

ROTABLOC RBT Rotary UPS Systems

Outstanding Voltage Conditioning with Total Power Failure Protection



Power You Can Rely On



Rotabloc RBT Overview

IEM Power Systems has developed the complete UPS system to protect Critical / 'No-Break Loads' against electrical disturbances in the event of power failures, voltage transients, or slow voltage fluctuations.

The RBT utilizes simple, efficient, conventional electrical and mechanical components while being very robust. The system consists of a standard synchronous generator with no special windings and a simple steel flywheel. The low speed shaft extends bearing life and reduces maintenance.

Normal Operation

- Protects the electrical load from power quality problems eliminating harmonics, flicker, voltage spikes and sags.
- Rotabloc's power quality protection prevents wear on your facilities infrastructure – including damage to motors and pumps, and reduces the maintenance downtime necessary to repair or replace such assets.
- These issues can be over 95% of power problems faced by your facility each year.

Main Failure

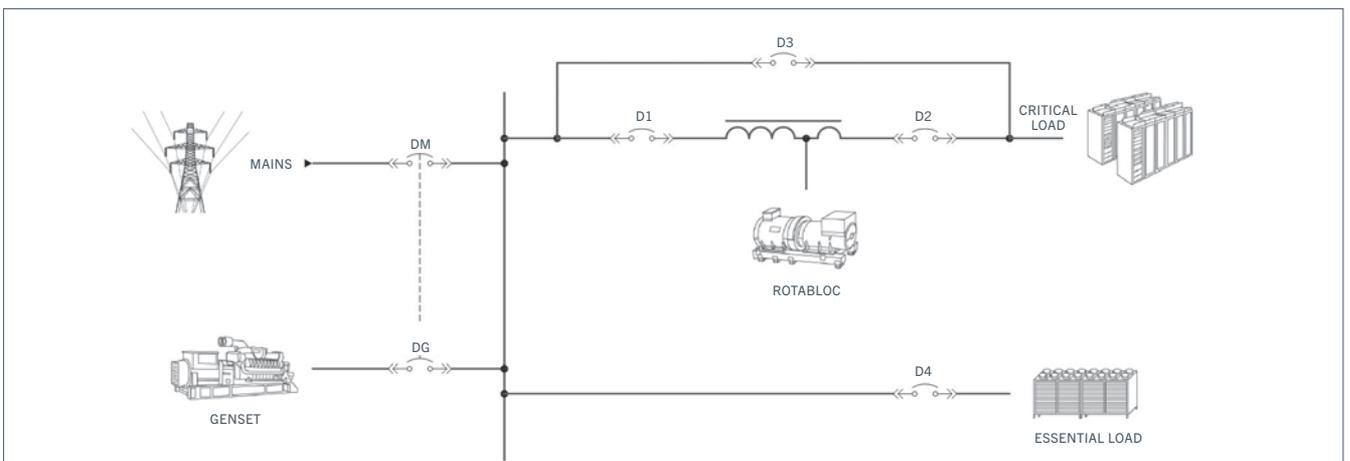
- During mains failure the Rotabloc protects the load and maintains the power supply at the precise voltage and frequency by supplying energy to the alternator from the Accumulator without need for electronic power conversion.
- Under extended mains failure, the load is automatically transferred to your chosen back-up energy source, usually a diesel gen-set.
- Once a stable mains supply returns the RBT will safely transfer the load back and be ready to act again.

TYPE	50 Hz or 60 Hz	kVA	kW	Efficiency (%)	L (mm / ft.)	W (mm / ft.)	H (mm / ft.)	Weight (kg / lb.)
RBT - 400	50 / 60	400	320	95	2,895 / 9'6"	1,080 / 3'7"	1,529 / 5'1"	7,850 / 17,307
RBT - 500	50 / 60	500	400	95.5	2,895 / 9'6"	1,080 / 3'7"	1,529 / 5'1"	7,850 / 17,307
RBT - 500HP	50 / 60	500	500	96	2,895 / 9'6"	1,080 / 3'7"	1,529 / 5'1"	7,850 / 17,307
RBT - 630	50 / 60	630	504	95.5	3,135 / 10'4"	1,160 / 3'10"	1,524 / 5'	8,730 / 19,247
RBT - 800	50 / 60	800	640	96.4	3,135 / 10'4"	1,160 / 3'10"	1,524 / 5'	8,730 / 19,247
RBT - 1000	50 / 60	1000	800	96.8	3,225 / 10'7"	1,200 / 4'	1,570 / 5'2"	9,285 / 20,470
RBT - 1250D	50 / 60	1250	1000	95.5	(2x) 5,618 / 10'4"	(2x) 1,160 / 3'10"	1,524 / 5'	(2x) 8,730 / 19,247
RBT - 1600D	50 / 60	1600	1280	96.4	(2x) 5,618 / 10'4"	(2x) 1,160 / 3'10"	1,524 / 5'	(2x) 8,730 / 19,247
RBT - 1750D	50 / 60	1750	1400	96.4	(2x) 6,058 / 10'7"	(2x) 1,510 / 4'	1,570 / 5'2"	(2x) 8,730 / 20,470
RBT - 2000D	50 / 60	2000	1600	96.8	(2x) 6,058 / 10'7"	(2x) 1,510 / 4'	1,570 / 5'2"	(2x) 8,730 / 20,470

Single Module RBT with Generator for continuous power supply (E-DRUPS)

A single module is the basic building block for larger scale systems. However, single modules are sometimes deployed where voltage regulation and protection against short disturbances ("transients") are a prime concern and where a lower level of resiliency is acceptable. In 'n+0' configurations

the power of the RUPS matches the power required by the "No-Break" load (guarantees that power is available 99.95% of the time). Such 'n+0' solutions are very efficient, have a lower CapEx cost and are suited to operations where downtime is to be avoided and mains power quality is inconsistent.

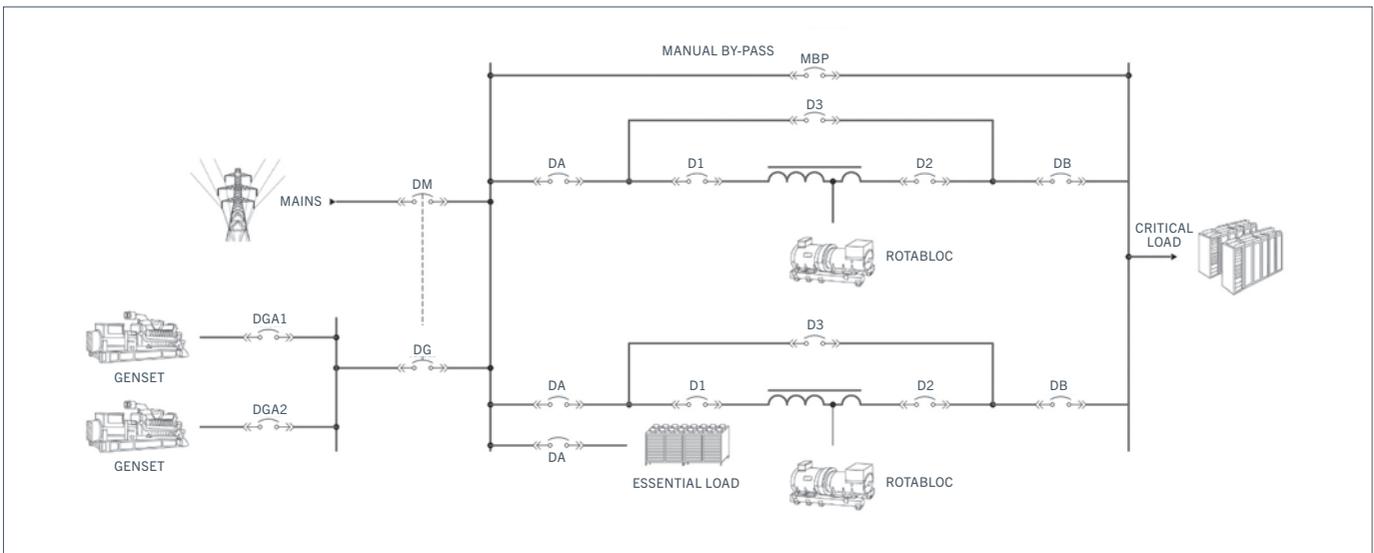


Feature	Benefit
Outstanding voltage conditioning	<ul style="list-style-type: none"> – Protects equipment against mains voltage fluctuations, sags and microcuts – Naturally compensates power factor without need for PFC equipment – Filters load harmonics and voltage harmonics from mains – Eliminates flicker
Total power failure protection	<ul style="list-style-type: none"> – Sustainable continuous power supply – Ride-through mode covers 95% of mains failures without genset start – Flexible DRUPS solution when configured with standard genset
Robust rotary technology	<ul style="list-style-type: none"> – Conventional electrical / mechanical machine – High reliability – Low cost maintenance
High efficiency	<ul style="list-style-type: none"> – Energy saving – Unrivaled low Total Cost of Ownership (TCO) – Green technology
High short-circuit power	<ul style="list-style-type: none"> – Fast fault-clearing capacity ensuring protections selectivity – Suitable for high peak currents (motors and mechanical loads) – Suitable for high crest factors (non-linear loads)
Modular and resilient “Plug & Run” paralleling	<ul style="list-style-type: none"> – Flexibility from day one – Scalability for future extension – High resilience thanks to full redundancy without single point of failure – Ideal for Tier III / Tier IV applications (Uptime Institute)
Easy interfacing	<ul style="list-style-type: none"> – User-friendly digital display (HMI) – Basic interface via simple contacts – Powerful communication features : <ul style="list-style-type: none"> SCADA / BMS interface via MODBUS RTU/TCP • Internet access • PC supervision • Remote monitoring, alarming and paging features
Low maintenance	<ul style="list-style-type: none"> – Simple maintenance operations – Unaffected up-time: no need to stop UPS during maintenance – Automatic Lubrication System for maximum reliability and lowest TCO

Parallel Installation

Employing redundant modules (n+1) in a parallel configuration builds extra resiliency into your power protection system. It means that even if multiple incidents occur at the same time, for instance, the mains fails whilst the diesel genset is being maintained, the ‘redundant module’ can automatically protect the load and ensure that your operations continue unaffected.

This approach pushes guaranteed power availability to levels nearer the 99.999% (5 nines) which is regarded as the ‘holy grail’ of uptime. Such a system is essential only where the load must never be unprotected – data centers, banks and telecoms with strict service level contracts insist on this and even higher levels of resiliency.



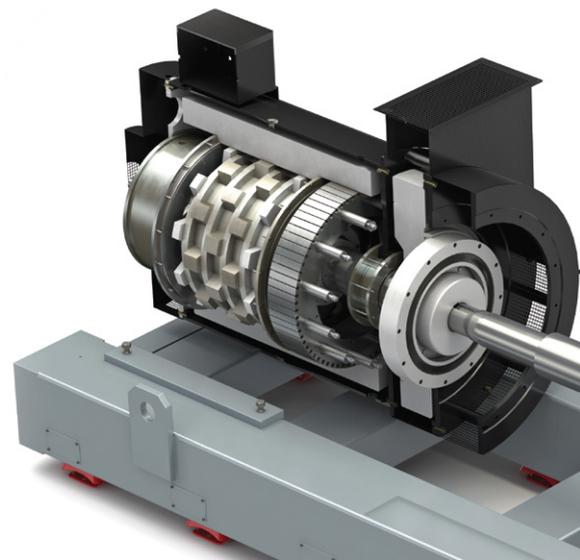
Medium Voltage

Recognition of the advantages of Medium Voltage (MV) systems in facilities with high power requirements is growing. The benefits include: ease of power distribution, lower TCO, improved safety, reduced maintenance / greater reliability, enhanced flexibility in current and future power infrastructure and improved green credentials with lower embodied energy and lower energy usage.

IEM Power Systems can provide RUPS systems that will support MV in your facility, delivering high quality, continuous MV power to your operation. We are experts in Medium Voltage and can utilize IEM's Vesta-AR arc-resistant metal-clad switchgear, is the leading MV solution for distributing power safely and efficiently throughout your building.

Our state of the art Jacksonville (USA) facility has been designed to test both LV and MV systems and we are the only RUPS manufacturer who can fully integrate and test MV solutions in the factory before shipping.

Using medium voltage solutions may allow your facility design to minimize cabling, reducing capital expenditure and the impact of your facility on the environment. Whether you employ a low voltage or medium voltage design, our simplified approach minimizes embodied energy costs and maximizes operating efficiency.



GREEN TECHNOLOGY

Our highly efficient UPS supports your aims to minimize your environmental impact and mitigate the effects of rising energy costs in the future. Our ROTABLOC design, almost all steel and copper, ensures that it is over 99.97% recyclable.

- No batteries – no need for expensive replacement cycle / no costly disposal of hazardous materials
- No air conditioning required – providing a/c for battery rooms is a significant cost and impacts the environment
- Dynamic Autonomy Control (DAC): Automatic speed adaptation for optimum efficiency at partial load with FULL critical load protection
- 95% of all voltage interruptions last less than 1 second (European urban locations) the RBT protects the load without generator starts*.

*This is configurable to maximize RBT power output or compensate for short interruptions.

Technical advantages of the ROTABLOC:

Standard synchronous generator (no special windings) simple steel flywheel and low speed shaft offering extended bearing life with very low maintenance



Protecting Critical Power for Over 25 Years

- | | |
|---------------------------|----------------------------|
| Data Centres | Government |
| Banking | Defense |
| Telecommunications | Water Treatment |
| Airports | Alternative Energy |
| Healthcare | Stadiums |
| Industrial | Research Facilities |
| Manufacturing | Petrochemicals |



IEM Power Systems delivers **high reliability and efficiency** –
ensuring **complete protection** of critical electrical loads,
and **low cost of ownership**.

IEM Power Systems (IEMPS)

IEM Power Systems is a subsidiary of Industrial Electric Mfg. (IEM), North America's largest independent full-line manufacturer of electrical distribution and power quality equipment. IEM Power Systems designs and builds innovative electrical power systems world-wide. With facilities in the U.S. and Europe, we are able to serve businesses worldwide with innovative solutions to meet their facility's needs. Our quality products and superior service offering allows us to continually serve customers who value quality and reliability.



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