

APS- RW Industrial 3P

Maximum: 1800kVA



ABOUT PRODUCT

Antipodes APS-RW offers increased energy availability. The system can take inputs from both a 25kV overhead line as well as a 400VAC mains supply. As a result, this solution potentially avoids the need for a diesel generator and its associated maintenance, fuel storage and refuelling costs. The innovative rectifier stage converts the input voltage into a DC voltage that will charge both the UPS battery and supply the input stage of the inverter. In normal mode, the upstream voltage of the rectifier corresponds to the transformed single phase voltage of the overhead line. The transformer and voltage stabiliser eliminates voltage sags and surges related to current draw of locomotives. When this voltage is not present or is no longer within tolerance, it is the 3-phase supply which is sent directly to the UPS rectifier. In the event of a fault on both independent networks, the third energy storage option, the UPS battery pack, would provide the energy requested by a control system like ETCS, thus guaranteeing zero downtime for the entire system.

Industrial UPS Solutions for Critical Rail Applications



real source of power





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APS-RW Series

Industrial UPS Solutions
for Critical Rail Applications

High Performance, Industrial UPS Solution
Scalable up to 1.8MVA with 96% High Efficiency
and High Reliability for Critical Rail Applications

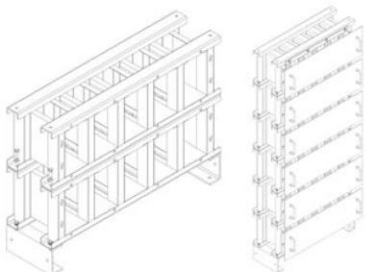


Standard Electrical Features, Process Continuity and Electrical Infrastructure

- Full IGBT Double Conversion Technology
- Input Power Factor >0.99 and Input Current Harmonic Distortion <2%
- Dual Input Mains
- Perfect Generator Compatibility
- Separated Bypass
- Internal Maintenance Bypass
- Backfeed Protection
- Remote EPO/EPO Function
- Common Battery
- Expert Battery System for Battery Group
- Compatible with Open Vented Lead Acid, Valve Regulated Lead Acid (VRLA) and Ni-Cd Batteries
- Intelligent Charging (Up to 200A for Each Industrial UPS)
- Freely Set The Charge Current
- Easy Maintenance
- Control Monitoring with 5" Color Touch-Screen LCD Graphic Display
- User-Friendly Multilingual Interface with Graphic Display
- Superior MTBF and MTTR
- Mid or Small Power Distributing System
- Flexible Communication Boards for Every Industrial Communication Need: Dry Contacts, MODBUS, PROFIBUS, etc.
- Frontal Access for Input/Output Cabling, Spares Replacement and Preventative Maintenance
- Scalable Power and High Availability (Using Redundancy), with the Facility to Parallel up to 6 Units



Racks include pos. and neg. termination plates with cover



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APS-RW Series is a scalable, redundant Industrial UPS system designed to cost effectively provide high level availability for critical rail applications. Industrial UPS systems built true online double conversion, are fully modular, decentralized and online swappable. They offer the following competitive advantages:

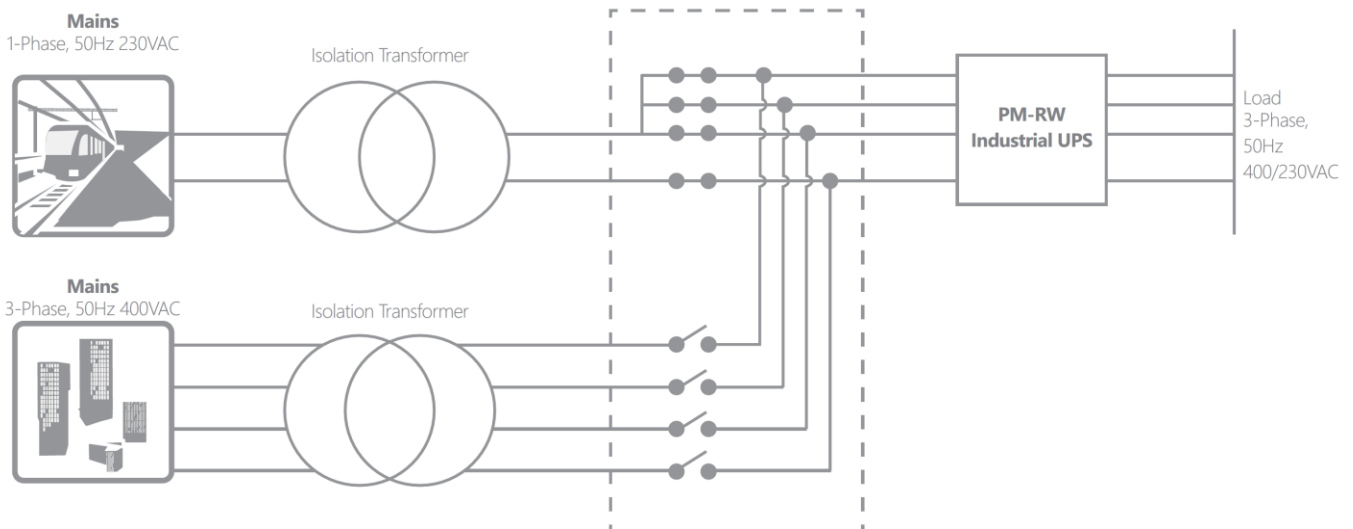
- High Efficiency: Up to 96% in Online Mode
- High Availability: 99.9%
- Serviceability:
 - MTTR is 15 minutes
 - Optimized spare parts management

The APS-RW Industrial UPS series is scalable from 30kVA to 1.8MVA offering many flexible options by adding a few standard modules. Designed to be fully configured, tested in the configuration you need, the APS-RW also can be easily upgraded in the field to higher kVA ratings (Up to 1.8MVA maximum), longer runtimes or to add N+X parallel redundancy

APS-RW Series Features:

- Scalable for capacity, redundancy or battery run time offering unbelievable flexibility
- Built-in intelligence is provided for each individual module using microprocessor controls,
- increasing functionality, communications and reliability
- N+X parallel redundancy is easily achieved by adding extra control, power and battery modules
- Multiple and simultaneous communication ports
- Automatic internal bypass for maximum availability of output power
- Power factor corrected input reduces reflected distortion and optimizes utility power

APS-RW is available in two versions: single-phase and three-phase output, whilst the input stage accepts both a triplet of three-phase supplies out-of phase by 120° (three-phase 400VAC+N) or a triplet of power supplies in phase (single phase 230VAC+N). Thanks to its power supply recognition function the UPS is able to adapt to the input power supply with no need for additional configuration, ensuring the same performance under both applied voltage conditions



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The mechanical structure of APS-RW makes it particularly versatile for use in many different applications. The basic building blocks are 30kVA UPS. The cabinet is able to house up to ten 30kVA modules and up to six cabinets can be connected in parallel for a total of fifty UPS modules and 1.8MVA of power. The module connection clamps are laid out so that the communication signal connections are segregated and separated from the power connections (input, output, bypass line, battery etc.), thus ensuring complete immunity from interference generated by the power supply grid, which is typically disturbed in industrial environments. Both versions (single-phase and three phase output) are provided with a bypass line separated from the power supply line. This ensures greater availability in that the customer may have a preferential line for the bypass that is not restricted by the potential interference or interruptions that the UPS power supply line may be subject to. The UPS module has a front to back air flow, allowing the UPS to be installed in any environment and preventing the types of ingress problems associated with top vented circulations cabinets. Every UPS module in the APS-RW range can be equipped with a parallel board, a relay board with eight programmable outputs and three inputs (one of which is programmable), and two slots for housing communications interface, making the UPS compatible with the various types of protocols and supervision systems typical of the industrial environment. The cabinet is designed to house up to five and also ten UPS modules.



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CAPACITY					
UPS Cabinet		10~100kVA	10~200kVA	10~250kVA	10~300kVA
Paralleling		Up to 6 Frame	Up to 6 Frame	Up to 6 Frame	Up to 6 Frame
Max. Power		540kW	1080kW	1350kW	1620kW
PM Module		10kVA/10kW, 20kVA/20kW, 25kVA/25kW, 30kVA/30kW			
INPUT					
Voltage		380/400/415 VAC (three phase + N) and 220/230/240 VAC (single phase + N)			
Voltage Tolerance		-40% / +20%			
Frequency Range (Hz)		40~70Hz			
Power Factor		>0.99			
Bypass Voltage Tolerance		158-278V			
Current Harmonic		<2% (100% non-linear load)			
Generator Input		Support			
OUTPUT					
Voltage		220/230/240VAC, Single Phase + N 380/400/415VAC Three Phase+N			
Power Factor		0.9			
Voltage Precision		±1%			
Output Frequency		±1%,±2%,±4%,±5%,±10% of the rated frequency (Optional) (50/60±0.2)Hz			
Crest Factor		3:1			
THD		≤1% With Linear Load ≤4% With Non-Linear Load			
Efficiency		96%			
COMMUNICATION					
UPS Cabinet		RS232, RS485, Intelligent Slot x 2 (SNMP Card, Relay Card, Dry Contact Optional)			
INTERFACE					
PM Series UPS Module		RS232			
BATTERY					
Voltage		±192V / ±204V / 216V ± / 228V / ± 240V DC; Battery Quantity (Optional)			
Charge Current (A)		20A (for each power module), 200A (for each UPS cabinet)			
Backup Time		Depends on the Capacity of External Batteries (Standard: 8 Hours)			
Recharge Time		5 Hours			
PROTECTION					
Overload	Normal Mode	Load ≤110%: Last 60min, ≤125%: Last 10min, ≤150%: Last 1min, ≥150% Shut Down UPS Immediately			
	Battery Mode	Load ≤110%: Last 10min, ≤125%: Last 1min, ≤150%: Last 1s ≥150% Shut Down UPS Immediately			
OPERATING					
Temperature		0°C ~ 40°C			
ENVIRONMENT					
Humidity		0 ~ 95% non condensing			
Storage Temperature		-25°C ~ 55°C			
Noise	Number of Modules ≤ 5	<55dBA (1m)			
	Number of Modules > 5	<65dBA (1m)			
Altitude		<1500m			
DIMENSIONS					
Unit Dimensions (WxDxH) (mm)	UPS Cabinet	600 x 840 x 1400		600 x 1100 x 2000	
	Module	443 x 580 x 131 (3U)			
Weight (kg)	UPS Cabinet	170	270	275	280
	Module	10kVA: 26kg; 20kVA: 31kg; 25kVA: 31kg; 30kVA: 32kg			
INDUSTRY STANDARD		CE, IEC 62040-2, IEC 62040-1, IEC 62040-3			



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