

# Power supplies

## Industrial design

The Model 5300 power supply modules are designed to operate in industrial and remote site environments. There are two input options that accommodate either standard 24 VDC input or wide-range 10 – 32 VDC input which is ideal for varying voltage input or battery input. All versions automatically filter and condition the input power and then distribute that power to all controller modules via the backplane. The power supply continuously monitors the power and updates status to the CPU module and diagnostic LEDs on the power supply module. A front mounted fuse protects the supply from overload conditions.

## Isolated control power

The input voltage is regulated and used to generate the 3.3 VDC and 5.0 VDC used by the control electronics in the automation controller. These control voltages are fully isolated from the I/O signal voltages.

## Internally bussed I/O power

The power supply modules also provide I/O signal power at 5.0 VDC as well as the input voltage  $V_{supply}$ , normally 24 VDC, to all of the I/O modules. This design allows the 5300 controller to be directly wired to input and output devices without additional external power supplies to the circuit. This simplifies the application wiring and reduces panel space and cost. Additionally, the power supply module features a 5.0 VDC external connector that is ideal for supplying power to encoder and other external sensor devices.

## Using two power supplies

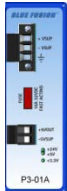
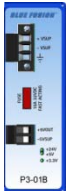
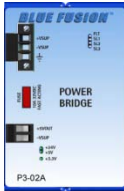
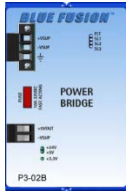
The power supply module provides power to the I/O and CPU modules located to the left of the power supply. Every Model 5300 controller configuration requires a power supply to be mounted on the left end of the controller assembly. The power supplies have sufficient control power to supply most CPU modules and up to 16 I/O modules. However in applications where additional power is required, for example a high concentration of output modules, an additional power supply may be added. This is accomplished by inserting a Power bridge module between two rack sections. The Power bridge connects two racks together, joining the control section of the backplane, but isolating the power section of the back plane. The Power bridge supplies power to the rack to its left only.

### 5300 power supply module features

- Conditions and filters input power
- Continuously monitors input and output power
- Diagnostic LEDs
- Internally bussed I/O power
- 5 VDC output supply to power external sensors
- Two power supplies may be installed per controller

Document No. 950-530020-002

# 5300 Automation Controller

	P3-01A	P3-02A	P3-01B	P3-02B
				
Description	<i>Power supply</i>	<i>Power bridge</i>	<i>Wide range power supply</i>	<i>Wide range power bridge</i>
Input voltage	18-32 VDC	18-32 VDC	10-32 VDC	10-32 VDC
Fuse	10 A	10 A	10 A	10 A
Current capacity, max I/O backplane current @24V	8 A	8 A	8 A	8 A
<b>Environmental</b>				
Operating temp horizontal	-25 to 50°C			
Operating temp vertical	-25 to 45°C			
Storage temp	-40 to 85°C			
Humidity	5 – 95% (non-condensing)			
Protection	IP20			