



The ERMES Series UPSs are ideal for all applications where a critical load has to be protected, from the simplest to the most complex installations, when the need for reliability and easy maintenance is most important.



Medical
equipment



Sensitive
IT loads



Telecom



Critical
buildings



Small/medium
data center

Ermes

Three Phase Standalone Uninterruptible Power Supply

10KVA ~ 200KVA

www.itapower.it

Made in Italy

The rapid advancement of IT technologies, heightened attention to environmental concerns, and the increasing complexity of critical applications have created a demand for power protection solutions that are more adaptable, efficient, secure, and interconnected. The Hermes 10-200 kVA/kW delivers optimal power availability, energy efficiency, and overall performance which leads to cost savings in installation and operation. Representing Itapower's latest UPS innovation as a third generation transformer-free system introduced over twenty three years ago, the Hermes series is rated at output power factor 1 with ON LINE double conversion technology according to VFI-SS-111 classification (as outlined in standard IEC EN 62040-3). With models available in various capacities spanning from 10 to 200 kVA/kW featuring three-phase input and output configurations, Hermes incorporates state-of-the-art components and technology such as DSP, dual core microprocessors, three-level inverter circuits and resonant controls providing maximum protection for critical loads with minimal impact on downstream systems while conserving energy.

Its unique control system enables reduction of inverter output harmonic voltage distortion (<1% at resistive linear load and <1.5% at non-linear load) along with swift response to all load variations resulting in exceptional sine wave quality under any condition.

Furthermore, Itapower UPS' digital control advancements combined with cutting-edge power components play a pivotal role in minimizing the adverse effects on the grid.

Hermes offers an effective solution for addressing installation challenges associated with limited mains electricity supply or compatibility issues related to loads generating harmonic currents especially when supported by a generator.

A WIDE VARIETY OF OPTIONS

Hermes has been designed to optimize specific requirements and enhance installation flexibility. Itapower UPS offers Hermes in four different frame solutions to meet critical power demands and applications.

The Hermes model provides a high level of flexibility to accommodate various power needs and battery autonomies, all within a compact yet remarkably powerful solution capable of delivering up to 60 kVA (@ pf 1).

The Hermes S version offers the most flexibility for meeting diverse installation requirements and power demands, allowing for three levels



of battery backup time within an extremely small footprint. Additionally, its mechanical design allows for the installation of an isolation transformer or easy adjustment from IP20 to IP21 or even IP31 protection levels. With the addition of a dedicated optional seismic kit, it can also become compliant with ICC-ES AC 156 standards.

The range covering ER 80-200 models does not allow for internal batteries and transformers but still enables simple changes in protection levels from IP20 to IP21 or even up to IP31. Furthermore, adding the optional seismic kit makes ER080-ER120 models compliant with ICC-ES AC 156 standards.

HIGH EFFICIENCY

Hermes is a ON LINE double conversion UPS system that offers superior power availability, flexibility, and unmatched energy efficiency for small Data Centers and critical applications. With a full power rating (kVA=kW unity pf), Hermes delivers maximum power without any de-rating. Its three-level IGBT inverter topology and innovative digital controls ensure an overall efficiency of up to 96.6%, while reducing components and connections to enhance reliability with higher MTBF. Itapower UPS' advanced average current mode digital PFC control and state-of-the-art three-level NPC inverters operate at high frequency to minimize grid impact, reduce operational costs, and lower energy bills. Hermes has zero impact on its power source from the mains supply or generator, offering

- Very low input current distortion (<3%),
- Near unity input power factor (0.99),

- Power walk-in function for progressive rectifier start-up
- Start up delay function for sequential restart of rectifiers after mains supply restoration if multiple UPS are within the overall system; filtering & power factor correction functions eliminate harmonic components & reactive power from the utilities' network upstream of the UPS.

HIGH POWER AVAILABILITY

Hermes's fully-rated design ensures full power (kVA=kW) without being affected by the load power factor or operating temperature (full-rated power is available up to 40 °C). Additionally, Hermes's advanced digital control allows for delivering up to 270% inverter current for 200 ms and 150% for 300 ms. This exceptional overcurrent availability enables the system to handle sudden peak loads without requiring static bypass intervention, as well as provide short circuit current if necessary during battery operation. The innovative input stage design also facilitates extremely high battery recharging current while maintaining energy-efficient conversion during battery operation, reducing wasted power and increasing autonomy time compared to traditional DC/AC converters.

SMART BATTERY MANAGEMENT

Proper maintenance of the battery is crucial for ensuring the UPS operates correctly in emergency situations. The Itapower UPS Smart Battery Management system includes various features and capabilities to optimize battery management, maximizing

performance and operational lifespan. Ermes is compatible with a range of batteries including conventional sealed lead-acid, AGM, GEL, open vented, Nickel Cadmium, Li-Ion batteries, and Supercapacitors. With superior charging current availability of up to 30 Amperes for the 40-120 kVA/kW power range, Ermes can be used in extended battery autonomy applications. Different charging methods are available depending on the battery type:

- Single-level voltage recharge for VRLA AGM batteries;
- Two-level voltage recharge according to IU specification.
- Cyclical recharge system to minimize electrolyte consumption and extend lifespan VRLA batteries.
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The battery management system includes features such as:

- Recharge voltage compensation based on ambient temperature.

- Battery tests for diagnosing performance issues or problems.

- Deep discharge protection to prevent damage or reduced battery performance during extended low-load discharges.

- Reduction of recharge ripple current using a high frequency charger, which prolongs battery life and maintains high performance over time.

- Wide voltage range operation of the rectifier, reducing the need for battery discharge and helping to extend battery life. Additionally, Ermes allows adjustment of the number of battery blocks per string within a wide range sting. The 12V battery blocks with a neutral central point can be adjusted from 15+15 to 22+22, with automatic power de-rating below the standard 20+20 configuration.

Maximum Reliability and Uptime

The distributed parallel configuration allows for up to 8 units per redundant (N+1) or capacity-parallel system, providing exceptional expandability. The UPS can continue to operate in parallel even if the connection cable is interrupted.

Ermes utilizes advanced technology and high-performance components to deliver outstanding performance and maximum reliability:

- Ermes 40 kVA/kW with two strings of 40 battery blocks has a remarkably small footprint of only 0.35 m².

- The input power stage ensures an input power factor close to 1 with extremely low current distortion, eliminating the need for bulky and expensive filters.

- Ermes's unity output power factor makes it suitable for any Data Center application, ensuring full power availability regardless of the load power factor range.

- It provides extremely low output THDV under any circumstances, delivering a reliable sinewave that prevents disturbances from affecting network users.

- This UPS offers more active power than traditional ones, guaranteeing a greater margin when sizing UPS for potential future load increases.

- More energy reserves are available to handle sudden load increases or clear output short circuits due to appliance failures downstream;

- Smart ventilation principles manage fan speed and airflow based on room temperature and load level while preserving fan lifespan;

- Fan failure monitoring alarms inform users immediately about any issues so corrective actions can be taken promptly. Each fan is monitored individually for the 60-120 kVA/kW power ratings as standard, while this feature is a factory-fitted option for the 10-40 kVA/kW power ratings (available for S version only).

FLEXIBILITY

Ermes offers a versatile range of solutions and configurations, making it suitable for various applications.

It includes features like powering capacitive loads without reducing active power, multiple operating modes compatible with central power supply systems, frequency converter mode, cold start capability, parallel configuration option up to 8 units for the three-phase version, optional temperature sensor for external battery cabinets, high-power battery chargers for optimized charge time during long runtimes, dual input mains power supply (optional on some versions), isolation transformers for modifying neutral earthing or galvanic isolation between input and output (optional in some versions), mechanical fittings for higher IP protection ratings of either IP21 or IP31 in specific versions to withstand harsh environments.

Ermes also supports compatibility with alternative backup energy sources such as NiCd or Li-ion batteries or Supercapacitors and comes with different-sized battery cabinets and capacities to accommodate extended runtimes.

ADVANCED COMMUNICATIONS

Ermes is equipped with a color graphic touch screen display that is capable of providing detailed information regarding the uninterruptible power supply (UPS) system. This includes measurements, operating states, and alarms in a variety of languages. The default screen presents the UPS status along with a graphical representation of the energy path through the UPS. Furthermore, the operational condition of the various components within the UPS, such as the rectifier, batteries, inverter, and bypass, is displayed on this screen. Additionally, the user interface features a UPS status LED bar that promptly and clearly communicates the overall status of the UPS by changing color (light blue, dark blue, orange, and red) to correspond with its current operating mode and condition.

- The system offers advanced multi-platform communications that are compatible with all operating systems and network environments. This includes the inclusion of PowerShield3 monitoring and shutdown software for Windows operating systems (11, 10, 8, Hyper-V, Server 2022, 2019, 2016, and previous versions), Windows Server Virtualization Hyper-V, macOS, Linux, Citrix XenServer, and other Unix operating systems.

- It is also compatible with VMware infrastructures, allowing for a graceful shutdown of hosts and clusters, as well as Vmotion and prioritized shutdown of virtual machines, thanks to the NetMan 208 Network card.

- Furthermore, it is compatible with Nutanix and Syneto infrastructures, enabling graceful shutdown of hosts and prioritized shutdown of virtual machines, utilizing the NetMan 208 Network card.

- The system is also compatible with Itapower Connect, a remote monitoring service.

- The inclusion of an RS232 port on an RJ10 connector and USB ports provides additional means of communication.

- The system also features two slots for optional communication accessories, such as network adapters and volt-free contacts.

- An embedded contact interface is also included, with 5 programmable inputs and 4 programmable outputs.

- The R.E.P.O. (Remote Emergency Power Off) function allows for remote shutdown of the UPS through the use of an emergency button.

- The system also boasts a graphic display panel, enabling remote connection.

Ermes

Three Phase Standalone Uninterruptible Power Supply

10KVA ~ 120KVA



The made in Italy ERMES Series UPSs are ideal for all applications where a critical load has to be protected, from the simplest to the most complex installations, when the need for reliability and easy maintenance is most important.

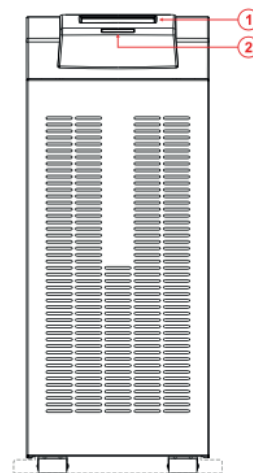


Made in Italy

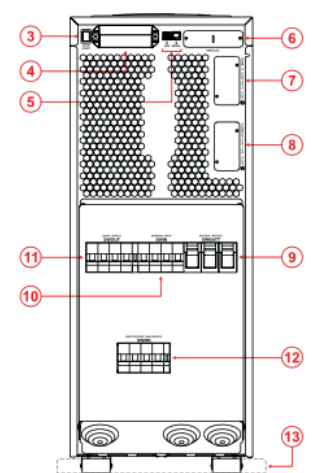
highlights

- ⌚ High efficiency up to 96.5%
- ⌚ High power availability
- ⌚ Color graphic touch screen display
- ⌚ Power Factor 1
- ⌚ Up to 120 internal battery 7/9Ah for 10-60KVA
- ⌚ Three level Inverter IGBT high frequency
- ⌚ DSP dual core microprocessor
- ⌚ Parallel operation up to 8 units
- ⌚ Built-in standard COLD START FUNCTION
- ⌚ Speed-controlled fans
- ⌚ Programmable intelligent sockets

ER (010-015-020KVA)



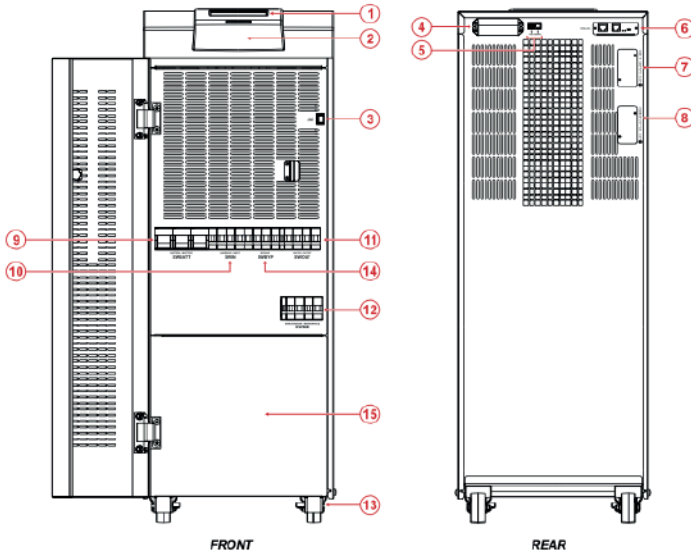
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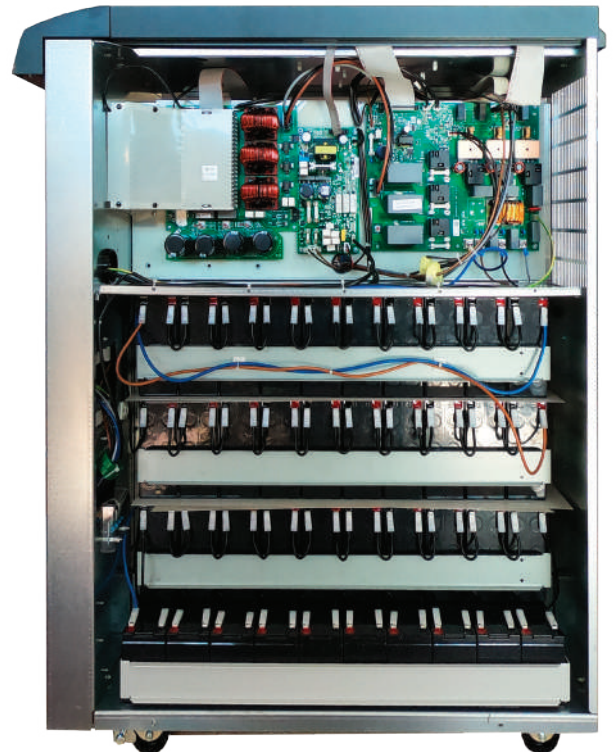
REAR

- | | |
|---|--|
| 1. Touch screen display | 8. Slot for optional accessory communication cards |
| 2. UPS status LED | 9. Internal battery fuse holders (SWBATT) |
| 3. Battery start button (COLD START) | 10. Mains input switch (SWIN) |
| 4. Communication ports (R.E.P.O., IN/OUT SIGNAL) | 11. Output switch (SWOUT) |
| 5. Communication ports (USB, SERIAL) | 12. Manual bypass switch (SWMB) |
| 6. Parallel card [optional] | 13. Brake plate |
| 7. Slot for optional accessory communication and contacts cards | |

ER (010-015-020KVA)

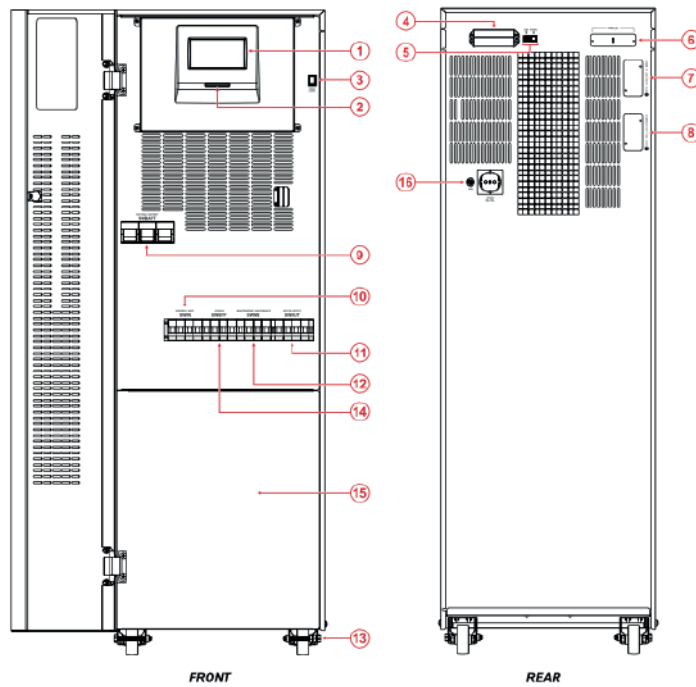


- | | |
|---|--|
| 1. Touch screen display | 9. Internal battery fuse holders (SWBATT) |
| 2. UPS status LED | 10. Mains input switch (SWIN) |
| 3. Battery start button (COLD START) | 11. Output switch (SWOUT) |
| 4. Communication ports (R.E.P.O., IN/OUT SIGNAL) | 12. Manual bypass switch (SWMB) |
| 5. Communication ports (USB, SERIAL) | 13. Screw-brake for locking wheels |
| 6. Parallel card [optional] | 14. Bypass input switch (SWBYP) [optional] |
| 7. Slot for optional accessory communication and contacts cards | 15. Terminal cover panel |
| 8. Slot for optional accessory communication cards | |



ER (010-015-020KVA) with internal batteries installed

ER (010-015-020-030-40KVA)



- | | |
|---|---|
| 1. Touch screen display | 9. Internal battery fuse holders (SWBATT) |
| 2. UPS status LED | 10. Mains input switch (SWIN) |
| 3. Battery start button (COLD START) | 11. Output switch (SWOUT) |
| 4. Communication ports (R.E.P.O., IN/OUT SIGNAL) | 12. Manual bypass switch (SWMB) |
| 5. Communication ports (USB, SERIAL) | 13. Screw-brake for locking wheels |
| 6. Parallel card [optional] | 14. Bypass input switch (SWBYP) |
| 7. Slot for optional accessory communication and contacts cards | 15. Terminal cover panel |
| 8. Slot for optional accessory communication cards | 16. Schuko socket (10A max) |

MODEL	ER010-ER010s (Mono)	ER015-ER015s (Mono)	ER020-ER020s (Mono)	ER10-ER010s	ER015-ER015s	ER020-ER020s
INPUT						
Rated voltage [V]	380 / 400 / 415 three-phase + N 220 / 230 / 240 single-phase + N			380 / 400 / 415 three-phase + N		
Rated frequency [Hz]	50 / 60					
Voltage tolerance [V]	230 / 400 ±20% @ full load [†]			400 ±20% @ full load [†]		
Frequency tolerance [Hz]	40 - 72					
Power factor @ full load	0,99					
Current distortion	THDI ≤3%					
BYPASS						
Rated voltage [V]	220 / 230 / 240 single-phase + N			380 / 400 / 415 three-phase + N		
Number of phases	1 + N			3 + N		
Voltage tolerance (ph-N) [V]	from 180 (adjustable 180-200) to 264 (adjustable 250-264) referring to neutral					
Rated frequency [Hz]	50 or 60 (selectable)					
Frequency tolerance	±5% (selectable)					
Bypass overload	110% infinite, 125% for 60 min, 150% for 10 min					
OUTPUT						
Nominal power [kVA]	10	15	20	10	15	20
Active power [kW]	10	15	20	10	15	20
Power factor	1 up to 40 °C					
Number of phases	1 + N			3 + N		
Rated voltage [V]	220 / 230 / 240 single-phase + N (selectable)			380 / 400 / 415 three-phase + N (selectable)		
Rated frequency [Hz]	50 or 60					
Frequency stability on battery operation	0,01%					
Voltage stability	±1%					
Dynamic stability	EN 62040-3 class performance 1 non-linear load					
Voltage distortion	<1% with resistive linear load / ≤1.5% with non-linear load					
BATTERIES						
Type	VRLA AGM/GEL/NiCd/Li-ion/SuperCaps					
Recharging method	One level, Two level, Cyclic recharge (selectable)					
OVERALL SPECIFICATIONS						
Weight without batteries [kg]	72-103	74-105	76-107	72-103	74-105	76-107
Dimensions standard (10-60) (WxDxH) [mm]	380x850x1025 & 440x840x1320 for s model					
Communications	UPS status led bar - Graphic touch screen display - 2 slots for communications interface USB - RS232 - Contact interface with 5x opto insulated Input and 4x Output relays					
Ambient temperature for the UPS	0 °C - +40 °C					
Recommended temperature for battery life	+20 °C - +25 °C					
Range of relative humidity	5-95% non-condensing					
Colour	RAL 7016					
Noise level at 1 m [dBA ±2]	<40					
IP rating	IP20					
SMART ACTIVE efficiency	up to 99%					
Standards	European directives: LV 2014/35/EU low voltage Directive EMC 2014/30/EU electromagnetic compatibility Directive Standards: Safety IEC EN 62040-1; EMC IEC EN 62040-2; RoHS compliant Classification in accordance with IEC EN 62040-3 (Voltage Frequency Independent) VFI - SS - 111					
Moving the UPS	Castors / pallet jack					

[†] For wider tolerance conditions apply.

Product specifications are subject to change without further notice.

MODEL	ER030-ER030S	ER040-ER040s	ER060-ER060s	ER080	ER100	ER120
INPUT						
Rated voltage [V]	380 / 400 / 415 three-phase + N					
Rated frequency [Hz]	50 / 60					
Voltage tolerance [V]	400 ±20% @ full load					
Frequency tolerance [Hz]	40 - 72					
Power factor @ full load	0,99					
Current distortion	THDI ≤3%					
BYPASS						
Rated voltage [V]	380 / 400 / 415 three-phase + N					
Number of phases	3 + N					
Voltage tolerance (ph-N) [V]	from 180 (adjustable 180-200) to 264 (adjustable 250-264) referring to neutral					
Rated frequency [Hz]	50 or 60 (selectable)					
Frequency tolerance	±5% (selectable)					
Bypass overload	110% infinite, 125% for 60 min, 150% for 10 min					
OUTPUT						
Nominal power [kVA]	30	40	60	80	100	120
Active power [kW]	30	40	60	80	100	120
Power factor	1 up to 40 °C					
Number of phases	3 + N					
Rated voltage [V]	380 / 400 / 415 three-phase + N (selectable)					
Rated frequency [Hz]	50 or 60					
Frequency stability on battery operation	0,01%					
Voltage stability	±1%					
Dynamic stability	EN 62040-3 class performance 1 non-linear load					
Voltage distortion	<1% with resistive linear load / ≤1.5% with non-linear load					
BATTERIES						
Type	VRLA AGM/GEL/NiCd/Li-ion/SuperCaps					
Recharging method	One level, Two level, Cyclic recharge (selectable)					
OVERALL SPECIFICATIONS						
Weight without batteries [kg]	78-112	82-116	87-130	172	180	198
Dimensions standard (10-60) (WxDxH) [mm]	380x850x1025 & 440x840x1320 for s model			500x830x1600		
Communications	UPS status led bar - Graphic touch screen display - 2 slots for communications interface USB - RS232 - Contact interface with 5x opto insulated Input and 4x Output relays					
Ambient temperature for the UPS	0 °C - +40 °C					
Recommended temperature for battery life	+20 °C - +25 °C					
Range of relative humidity	5-95% non-condensing					
Colour	RAL 7016					
Noise level at 1 m [dBA ±2]	<40	<50	<55	<55	<55	<55
IP rating	IP20					
SMART ACTIVE efficiency	up to 99%					
Standards	European directives: LV 2014/35/EU low voltage Directive EMC 2014/30/EU electromagnetic compatibility Directive Standards: Safety IEC EN 62040-1; EMC IEC EN 62040-2; RoHS compliant Classification in accordance with IEC EN 62040-3 (Voltage Frequency Independent) VF1 - SS - 111					
Moving the UPS	Castors / pallet jack					

¹ For wider tolerance conditions apply.

^{BAT} Also available with internal batteries.

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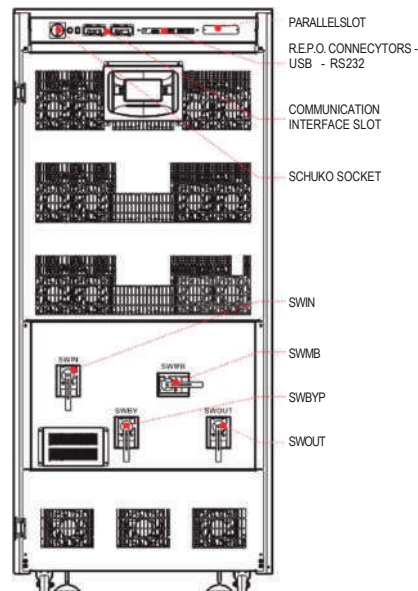


Ermes

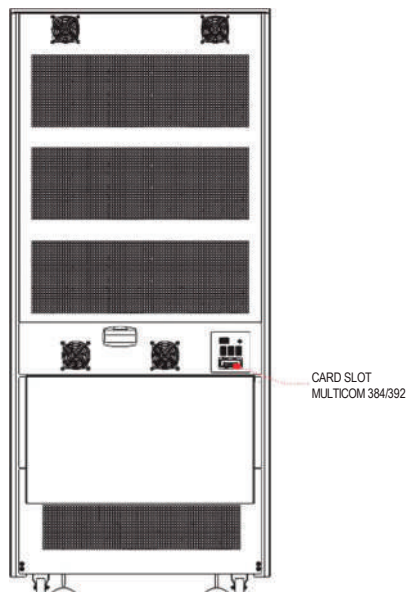
Three Phase Standalone Uninterruptible Power Supply

160KVA ~ 200KVA

The made in Italy ERMES Series UPSs are ideal for all applications where a critical load has to be protected, from the simplest to the most complex installations, when the need for reliability and easy maintenance is most important.



Made in Italy



highlights

- ⌚ High efficiency up to 96.5%
- ⌚ High power availability
- ⌚ Color graphic touch screen display
- ⌚ Power Factor 1
- ⌚ Three level Inverter IGBT high frequency
- ⌚ DSP dual core microprocessor
- ⌚ Parallel operation up to 8 units
- ⌚ Built-in standard COLD START FUNCTION
- ⌚ Speed-controlled fans
- ⌚ Programmable intelligent sockets

MODEL	ER160	ER200
INPUT		
Nominal Voltage	380-400-415 Vac three-phase + N	
Nominal Frequency	50/60Hz	
Frequency Tolerance	40-72Hz	
Voltage tolerance	400 V \pm 20% @ full load	
Power Factor	\geq 0.99 @ nominal voltage (100% load)	
THD	THDI \leq 3%	
OUTPUT		
Nominal Power KVA	160	200
Active Power KW	160	200
Power Factor	1	
Number of phases	3+N	
Nominal Voltage	380-400-415 Vac three-phase + N	
Static variation	\pm 1%	
Nominal Frequency	50/60Hz	
Frequency Range (Batt. Mode)	50 Hz \pm 0.1 Hz or 60Hz \pm 0.1 Hz	
Current Crest Ratio	3:1 (max.)	
Harmonic Distortion	\leq 1% THD (Linear Load) \leq 1,5% THD (Non-linear load)	
BYPASS		
Number of phases	3+N	
Nominal Voltage	380-400-415 Vac three-phase + N	
Nominal Frequency	50/60Hz	
Frequency Tolerance	\pm 5%	
Voltage Tolerance	180 - 264 V (selectable)	
Bypass overload	125% for 60 minutes, 150% for 10 minutes, 110% infinite,	
BATTERY		
Battery Type	VLRA AGM/GEL/NiCd/Li-ion/super caps	
Internal Battery Numbers	NA	
PHYSICAL		
Dimension, W X D X H (mm)	850 x 840 x 1600	
Net Weight (without battery) (kgs)	450	460
ENVIRONMENT		
Humidity	5-90 % non-condensing	
Noise	<40 dBA \pm 2	
Temperature	0 °C - +40 °C	
IP rating	IP 20	
MANAGEMENT		
Smart RS-232/USB	Supports Windows® 2000/2003/XP/Vista/2008/7/8, Linux and MAC	
Optional SNMP	Power management from SNMP manager and web browser	
STANDARD		
EMC/safety	European directives: LV 2014/35/EU low voltage Directive EMC 2014/30/EU electromagnetic compatibility Directive Standards: Safety IEC EN 62040-1; EMC IEC EN 62040-2; RoHS compliant Classification in accordance with IEC EN 62040-3 (Voltage Frequency Independent) VFI - SS - 111	

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