

Industrial UPS_33



PESS[®] Industrial UPS_33

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The PESS Industrial UPS_33 series provides maximum reliability and optimized use of resources, making it the best solution for critical power requirements.

INTRODUCTION

PESS Industrial UPS_33, UPS_31 or UPS_11 has established a leading position in the critical power industry with its unique combination of industrial experience and first-class technology.

PESS Industrial UPS_33, UPS_31 or UPS_11 UPS series was designed for use in the severe electrical and physical conditions commonly found in industrial environments, and can be fully customized to specific technical requirements.

KEY FEATURES

- ◆ Advanced rectifier design
- ◆ Power Module type design
- ◆ Easy maintenance thanks to module design
- ◆ High speed DSP control
- ◆ Full galvanic isolation at the output
- ◆ Outstanding electrical performance
- ◆ Advanced MODBUS RS485 communications
- ◆ User friendly 4*20 LCD display
- ◆ User friendly navigation bar
- ◆ Displayed battery remaining time
- ◆ Last 1000 event history

OPTIONAL FEATURES

- ◆ Galvanic isolation on bypass, input or both
- ◆ Static or Variac type Stabilizer on bypass
- ◆ Customized distribution box according to user requirements
- ◆ Advanced SNMP/MODBUS TCP/IEC61850 communications
- ◆ Battery management function
- ◆ Parallel structure in one power module at low power ratings
- ◆ Parallel modules to get high power apps



BENEFITS

FULL DIGITAL CONTROL

All PESS power converters (SCR or IGBT converter) and system static switches are controlled by an industrial-grade CPU for excellent reliability.

4*20 LCD SCREEN + LED INDICATORS

Traditional HMI, easy to read and confirm equipment operating status, convenient for daily management and general maintenance. The operating system can be used to view all input, output, load, and battery parameters, as well as UPS status and alarms.

VARIOUS BATTERY OPTIONS

Different battery voltages and options are provided for different battery management systems, including Ni-Cd and Lead-acid batteries.

FULL FRONT ACCESS

All main components (including rectifier, inverter and fans) can be removed from the front or top of the unit, making it possible to install the UPS against a wall – ideal for applications with limited space on site.

BENEFITS

MODULAR DESIGN

PESS UPS_33, UPS_31 or UPS_11 series come forward with their modular structure. PESS design any power converter control circuit in one box.

WHITE PAPER

All PESS products have a White paper which explains how customer to produce their own power cabinet using PESS power electronic control modules.

CUSTOMIZABLE DESIGN

Thanks to modular design, PESS UPS rectifier side is customizable to prefer 12 pulse rectifier or IGBT rectifier. And bypass side is also customizable to add static or variac type regulator.

DOCUMENTS

Special documentation for customized products can be provided, including white papers, wiring diagrams, material lists and individual FAT test reports.

PESS Industrial UPS_33 Series Technical Specifications

kVA Rating		5/10/15/20/30/40/50/60/80/100
Input characteristics (rectifier)		
Rectifier	6/12-pulse SCR rectifier or IGBT rectifier	
Rated input voltage	380/400/415VAC, 4-wire (A, B, C, PE)	
Rated operating frequency	50Hz/60Hz	
Input voltage range	-20%~+ 15%	
Input frequency range	-10%~+ 10%	
Input power factor	up to 0.95 (SCR) up to 0.99 (IGBT)	
DC characteristics		
Blocking Diode (Optional)	Inside UPS Cubicle	
DC switch	Inside UPS Cubicle	
Nominal voltage	110/144/220/360VDC (or customizable voltage level)	
Battery type	Lead acid, nickel cadmium	
Output Characteristics (Inverter)		
Inverter output voltage	Single-phase 110/220VAC (5-60kVA) / three-phase 380/400/415VAC (10-100kVA)	
Output power factor	0.8	
Voltage stability	Steady state	<± 1%
	Transient (0-100%)	<±10%
Transient response time	(20-150) ms	
Inverter overload capacity	110%: 10 minutes, 125%: 2 minutes, 150%: 10 seconds	
THDv	100% linear load	3%
	100% non-linear load	8%
Efficiency	up to 90% (depends on power rating)	
Bypass		
Bypass input voltage	Single-phase 110/220VAC/ three-phase 380/400/415VAC	
Bypass voltage range	-10%~+ 10%	
Maintenance bypass switch	Make before break maintenance switch	
Static switch		
Frequency	50Hz/60Hz	
Frequency synchronization	± 5% Hz	
Overload capacity	1000% 100ms	
System		
Noise	53~70dB	
Ingress Protection	IP20 up to IP42	
Color	RAL7035 (other colors according to customer requirements)	
Cable entry	Bottom (top cable entry as option)	
HMI	It can be download from webpage	
Communication interface	MODBUS RTU RS485 (SNMP, IEC61850, MODBUS TCP option)	
Free contacts	Programmable 8 dry contacts from HMI	
Operating environment		
Operating temperature range	0 to 50 °C (constant operation at full load at 40 °C)	
Relative humidity	0 to 95% without condensation	
Altitude	≤ 1000m; above 1000m, load is derated by 1% for every increase of 100m	

TYPICAL CONFIGURATIONS



Single phase output 30 kVA

System Configuration

Single UPS system:

In a single cabinet; PESS can design up to 30 kVA single phase UPS, up to 100 kVA three phase UPS.

Higher than these Power ratings, PESS design parallel working UPS.



Three phase output 2*100 kVA

Parallel UPS system:

For parallel working, PESS have different type configurations. One can be chosen as dual parallel UPS configuration with load sharing ability. Other can be chosen as parallel redundant configuration without load sharing ability. Last can be chosen modular parallel system with load sharing and redundancy together.



Three phase inverter module

Modular UPS:

PESS UPS_33 includes RECTIFIER power module and INVERTER power module as separate. RECTIFIER power module can be designed as 6 pulse / 12 pulse SCR rectifier or IGBT PWM rectifier.

PESS UPS_11 and UPS_31 RECTIFIER and INVERTER controls can be designed in one power module box at low power ratings.



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