



# Keor DK

SINGLE-PHASE UPS  
from 1 to 20 kVA



#legrandImprovingLives

 **legrand**<sup>®</sup>

# SUSTAINABILITY

## CORPORATE SOCIAL RESPONSIBILITY

Green management and sustainable supply chain: these concepts are part of Legrand's Corporate Social Responsibility, which is the company's commitment to drawing up a strategy and implementing it with practical actions aimed at socially responsible behaviour towards everything around it, such as people, things and environment.

CSR involves the management of human resources, the organisation and division of labour and the management of natural resources. CSR aims to assess the impact that the company's actions and decisions have internally, but also externally, on the stakeholders and the environment.

### BUSINESS ECOSYSTEM

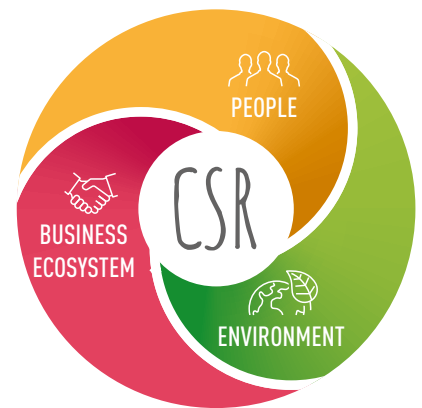
or how Legrand interacts ethically with the whole ecosystem of its activities.

### PEOPLE

or how Legrand engages with all of its employees and stakeholders.

### ENVIRONMENT

or how Legrand intends to limit the Group's environmental impact.



## CIRCULAR ECONOMY

We are committed to creating a system that involves all stakeholders to share values, objectives and actions in order to control and reduce the environmental impact of all our economic and production processes, reduce waste and environmental impact and transform what would once have been defined as «waste» into new resources.

Controlling these aspects has an impact on the entire life cycle of the product, starting from the design of new concepts and new specifications for the materials the UPS is made of; this is possible through responsible design and procurement processes (so-called «green procurement»), with a strong focus on research and the use of innovative materials from the circular economy and alternative raw materials. When a product ends its life, all these materials can become high value-added resources that can be used in other production cycles.



## DIGITALISATION

Many of our documents are now available in a digital format to view on a PC or smartphone, not only making them always accessible but also reducing the amount of paper we use.

Digitalisation also becomes an important driver of the circular economy, since it allows the use of tools for performance data analysis and preventive diagnostics, both useful for optimising the life cycle and durability of the product.

## EFFICIENCY

Our R&D team is constantly working on the development of increasingly efficient UPSs that allow high and incremental performance with minimum energy dissipation; with regard to CO<sub>2</sub> emissions, we are implementing processes and products that represent an improvement in the percentage of carbon footprint compared to the past.

But efficiency is not only synonymous with high performance.

For us, efficiency also means ecodesign: this implies that the UPS is designed to be easily repaired, maintained and it's easy to separate its components.

This means increasing the durability of our UPSs and the possibility of reusing and recycling them at the end of their life.



## EPD/PEP

For each product family we draw up an EPD (Environmental Product Declaration) or PEP (Profil Environnemental Produit) in line with ISO 14025: it is a declaration that is a sort of environmental photograph of the product.

The EPD is drawn up according to the concept of Life Cycle Assessment: it examines the environmental impact of a product throughout its life cycle, from the development of product specifications to the choice of materials to be used and the end-of-life destination of the product itself.

UPservice contains the full documentation of UPS products in digital format. This tool allows to reduce the use of paper documents in favour of the digital format for the benefit of a lower environmental impact. Visit our website **ups.legrand.com** to download the app.



# Keor DK

# NEXT-GEN UPS FOR YOUR POWER CONTINUITY



Keor DK is a next-generation single-phase uninterruptible power supply (UPS) featuring high-frequency PWM technology and online double conversion. It delivers a rated power from 1 to 20 kVA and is available with VRLA or lithium batteries. Designed for critical applications, Keor DK ensures maximum reliability and performance continuity.



## ENERGY SAVING

Unity power factor ( $KVA=KW$ ) guarantees maximum real power. Keor DK achieves an efficiency up to 96% thanks to advanced AC-AC technology, reducing operational costs and environmental impact.



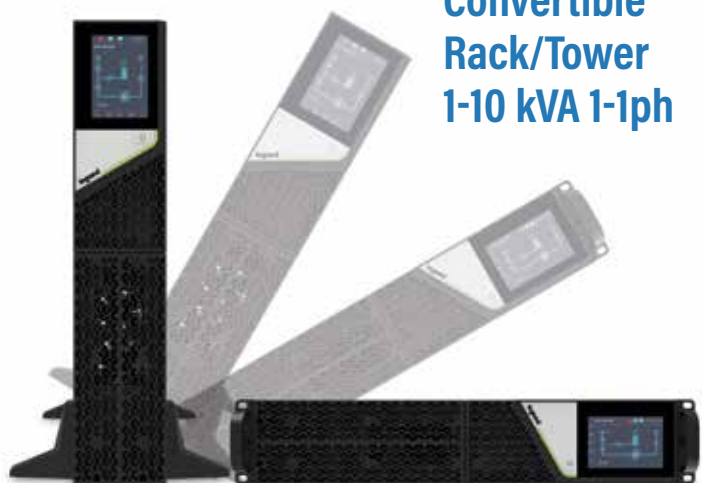
## TOUCH SCREEN LCD

Easy-to-use control panel with intuitive LED status bar and interactive icons for quick navigation. Built-in gravity sensor for automatic screen rotation based on UPS orientation.





**Convertible  
Rack/Tower  
1-10 kVA 1-1ph**



**19-inch rack  
10-20 kVA  
3-1, 3-3, 1-1ph**



## CONVERTIBLE RACK/TOWER 1-10 kVA

### FEATURES

- Output power factor 1, kVA = KW
- Touch screen display with gravity sensor
- AC/AC efficiency up to 96%
- ECO Mode efficiency up to 98%
- 1-10kVA 2U design
- Parallel capability ( $\geq 5\text{kVA}$ )
- Lithium ready
- Lower depth solution for 600mm depth rack cabinet
- High internal charger solution up to 8A to achieve longer runtimes
- EPO, ROO, embedded relay contact
- Genset compatible



### CONVERTIBLE SINGLE PHASE UPS

Online double conversion UPS that can be used in both tower and rack 19" configurations. It delivers a rated power up to 10kVA equipped with VRLA or lithium batteries, contained in a specific compartment inside the UPS or in one or more external cabinets.

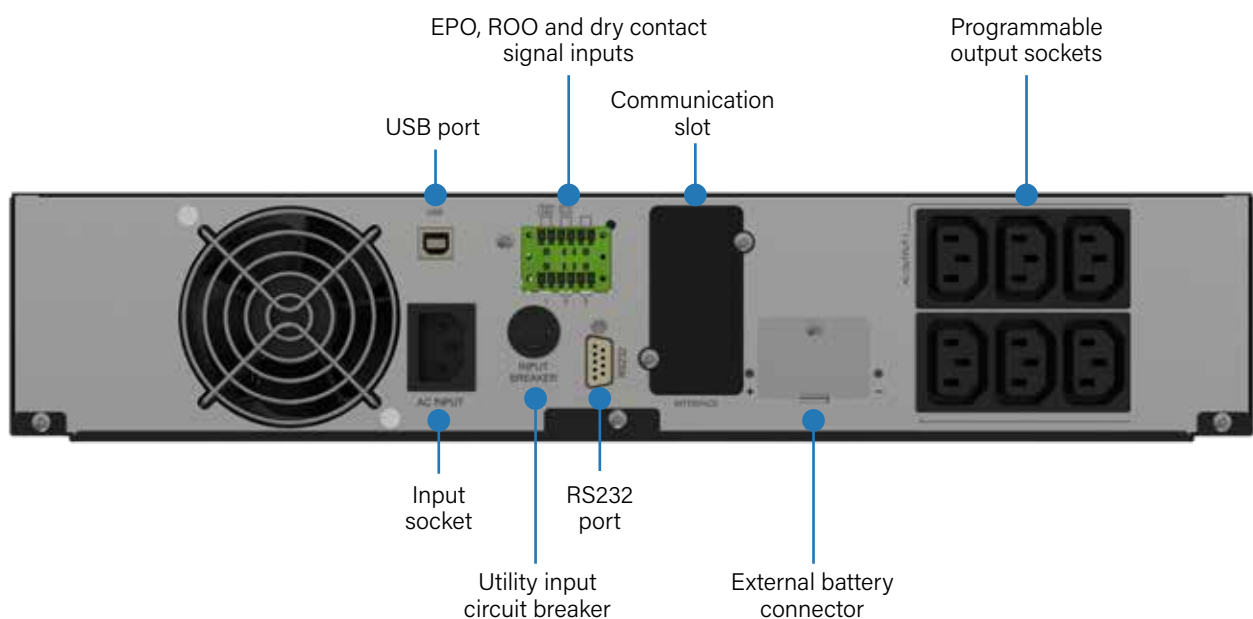


### PERFORMANCE AND AVAILABILITY

Keor DK offers best-in-class efficiency of up to 96% across a wide range of load conditions, resulting in significant OPEX cost saving. With Advanced Eco Mode function, it provides a superlative efficiency of up to 98%.



### REAR SIDE VIEW



# RACK 10-20 kVA

## FEATURES

- Output power factor 1, kVA = KW
- 4.3-inch touch screen display
- 3-1, 3-3, 1-1 mode
- AC/AC efficiency up to 96%
- Parallel capability
- Lithium ready
- Genset compatible
- Anti-corrosion resistant coating
- External UPS input and output distribution box with backfeed contactor



### RACK UPS SYSTEM

Online double conversion UPS that can be used in 19" rack configuration. It delivers a rated power of 10-15-20kVA equipped with VRLA or lithium batteries, contained in external cabinet.

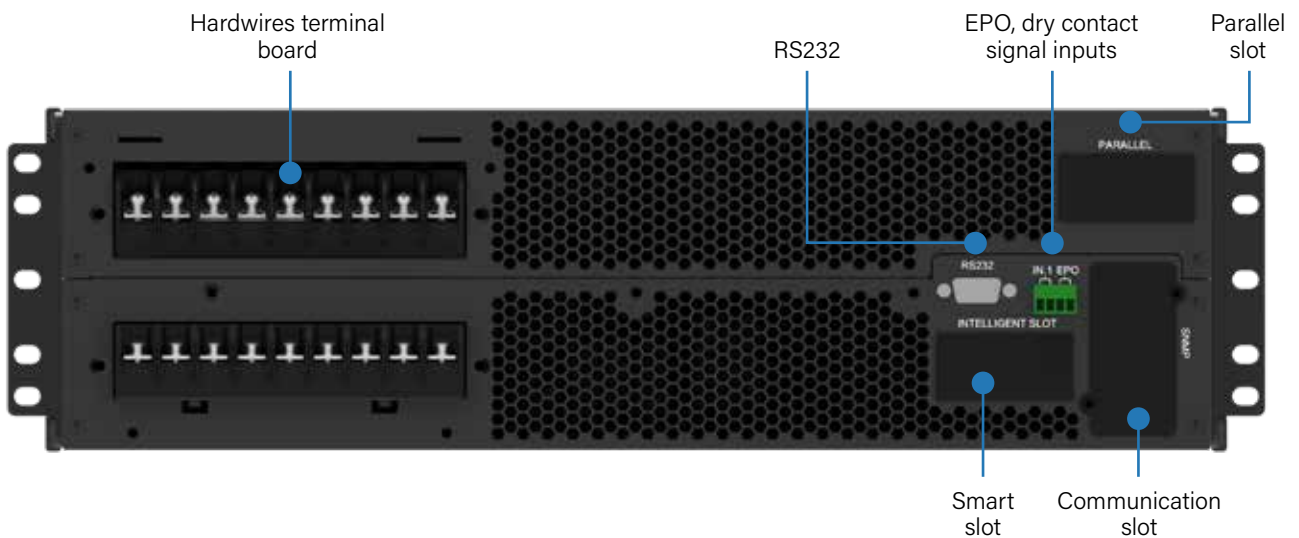


### VERSATILE CONNECTION

The UPS input and output wiring can be connected as 3 phase or 1 phase according to load demands. In addition, utility input and bypass input can be connected as single source or dual source.



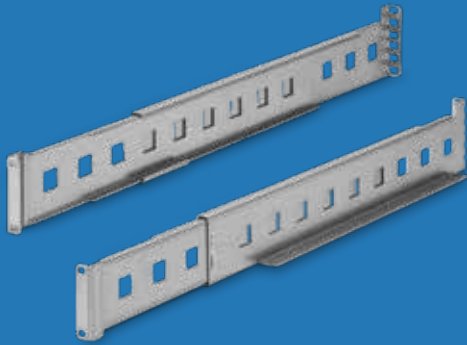
## REAR SIDE VIEW



## ACCESSORIES

### RACK SUPPORT BRACKET KIT

For installing equipment with a 19" rack-mounting rail kit.



### DRY CONTACT CARD

Allows to have a series of normally open or normally closed clean contacts (voltage-free) to indicate UPS operations.



### DISTRIBUTION BOX

Additional rackmount distribution box with integrated In/Out/Maintenance Bypass switches and backfeed contactor.



### EXTERNAL MANUAL BYPASS

Ensures uninterrupted operation of the critical load during maintenance and testing or in the event of a UPS failure.



### EXTERNAL CHARGER

Designed to reduce the charging time of battery banks connected to the UPS.



# Keor DK

## UPS - Online double conversion VFI



3 113 40



3 113 53

### General Features

- Power factor correction PFC (input PF>0.99)
- Easy-to-use touch screen display up to 4.3"
- Wide range of input voltages and frequencies
- Cold start
- Built-in backfeed protection
- Intelligent communication ports and SNMP management capability
- Parallel operation of up to 4 units\*
- Integrated battery for standard autonomy
- Hot-swap batteries

Item	Convertible UPS with internal batteries German Standard input plug		
	Nominal power (VA)	Active power (W)	Backup time (min)
3 113 40	1000	1000	6
3 113 41	2000	2000	6
3 113 42	3000	3000	5

Item	Convertible UPS with internal batteries British Standard input plug		
	Nominal power (VA)	Active power (W)	Backup time (min)
3 113 34	1000	1000	6
3 113 35	2000	2000	6
3 113 36	3000	3000	5

Item	Convertible UPS for 600mm-deep rack cabinet German Standard input plug		
	Nominal power (VA)	Active power (W)	Backup time (min)
3 113 43	2000	2000	6
3 113 44	3000	3000	5

Item	Convertible UPS with 8A charger w/o battery British Standard input plug		
	Nominal power (VA)	Active power (W)	Backup time (min)
3 113 37	1000	1000	-
3 113 38	2000	2000	-
3 113 39	3000	3000	-

Item	Convertible UPS with 8A charger w/o battery German Standard input plug		
	Nominal power (VA)	Active power (W)	Backup time (min)
3 113 45	1000	1000	-
3 113 46	2000	2000	-
3 113 47	3000	3000	-

Item	Battery cabinet (with VRLA batteries)*
	Description
3 113 60	Battery cabinet for 1 kVA
3 113 61	Battery cabinet for 2 kVA
3 113 62	Battery cabinet for 3 kVA
3 113 63	Battery cabinet for 5-6 kVA
3 113 64	Battery cabinet for 10 kVA
3 113 65	Battery cabinet for 10-20 kVA 19" rack

Item	Convertible UPS with internal batteries Hard-wired		
	Nominal power (VA)	Active power (W)	Backup time (min)
3 113 48	5000	5000	6
3 113 49	6000	6000	4

Item	Battery cabinet (without VRLA batteries)
	Description
3 113 66	Battery cabinet for 1 kVA
3 113 67	Battery cabinet for 2 kVA
3 113 68	Battery cabinet for 3 kVA
3 113 69	Battery cabinet for 5-6 kVA
3 113 70	Battery cabinet for 10 kVA
3 113 71	Battery cabinet for 10-20 kVA 19" rack

Item	Convertible UPS without internal batteries Hard-wired		
	Nominal power (VA)	Active power (W)	Phase configuration
3 113 50	5000	5000	1/1
3 113 51	6000	6000	1/1
3 113 52	10000	10000	1/1

Item	Accessories
	Description
3 109 52	Rack support bracket kit
3 109 53	External manual Bypass for 1-3 kVA
3 109 63	External manual Bypass for 5-10 kVA
3 113 79	Additional external charger for 1-3 kVA
3 113 80	Additional charger for 5-10 kVA
3 113 73	Dry contact card for 1-10 kVA
3 113 75	Parallel kits 5-10 kVA
3 113 74	Additional distribution box for 10-20 kVA
3 113 76	Dry contact card for 10-20 kVA
3 113 77	BMS card for 10-20 kVA
3 113 78	Parallel kits for 10-20 kVA

Item	Rack UPS without batteries Hard-wired		
	Nominal power (VA)	Active power (W)	Phase configuration
3 113 53	10000	10000	3-1, 3-3, 1-1
3 113 54	15000	15000	3-1, 3-3, 1-1
3 113 55	20000	20000	3-1, 3-3, 1-1

NOTE: The stated back-up times in minutes are estimated and may vary according to the load characteristics, operating conditions and environment.  
\* In the case of parallel configurations or solutions with Lithium batteries, please contact your Service representative for a feasibility evaluation.

### Characteristics

General specifications	Item Codes					
	3 113 40 3 113 34	3 113 45 3 113 37	3 113 41 3 113 43 3 113 35	3 113 38 3 113 46	3 113 42 3 113 44 3 113 36	3 113 39 3 113 47
Nominal power (VA)	1000		2000		3000	
Active power (W)	1000		2000		3000	
Technology	On-line double conversion VFI-SS-11					
Waveform	Sinusoidal					
Architecture	Convertible tower and 19" rack					
<b>Input characteristics</b>						
Input voltage	230 V					
Input frequency	50/60 Hz $\pm$ 5% autosensing					
Input voltage range at full load	176 V - 280 V					
THD of input current	< 5%					
Input power factor	> 0.99					
<b>Output characteristics</b>						
Output voltage	230 V $\pm$ 1%					
Output frequency (nominal)	50/60 Hz (configurable via LCD panel) $\pm$ 0.1%					
Efficiency	up to 92%		up to 93%			
Peak factor	3:1					
THD of output voltage	< 3% with linear load					
Output voltage tolerance	$\pm$ 1%					
Internal automatic bypass	included					
External maintenance bypass	optional					
<b>Batteries</b>						
Backup time extension	Yes					
Internal Backup time (min)	6	-	6	-	5	-
Charging current	2A	8A	2A	8A	2A	8A
<b>Communication and management</b>						
Screen and signalling	3.5" touch screen display with LED status bar					
Communication ports	ROO, USB, RS232					
Remote control	Available					
Connector for network interface	SNMP					
Back feed protection	Yes					
Emergency power off (EPO)	Yes					
Dry contacts	Yes, embedded					
Parallel mode	n.a.					
<b>Mechanical characteristics</b>						
Dimensions (W x H x D) (mm)	440 x 88 (2U) x 454		440 x 88 (2U) x 640 440 x 132 (3U) x 500*			
Net weight (kg)	15	10	24	13	27	15
Dimensions of battery cabinet (W x H x D) (mm)	440 x 88 (2U) x 583					
<b>Ambient conditions</b>						
Operating temperature ( $^{\circ}$ C)	0 - 40 $^{\circ}$ C					
Protection index	IP20					
Relative humidity (%)	< 95% non condensing					
Noise at 1 m (dBA)	< 50					
<b>Certifications</b>						
Reference product standards	EN 62040-1, EN 62040-2, EN 62040-3					

\*UPS dimensions for 3 113 43- 3 113 44

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

### Characteristics

General specifications	Item Codes							
	3 113 48	3 113 49	3 113 50	3 113 51	3 113 52	3 113 53	3 113 54	3 113 55
Nominal power (VA)	5000	6000	5000	6000	10000	10000	15000	20000
Active power (W)	5000	6000	5000	6000	10000	10000	15000	20000
Technology	On-line double conversion VFI-SS-11							
Waveform	Sinusoidal							
Architecture	Convertible tower and 19" rack					19" rack		
<b>Input characteristics</b>								
Input voltage	1ph 230V				1ph 230V; 3ph 400V			
Input frequency	50/60 Hz ± 5% autosensing							
Input voltage range at full load	176V - 280V				176V - 280V (1ph) 305V - 485V (3ph)			
THD of input current	< 5%				<3%			
Input power factor	> 0.99							
<b>Output characteristics</b>								
Output voltage	230V ± 1%				230V/400V± 1%			
Output frequency (nominal)	50/60 Hz (configurable via LCD panel) +/- 0.1%							
Efficiency	up to 96%							
Peak factor	3:1							
THD of output voltage	< 3% with linear load				<2% with linear load			
Output voltage tolerance	± 1%							
Internal automatic bypass	included							
External maintenance bypass	optional							
<b>Batteries</b>								
Backup time extension	Yes							
Backup time (min)	6	4						-
<b>Communication and management</b>								
Screen and signalling	3.5" touch screen display with LED status bar				4.3" touch screen display with LED status bar			
Communication ports	ROO, USB, RS232				RS232, BMS			
Remote control	Available							
Connector for network interface	SNMP							
Back feed protection	Yes							
Emergency power off (EPO)	Yes							
Dry contacts	Yes, embedded							
Parallel mode	Yes							
<b>Mechanical characteristics</b>								
Dimensions (W x H x D) (mm)	440 x 176 (4U) x 700		440 x 88 (2U) x 700			440 x 132 (3U) x 535		
Net weight (kg)	54		16	18	20			
Dimensions of battery cabinet (W x H x D) (mm)	440 x 88 (2U) x 680			440 x 132 (3U) x 700	440 x 132 (3U) x 570			
<b>Ambient conditions</b>								
Operating temperature (°C)	0 - 40°C							
Protection index	IP20							
Relative humidity (%)	< 95% non condensing							
Noise at 1 m (dBA)	< 50				≤55			
<b>Certifications</b>								
Reference product standards	EN 62040-1, EN 62040-2, EN 62040-3							

\*UPS dimensions for 3 113 43- 3 113 44

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

# 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, FACTORY 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 Test (SAT) and Factory Acceptance Test (FAT) 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.

# NOTES

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