

# Power infrastructure Power Problems



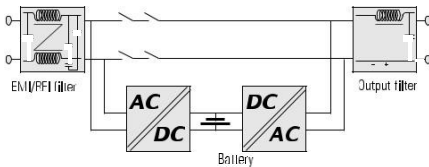
  
**DSM DISTRIBUTION**  
Globally Connected Locally Based

**EATON**

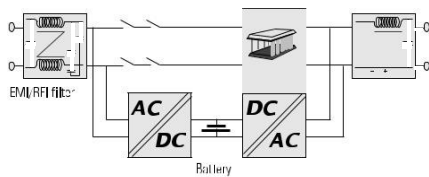
*Powering Business Worldwide*

# UPS topologies for different needs

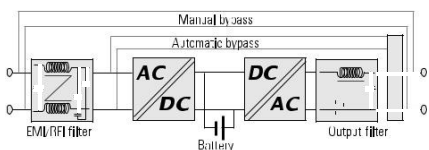
Three common UPS topologies described below provide varying degrees of protection for your equipment.



**Passive standby topology (off-line)** is the most frequently used UPS topology for protecting PCs against power failure, power sag and power surge. In normal mode, the UPS supplies power to the application directly from the mains, filtered but without active conversion. The battery is charged from the mains. In the event of a power cut or fluctuation, the UPS delivers stable power from the battery. The advantages of this topology are low cost and adequacy for office environments. Passive standby topology is not suitable if the power supply is of low quality (industrial sites) or subject to frequent disruptions.



**Line interactive topology** is used for protecting enterprise networks and IT applications against power failure, power sag, power surge, undervoltage and overvoltage. In normal mode, the device is controlled by a microprocessor that monitors the quality of the supply and reacts to fluctuations. A voltage compensation circuit is enabled to boost or reduce the supply voltage to compensate for the fluctuations. The main advantage of this topology is that it enables compensation of under and overvoltage without using the batteries.



**Double conversion topology (on-line)** is a basis for UPSs designed for continuous power protection of critical equipment against all nine power problems: power failure, power sag, power surge, undervoltage, overvoltage, switching transient, line noise, frequency variation and harmonic distortion. It ensures a consistent quality of power supply regardless of disturbances in the incoming mains. The output voltage is entirely regenerated by a sequence of AC to DC conversion followed by DC to AC conversion in order to create power supply without any electrical interference. Double conversion UPSs can be used with any type of equipment as there are no transients when changing over to battery power.

# Eaton Protection Box



Eaton Protection Box 8



Eaton Protection Box 5



Eaton Protection Box 1

## Advanced protection for:

- Computers, peripherals and multimedia
- TV, Video and Hi-Fi equipment: Home cinema, DVD writers, digital decoders, etc.
- Broadband modems (Internet and TV)
- IP telephony
- Household goods, etc.



## Surge protection

The Eaton Protection Box multi-way block with high performance surge protection is a simple solution for protecting delicate equipment.

## Effective surge protection

The Protection Box is designed to filter the power supply for delicate equipment to protect it against surges, interference and the indirect effects of lightning.

The high performance of the Protection Box is based on an advanced design with surge protection in compliance with IEC 61643-1.

## Complete protection

The Protection Box range has models with 1, 5 or 8 sockets. Some models also provide protection for telephone connections that can carry surges to the equipment.

- Tel@ models: with telephone / broadband Internet access protection
- Tel@ + TV models: with telephone / broadband Internet access protection + Audio/Video protection module (surge protection for television and FM radio with TV and F-Type connectors)

## Practical and economical: replaceable surge protection module

(Protection Box 5 Tel@, 5 Tel@ + TV and 8 Tel@ + TV)

The surge protective components for these models are grouped into a pluggable module for:

- Easy replacement if the surge protective devices are destroyed by a major surge (no need to disconnect the equipment and the pluggable unit is an Eaton standard replacement part)
- Can be updated (adding functions, changing connectors, etc.)

## Warranty for connected equipment

Eaton offers free warranty for the equipment connected (applicable for EU countries and Norway only). This insurance is included in the purchase price of the Protection Box and covers up to 50 000 € for an 8 socket model to cover damage caused by a failure of the surge protection.

## And lots of features to simplify life

- Power ON and active protection indicators
- PowerLine Communications compatibility (Protection Box 5/8) for connecting PLC adapters
- Cable ties and cable markers supplied (5 and 8 socket models)
- Sockets arranged to allow blocks to be plugged side by side



# Eaton Protection Box

- 1 Power ON indicator
- 2 Active protection indicator
- 3 Telephone / broadband protection
- 4 Replaceable surge protection module



Eaton Protection Box 8



Eaton Protection Box 5

- 5 Widely spaced sockets for transformer units, 1 PLC-ready outlet (for Protection Box 5 and 8)
- 6 All outlets with safety shutters



Audio/Video protection module available (for Protection Box 5 Tel@ + TV and 8 Tel@ + TV only)

## TECHNICAL SPECIFICATIONS

	1	1 Tel@	5	5 Tel@	5 Tel@+TV	8 Tel@+TV
Rating (A/W)*	16 A / 3 680 W	16 A / 3 680 W	10 A / 2 300 W	10 A / 2 300 W	10 A / 2 300 W	10 A / 2 300 W
Voltage/frequency	220 V – 250 V / 50/60 Hz					
IEC 61643-1 tested	Yes	Yes	Yes	Yes	Yes	Yes
PowerLine compatibility	/	/	Yes	Yes	Yes	Yes
<b>Surge test conditions</b>						
Surge test conditions for IEC 61643-1 with 8/20µs pulse	Uoc = 6.6 kV - Up = 1.5 kV - In = 2.5 kA - Imax = 8 kA					
<b>Protective devices</b>						
Total rating	30 000 A, 3 x MOV 10 000 A					
Response time	<1ns					
Total power absorbed	1110 Joules					
<b>EMI/RFI filter</b>						
52 dB from 100kHz to 100MHz	/	Yes	/	Yes	Yes	Yes
<b>Telephone and audio/video line protection</b>						
RJ11/RJ45 telephone including broadband	/	10 000 A	/	10 000 A	10 000 A	10 000 A
Audio/Video line	/	/	/	/	10 000 A	10 000 A
<b>Marking and standards</b>						
Safety	IEC 60-950, NFC 61-303					
EMC	EN 55082-2, EN 55022 class B, EN 61000-4-4 level 4 IEC 61000-4-5, level X=10kV					
Surge protection	IEC 61 643-1					
<b>Dimensions and weight</b>						
Dimensions H x W x D	67 x 70 x 105 mm	67 x 70 x 105 mm	65 x 120 x 255 mm	65 x 120 x 260 mm	65 x 120 x 260 mm	65 x 150 x 315 mm
Weight	0.160 kg	0.210 kg	0.610 kg	0.770 kg	0.840 kg	0.850 kg
<b>Customer Service &amp; Support</b>						
2 years warranty	Standard product exchange ; warranty for connected equipment up to 50 000 €					
Replaceable surge protection module	Standard exchange free of charge from Eaton aftersales services					

\*: Calculated for a nominal voltage at 230 V

Part Numbers	1	1 Tel@	5	5 Tel@	5 Tel@+TV	8 Tel@+TV
French sockets (FR)	66 706	66 707	66 710	66 711	66 934	66 935
“Schuko” sockets (DIN)	66 708	66 709	66 712	66 713	66 936	66 937
French sockets (FR-B) for Belgium	/	/	66 932	66 933	66 938	/

FR DIN

