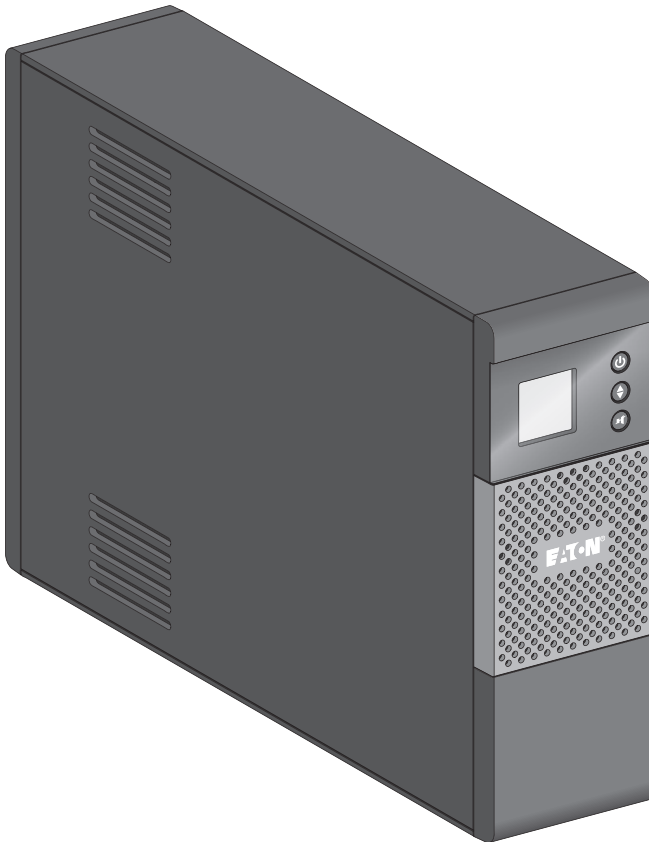


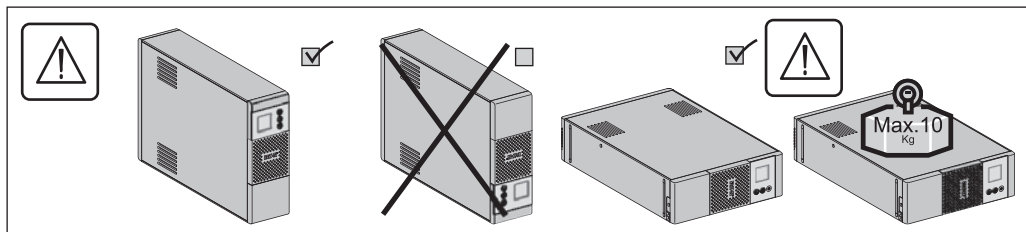
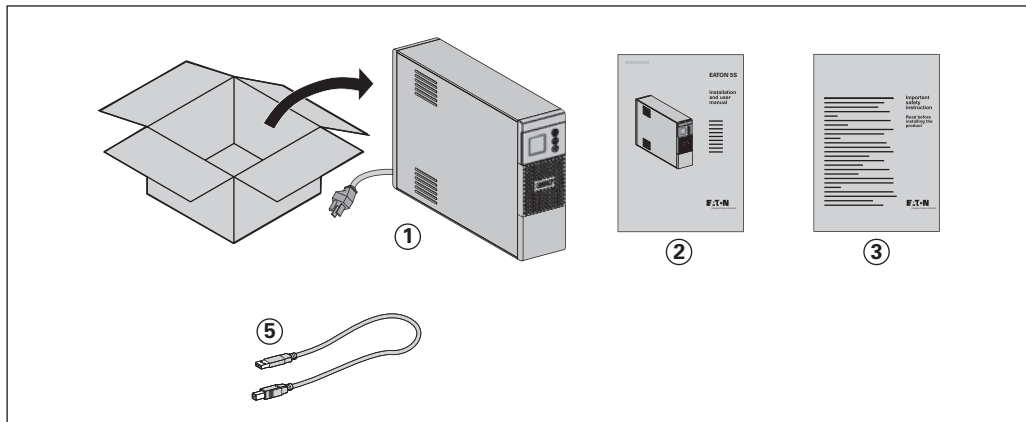
# EATON 5S

850/1200/1600

## Installation and user manual



## Packaging

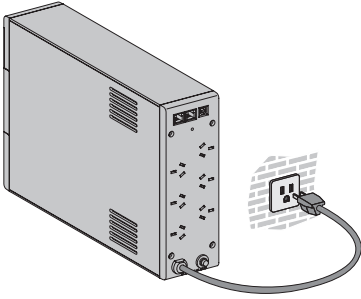


### Caution!

- Before installing the **Eaton 5S**, read the booklet ③ containing the safety instructions to be respected. Then follow the instructions given in this manual ②.

# Quick start

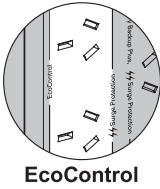
**A**



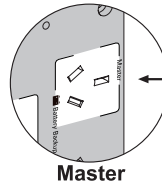
**B**

850

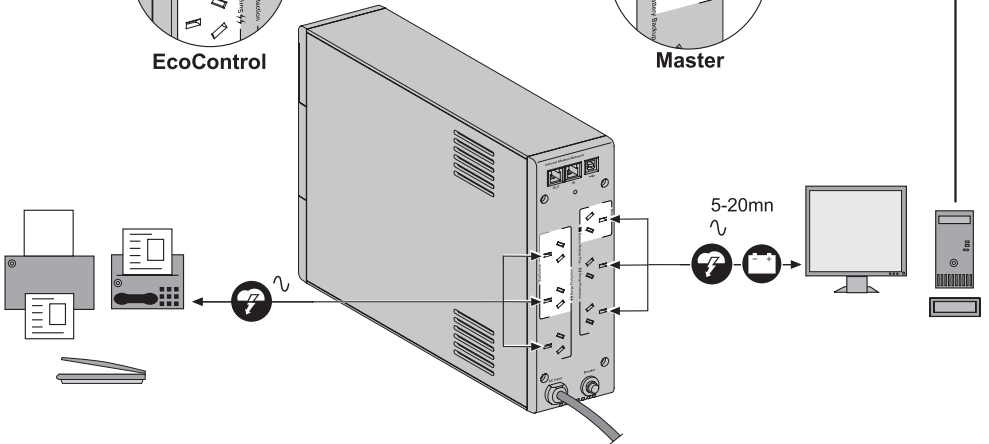
1200 / 1600



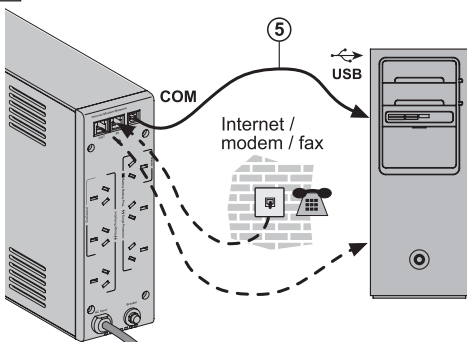
EcoControl



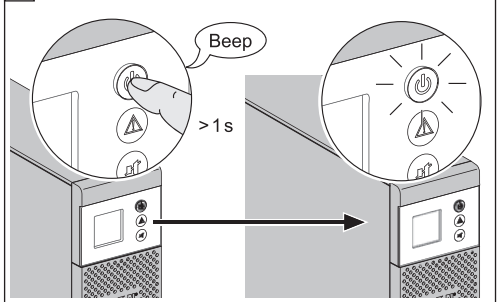
Master



**C**



**D**

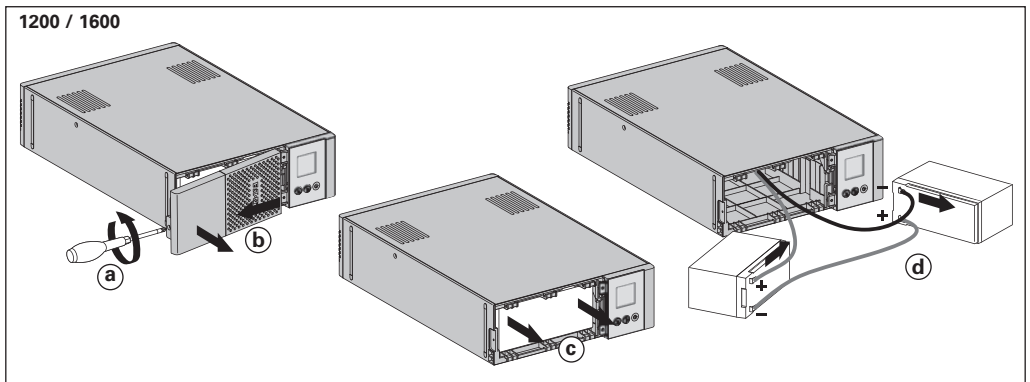
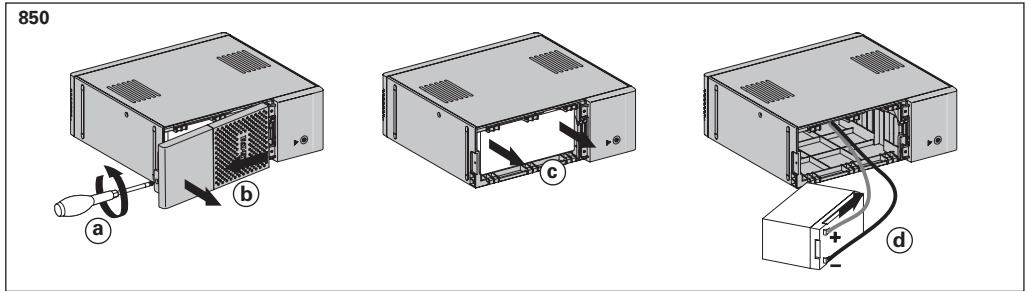


Register warranty at: [powerquality.eaton.com](http://powerquality.eaton.com)

## Battery disposal and safety

- **Caution.** Battery service life is reduced by 50 % for every ten degrees above 25 °C.
- **The battery elements must be replaced exclusively by qualified personnel (risk of electrocution),** with new elements approved by Eaton to ensure correct operation of the UPS.
- The battery must be disposed of in accordance with applicable regulations. To remove the battery elements, shut down the UPS (button (6) OFF), remove the power cord and proceed as indicated in page 4 "Battery change".

## Battery change



- **Warning:** take care not to invert the polarity + (red) and - (black) when connecting the batteries as this will destroy the device.

## Technical characteristics

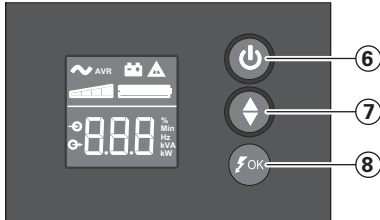
Eaton 5S	850	1200	1600
• UPS power	850 VA / 510 W	1200 VA / 750 W	1600 VA / 1000 W
• Nominal input voltage	185 V - 285 V, adjustable to 150 V - 285 V		
• Input frequency	50/60 Hz (46 - 70 Hz working range)		
• Voltage/frequency of battery backup outlets (19) in battery mode	220 V / 230 V / 240 V +15 % -20 % (50/60 Hz ± 1 %)		
• Total output current for all outlets	10 A max		
• Output current of battery backup outlets (19)	3.8 A max	5.4 A max	7.3 A max
• Leakage current	0.4 mA		
• Input protection	10 A resettable circuit breaker		
• Transfer time	5 ms typical		
• Telephone surge protection	Tel, ISDN, ADSL, Ethernet		
• Sealed lead-acid battery	12 V, 9 Ah	2 x 12 V, 7 Ah	2 x 12 V, 9 Ah
• Automatic battery test	Once a week		
• Average battery life	4 years typical, depending on temperature and amount of discharge cycles		
• Operating temperature	0 to 35 °C		
• Storage temperature	-25 °C to +55 °C		
• Operating relative humidity	0 to 85 %		
• Operating elevation	0 to 2000 m		
• Safety standards	AS 62040-1, IEC 62040-1, CE certified		
• Electromagnetic compatibility standards	IEC 62040-2, C1* AS 62040-2, C1		
• Warranty	2 years		
• Dimensions (mm)	260 x 85 x 250	382 x 87 x 250	
• Weight (Kg)	6.5	9.7	11.6

(\*) **Warning:** Output cables should not exceed 10m length.

## 1. Operating conditions

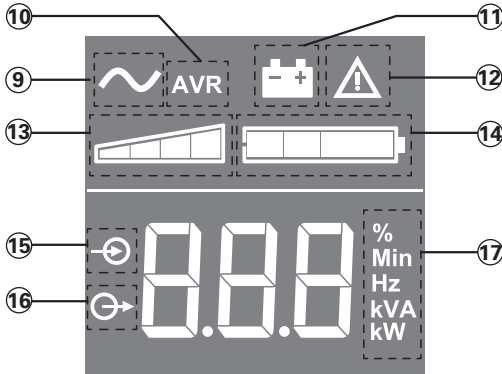
- This product is an **Uninterruptible Power Supply (UPS)** for computers and their peripherals, television sets, stereo systems and video recorders... It must not be used to supply other electrical equipment (lighting, heating, household appliances, etc.).
- **UPS** can be installed in horizontal, vertical position, or placed in Rack 2U (optional kit).

## 2. Description



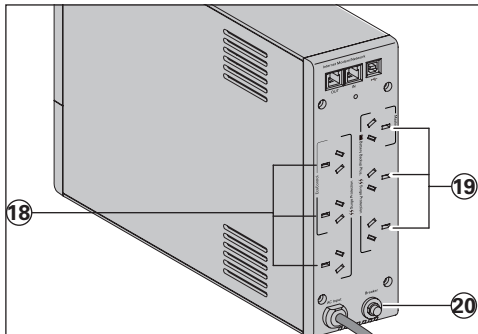
- ⑥ ON/OFF button for the battery backup outlets
- ⑦ Scroll down
- ⑧ Mute alarm

### LCD



- ⑨ UPS ON
- ⑩ AVR mode
- ⑪ Battery mode
- ⑫ Internal fault
- ⑬ Output load level
- ⑭ Battery level
- ⑮ Input measurements
- ⑯ Output measurements
- ⑰ Measuring unit

### Outlets



- ⑱ Filtered outlets
- ⑲ Battery backup outlets
- ⑳ Protection (circuit breaker)

### 3. UPS connections

- Connect the UPS ① to the AC-power system via a wall outlet with an earth connector, using the supplied cord ④ for a UPS with FR/DIN sockets or with the supply cord of your computer for a UPS with IEC sockets (see figure A).
- Plug critical equipment (computer, monitor, modem, etc.) into the outlets ⑱ providing battery backup power and surge protection (see figure B), taking care not to exceed the rated current indicated in amperes.
- Other devices (printer, scanner, fax, etc.) can be connect to the filtered outlets ⑲ that provide surge protection (see figure B). The filtered outlets are not backed up by battery power in the event of a power outage.

#### Optional Internet modem / Network connection:

A modem or Ethernet data line can be protected against surges by connecting it via the UPS. Connect the existing device cable between the wall outlet and the UPS, and use a similar cable between the UPS and the device, as indicated in figure C (cable not supplied).

#### Optional USB connection:

The UPS device can be connected to the computer using the USB cable ⑤ supplied. The software is available on the CD-ROM ⑥ or Eaton UPS Companion software is downloadable from [powerquality.eaton.com](http://powerquality.eaton.com) (see figure C). Register for the warranty on [powerquality.eaton.com](http://powerquality.eaton.com).

### 4. Master and EcoControl outlets operating procedure

In order to limit energy consumption of peripherals (scanner, printer) in standby mode, the Eaton 5S is equipped with EcoControl outlets that are dependent on the Master outlet. When the main application supplied by the Master outlet (computer) is shut down, the EcoControl outlets are automatically deactivated and the peripherals shut down.

This function (deactivated by default) is validated and configured using the configuration tool integrated in the software.

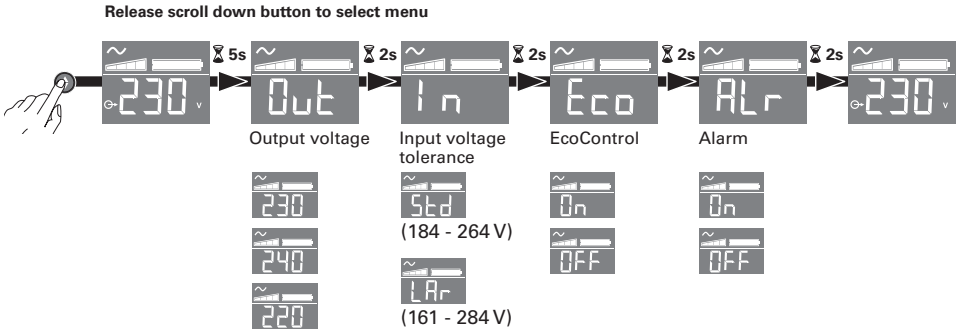
**Note:** when the function is activated, do not connect critical applications to **EcoControl** outlets.

#### Threshold setup

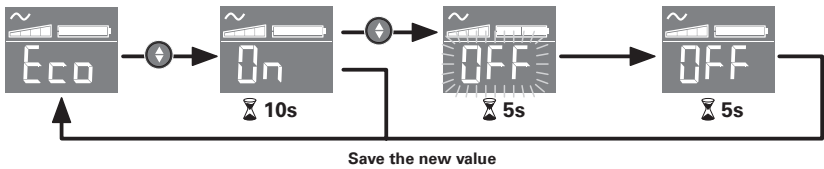
A default setup ensures the correct operation of the EcoControl function. However, depending on the consumption of the main load, the trigger threshold of the EcoControl function may have to be modified using the configuration software supplied with the UPS:

- First, make sure that the function is activated in the "EcoControl Function" tab of the configuration tool.
- If the peripherals connected to the EcoControl outlets do not switch off when the main load is not in normal operation (ex: when in standby mode), the detection threshold value must be set to **High**.
- If the rated consumption level of the main load is low and the EcoControl outlets shut down when the main load is operating normally, the detection threshold value must be set to **Low**.

## 6. UPS setting through the LCD



### Example of setting



- LCD shut off if any button inactive for 3 minutes.

## 7. Operation

### Battery charge

The UPS charges the battery as soon as it is connected to the AC outlet, whether button ⑥ is pressed or not. When used for the first time, the battery will only provide its maximum autonomy after it has been charged for 8 hours. It is recommended that the UPS be permanently connected to the AC power supply to ensure the best possible autonomy.

### Switching-on the UPS

Press button ⑥ for about 1 second.

### Filtered outlets ⑱ without battery backup

Equipment connected to these outlets is supplied as soon as the AC cord ④ is plugged in. They are not affected by button ⑥.

### Battery backup outlets ⑲

Equipment connected to these outlets is supplied as soon as button ⑥ turns green (see figure D).

These outlets can be turned on even if the UPS is not connected to AC power (button ⑥ flashes).



### AC-power disturbance

- If AC power is disturbed or fails, the UPS continues to operate on battery power. Button ⑥ flashes green. In normal mode, the audio alarm beeps every ten seconds, then every three seconds when the end of battery backup time is near. In silent mode (see the section on settings), the audio alarm simply beeps once when the UPS transfers to battery power.
- If the power outage lasts longer than the battery backup time, the UPS shuts down and automatically restarts when power is restored. Following a complete discharge, a few hours are required to recharge the battery back to full backup time.
- To save battery power, it is possible to press button ⑥ to cut the supply of power to the devices connected to the battery backup outlets.

### Lightning protection:

All outlets, whether backed up or simply filtered, include surge protection, whatever the position of button ⑥.

### Shutdown of the battery backup outlets ⑱

Press button ⑥ for more than two seconds.

## 8. Troubleshooting

(For further information, visit the [www.powerquality.eaton.com](http://www.powerquality.eaton.com) site or contact after-sales support.)

	Problem	Diagnostic	Solution
1	• The battery backup outlets ⑱ are not supplied with power.	• Button ⑥ is not lighted on.	• Press button ⑥ and check that it turns green.
2	• The connected devices are not supplied when AC power fails.	• The devices are not connected to the battery backup outlets ⑱.	• Connect the devices to the battery backup outlets ⑱.
3	• AC power is available, but the UPS operates on battery power.	• Circuit breaker ⑳, located under the UPS, has been tripped by an overload on the UPS output.	• Disconnect excess equipment and reset the circuit breaker ⑳ by pressing the corresponding button.
4	• Green button ⑥ flashes and audio alarm beeps every 3 seconds.	• The UPS battery backup outlets ⑱ are overloaded.	• Disconnect excess equipment connected to the battery backup outlets ⑱ .
5	• Fault sign ⑫ appear on the LCD panel and audio alarm beep continuously.	• A fault has occurred on the UPS. The battery backup outlets ⑱ are no longer supplied.	• Call after-sales support.
6	• EcoControl outlets keep powered when main application (Master outlet) is stopped.	• EcoControl function is not activated or not properly set.	• Activate or set properly EcoControl function using the software provided with the product.

[www.eaton.com](http://www.eaton.com)

614-06819-00

**EATON**

*Powering Business Worldwide*