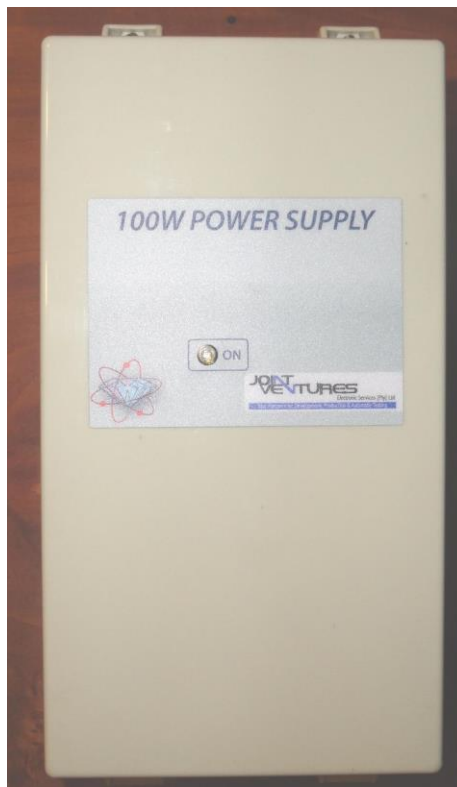


## The Diamond PGS – Power supply

### 1. General

The PGS Power supply is a high efficiency switch mode power supply with control switch and fault detection system, specially designed to provide the Diamond Parking Guidance System with reliable power.



### 1.1 Main features

- Can be installed in parallel for redundancy.
- Voltage and current monitors with fault alert system.
- Status LED for easy fault detection.
- Hot swappable.
- Low cost.

## **1.2 Operation**

The PGS power supply communicates its status to the ZoneBuffer to which it is connected, over its communication port.

The PGS Sensor is also equipped with status LED. The status LED indicates:

- Communication status.
- Hardware status.

This document must be read in conjunction with the “PGS Terminology.Pdf” available on our website ([www.jves.co.za](http://www.jves.co.za)).

## **2. Detailed description**

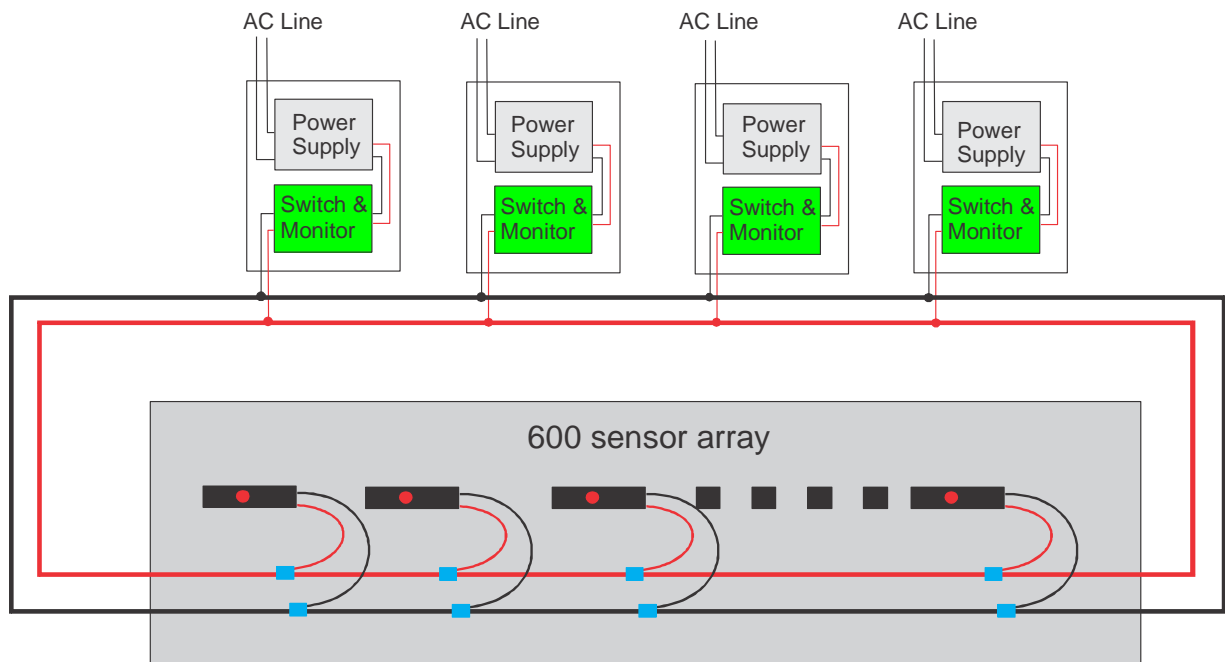
### **2.1 Output capability**

The PGS Power supply can deliver 20V and 5A. It can feed up to 250 sensors. However due to voltage drops on the main supply wire JVES recommends a maximum load of 100 sensors per one power supply.

### **2.2 System connection**

The PGS power supply must be connected to the main AC supply, It automatically switches over between 110VAC to 220VAC supply.

The DC output is then connected to the main DC feed. A few power supplies can be installed in paralleled.



To keep the voltage drop to a minimum the power supplies must be scattered around the installation.

### **2.3 Fault detection circuits**

Each Diamond PGS power supply is equipped with an output monitoring circuit. The following is monitored:

- Power supply voltage.
- Power supply current

The monitoring circuit is fed by the common bus to ensure operation should the monitored power supply be faulty or not connected.

### **2.4 Communication**

The Diamond PGS power supply communicates its status over the RS232 daisy chain communication line and can be connected anywhere within the sensor array.

Normally the ZoneBuffer to which the power supply is connected will collect the status at fixed intervals. In case of a fault the ControlRoom will issue an alert.

### **2.5 Set-up**

The PGS Power supply has no setting related to its operation. However one jumper is provided as a system control:

**END** – The END jumper can be used to mark the end of a section.

### **2.6 Mounting options**

The PGS Power supply can be mounted on a wall or on the ceiling.

### **2.7 Status indicator**

Each PGS Power Supply is equipped with Red/Green bi-colour status indicator LED. The status indicator provides information regarding the operation of the unit.

The Status indicator blips three blips as follows:

Blip 1 – Communication indicator:

- Green – The power supply is receiving communication.
- Red – No communication is received.

Blip 2 – Voltage indicator:

- Green – The power supply is ON and the voltage is OK.
- Red – No voltage is measured.

Blip 3 - Current indicator:

- Green – The Power supply is delivering current to the power bus of the system
- Red – No current is delivered to the system.

### 3. Application examples

The following are two ceiling mounted power supplied





#### **4. PGS Power supply detailed specifications**

<b>Input range low</b>	85VAC-132VAC
<b>Input range High</b>	176VAC –264VAC
<b>Protection</b>	Short circuit / Overload / Over voltage
<b>Efficiency</b>	Better than 80%
<b>Communication protocol</b>	Daisy chain RS232
<b>Material</b>	ABS
<b>Housing</b>	IP56
<b>Operating temperature</b>	-20 <sup>o</sup> to +70 <sup>o</sup>
<b>Storage temperature</b>	-40 <sup>o</sup> to +85 <sup>o</sup>
<b>Safety Standard</b>	IEC 60950-1
<b>RFI/EMI Standard</b>	IEC 61000

#### **5. Ordering information:**

PGS-PS