TRIMOD HE

MODULAR
HIGH EFFICIENCY
UPS

THE **GLOBAL SPECIALIST**
IN ELECTRICAL AND DIGITAL BUILDING INFRASTRUCTURES

legrand®

TRIMOD HE

DEVELOPMENTS IN TECHNOLOGY

HIGH performance
HIGH efficiency
LOW environmental impact

Legrand's modular UPS know-how goes back more than 20 years, when the first ever modular UPS were introduced in 1993. Since then, continuous firmware development and research on control and hardware components have led to no stop improvements in system reliability, quality and technical performance.

Continuous research combined with modern production methods has led Legrand to offer the market a cutting-edge, top-performing product: certified efficiency up to 96% and unity power factor.

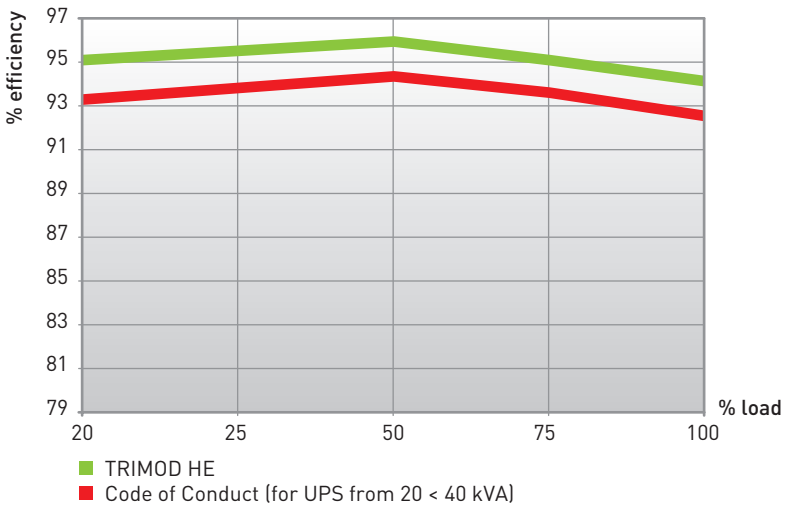
Combining high density with a structural design that optimises the space, the new TRIMOD HE systems is the ideal solution for advanced energy management and cost containment.

CERTIFIED EFFICIENCY
One of the highest values in the market

SIQ

96%

The European Code of Conduct requires a minimum value of 92%. TRIMOD HE is up to 4% more efficient, thus effectively dividing by 2 all UPS energy losses.

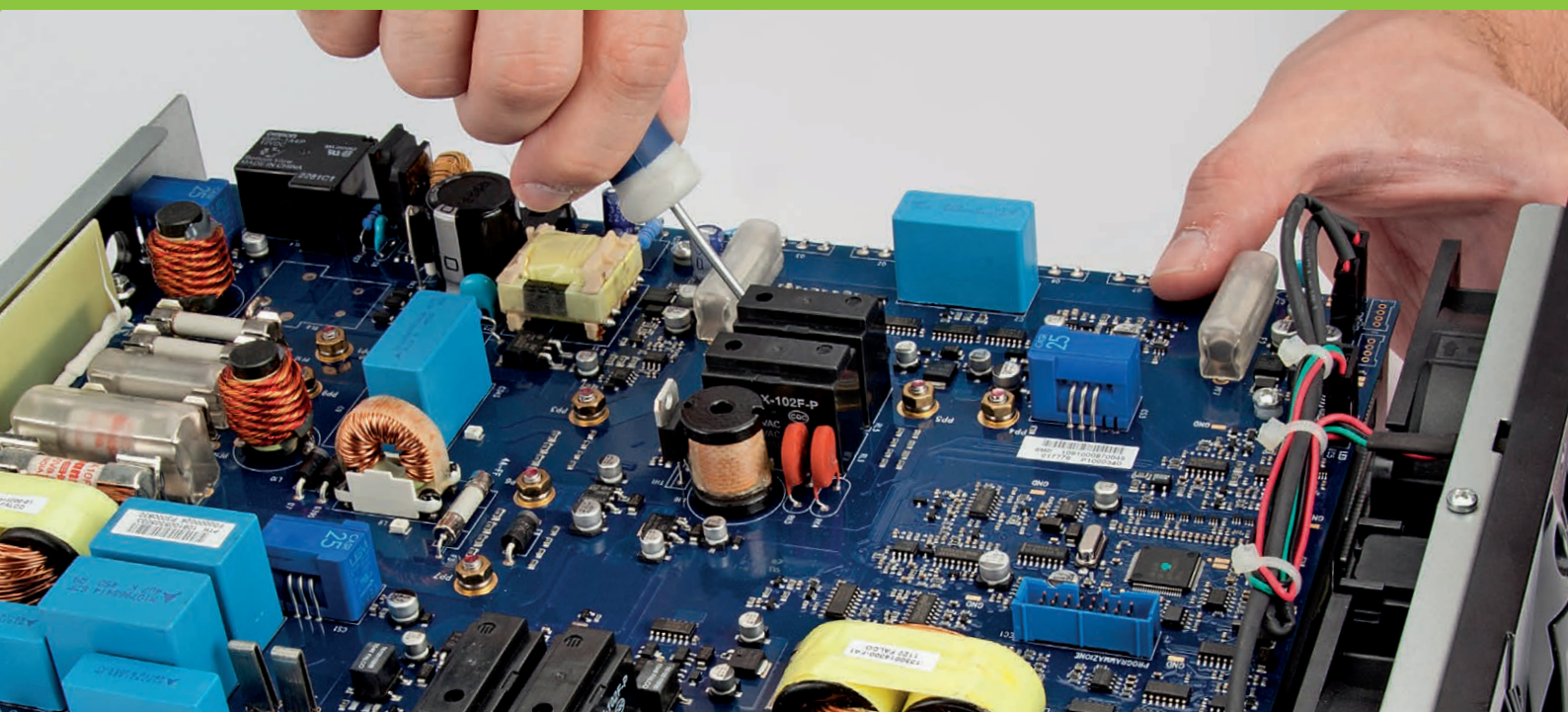


kVA = kW

POWER FACTOR 1

INCREASED POWER

Thanks to their unity power factor the new TRIMOD HE UPS guarantee maximum real power; 11% more than competitor products offering 0,9 power factor, fully 25% more than those of 0.8 power factor.



TRIMOD HE

HIGH DENSITY UPS

In addition to the standard size, TRIMOD HE offers taller cabinets which allow increased autonomy as a standard configurations.
Yet another enhancement to the range that increase performance while occupying the same amount of floor space.

Enhanced version with the same footprint
The new cabinets are taller but take up the same space in terms of footprint.

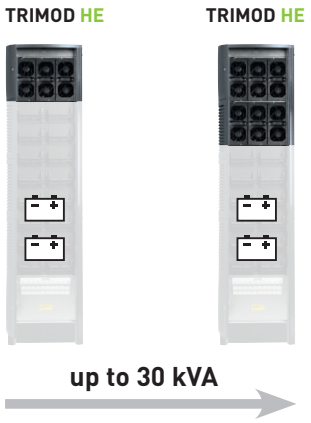
0.26 m²

100% compatible
TRIMOD HE was developed to guarantee 100% compatibility with the previous version, hence simplifying servicing of any installed UPS systems.

NEW CABINETS
more ADVANTAGES
new SOLUTIONS

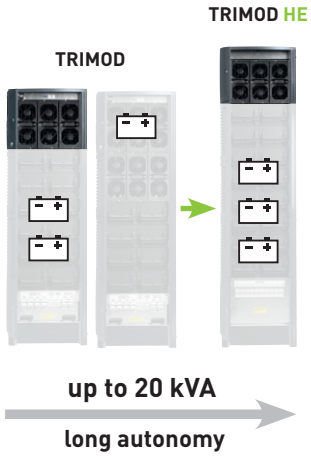
MORE redundancy and scalability

Redundancy on overall power
or within each individual phase.
Power scalability
(versions with internal batteries):
for versions from 10 kVA to 20 kVA
for versions from 15 kVA to 30 kVA



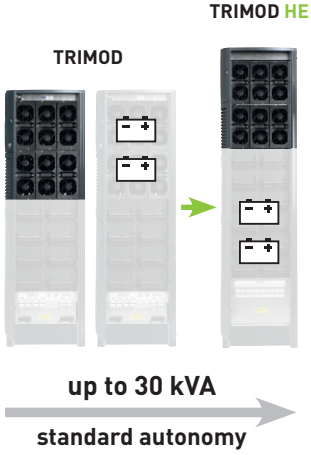
MORE autonomy

Optimising the number
of cabinets for longer uptime
of the 10-15-20 kVA versions.



MORE configurations

It is possible to install
standard batteries
in the 30 kVA version.



TRIMOD HE

EXPANDABLE
SCALABLE
MODULAR
VERSATILE

The innovative concept of THREE-PHASE modularity, consisting of INDIVIDUAL SINGLE-PHASE MODULES which feature in the entire TRIMOD HE range, allows you to optimise power availability, increase system flexibility and reduce the total cost of ownership (TCO).

The standardised structure, consisting of smaller and lighter modules, makes it easier to transport and install the UPS systems.

All the components are self-configuring and integrate a Plug&Play connection system to make all diagnostics, maintenance and future expansion phases easier.

Because the TRIMOD HE system is versatile and programmable, it is also possible to:

- supply three independent single-phase lines, assigning a different priority to each one, in terms of operating time
- offer three different input/output configurations in a single cabinet: 3/3, 1/1, 3/1, 1/3
- increase the duration of the average battery life thanks to the Smart Charging System

Compact, lightweight single-phase power module (only 8.5 kg)

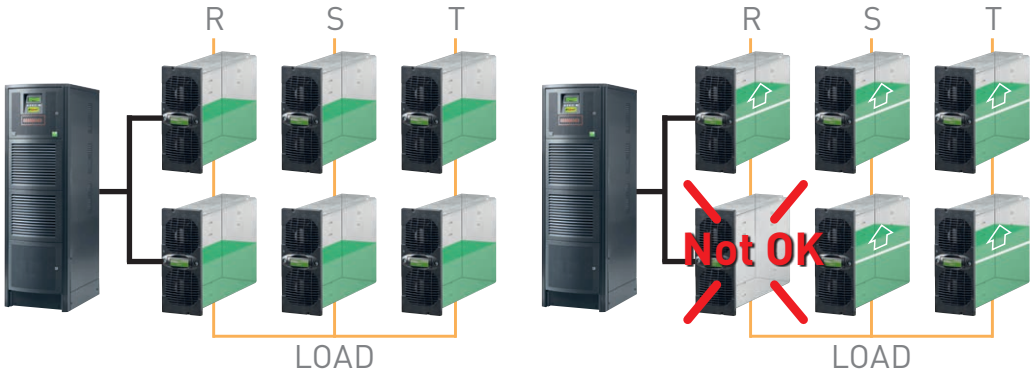
Easy to handle and install battery module (only 13 kg)

HIGH LEVELS of REDUNDANCY

Thanks to the construction technology of the TRIMOD HE UPS systems, you can set various redundancy levels so that maximum continuity of service is always guaranteed.

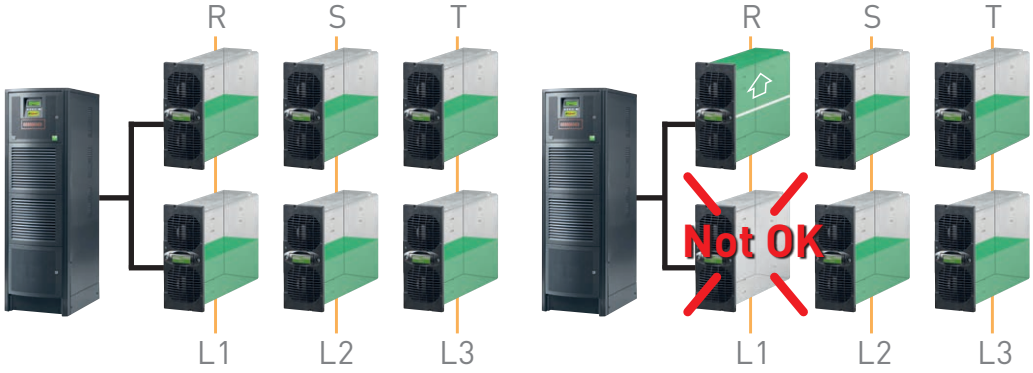
Redundancy on single-phase load

In a system with a three-phase power supply and a single-phase load there will be no power loss if one of the modules fails, as the power will be delivered by the other operational modules.



Redundancy on the phases

In a system with three independent outputs, it is possible to set the redundancy on the single phases.
If one of the power modules fails, the modules in the same phase take over for the defective module.



TRIMOD HE

Double conversion VFI three-phase modular UPS

3 104 42

3 108 71

3 108 43

Pack	Cat. Nos.	UPS			
		NOMINAL POWER kVA	OPERATING TIME (MIN.)	NO. AND TYPE OF CABINET	WEIGHT (kg)
	3 104 42	10	11	1B	167
	3 104 43	10	17	1B	223
	3 104 44	10	35	1B	279
	3 104 02	10	49	1A	350
	3 104 43 + 3 107 58	10	68	2A	527
	3 104 45	15	13	1B	220
	3 104 46	15	21	1B	279
	3 104 07	15	29	1A	350
	3 104 46 + 3 107 60	15	33	2B	413
	3 104 46 + 3 107 63	15	57	2B	550
	3 104 46 + 3 108 08	15	110 *	2	865
	3 104 47	20	9	1B	220
	3 104 48	20	14	1B	279
	3 104 13	20	20	1A	350
	3 104 48 + 3 107 62	20	35	2B	572
	3 104 14 + 3 108 08	20	82 *	2	865
	3 104 47 + 2 x 3 107 63	20	59	3B	574
	3 104 17	30	8	1B	325
	3 104 18 + 3 107 63	30	12	2B	434
	3 104 18 + 3 108 09	30	50 *	2	890
	3 104 18 + 2 x 3 108 09	30	110 *	3	1645
	3 104 19 + 3 107 63	40	8	2B	564
	3 104 19 + 2 x 3 107 58	40	16	3B	801
	3 104 19 + 3 108 10	40	33 *	2	925
	3 104 19 + 3 x 3 107 59	40	38	4B	439
	3 104 19 + 4 x 3 107 64	40	60	5B	1663
	3 104 19 + 2 x 3 108 10	40	82 *	3B	1700
	3 104 19 + 3 x 3 108 10	40	120 *	4	2430
	3 104 20 + 2 x 3 107 58	60	9	3B	830
	3 104 20 + 2 x 3 107 64	60	15	3B	942
	3 104 20 + 3 108 11	60	17 *	2	952
	3 104 20 + 4 x 3 107 63	60	27	5B	1579
	3 104 20 + 2 x 3 108 11	60	50 *	3	1715
	3 104 20 + 3 x 3 108 11	60	80 *	4	2474
	3 104 20 + 4 x 3 108 11	60	110 *	5	3234

* Configurations with battery cabinets (20 x 94 Ah).
Battery cabinet measurements and weight: W x L x D 1635 x 600 x 800 (mm), 785 kg
Cabinet A h=1650, Cabinet B h=1370

Pack	Cat. Nos.	POWER CABINET			
		NOMINAL POWER kVA	OPERATING TIME (MIN.)	NO. OF INSTALLABLE BATTERY DRAWERS	WEIGHT (kg)
	3 103 96	10	0'	12	120
	3 103 97	10	0'	16	155
	3 104 08	15	0'	12	120
	3 104 03	15	0'	16	155
	3 104 14	20	0'	12	120
	3 104 09	20	0'	16	155
	3 104 18	30	0'	-	146
	3 104 15	30	0'	12	181
	3 104 19	40	0'	-	146
	3 104 20	60	0'	-	165

POWER CABINETS (EMPTY)

	NO. OF POWER MODULES	NO. OF INST. BATTERY DRAWERS	TYPE OF POWER MODULE	NO. OF PHASES
3 104 22	3	12	3 x 3.4 kVA	1-1 / 3-3 / 3-1 / 1-3
3 104 31	3	16	3 x 3.4 kVA	1-1 / 3-3 / 3-1 / 1-3
3 104 23	3	12	3 x 5 or 6.7 kVA	1-1 / 3-3 / 3-1 / 1-3
3 104 32	6	12	6 x 3.4 kVA	1-1 / 3-3 / 3-1 / 1-3
3 104 33	3	16	3 x 5 or 6.7 kVA	1-1 / 3-3 / 3-1 / 1-3
3 104 24	6	-	6 x 5 kVA	3-3
3 104 25	6	-	6 x 5 kVA	1-1/3-3/3-1/1-3
3 104 34	6	12	6 x 5 kVA	3-3
3 104 26	6	-	6 x 6.7 kVA	3-3
3 104 27	9	-	9 x 6.7 kVA	3-3

ACCESSORIES

	DESCRIPTION
3 108 69	3.4 kVA power module
3 108 71	5 kVA power module
3 108 73	6.7 kVA power module
3 108 51	Additional 15 A battery charger module

BATTERY ACCESSORIES

	DESCRIPTION
3 108 54	Kit of 4 empty battery drawers
3 108 43	Single drawer with 5 7.2Ah batteries (installable in multiples of 4)
3 108 45	Single drawer with 5 9Ah batteries (installable in multiples of 4)
3 108 75	Single drawer with 5 9Ah long life batteries (installable in multiples of 4)

ADDITIONAL EMPTY BATTERY CABINETS

	DESCRIPTION
3 108 05	16-drawer modular battery cabinet
3 108 06	20-drawer modular battery cabinet

ADDITIONAL BATTERY CABINETS WITH BATTERIES

Batteries		DESCRIPTION
7.2 Ah	9 Ah	
3 107 55	3 107 60	Modular battery cabinet with 4 drawers
3 107 56	3 107 61	Modular battery cabinet with 8 drawers
3 107 57	3 107 62	Modular battery cabinet with 12 drawers
3 107 58	3 107 63	Modular battery cabinet with 16 drawers
3 107 59	3 107 64	Modular battery cabinet with 20 drawers

ADDITIONAL BATTERY CABINETS WITH LONG-LIFE 94 Ah BATTERIES

	DESCRIPTION
3 108 07	Battery cabinet for 10 kVA UPS
3 108 08	Battery cabinet for 20 kVA UPS
3 108 09	Battery cabinet for 30 kVA UPS
3 108 10	Battery cabinet for 40 kVA UPS
3 108 11	Battery cabinet for 60 kVA UPS

NOTE: The autonomy values, expressed in minutes, a re measured in the most demanding operating conditions.

TRIMOD HE

Double conversion VFI three-phase modular UPS

Item	3 103 96 3 103 97	3 104 03 3 104 08	3 104 09 3 104 14	3 104 15* 3 104 18*	3 104 19	3 104 20
General specifications						
Nominal power (kVA)	10	15	20	30	40	60
Active power (kW)	10	15	20	30	40	60
Module power (kVA)	3.4	5	6.7	5	6.7	6.7
Classification	On-Line double conversion VFI-SS-111					
System	Modular, expandable and redundant UPS system					
Input specifications						
Input voltage	380, 400, 415 3PH+N+PE (or 220, 230, 240 1PH)			380, 400, 415 3PH+N+PE		
Input frequency	45-65 Hz (43,0 ÷ 68.4 Hz)					
Input voltage range	400V +15%/-20% - 230V +15%/-20%			400V +15%/-20%		
THD input current	< 3% (at full load)					
Compatibility with power supply units	Yes					
Input power factor	> 0.99					
Output Specifications						
Output voltage	380, 400, 415 3PH+N+PE (or 220, 230, 240 1PH)			380, 400, 415 3PH+N+PE		
Efficiency	Up to 96%					
Efficiency in Eco mode	99%					
Nominal output frequency	50/60 Hz selectable by the user ±2 % (standard), ±14 % (extended)					
Crest factor	3:1					
Waveform	Sinusoidal					
Output voltage tolerance	±1%					
THD output voltage	<1%					
Permissible overload	10 minutes at 115%, 60 seconds at 135%					
Bypass	Automatic bypass (static and electromechanical) and manual maintenance bypass					
Batteries						
Battery module	Plug & play					
Battery series type/voltage	VRLA - AGM / 240 Vdc					
Operating time	Configurable					
Battery charger	Smart charge technology. 3-stage advanced cycle					
Communication and management						
Display and signals	4 x 20-character lines, 4 menu navigation buttons, LED multi-colour status indicator, alarms and audio signals					
Communication ports	2 RS232 serial ports, 1 logical gate, 5 ports with dry contacts, 1 slot for interfaces					
Backfeed protection	NC/NO auxiliary contact					
Emergency Power Off (EPO)	Yes					
Remote management	Available					
Physical Specifications						
Height (A-B)	1650 - 1370		1650 - 1370	1370	1370	
Width	414		414	414	414	
Depth	628		628	628	628	
Installed power modules	3		6	6	9	
Installable battery drawers (A-B)	Up to 16 - Up to 12		Up to 12 - 0	-	-	
Net weight kg (A-B)	155 - 120		181 - 146	146	165	
Ambient Conditions						
Operating temperature/humidity	0 - 40°C / 0 - 95% non condensing					
Protection rating	IP21					
Maximum audible noise at 1 m from the unit (dBA)	46					
Conformity						
Reference standard	EN 62040-1, EN 62040-2, EN 62040-3					

* Standard configurations with 3-3 distribution (multi IN/OUT conf available on request)

Customer services

Reliable

Directly present in more than 70 countries and servicing its products in more than 150 countries worldwide, a team of qualified engineers is available 24/7/365 to support your UPS system to ensure power quality and availability to the most critical loads.

Excellent

Legrand's competitive edge lies in its ability to provide high value-added UPS systems and services for both end users and business partners. For Legrand, creating value means coming up with solutions for lower energy consumption, but also integrating product design into the overall development process. With around 200 000 catalogue items, the Group also provides all products required for electrical and digital building installations, particularly as integrated systems, finding solutions to fit everyone's needs.

Tailor-made

Legrand offers a complete range of specific solutions and services to meet customer requirements:

- Technical pre-sales support at the project design stage
- Factory acceptance test
- Supervision of installation, testing and commissioning, site acceptance test
- Operator training
- Site audit
- Warranty extension
- Annual maintenance contract
- Fast intervention on emergency call

Support

SITE INSPECTION, INSTALLATION SUPERVISION.
We perform a comprehensive check of the UPS environment to ensure safety and fault-free operation.
Our technical experts give manufacturer's recommendations to the site engineer or electrical contractors, and supervise the UPS installation before load power-up.

SITE TEST, COMMISSIONING.
Our Service Engineers conduct rigorous site tests and full setting-up of the UPS system before going live. They also perform site acceptance tests according to your requirements.
Commissioning operations for TRIMOD HE are carried out by qualified engineers to guarantee seamless start-up.
After the final handing over of the UPS system, a Test and Commissioning report is delivered to you.

Training

TRAINING
We offer on-site training to ensure your equipment's safe and efficient operation.
Troubleshooting courses are also available in our plants for intensive hands-on practice on UPS training equipment.

Maintenance

PREVENTIVE MAINTENANCE
Electronic equipment and power systems, such as UPS, contain life-limited components and parts that must be replaced according to the manufacturer's specifications. To ensure optimal performance and to protect your critical application from potential downtime, it is crucial to perform preventive maintenance operations on a regular basis and replace parts when needed.
Our Service Contracts include cleaning, IR thermography, measurements, functional tests, event log and power quality analysis, battery health check, hardware and software upgrades, and technical reports. A Preventive Maintenance Plan is one of the most cost-effective actions that can preserve your initial investment and ensure your business continuity.

CORRECTIVE MAINTENANCE, EMERGENCY CALL
In the event of an Emergency Call, our worldwide service network, with engineers and spare-parts stocks strategically located as close as possible to your site, guarantees a fast intervention time with 24/7/365 assistance.
After connecting his laptop to your TRIMOD HE, very powerful diagnostic software helps our engineer to identify the fault, thus ensuring short MTTR (Mean Time To Repair).
Corrective actions are performed such as part replacement, adjustments and upgrades to return the UPS system back to normal operation.

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