

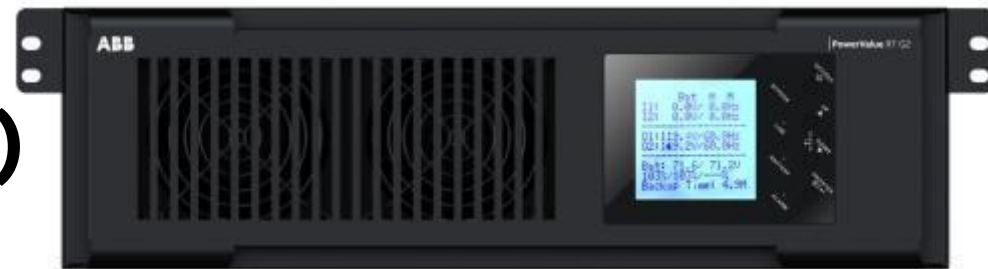
ABB POWER PROTECTION

# UPS PowerValue RT G2 UL (5-10 kVA)

Advanced protection for critical IT applications

USA Customer presentation

July 2, 2024



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# UPS PowerValue RT G2 UL 5-10 kVA

## Agenda

- Training summary
  1. Introduction – Highlights – Value proposition
  2. Parts: UPS – EBM – EMBS – ISO TXFM
  3. Connectivity & accessories
  4. Summary & Commercial information
- Questions

# UPS PowerValue RT G2 UL 5-10 kVA

## Introduction

### Why a new generation (G2)?

- Single platform for 1 – 10 kVA
- Replace existing GT 5-10 kVA with improved features
- Responding to current trends and competitors' launches
- Improvement of lead times & safety stock in USA
- Enabling the development of sales channels



UPS + EBM with "stand-feet" supports

### What is RT G2 5-10 kVA?

- RT = Rack / Tower configurable
- G2 = second generation
- A true online double conversion UPS with premium features in our single-phase portfolio
- A UPS with no compromises on quality and reliability
- A flexible UL single phase with accessories



WebPro SNMP card



EBM - External battery module  
Rack mounting ears attached

# UPS PowerValue RT G2 UL 5-10 kVA

## Feature highlights

### Electronics

### More to love

True online double conversion (VFI) single-phase UPS

Optimized for modern IT loads with higher active power delivered (higher output power factor)

Minimizes energy losses with efficiency up to 91% in double-conversion (97% in ECO mode)

Low input line disturbances: input PF  $\geq 0.99$  @ 100% linear load – THDi < 4%

Scalable runtime – battery packs available to extend the system autonomy

Integrated backfeed protection

Self adjusting battery charger current



UPS with 1 battery module

Rack-tower convertible (90° electronically rotating display)

Up to 4 battery modules per UPS can be added. Easy access to battery slot for battery maintenance and replacement

Up to 4 UPS units can be paralleled

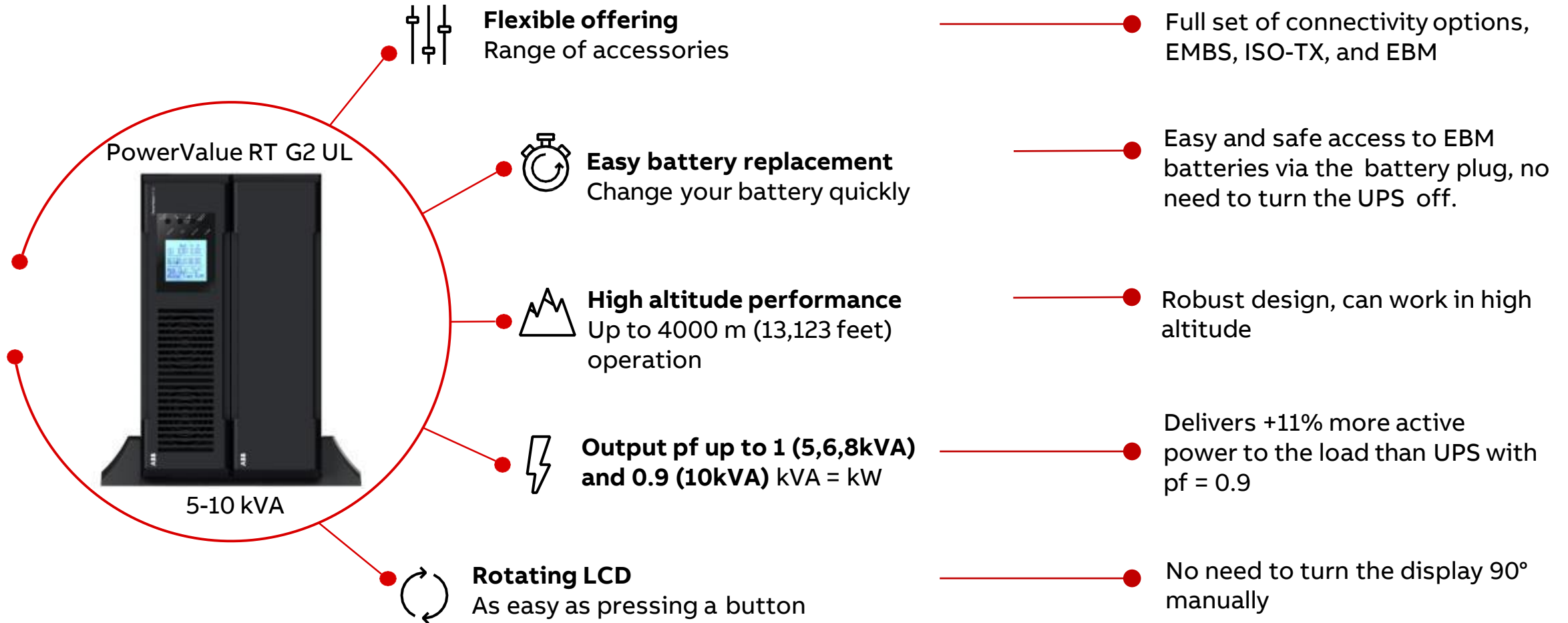
Full range of connectivity options

Maintenance-free UPS

Two-year base warranty

# UPS PowerValue RT G2 UL 5-10 kVA

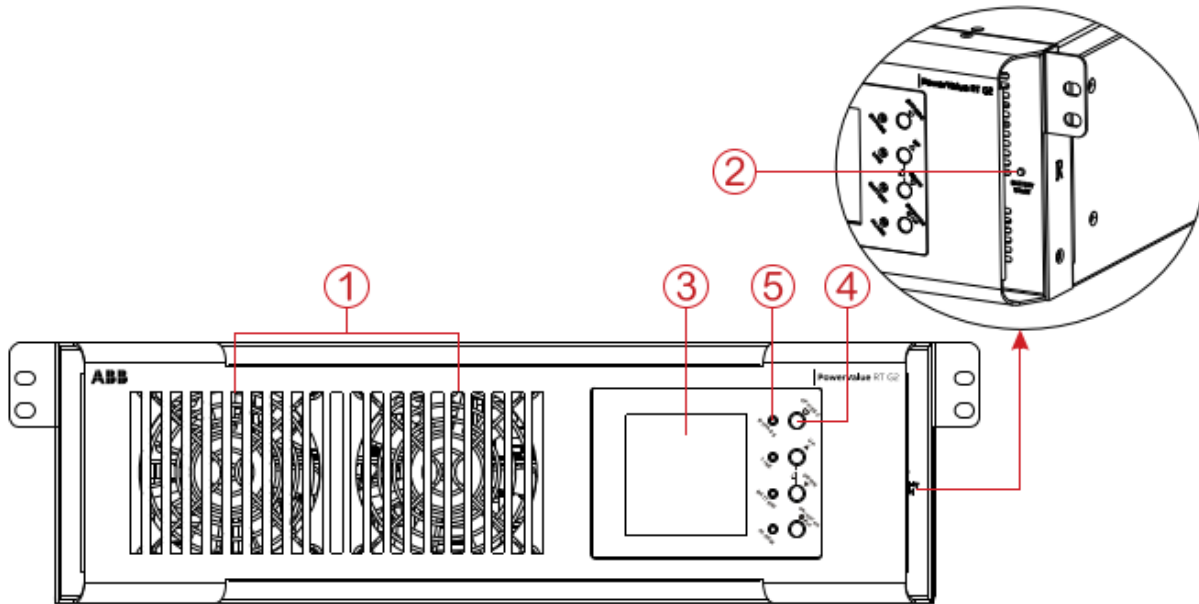
## Value proposition



# UPS PowerValue RT G2 UL 5-10 kVA

Product parts views

## Front view



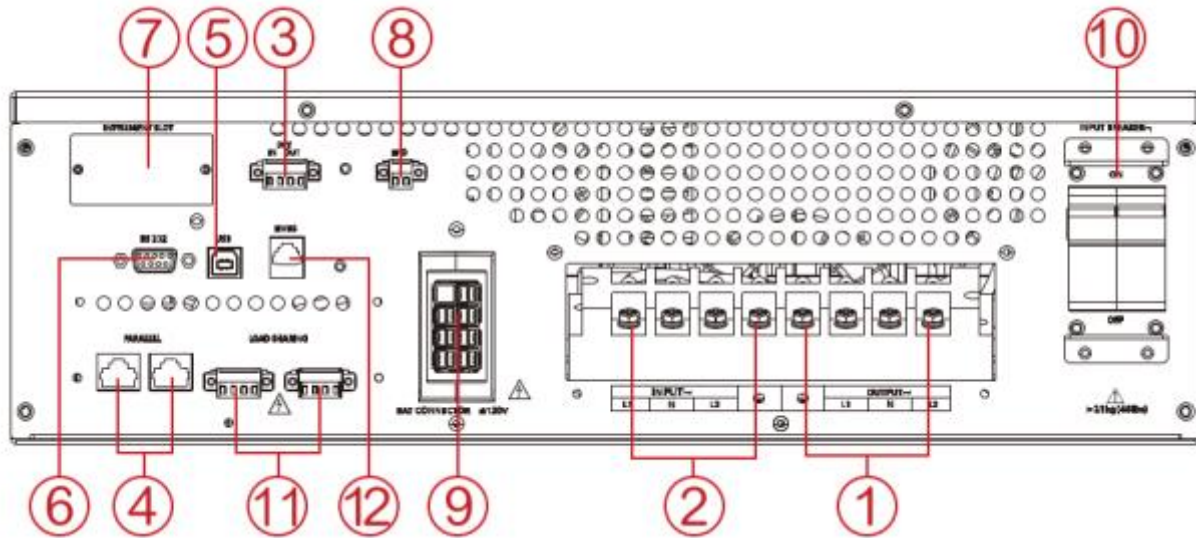
## Description

No	Item
1	Fan
2	Battery Start Button
3	LCD display
4	Function Keys
5	LED indicators

# UPS PowerValue RT G2 UL 5-10 kVA

## Product parts view

### Rear view



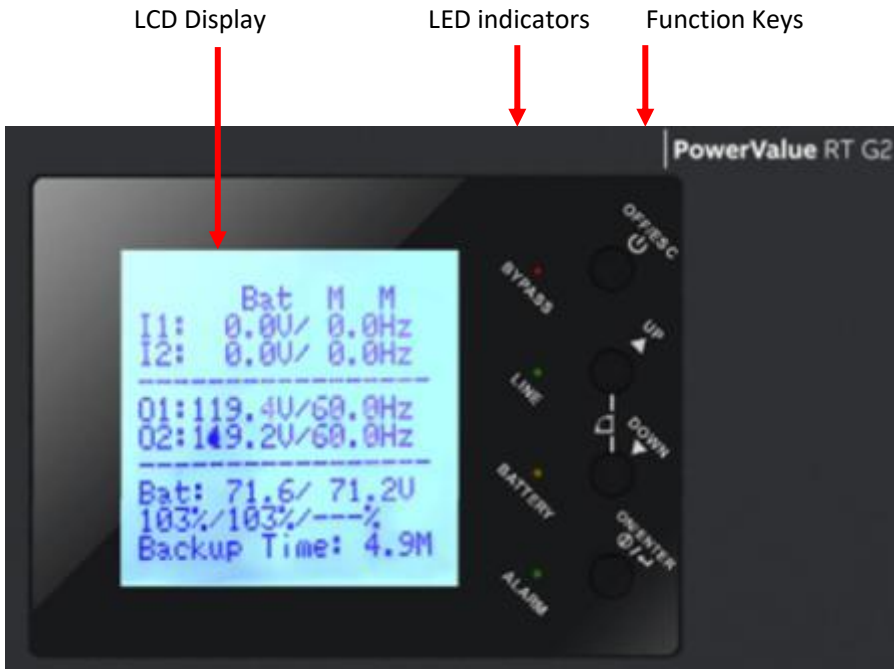
### Description

No	Item
1	AC Output terminal
2	AC Input terminal
3	Dry contact terminal
4	Parallel port
5	USB communication port
6	RS-232 communication port
7	SNMP intelligent slot
8	EPO connector
9	External battery connection
10	Input circuit breaker
11	Current sharing port
12	EMBS communication port

# UPS PowerValue RT G2 UL 5-10 kVA

## Product parts view






### Display Panel



The user-friendly control panel has three parts:

- Power management LCD (PMD)
- LED indicators
- Function keys

### Description

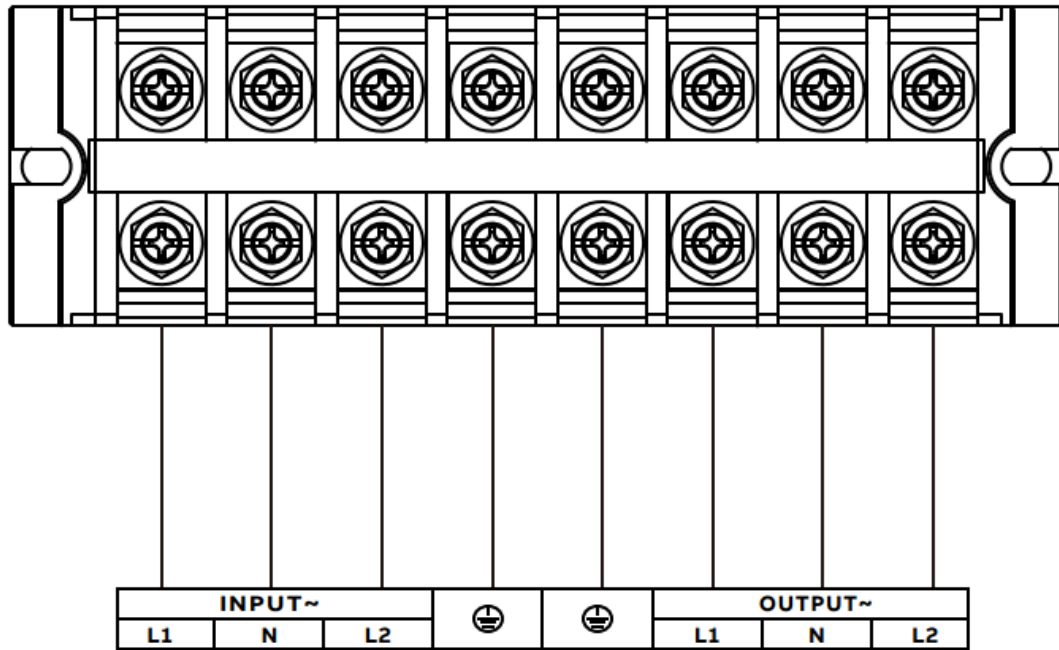
Button	Function	Illustration
	ON/ENTER Button	<ul style="list-style-type: none"><li>• Turn on the UPS.</li><li>• Or press it to confirm the selection in the menu.</li></ul>
	OFF/ESC Button	<ul style="list-style-type: none"><li>• Turn off the UPS.</li><li>• Or press it to return to the last menu.</li></ul>
	UP Button	<ul style="list-style-type: none"><li>• Select the previous item in the menu.</li><li>• Or press this button to jump to previous page in the screen.</li><li>• Or press this button to increase the number in the setting.</li></ul>
	DOWN Button	<ul style="list-style-type: none"><li>• Select the next item in the menu.</li><li>• Or press this button to jump to next page in the screen.</li><li>• Or press this button to decrease the number in the setting.</li></ul>
	UP + DOWN Button	<ul style="list-style-type: none"><li>• To allow LCD display to rotate 90 automatically, press these two buttons at the same time. This operation is used to configure the UPS in rack or tower display.</li></ul>



# UPS PowerValue RT G2 UL 5-10 kVA

## Wiring Terminal Configuration

### Terminal view



### Description

UPS Rating	Terminal	Min conductor size(mm <sup>2</sup> )	Number and size of terminal	Torque Nm (lb in)
5KVA/6KVA	AC INPUT	6	8-M5-Bolt mounting	2.2(20)
	GROUND			
	AC OUTPUT			
8KVA/10KVA	AC INPUT	8	8-M6-Bolt Mounting	2.2(20)
	GROUND			
	AC OUTPUT			

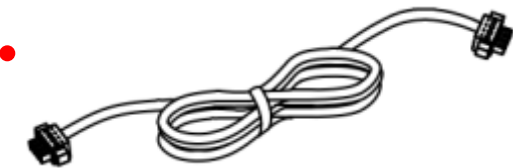
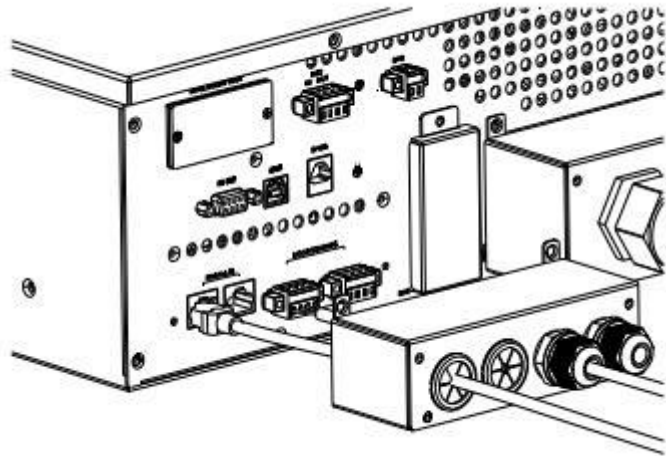
  

	5 kVA	6 kVA	8 kVA	10 kVA
<b>SINGLE INPUT FEED</b>				
Input CB:Type D[L1,L2]	2 x 40A	2 x 40A	2 x 63A	2 x 63A
Input cable A [L1, L2, N, PE]	4 x AWG 10	4 x AWG 10	4 x AWG 8	4 x AWG 8
Output cable D [L1, L2, N, PE]	4 x AWG 10	4 x AWG 10	4 x AWG 8	4 x AWG 8
External Battery CB:Type K [+,-]	2 x 63A	2 x 63A	2 x 63A	2 x 63A

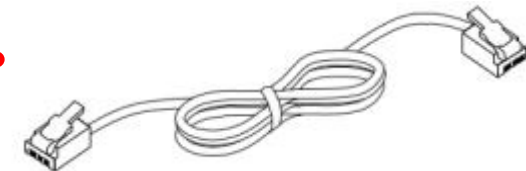
# UPS PowerValue RT G2 UL 5-10 kVA

## Parallel UPS configuration

- ✓ The parallel function is standard configuration
- ✓ The parallel cable and current share cable ship together with UPS
- ✓ Parallel configuration easy setup via the LCD menu
- ✓ No additional card required
- ✓ Add /parallel up to 4 UPSs as your power needs grow



Current share cable



Parallel cable

Note:

1. Parallel units connect one by one, no need to connect as loop.
2. Cables included

# UPS PowerValue RT G2 UL 5-10 kVA

## What's included in UPS package and mechanicals



### Each PowerValue UL 5-10 kVA package comes with:

- 1 x PowerValue RT G2 UL UPS (5, 6, 8 or 10kVA)
- 1 x USB flash drive
- 1 x USB Communications cable
- 1 x RS232 Communications cable
- 1 x RJ45 Parallel cable
- 2 x AC cable gland (5-6k) / 3 x AC cable gland (8-10k)
- 2 x Parallel cable gland
- 2 x Parallel cable bushing
- 4 x stand-feet
- 4 x stand-feet extensions
- 2 x Mounting ear
- 32 x screw/nut
- 1 x pair rack-slides (left and right)

### Optional accessories available:

- EBM – External battery module
- EMBS - External maintenance bypass switch
- ISO TX UL - External isolating transformer
- Network interface cards/ box
- Relay card with potential-free contacts (customer inputs)
- Modbus card.
- EMD - Environmental monitoring probe

General Data	5 kVA	6 kVA	8 kVA	10 kVA
Parallel configuration	up to 4 units	up to 4 units	up to 4 units	up to 4 units
External Maintenance Bypass switch	Optional	Optional	Optional	Optional
Battery	order separately	order separately	order separately	order separately
<b>MECHANICAL</b>				
Weight (w/o batteries)	21 kg/47 lbs	21 kg/47 lbs	22.5 kg/50 lbs	22.5 kg/50 lbs
Dimensions	635 x 131 x 438 mm 25" x 5.25" x 17.3"	635 x 131 x 438 mm 25" x 5.25" x 17.3"	635 x 131 x 438 mm 25" x 5.25" x 17.3"	635 x 131 x 438 mm 25" x 5.25" x 17.3"

Complete UPS packaged offer

# UPS PowerValue RT G2 UL 5-10 kVA

## Battery configuration

- RT G2 UL 5-10 kVA UPS is separate from battery module
- Plug-n-play **External Battery Modules (EBMs)** are available to scale up system runtime
- Each EBM is dedicated to its corresponding UPS, no risk of plugging in the wrong unit
- Up to **four (4)** EBMs can be connected in parallel for each UPS
- EBM quantity is an easy setup via the LCD menu on the UPS
- Self adjusting battery charger current in function of total battery capacity



UPS with 2 battery modules



Power	Dimensions (DxHxW)	Weight	Battery
5-10 kVA	633x131x438mm /25x5.25x17.3inch	72kg/159lbs	2 x10 x 10Ah

## BATTERY AUTONOMY

Power (kVA)	UPS + 1 batt module	UPS + 2 batt module	UPS + 3 batt module	UPS + 4 batt module
5kVA	14/20/35/78	35/51/78/169	56/78/132/277	78/114/169/404
6kVA	11/16/27/61	27/42/61/147	48/61/103/221	61/86/147/311
8kVA	7/11/19/48	19/27/48/103	31/48/73/161	48/61/103/221
10kVA	6/9/16/42	16/24/42/86	27/42/61/147	42/56/86/180

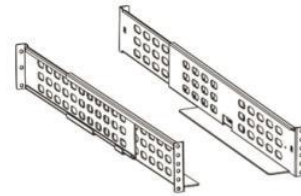
Battery autonomy in minutes at 100 / 75 / 50 / 25% load

Given runtimes are estimates and valid at 20 degrees Celsius. Actual runtime of the system will depend, among many variables, on the age of the batteries and environmental conditions

# UPS PowerValue RT G2 UL 5-10 kVA

## EBM options - EXTERNAL BATTERY MODULE FOR RT G2 5-10 KVA UL

Up to four (4) in parallel to extend backup time for runtime-demanding applications

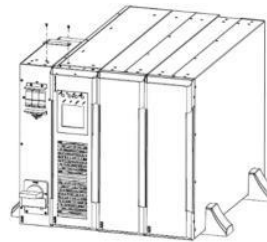
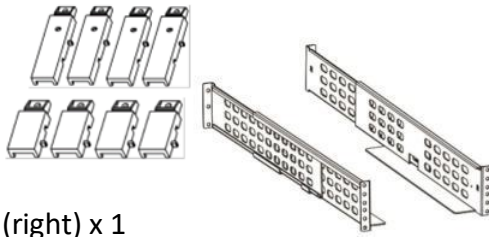


Rail kit(included) for installation in 19" IT racks

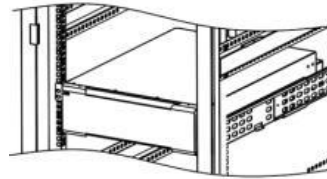
### External Battery Module (EBM)

#### The shipping package contains:

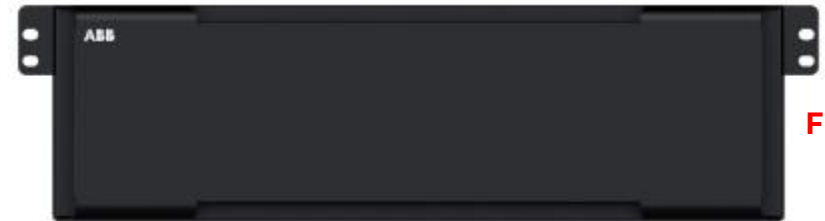
- EBM module x1
- User manual x1
- Battery connection cable x 1
- 1 set mounting ears (left) x 1, (right) x 1
- Mounting ear screw(M4) x 8
- Screw(M6) x 14
- Nut(M6) x 4
- Foot extend (long) x 4
- Foot extend (short) x 4
- 1 Rail kit: [slide (left) x 1 (right) x 1



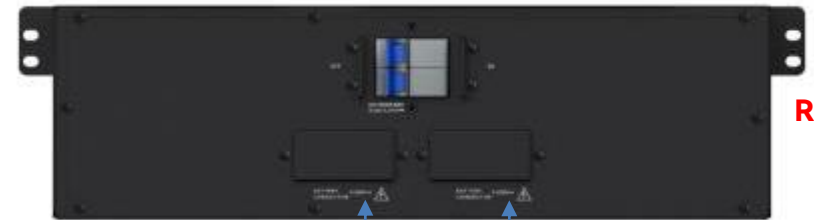
Tower installation



Rack installation



Front View



Rear View

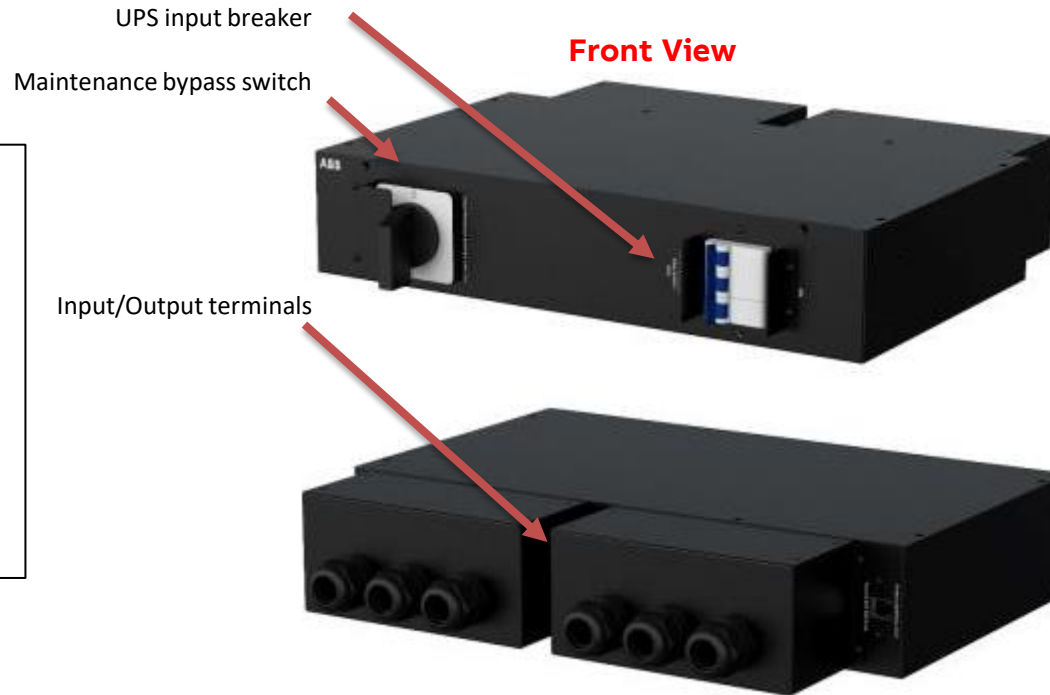
Cable connection ports

# UPS PowerValue RT G2 UL 5-10 kVA

EMBS option - External maintenance bypass

## Included with EBMS package:

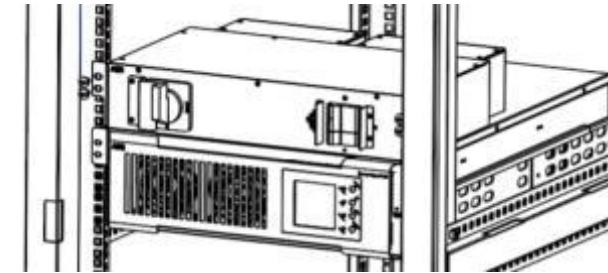
- EMBS module x 1
- Quick guide x 1
- Control signal cable x 1
- M6 Screws x 4 & Nuts x 4
- Long extension x 1 (tower)
- Connect plate x 1
- M3 screws x 2



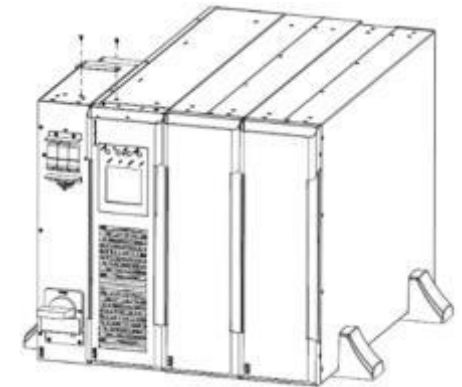
## Weight and dimensions

Model	Weight	Dimensions W x H x D
EMBS without package	5.35 kg / 11.8 lbs	248 x 88 x 438mm / 9.76 x 3.46 x 17.24 inch
EMBS with package	6.7 kg / 14.8 lbs	482 x 202 x 508 mm / 18.98 x 7.95 x 20 inch

## Installation Rack or Tower



Rack installation



Tower installation

## Rear View

**No Rail kit required**

Directly install on the IT Rack (Rack installation) or UPS frame (Tower installation).



# UPS PowerValue RT G2 UL 5-10 kVA

## ISO Transformer

- RT G2 UL 5-10 kVA available in **2 frame sizes:**
  - **5kVA/6kVA and 8kVA/10kVA rated power**
- Connections between UPS output and ISO TX input are different according to the output voltage of UPS.
- Temperature signal port of ISO TX to be connected to the dry contact terminal of UPS for monitoring
- Audible noise ISO TX 58dB

### Electrical

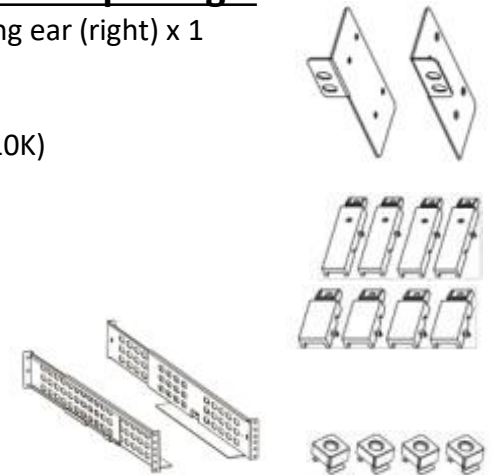
	ISO TX 6K / ISO TX 10K
Rated input voltage	208 Vac / 240 Vac
Rated output voltage	115Vac / 208Vac / 240 Vac
Frequency	50 Hz or 60 Hz
Efficiency	92%
Isolation grade	Class H



Model	Net weight	Dimensions D x H x W
ISO TX 6k	70.75 kg / 156 lbs	616 x 131 x 438mm / 24.25 x 5.25 x 17.24 inches
ISO TX 10k	72.5 kg / 159.8 lbs	696 x 131 x 438mm / 27.4 x 5.25 x 17.24 inches

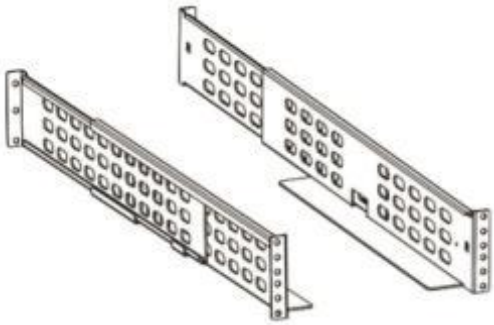
### Included with ISO Transformer package:

- Mounting ear (left) x 1, Mounting ear (right) x 1
- Mounting ear screws x 8
- Cable glands x 2 for 6K (x 3 for 10K)
- Temperature signal cable x 1
- Foot extend(long) x 4
- Foot extend(short) x 4
- 1 set rail slides (left & right)
- Screws(M6) x 14
- Nuts(M6) x 4

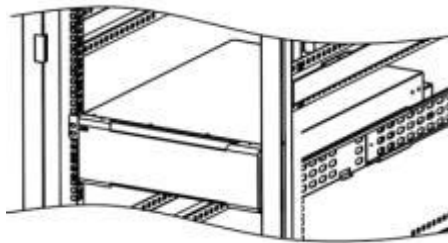


# UPS PowerValue RT G2 UL 5-10 kVA

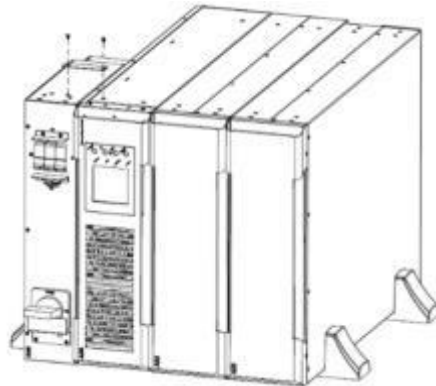
ISO TX option – (Isolation transformer)



Transformer box(ISO TX)



Rack installation



Tower installation

Rail kit included  
for installation in 19" IT racks



Front View



Rear View

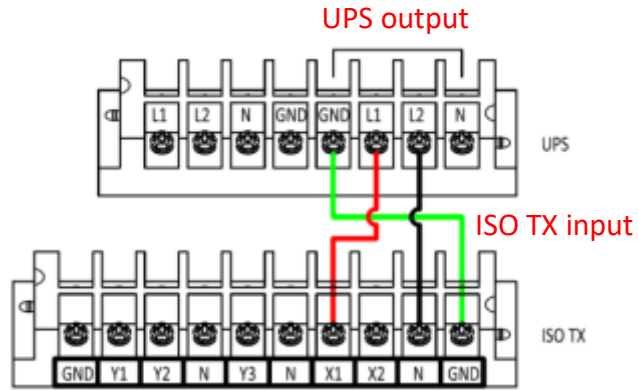


# UPS PowerValue RT G2 UL 5-10 kVA

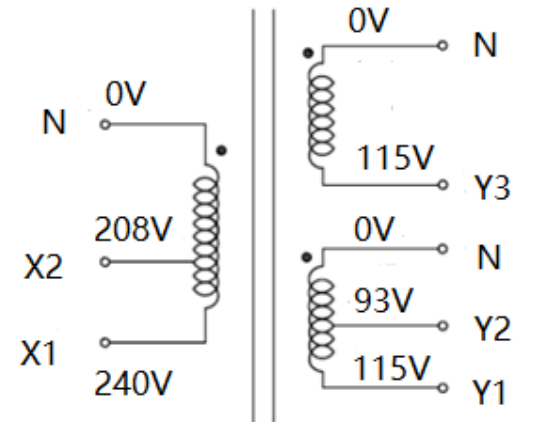
## ISO TX introduction

If the output voltage (L1 – L2) of UPS is 240V

ISO TX Electric Diagram



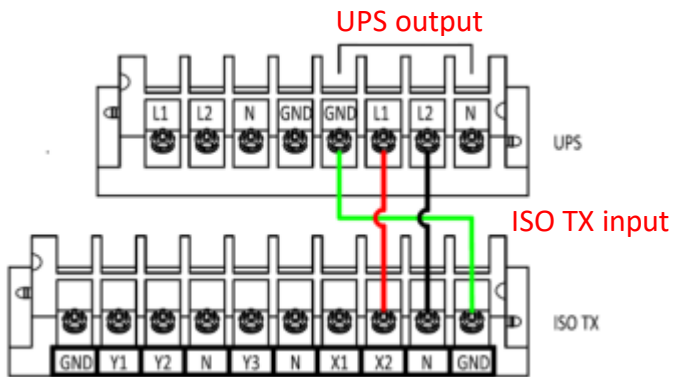
5-10kVA



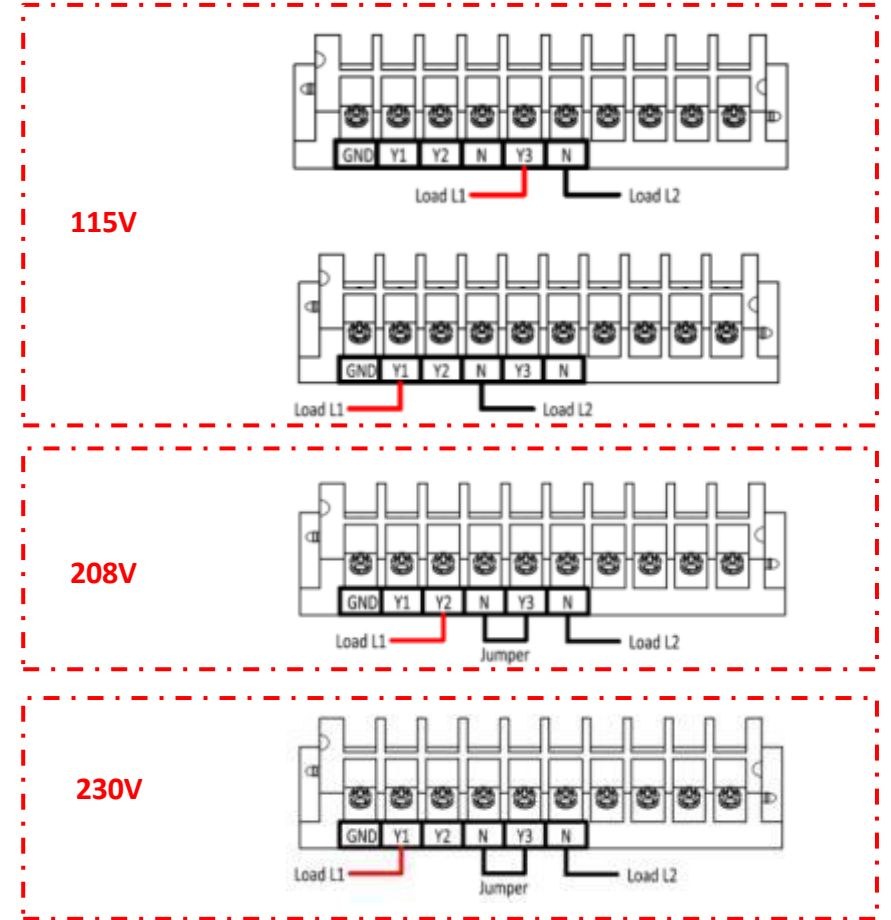
ISO TX input

ISO TX output

If the output voltage (L1 – L2) of UPS is 208V



ISO TX Output



# UPS PowerValue RT G2 UL 5-10 kVA

## Connectivity options



Intelligent slot - One card only



### Dedicated SNMP card (WebPro)

- ABB CSS compliant
- Supports SNMP v3 over TCP/IP
- Supports external temperature and humidity sensor (EMD)
- Comes with monitoring and remote shutdown software ViewPower (ABB CSS compliant)



### Dedicated ModBus card

- Supports ModBus over RS485



### Dedicated AS400 card

- Provides dry I/O programmable contacts (nine pins)

### Compatibility

- CS141 box (via RS232)

# UPS PowerValue RT G2 UL 1-10 kVA

## Accessory matrix



UPS	Relay card 11RT G2 & 31TX	Relay Card AS400 Dual COM Port	WebPro SNMP UL	WebPro ModBus UL	EMD	EMBS UL	ISO TX UL
	4NWP100220R0001	4NWP100220R0002	4NWP100230R0004	4NWP100221R0002	4NWP100222R0001	4NWP101737R0005	4NWP101738R0001; 4NWP101738R0002
<b>PowerValue 11RT G2 1-3 kVA (B/S) UL</b>	•	•	•	•	•		
<b>PowerValue 11RT G2 5-10 kVA UL</b>	•	•	•	•	•	•	•

- EMD - external temperature and humidity sensor

■ Red dot = available

# UPS PowerValue RT G2 UL 5-10 kVA

Key benefits: PowerValue RT G2 UL 5-10 kVA vs GT Series UL 5-10 kVA

## PowerValue RT G2 5-10 kVA UL

- Load **power factor** equal or close to unity (5,6,8 = 1.0; 10 = 0.9)
- LCD display electronically rotatable
- Self-regulation of battery charger current (max 8 A)
- Up to 91% double conversion efficiency, 97% ECO efficiency
- Parallel - up to 4 battery packs,
- Parallel - Up to 4 UPS units (40 kVA max)



## GT Series UL 5-10 kVA

- Output power factor max = 0.92
- LCD interface
- Constant battery charger current (1 A)
- Up to 92% double conversion efficiency
- Parallel - up to 3 battery packs
- Parallel - up to 3 UPS units (30 kVA max)



The best of **two** becomes now the best **one** (...phase)

# PowerValue RT G2 UL (5-10 kVA)

Double-conversion online UPS – up to 40 kW when parallel 4-10kVA units

## Customer/influencer

### - Distributor sales

## Key selling message(s)

- PowerValue family power range from 1 to 10kVA
- Array of accessories
- Easy to order with ABB empower
- In stock ready to ship in days

### - IT integrator/OEM

- Rack or tower mount
- Rotating LCD display
- Easy battery replacement
- Add additional batteries for extended runtime

### - End user operations

- Ideal for retail, OEM, medical applications
- Condition incoming power to eliminate spikes, swells, sags, noise, and harmonics
- Systems can be used as a standalone UPS device or installed into a standard 19" rack

## Segments/Industries

- Commercial and industrial buildings
- IT Integrator, retail, medical, anywhere backup or clean power is required
- Renewables - Wind



**CONTACT INFORMATION**  
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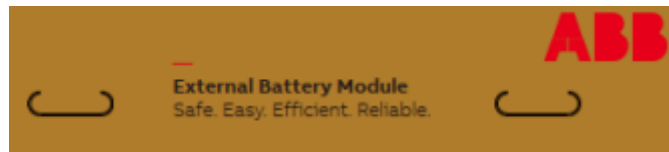
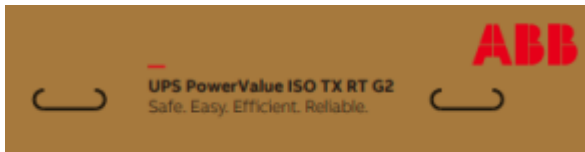
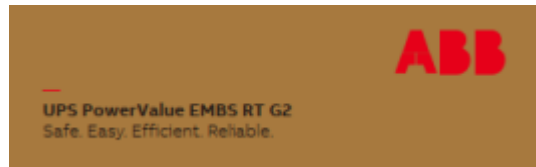
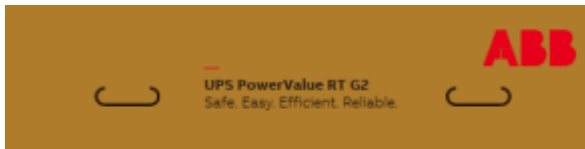
# UPS PowerValue RT G2 UL 5-10 kVA

## Packaging



New concept available in line according to the branding guidelines

Packaging info tool available



Packaging cover description

# UPS PowerValue RT G2 UL 5-10 kVA

## Ordering info

### UPS SKU# list

### Pricing

### Terms

UPS Type	Product description	UPS article number
UL Model	UPS PowerValue RT G2 UL 5 kVA	4NWP100150R0008
	UPS PowerValue RT G2 UL 6 kVA	4NWP100150R0003
	UPS PowerValue RT G2 UL 8 kVA	4NWP100151R0008
	UPS PowerValue RT G2 UL 10 kVA	4NWP100151R0003
Accessories	Ext batt module RT G2 5-10 kVA UL (with Batt)	4NWP100152R0005
	Ext MBS RT G2 5-10 kVA UL	4NWP101737R0005
	ISO TX RT G2 5-6 kVA UL	4NWP101738R0001
	ISO TX RT G2 8-10 kVA UL	4NWP101738R0002
Connectivity	WebPro SNMP card UL	4NWP100230R0004
	WebPro ModBus Card UL	4NWP100221R0002
	EMD for WebPro external temp & humidity sensor	4NWP100222R0001
	Relay card 11RT G2 & 31TX	4NWP100220R0001
	Relay Card AS400 Dual COM port	4NWP100220R0002

Area Sales Manager & Product Marketing Manager (Mark Nowak)

All ORDERS on Richmond HUB

- June 2023 List Price
- empower live August 2023
- Delivery FOB RIC

ORDERS to Richmond HUB

- Warranty - Two-year warranty from RIC shipment
- Warranty extension - not available

Lead Time:

- 1-5 units - 3 days
- 5 + units - 1-2 weeks
- 10 + units - call factory

Note: UPS and EBM are delivered separately

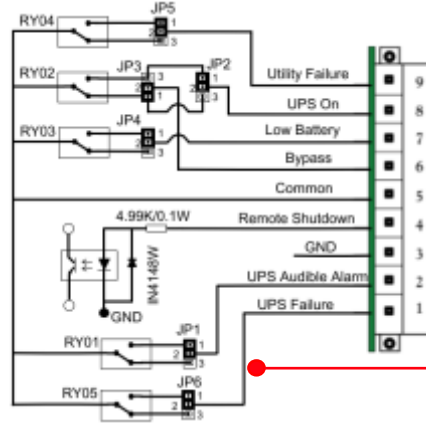
**A B B**



# UPS PowerValue RT G2 UL 5-10 kVA

## Two AS 400 cards comparison

**Standard AS 400 card  
4NWP100220R0001**



**Physic card:  
Same dimension**

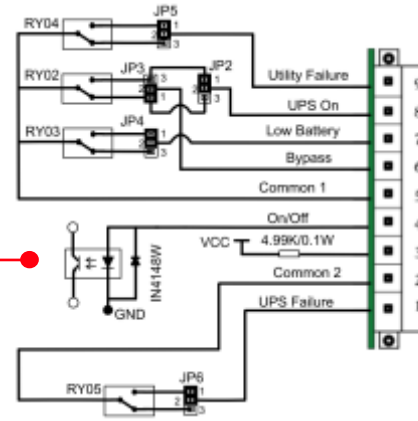
**Specifications:  
Difference**

**Pin assignment:  
Difference**

**Function description:  
Difference**

**Jumper function description:  
Difference**

**Dual port AS 400 card  
4NWP100220R0002**



Pin Assignment	Function	I/O
Pin 1	UPS Failure	O/P
Pin 2	Common 2 for Pin 1	Power Supply
Pin 3	On/Off power	Power Supply
Pin 4	On/Off	I/P
Pin 5	Common 1 for Pin 6, 7, 8 and 9	Power Supply
Pin 6	Bypass Active	O/P
Pin 7	Low Battery	O/P
Pin 8	UPS On	O/P
Pin 9	Utility Failure	O/P

Pin Assignment	Function	I/O
Pin 1	UPS Failure	O/P
Pin 2	UPS Audible Alarm	O/P
Pin 3	GND (Common for Pin 4)	Power Ground
Pin 4	On/Off	I/P
Pin 5	Common for Relays	Power Supply
Pin 6	Bypass Active	O/P
Pin 7	Low Battery	O/P
Pin 8	UPS On	O/P
Pin 9	Utility Failure	O/P

AC Status	AO Status	Reason
Pin 1 & Pin 5 connected	Pin 1 & Pin 5 disconnected	UPS failure
Pin 2 & Pin 5 connected	Pin 2 & Pin 5 disconnected	UPS failure, utility failure, low battery, bypass active
Pin 6 & Pin 5 connected	Pin 6 & Pin 5 disconnected	Bypass active
Pin 7 & Pin 5 connected	Pin 7 & Pin 5 disconnected	Battery voltage is low
Pin 8 & Pin 5 connected	Pin 8 & Pin 5 disconnected	UPS is in inverter mode
Pin 9 & Pin 5 connected	Pin 9 & Pin 5 disconnected	Utility failure.

AC Status	AO Status	Reason
Pin 1 & Pin 2 connected	Pin 1 & Pin 2 disconnected	UPS failure
Pin 6 & Pin 5 connected	Pin 6 & Pin 5 disconnected	Bypass active
Pin 7 & Pin 5 connected	Pin 7 & Pin 5 disconnected	Battery voltage is low
Pin 8 & Pin 5 connected	Pin 8 & Pin 5 disconnected	UPS is in inverter mode
Pin 9 & Pin 5 connected	Pin 9 & Pin 5 disconnected	Utility failure

JP	Description	JP	Description
1	UPS alarm (DB9.P2)	4	Low battery(DB9.P7)
2	UPS on(DB9.P8)	5	Utility failure(DB9.P9)
3	Bypass(DB9.P6)	6	UPS failure(DB9.P1)

JP	Description	JP	Description
2	UPS on(DB9.P8)	5	Utility failure(DB9.P9)
3	Bypass(DB9.P6)	6	UPS failure(DB9.P1)
4	Low battery(DB9.P7)		