# Models VSP6020, VSP2050, VSP4030, VSP12010

## High Power Switching DC Power Supplies

## Data Sheet

### Models VSP6020 (60VDC/20A), VSP2050 (20VDC/50A), VSP4030 (40VDC/30A), VSP12010 (120VDC/10A)


Stackable & Rackable

**New family of high-power, low-noise Switching DC power supplies.**

The New VSP Power Supplies utilizes modern switch mode technology to produce high-power, low-noise switching supplies that cost around 25 percent less than linear supplies with the same power which offers as much as 1.2 kilowatts in a 19-inch rack mounted chassis that measures just 1U (1.75 inches) in height.


Among the many outstanding features of the new VSP DC Power Supplies are:

- **Precise output voltage control via:**
  - **a. manual tuning utilizing front panel mounted Ten-tern potentiometers and three-digit meters**
  - **b. Remote control from an RS-232 Interface or GPIB Interface (Add "GPIB" to model number)**
  - **c. Analog remote sensing automatically maintains desired voltage at load level of power cable.**
- **Provides 1.2 kilowatts at 20V, 40V, 60V and 120V output voltages**
- **Compact 1U (1.75 inch by 19 inch rack mountable cabinet**
- **Up to nine units can be cascaded, producing more that 10 Kilowatts of DC power.**
- **Front-to-back air flow allows full power operation without space between supplies.**

**Now you can have power without the noise**

The new power supplies pack as much as 1.2 kilowatts into a 19-inch, rack-mounted box that measures just 1U (1.75 inches) in height. Furthermore, these VSP Power Supply achieves an energy conversion efficiency of 80%, while keeping noise levels under 20 millivolts.

Behind the performance advantages of the VSP series are advances in switching techniques. Two are particularly significant. One is soft switching; the other is a two-device asynchronous half-bridge DC to DC converter design. The soft switching technique is a vital step for reducing switching noise. This technique ensures that the switching action will occur when the voltage across the switching device is at a minimum. By turning the switching device in the converter on and off when there is little voltage across it, the transformer load does not see sharp voltage transients. Eliminating that transient gets rid of much of the high-frequency system noise that would otherwise propagate through the transformer to the output stage. It also helps reduce the noise that would typically feed back to the source. A built-in RFI filter further reduces conducted power line noise emissions, as well as susceptibility, allowing the supplies to meet EN55022 Class A standards.

The VSP series further reduces the converter's noise by using a "piggy pack" linear regulator to follow the conversion stage. The total effect is to improve the transient response to the changes in load and to reduce output noise and ripple from the DC converter to a maximum of 20 millivolts, with 5 millivolts typical at full load. Along with controlling output noise, the converter and regulator allow the VS series devices to offer precise output voltage control.

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