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KENJITSU

a power just feels right.....

P-FACTOR ONE

ON LINE **UPS**

UPS MODULAR
208/220V 20-140 kW
3-PHASE

V2012-REV2.10

P-FACTOR ONE

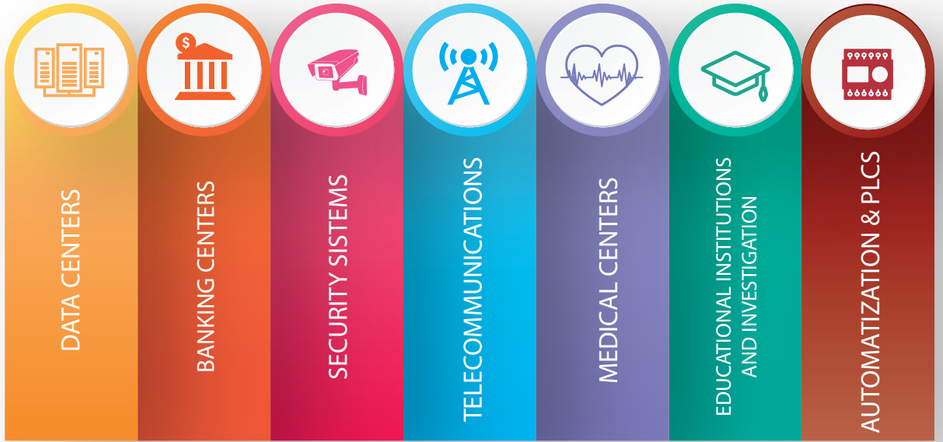
ON LINE UPS

The P-Factor One UPS guarantees a conditioned and pure power supply, regardless of the quality of power entering the input, it will result in a pure and regulated sine wave output for high protection on the connected critical loads. The modular three-phase UPS is available in two sizes; 30U rack cabinet in capacities from 20kVA expandable to 100kVA, and 42U rack cabinet in capacities from 20kVA expandable to 140kVA.

Its modular design allows both battery and power modules to be housed within the same cabinet, facilitating scalability and achieving the ideal balance between reliability, efficiency and high availability, without the need for additional physical space.

P-Factor One allows quick and easy maintenance through hot-swap technology in its power modules without having to take out operation the loads connected. Each 20kVA / 20kW power module implements efficient technology with the latest generation IGBTs at its input and output, providing an unitary power factor (kVA = kW), higher active power for critical loads and a high efficiency up to 92.5% than contributes to reducing the carbon footprint and optimizes the effectiveness of the use of energy.

APLICATIONS



THE IDEAL SOLUTION FOR CRITICAL LOADS

BENEFITS

Adaptable and expandable to different needs

UNITARY POWER FACTOR (KVA = KW)

Its unity power factor in output provides a maximum capacity of connected critical loads.

HIGH SCALABILITY UPS

Each Power Module implements parallel technology and DSP control, an improved solution that simplifies the power increase of future loads.

HIGH EFFICIENCY TECHNOLOGY

High performance online double conversion of up to 92.5% (100% load), significantly reduces the total cost of electricity demand.

SMART DESIGN

Modular design in Power, STS and Batteries; simplifying the maintenance and replacement of components and optimizing the total repair time.

PARALLEL REDUNDANCY N + 1 OR N + X. GUARANTEES ENERGY SUPPLY WITHOUT INTERRUPTION

Its scalable architecture allows to optimize costs and meet energy demand, through expansion by capacity or redundancy protection in a single cabinet.

QUICK INSTALLATION / EASY MAINTENANCE

Quick and easy installation thanks to its front control panel and communication ports. It incorporates maintenance bypass that guarantees power supply to critical loads during UPS maintenance.

F.P 1.0

ADJUSTABLE BATTERY CONFIGURATION FOR DIFFERENT APPLICATIONS

The number of battery modules can be adjusted for different power demands and backup times.

REDUNDANT POWER SUPPLY "DUAL INPUT"

The STS module has a Dual Input function that allows a second power supply source to the input of the UPS providing greater security against power losses.

FAST CHARGE OF BATTERIES

Adjustable current through display from 1 to 6A for each Power Module.

HIGH OVERLOAD CAPACITY

Supports 110% overload for 60 minutes, 125% overload for 10 minutes, and 150% overload for 1 minute.

COLOR TOUCH SCREEN

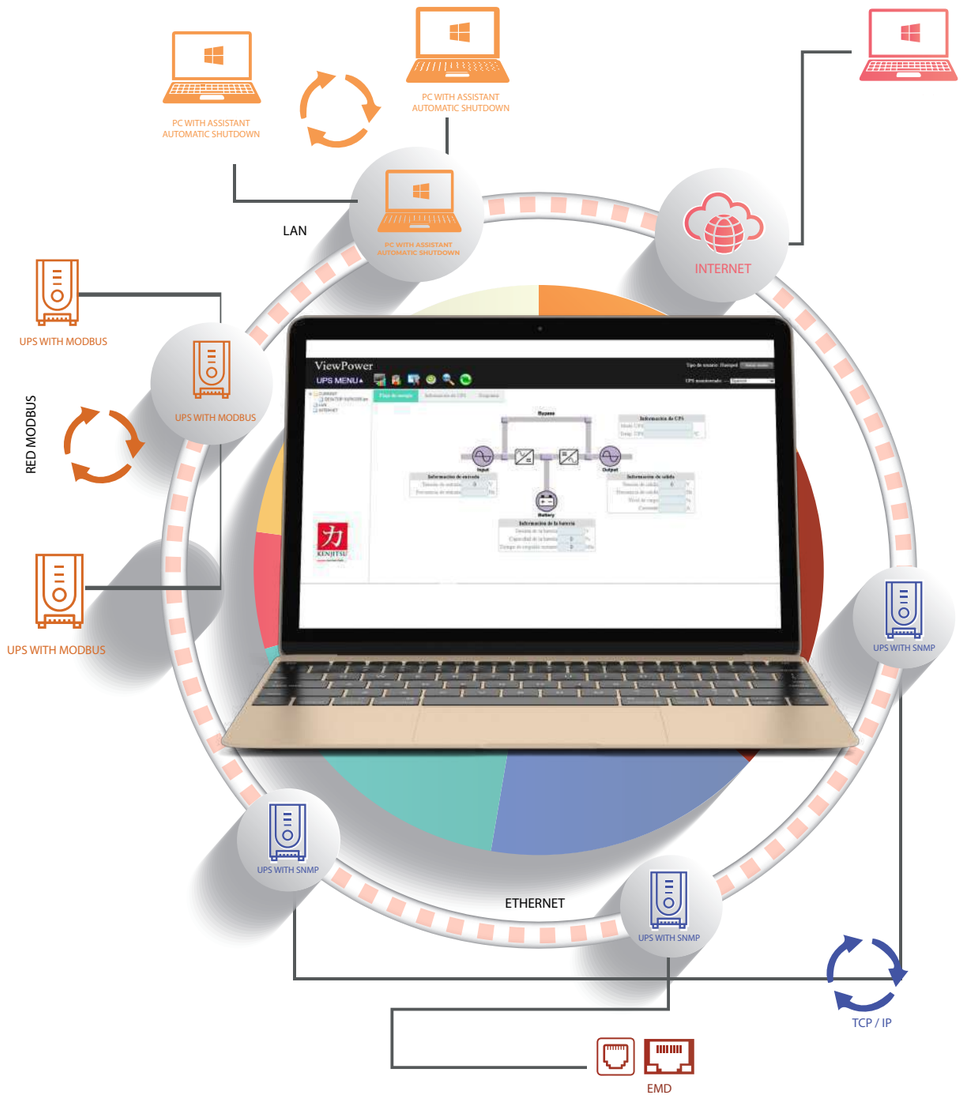
Intuitive graphical interface that facilitates operation and improves the legibility of the UPS.

24/7 LOCAL OR REMOTE MONITORING AND INTEGRAL CONTROL

The intelligent control and monitoring interface of the modular P-Factor One allows the user to navigate through intuitive and graphical menus, providing the required information at any time. Among some of the available functions:

- Dynamic graphs in real time of the operating status of the UPS (voltage, frequency, charge level, battery level, etc.).
- Remote control of UPS On/Off, maintenance scheduling, battery self-test, electrical data analysis and event history.
- Communication ports USB, RS232, RJ45, dry contacts and smart slot (SNMP card, Modbus, AS400, WiFi card).
- Maximum security against unauthorized access using securely encrypted protocols SNMP version3 (optional accesory).

SNMP-PF1/PF133M



- Supports monitoring through ViewPower mobile APP through Kenjitsu WiFi Smart Card (optional accesory).

WiFi-PF1

- Supports multiple languages: English, Spanish, French, German, Russian, Portuguese, Ukrainian, Italian, Polish, Czech, Turkish, and Chinese.
- Secure shutdown function for operating systems, provides protection against data loss during a power failure.

AVAILABLE SOLUTIONS IN CABINETS

01 20kW capacity scalable up to 60kW, with option of internal and / or external battery bank. 30U cabinet size.

02 20kW capacity scalable up to 80kW, with option of internal and / or external battery bank. 42U cabinet size.

BACKUP TIME FOR CABINETS WITH INTERNAL BATTERIES

Cabinet	Internal batteries	Load (kW)														
		10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
PF133M240DC-3060PBC / PF133M240DC-4280PBC	2 Strings: (Battery Pack x 4)	9.40	5.00	4.00												
	4 Strings: (Battery Pack x 8)	23.60	14.30	9.40	6.70	5.20	4.50	4.00								
	6 Strings: (Battery Pack x 12)	38.00	23.60	16.80	12.30	9.40	7.50	6.00	5.40	4.80	4.30	3.80				
	8 Strings: (Battery Pack x 16)	56.80	31.40	23.80	18.40	14.40	11.60	9.60	8.20	7.30	6.20	5.20	4.80	4.00	3.50	3.00
		20kW PowerModule * 1			20kW PowerModule * 2				20kW PowerModule * 3				20kW PowerModule * 4			

Backup time (min)

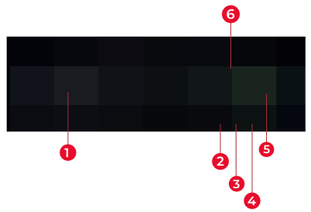
03 20kW capacity scalable up to 100kW + 1 redundant module. Require an external battery bank. 30U cabinet size

04 20kW capacity scalable up to 140kW + 1 redundant module. Require an external battery bank. 42U cabinet size

COMPONENTS AND STRUCTURE

STS MODULE

1. Extra Communication Slot
2. LCD connection port
3. Communication port RS232
4. Communication port USB
5. Intelligent Slot (SNMP, AS400, Modbus, WiFi card)
6. Dry contact ports



20KW POWER MODULE

7. Fan
8. Hot-swap switch
9. DIP switches
10. Cold start button
11. FAULT LED indicator
12. UPS RUN LED indicator

BATTERY PACK

13. Battery Pack: Contains 10 batteries 12V / 9AH

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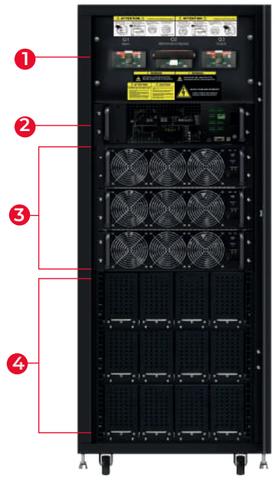
P-FACTOR ONE
ON LINE UPS

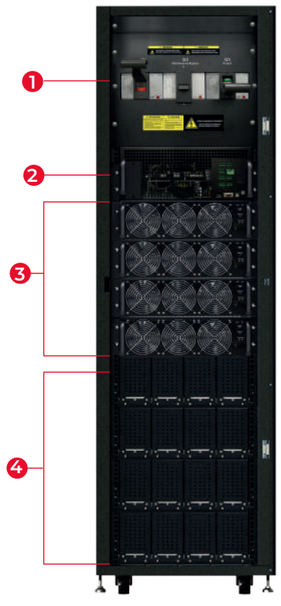
SPECIFICATIONS - CABINET WITH INTERNAL BATTERIES, 20 - 80kW (208 / 220V)

MODEL	PF133M240DC-3060PBC	PF133M240DC-4280PBC
Capacity	20, 40, 60 kVA/kW	20, 40, 60,80 kVA/kW
Maximum cabinet capacity	60kW	80kW
Power Modules [PF133M240DC-20K]	3 max.	4 max.
Topology	Online Double conversion (hot-swap)	
INPUT		
Nominal voltage	208/220VAC (3 phase, N + GND)	
Voltage range	(121 ~ 253)VAC, between phases (70 ~ 146)VAC, phase to neutral	
Frequency range	(40 ~ 70)Hz	
Power factor	≥ 0.99	
Total Harmonic Distortion (THDi)	< 3%	
OUTPUT		
Output voltage	208/120, 220/127 VAC (3 phase, N + GND)	
Voltage regulation	± 1%	
Frequency	50/60 Hz	
Power factor	1.0	
Crest factor	3:1	
Total Harmonic Distortion (THDv)	≤ 2%	
Tranfer time; LINE - BAT Mode	Zero	
Waveform	Pure sine wave	
Overload capacity	105% ~ 110%: 60min ; 110% ~ 125%: 10min ; 126% ~ 150%: 1min ; >150% : 200ms	
Efficiency	92.5%	
BATTERY SPECIFICATION		
Battery Type	Lead Acid Batteries (VRLA), maintenance free	
Battery Pack (PF133M240DC-1X10BT)	12 max.	16 max.
Nominal Voltage	±120VDC (12V9AH x 20pcs)	
Charger current	1 ~ 6A for each power module (LCD adjustable)	
UPS PHYSICAL SPECIFICATION		
Dimensions; Width x Depth x Height	(600 x 1100 x 1475) mm (23.62 x 43.30 x 58.07) in	(600 x 1100 x 2010) mm (23.62 x 43.30 x 79.13) in
Cabinet Weight	265 Kg / 584.22 lb	344 Kg / 758.39 lb
ENVIROMENT		
IP protection	IP20	
Relative Humidity	0 ~ 95% non condensation	
Operating Temperature	0 ~ 40°C (32 ~ 104°F)	
Altitude	1000 ~ 2000 m / 3280.84 ~ 6561.68 ft	
Noise level	<73 dB	
MANAGEMENT		
Communication ports	RS232, USB, Dry contacts, Intelligent Slot (SNMPv3, AS400, Modbus, WiFi) optional	
SNMP card (optional)	Management and control with SNMPv3 card and web browser	
STANDARDS		
Safety	Compliance with UL1778, CSA C22.2 No. 107.3-14	
EMC	FCC Part 15, subpart B Class A	

MODULE	DESCRIPTION	DIMENSIONS (Width * Depth * Height)	WEIGTH
 PF133M240DC-20K	Power Module 20kVA/20kW	(440 x 650 x 132) mm (17.32 x 25.59 x 5.19) in	34.5 Kg 76.05 lb
 PF133M240DC-1X10BT	Battery Pack 9AH/12V * 10pcs	(107 x 735 x 155) mm (4.21 x 28.93 x 6.10) in	30 Kg (with batteries) 66.13 lb (with batteries)

COMPLIANCE WITH UL1778





1. Switch unit
2. STS module includes Communication ports
3. Power Modules 20KVA/20KW
4. Battery Pack

SPECIFICATIONS - POWER CABINET, 20- 140kW (208/220 V)

MODEL	PF133M240DC-30100PC	PF133M240DC-42140PC
Capacity	20, 40, 60, 80, 100 kVA/kW	20, 40, 60, 80, 100, 120, 140 kVA/kW
Maximum cabinet capacity	100kW + 1 redundant	140kW + 1 redundant
Power Modules [PF133M240DC-20K]	5 + 1 redundant	7 + 1 redundant
Topology	Online Double conversion (hot-swap)	
INPUT		
Nominal voltage	208/220VAC (3 phase, N + Gnd)	
Voltage range	(121 ~ 253)VAC, between phases (70 ~ 146)VAC, phase to neutral	
Frequency range	(40 ~ 70)Hz	
Power factor	≥ 0.99	
Total Harmonic Distortion (THDi)	< 3%	
OUTPUT		
Output voltage	208/120, 220/127 VAC (3 phase, N + Gnd)	
Voltage regulation	± 1%	
Frequency	50/60 Hz	
Power factor	1.0	
Crest factor	3:1	
Total Harmonic Distortion (THDv)	≤ 2%	
Tranfer time; LINE - BAT Mode	Zero	
Waveform	Pure sine wave	
Overload capacity	105% ~ 110%: 60min; 110% ~ 125%: 10min; 126% ~ 150%: 1min; >150%: 200ms	
Efficiency	92.5%	
BATTERY SPECIFICATION		
Battery Type	Lead Acid Batteries (VRLA), maintenance free	
Batteries	External bank	
Charger current	1 ~ 6A by power module, adjustable via LCD	
Nominal voltage	±120VCD	
UPS PHYSICAL SPECIFICATION		
Dimensions; Width x Depth x Height	(600 x 1100 x 1475) mm (23.62 x 43.30 x 58.07) in	(600 x 1100 x 2010) mm (23.62 x 43.30 x 79.13) in
Cabinet Weight	245 Kg / 540.13 lb	320 Kg / 705.47 lb
ENVIROMENT		
IP protection	IP20	
Relative Humidity	0 ~ 95% non condensation	
Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)	
Altitude	1000 ~ 2000m / 3280.84 ~ 6561.68 ft	
Noise level	<73dB	
MANAGEMENT		
Communication ports	RS232, USB, Dry contacts, Intelligent Slot (SNMPv3, AS400, Modbus, WiFi) optional	
SNMP card (optional)	Management and control with SNMPv3 card and web browser	
STANDARDS		
Safety	Compliance with UL1778, CSA C22.2 No. 107.3-14	
EMC	FCC Part 15, subpart B Class A	

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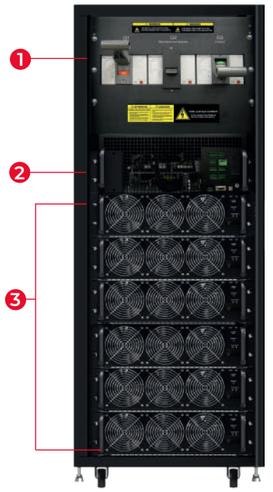
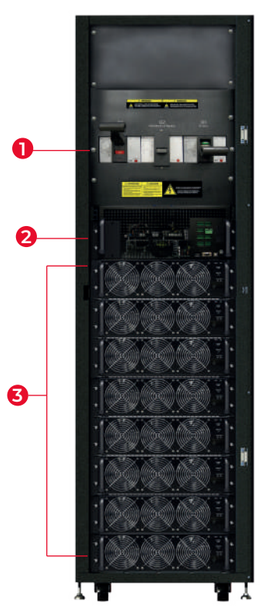
 PF133M240DC-20K	Power Module 20kVA/20kW	(440 x 650 x 132) mm (17.32 x 25.59 x 5.19) in	34.5 Kg 76.05 lb

COMPLIANCE WITH UL1778





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