

TRIMOD MCS

MODULAR CPS

For centralised power
and safety systems



THE GLOBAL SPECIALIST
IN BUILDING ELECTRIC AND DIGITAL INFRASTRUCTURES

 **legrand**[®]

TRIMOD MCS

CENTRALISED EMERGENCY STATION

The MSC series is designed according to EN 50171 standards and represents the ideal solution for installation in buildings subject to fire safety standards and, specifically, to power emergency lighting systems.

CPS TRIMOD MCS can also be used to power emergency systems such as automatic fire extinguishing systems, emergency detection and alarm systems, smoke exhaust and carbon dioxide detection devices and specific safety systems in sensitive areas.



EN 50171 Standard Compliance

TRIMOD MCS is the ideal solution for centralised safety power systems and meets reference standard CEI EN 50171.

Protection against battery inversion

This guarantees maximum operator safety both during installation and maintenance avoiding incorrect battery connections.

120% continuous overload

TRIMOD MCS is designed and dimensioned to support continuous overloads (without time limits) up to 120% of rated reference machine power CEI EN 50171.

Dual Input Function

TRIMOD MCS, provides cabinets with power up to 80 kW and DUAL INPUT function. All configurations can be powered by two AC sources independently: distribution can be reset upon installation and easily obtained using the input distribution.

High versatility

TRIMOD MCS can be set with SA output (Always Powered) and with SE output (Emergency Only) on the display without having to add elements to the system.



TRIMOD MCS

EXPANDABLE
SCALABLE
MODULAR
VERSATILE

The concept of modularity, made up of independent single phase modules that distinguish the entire TRIMOD MCS range, optimises power availability, increases system flexibility and reduces overall overhead costs (TCO).

The highly standardised structure, made up of modules with reduced dimensions and weights, makes transport and installation easy.

All components are self-settable and are included in a Plug&Play connection system to facilitate all diagnostic, maintenance and future expansion phases.

Due to its versatility and system programming ease, TRIMOD MCS also can:

- power three independent single phase lines, assigning a different priority in terms of autonomy to each;
- provide four different input/output configurations in a single cabinet: 3/3, 1/1, 3/1, 1/3;
- increase average battery working life thanks to the Smart Charging System.



Compact and lightweight
single phase power
module (only 8.5 kg)

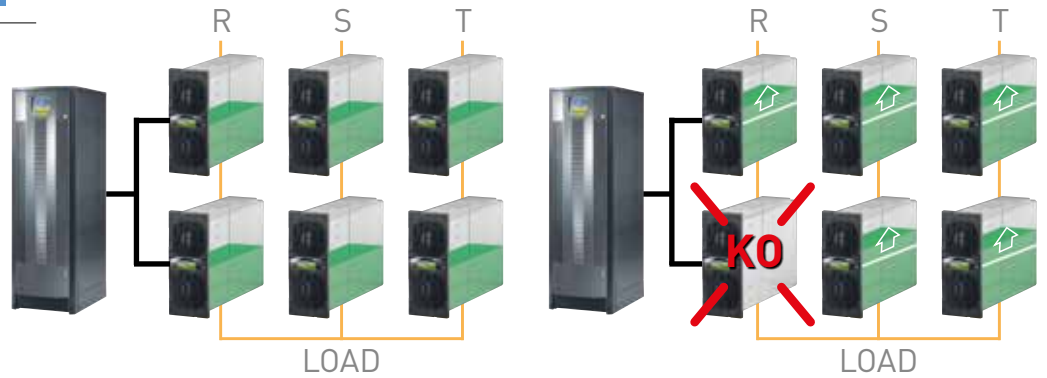


Manageable and
easy to install battery
module (only 13 kg)



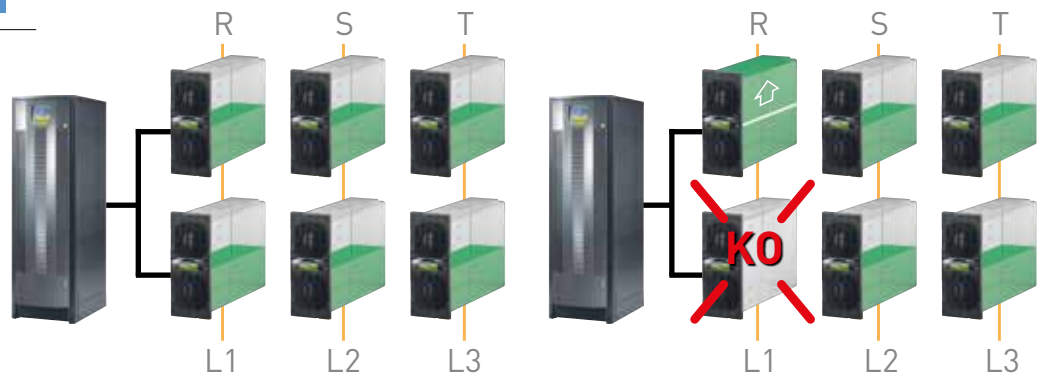
Redundancy on single phase load

In a system with three phase power and single phase load there is no power loss in the event of a single module fault since power is distributed by the other operating modules.



Redundancy on phases

Redundancy can be set on the single phases in a system with three independent outputs. In the event one power module fails, the same phase modules make up for the failed module.



High redundancy levels

Thanks to the CPS TRIMOD MCS construction technology the various redundancy levels can be set to always guarantee maximum service continuity.



TRIMOD MCS

CPS Modular three-phase double conversion VFI



3 109 90

3 110 02



3 108 71



3 108 75

Articles	TRIMOD MCS			
	Model	Autonomy according to EN50171	No. and Type Cabinet	IN-OUT factory settings
3 109 90	3	1h	1A	1-1
3 109 91	5	1h	1B	1-1
3 109 92	7	1h	1A	1-1
3 109 93 + 3 106 18	10	1h	1B	3-3
3 109 94 + 3 106 19	15	1h	1B	3-3
3 109 95 + 3 104 78	20	1h	1A	3-3
3 109 96 + 2 x 3 104 70	30	1h	1A	3-3
3 109 97 + 2 x 3 104 78	40	1h	1A	3-3
3 109 98 + 3 x 3 104 78	60	1h	1A	3-3
3 109 99 + 4 x 3 104 78	80	1h	1B	3-3

Articles	TRIMOD MCS (Empty CPS Cabinet)				
	N° of installed power modules	N° of installable battery drawers	No. phases	Type Cabinet	Weight (kg)
3 110 00	up to 3 3.4kW	12	1-1 / 3-3 / 3-1 / 1-3	A	86
3 110 01	up to 3 6.7kW	12	1-1 / 3-3 / 3-1 / 1-3	A	89
3 110 02	up to 3 6.7kW	16	1-1 / 3-3 / 3-1 / 1-3	B	103
3 110 03	up to 6 5kW	-	1-1 / 3-3 / 3-1 / 1-3	A	85
3 110 04	up to 6 6.7kW	-	3-3	A	82
3 110 05	up to 9 6.7kW	-	3-3	A	91
3 110 06	up to 12 6.7kW	-	3-3	B	120

Accessories

Articles	Description
3 108 69	3.4 kW power module
3 108 71	5 kW power module
3 108 73	6.7 kW power module

Battery accessories

Articles	Description
3 108 75	Single module with 5 9Ah long life batteries (installed in multiples of 4)

Additional empty battery cabinet

Articles	Description
3 110 07	16-module modular battery cabinet
3 106 16	20-module modular battery cabinet

Additional battery cabinet with batteries Long Life

Articles	Description
3 106 18	Modular battery cabinet with 3KB for CPS 10kW
3 106 19	Modular battery cabinet with 5 KB for CPS 15kW
3 104 70	Battery cabinet for CPS type A
3 104 78	Battery cabinet for CPS type B

Codes in red **new products**.

Cabinet A h=1370, Cabinet B h=1650

NOTE: the stated back-up times in minutes are estimated and may vary according to the load characteristics, operating conditions and environment.

TRIMOD MCS

CPS Modular three-phase double conversion VFI

Characteristics

General specifications	3 109 90	3 109 91	3 109 92	3 109 93+ 3 106 18	3 109 94+ 3 106 19	3 109 95+ 3 104 78	3 109 96+ 2x 3 104 70	3 109 97+ 2x 3 104 78	3 109 98+ 3x 3 104 78	3 109 99+ 4x 3 104 78	
Nominal power (kVA)	3	5	6.7	10	15	20	30	40	60	80	
Active power (kW)	3	5	6.7	10	15	20	30	40	60	80	
Active power according to EN50171 (kW)	2.88	4.16	5.58	8	12.5	16.7	25	33.3	50	66.7	
Classification	On-Line Double Conversion VFI-SS-111										
System	Modular, expandable and redundant UPS system										
Input specifications											
Input voltage	220,230,240 1F+N+PE			380, 400, 415 3F+N+PE (o 220, 230, 240 1F)				380, 400, 415 3F+N+PE			
Input frequency	45-65 Hz (43.0 ÷ 68.4 Hz)										
Input voltage range	230V +15%/-20%			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	220,230,240 1F+N+PE			380, 400, 415 3F+N+PE (o 220, 230, 240 1F)				380, 400, 415 3F+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%										
Overload Capacity	120% continuous, 10 minutes at 135%, 60 seconds at 150%										
Bypass	Automatic bypass (static and electromechanical) and manual maintenance bypass										
Batteries											
Battery Module	Plug & play										
Battery Series Type/Voltage	Long Life										
Autonomy	1h (settable as needed)										
Battery Charger	80% autonomy in 12h - Smart Charge technology. 3-stage advanced cycle										
Communication and management											
Display and Signals	4 20-character rows, 4 menu navigation buttons, multi-colour LED status indicator, alarms and acoustic signals										
Communication Ports	2 RS232 serial ports, 1 logic level port, 5 clean contact ports, 1 interface slot										
Back feed protection	NC/NO auxiliary contact										
Emergency Power Off (EPO)	Yes										
Remote management	Available										
Mechanical characteristics											
Dimensions H x L x D	1370x 414x 628	1650x 414x 628	1370x 414x 628	1650x 414x 628	1650x 414x 628	1370x 414x 628	1370x 414x 628	1370x 414x 628	1370x 414x 628	1650x 414x 628	
Net weight kg	202.5	265.5	327.5	273.5	344.5	115	136	134	158.5	222	
Battery cabinet dimensions (H x L x D)	-	-	-	1370x 414x 628	1650x 414x 628	600x 800x 1635	600x 800x 1635	600x 800x 1635	600x 800x 1635	600x 800x 1635	
Battery cabinet net weight kg	-	-	-	257	375	790	710	790	790	790	
Installable Battery Drawers	8	12	16	-	-	-	-	-	-	-	
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)	58-62										
Conformity											
Certifications	EN 62040-1, EN 62040-2, EN 62040-3, EN 50171										
Services											
Installation	User executable, modular architecture with "plug & play" power modules and batteries										
Maintenance	Availability of optional services provided by the manufacturer										
Ease of Management	Advanced diagnostic functions via the touch screen display										

* Standard configurations with 3-3 distribution (multi IN/OUT settings available upon 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 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 all UPS 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



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 UPS, 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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