Intelbras PSR250-12A & PSR250-12A1 Power Supply User Manual

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Functions

The PSR250-12A and PSR250-12A1 power modules support AC and high-voltage DC inputs. They can provide a maximum output of 250 W. The PSR250-12A provides power module-side intake and port-side exhaust airflows, and the PSR250-12A1 provides port-side intake and power module-side exhaust airflows.

The power module provides the following features:

• **Self-protection—**The power modules provide output overvoltage, output current limiting, output short circuit, overtemperature, and input undervoltage protections. See the following table for the protection and auto-recovery features of the power modules.

• **Redundancy—**Two power modules can be connected in parallel to achieve 1+1 redundancy and load sharing.

• **Hot swapping—**You can remove one of the two power modules in 1+1 redundancy while the device is operating.

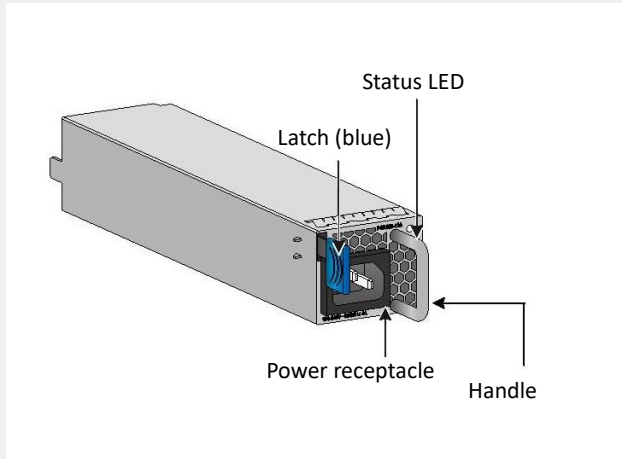| Protection function	Protection state	Support for auto-recovery
Output overvoltage protection	The power module does not supply power, and the power module status LED is steady red.	No. Power supply can restore only when you reconnect the power cord to the power source.
Output current limiting protection	The power module does not supply power, and the power module status LED is steady red	Power supply restores after the output current decreases to an acceptable range.
Output short circuit protection	The power module does not supply power, and the power module status LED is steady red.	Power supply restores after the short circuit problem is resolved.
Overtemperature protection	The power module does not supply power, and the power module status LED is steady red	Power supply restores after the output current decreases to an acceptable range.
Input undervoltage protection	The power module does not supply power, and the power module status LED is flashing red	Power supply restores after the output current decreases to an acceptable range.

Technical specifications

Whether the power module supports high-voltage DC input depends on the device model. For information, see hardware information and specifications for the device.

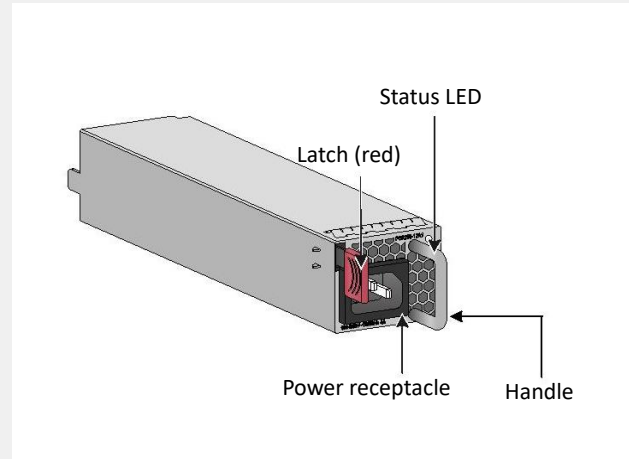| Item		Specifications
AC input	Rated input voltage	100 to 240 VAC @ 50 or 60 Hz
	Rated input current	4 A
	Max input voltage	90 to 290 VAC @ 47 to 63 Hz
	Max input current	5 A
High-voltage DC input	Rated input voltage	240 VDC
	Rated input current	2 A
	Max input voltage	180 to 320 VDC
	Max input current	2.5 A
Output voltage		12 V/3.3 V
Output current		20.9 A (12 V)/2 A(3.3 V)
Max output power		250 W
Dimensions (H × W × D)		40.2 × 50.5 × 221 mm (1.58 × 1.99 × 8.70 in)
Operating temperature		−10°C to +55°C (14°F to 131°F)
Relative humidity		5% to 95%

Appearance

A blue latch indicates power module-side intake and port-side exhaust airflow. A red latch indicates port-side intake and power module-side exhaust airflow.

PSR250-12A   PSR250-12A1

Status LED

Latch (blue)

Power receptacle   Handle

Status LED

Latch (red)

Power receptacle   Handle

LEDs

A PSR250-12A/PSR250-12A1 has a status LED on its front panel. The following table lists the LED status and description.

LED status	Description
Steady green	The power module is operating correctly
Flashing green	The power module has power input but is not installed in the device
Steady red	The power module has failed or entered protection state.
Red/Green flashing alternatively	The power module has generated an alarm for power problems (such as output overcurrent, output overload, and overtemperature), but has not entered protection state.
Flashing red	The power module does not have power input. If two power modules are installed and only one power module has power input, the status LED of the power module that does not have power input flashes red.
	The power module is in input undervoltage protection state.
Off	The power module does not have power input

Safety guidelines

To prevent device damage and bodily injury, follow these restrictions and guidelines when you install or remove the power module:

- Before you install a power module, make sure its airflow direction is as required.

- Do not install power modules that provide different directions of airflow on the same device

- Always wear an ESD wrist strap and make sure it makes good skin contact

- Before installing the power module, make sure the voltage of the power supply system is as required by the power module, and the output voltage of the power module is as required by the device.

- Do not touch any bare cables or terminals of the power module.

- Do not place the power module in a wet area, and prevent liquid from flowing into the power module.

- To avoid power module damage, do not open the power module. When the internal circuits or components of the power module fail, contact Intelbras Support
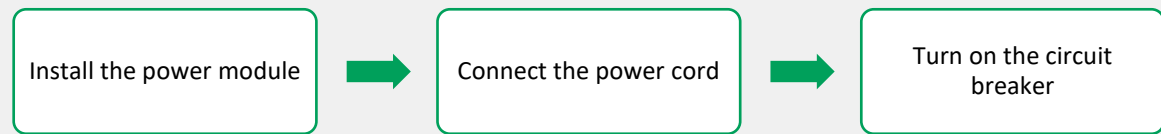
Tools

No ESD wrist strap is provided with the power module. Prepare it yourself.

Installing and removing a power module

- The installation and removal procedures for the PSR250-12A and PSR250-12A1 are similar. This section takes the PSR250-12A for example.

- Make sure the power module is compatible with the device. For more information about the compatibility matrix, see the installation guide of the device.

Installing the power module

To avoid bodily injury or device damage, follow the steps in the following figure to install the power module.

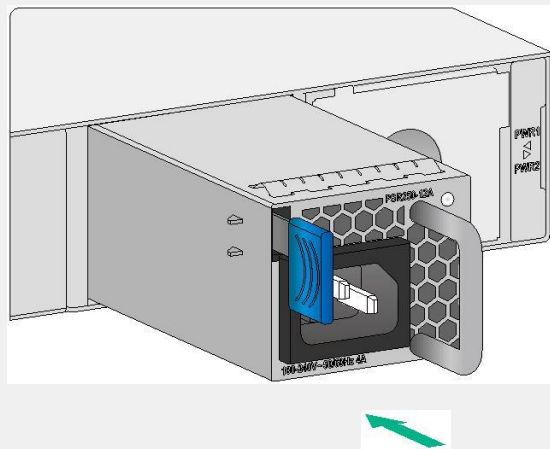| Install the power module	➡	Connect the power cord	➡	Turn on the circuit breaker

① Put on the ESD wrist strap, and make sure the strap makes good skin contact and is reliably grounded.

② Remove the filler panel, if any, from the target power module slot. Keep the removed filler panel secure for future use.

③ Unpack the power module and verify that the power module model is as required. Keep the packaging box and bag secure for future use.

④ Correctly orient the power module. Holding the power module handle with one hand and supporting the power module bottom with the other, slide the power power module along the guide rails into the slot until you hear a click.
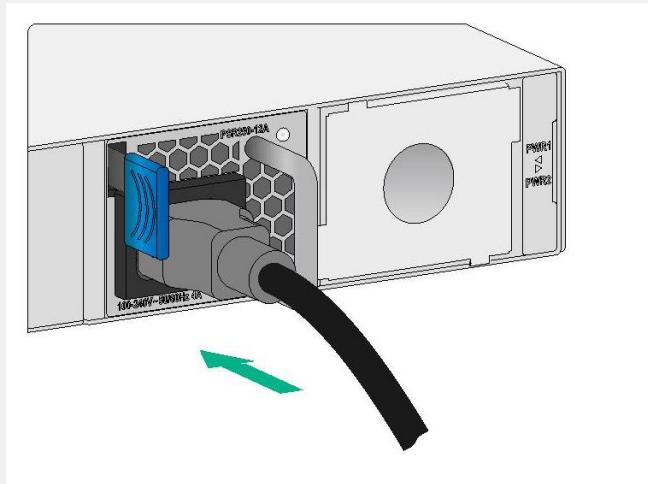

- Make sure the power module makes good contact with the backplane of the device

- The power module is foolproof. If the power module is oriented incorrectly, you cannot install the power module into the slot. To avoid damaging the terminals on the power module, if you encounter a hard resistance while inserting the power module, pull out the power module, reorient it, and then insert it again
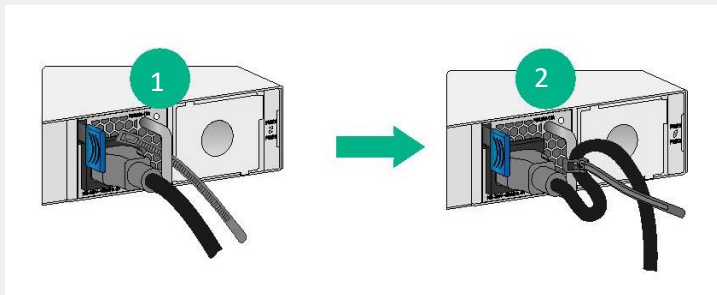
Connecting the power cord

- Make sure each power cord has a separate circuit breaker.

- Turn off the circuit breaker before connecting the power cord

① Connect the female connector on the power cord to the power receptacle on the device.

② Use a cable tie to secure the power cord to the handle of the power module.
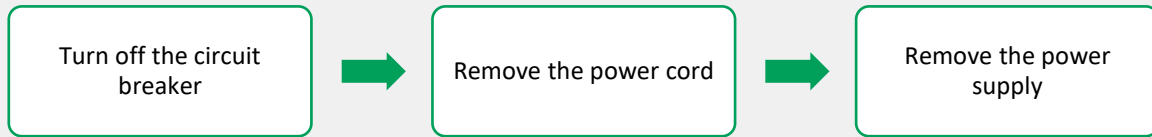

③ Connect the other end of the power cord to the power supply system, and turn on the circuit breaker of the power supply system.

④ Examine the LED on the power module. If the LED is steady green, the power cord is successfully connected. If the LED is off or red, examine the installation conditions, troubleshoot the problems, and try again until the LED becomes steady green.
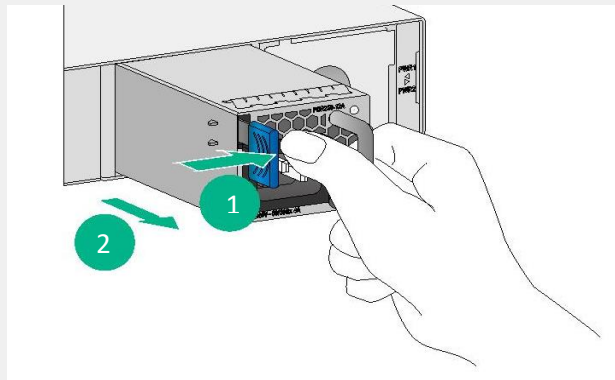
Removing the power module

To avoid bodily injury or device damage, follow the steps in the following figure to remove the power module.

| Turn off the circuit breaker | → | Remove the power cord | → | Remove the power supply |

① Turn off the circuit breaker of the power cord.

② Put on the ESD wrist strap, and make sure the strap makes good skin contact and is reliably grounded.

③ Loosen the cable tie, and take off the power cord.

④ Holding the power module handle with one hand, use your thumb to press the latch towards the handle and simultaneously pull the power module outward using force parallel to the ground. After pulling the power module part way out, hold the power module bottom with the other hand, and pull the power module slowly out of the slot along the guide rails.

⑤ Put the removed power module on an antistatic mat or into its initial package.

If you are not to install a power module in the slot, install a filler panel in the slot to prevent dust from entering the chassis.

PSR250-12A/PSR250-12A1 Box content: 1x power supply, 1x 2 meters Brazil standard power cable

Compatible with: SC 5525-24X-2QE, SC 5525-24X-2QE, SC 5525-24X-2HE, SC 5525-48X-2HE and SC 5530 Series.