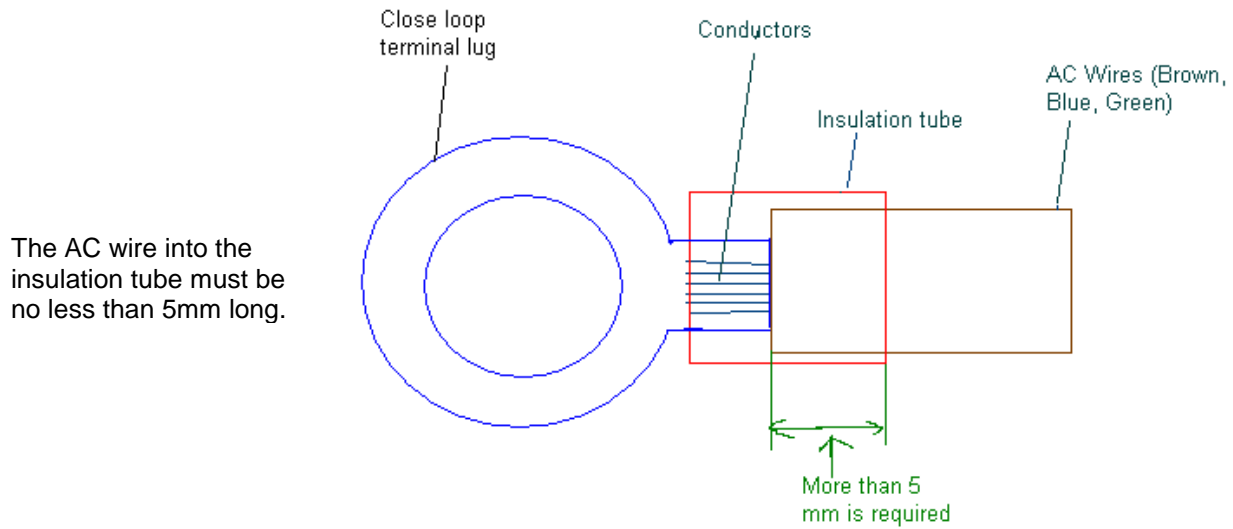
Main AC input Cable Specifications.

Pin	Conductors	Gauge	AWG	Description
1	Conductor L	0.75 mm^2	18	Main AC Hot
2	Conductor N	0.75 mm^2	18	Main AC Neutral
3	Conductor GND	0.75 mm^2	18	Main AC Ground

SPS Box Mounting Instructions

For installation safety and security, the SPS power supply box shall be mounted into local certified electric distribution box. Installer must use local certified AC cable at AWG18 and **a certified circuit breaker at 15A or 20A** to disconnect main power from the SPS unit. And then from distribution box, installer can direct the output cable from each SPS to local pedestal at different sites. (find reference in **Interconnection between Smart Power Supply and Pedestal** section.)

Certified
AC cable
AWG18

Installer can mount the SPS power supply unit onto a standard **DIN46277-3** mount rail.

Circuit breaker
15A or 20A

25

25.

27 ±0.2
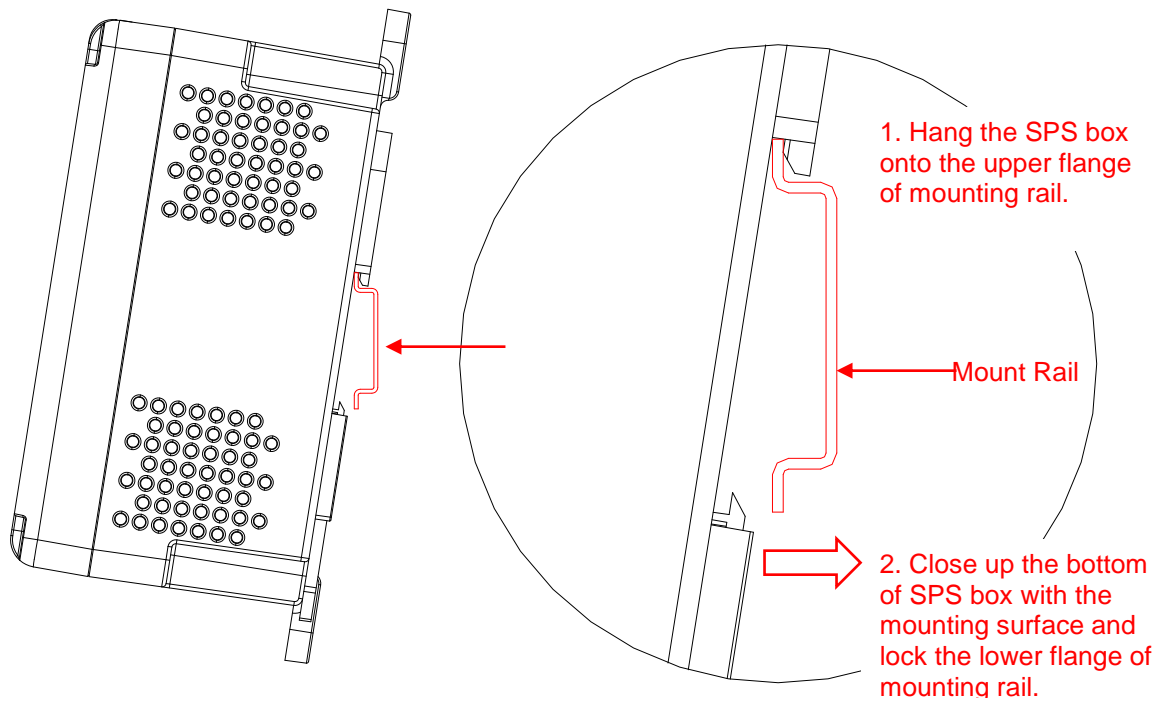
11

7.5⁰₋₀.₄

1 ±0.04

5.2

r

r

15˚

0.3

35 ±0.3

Reliable ground must be provided to the local certified electric distribution box containing the power supply, using 18 AWG in accordance with published electric code regulations.
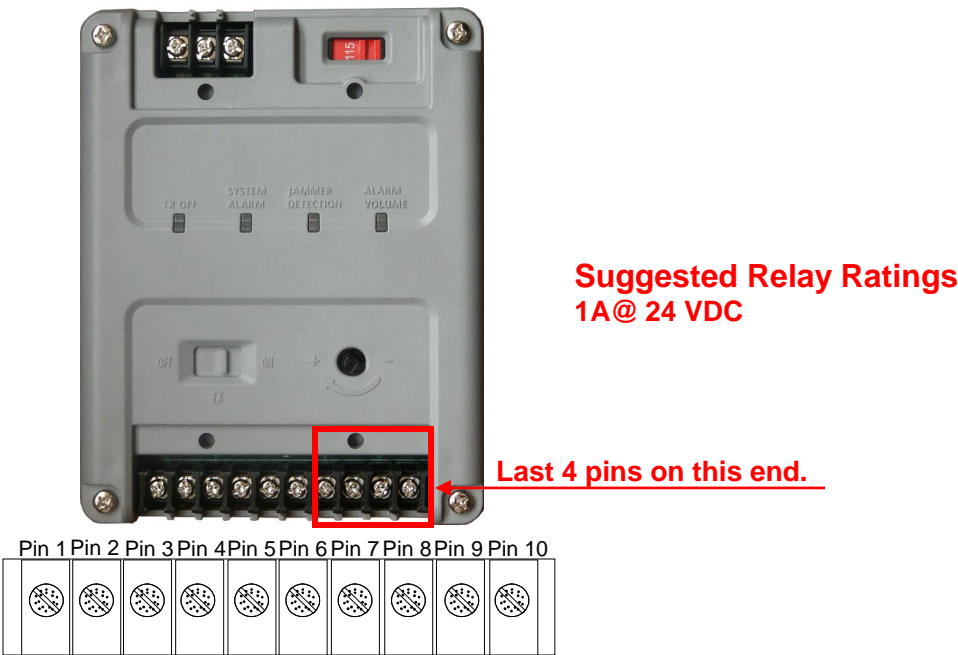
1. Hang the SPS box onto the upper flange of mounting rail.

Mount Rail

2. Close up the bottom of SPS box with the mounting surface and lock the lower flange of mounting rail.

SPS Box External Relay interface

The external relay interface is located at Output side of the SPS.

Suggested Relay Ratings
1A@ 24 VDC

Last 4 pins on this end.

Pin 1 Pin 2 Pin 3 Pin 4 Pin 5 Pin 6 Pin 7 Pin 8 Pin 9 Pin 10

SPS Output Terminal Layout (10 pins)

	SPS to Pedestal Cable (6 wires)						Alarm Relay		Jammer Relay	
Pin #	1	2	3	4	5	6	7	8	9	10
Function	GND	24VAC	TX OFF	Alarm	Anti-Jammer	Alarm Volume				
Electrical							1A Contact Rating		1A Contact Rating	

Notes:
1. **Wire length to the dry contact circuit is limited to 20 feet.**
2. **To prevent high voltage noise from being introduced into the transceiver and degrading the system's performance, it is highly recommended that you use a 24vdc output relay.**

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