



UPS 3Ph/1Ph for Industrial applications

Main Features

- ◆ Industrial layout
- ◆ Easy maintenance
- ◆ Front access
- ◆ LCD Multifunctional Control Panel
- ◆ Mimic Panel
- ◆ SCR 6 pulse Technology (Rectifier)
- ◆ IGBT Technology (PWM) (Inverter)
- ◆ Remote Signalization via SPDT contacts
- ◆ Temperature compensation of battery voltage

Technology: Double Conversion on-line
Power rating: 5kVA to 50kVA
Input: 400V 3Ph
Output: 230V 1Ph
Battery Volatge: 110Vdc/220Vdc

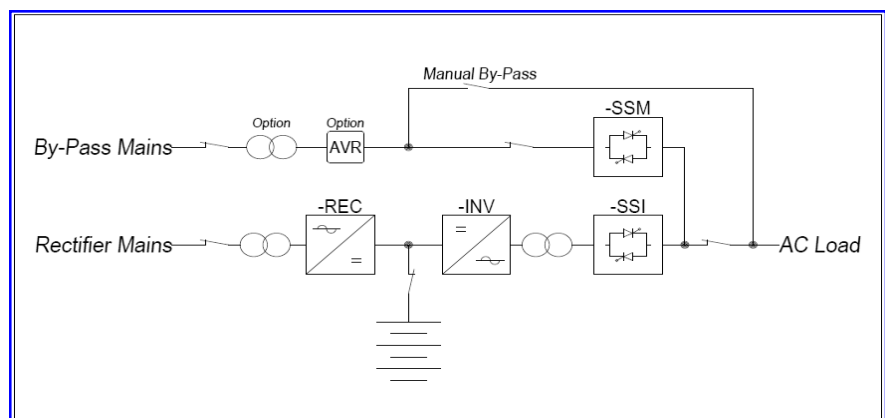


Main Options

- ◆ 12 Pulse rectifier
- ◆ AC & DC Distribution panel
- ◆ Internal lighting
- ◆ Internal heater
- ◆ Bypass line isolator transformer
- ◆ AC/AC voltage regulator
- ◆ 3Ph/Output
- ◆ Redundant ventilation
- ◆ Dual Parallel Operation
- ◆ Communication Port: USB or RS485 or Ethernet TCP/IP with MODBUS Protocol



System configuration example



Single Line Diagram

INDUSTRIAL UPS 3Ph/1Ph

Size (kVA) $\cos\phi=0.8$	5	10	15	20	25	5	10	15	20	30	40	50
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AC Input												
Rated Voltage Vac	380/400/415Vac +/-10% 3Ph 50/60Hz (other as option)											
PF	0,8 @ full load											
THD	≤ 30 % typ.											

AC Output												
Output Voltage Vac	230 Vac 1Ph 50/60Hz (other as option)											
By pass input voltage	230 Vac 1Ph +/-10% (other as option)											
Harmonic Distortion	<2 % with linear load <5% with non linear load											
Crest factor	3:1 without derating											
Overload	105% permanent - 125 % for 10 min. - 150 % for 1min. - 200 % for 100ms											
Static Stability	+/- 1%											
Dynamic Stability	+/-5 % (80% load step) with recovery to 2 % in 40ms											

DC Link												
DC Voltage	110Vdc (90 - 150 Vdc)						220Vdc (180 - 300)					
Battery voltage	Floating: 2.27 (VRLA), 2.2÷2.3 (VLA), 1.4÷1.5 (Ni-Cd) V/cell Boost: 2.4÷2.45 (VLA), 1.5÷1.65 (Ni-Cd) V/cell Equalizing: up to 2.35 (VRLA), up to 2.7 (VLA), up to 1.7 (Ni-Cd) V/cell											
Chargin current	4	8	12	16	20	2	4	6	8	12	16	20

Control & Signalisation												
Microprocessor	High Performance 8-Bit Microcontroller with Advanced RISC Architecture											
LCD Panel	Backlit graphic LCD for Meters, Alarm/Status messages, History events & Parameters Settings (password protected)											
Signalling LED	Inverter normal (green), Inverter fault (red), Rectifier normal (green), Rectifier fault (red)											
Acoustic Signal	Buzzer											
MIMIC Panel	Principle block diagram of the UPS with 9 integrated LED											
Volt free signalling contacts	AC input supply failure, Rectifier failure, DC voltage LOW/HI, Battery discharging, Battery disconnected, Inverter failure, Inverter overload, Inverter over temperature, AC output voltage LOW/HI, Ventilation failure, DC hearth fault (option)											

Environmental conditions												
Installation	Indoor											
Ambient Temperature	Operation: 0°C to +40°C, Storage: -20°C to +70°C											
Relative Humidity	≤ 95 % @ 40°C non condensing											
Max Installation Altitude	1000 m without derating											
Audible Noise	< 65 -70 dB (A) at 1 m											

Mechanical Characteristics													
Cabinet	Free standing, floor mounting, Steel sheet Enclosure - Front door with handle (double rods)												
Steel thickness	Frame 2mm, Door & Sides 1.5mm, Rear & Roof 1.2mm												
Cooling method	Cabinet: Natural - Semiconductor heat sink: Fan assisted (temperature-controlled)												
Access	Front door												
Cable entry	From bottom												
Degree of protection	IP20												
Painting / Colour	Epoxy-polyester thermosetting powder coating / RAL 7035												
Dimensions (mm)	W	800	1000	1000	1400	1600	800	800	1000	1200	1400	1600	1800
	D	800	800	800	800	800	800	800	800	800	800	800	800
	H	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900

Standards	
Quality and management system	ISO 9001 – 2008 ISO 14001 – 2004
Safety	IEC EN 50178 IEC EN 62040 – 2 BS OHSAS 18001-2007
CE Conformity	Yes
EMC	IEC EN 61000-6-2, 61000-6-4, 62040-1
Semiconductor Convertors	IEC EN 60146-1-1, 60146-1-3, 60146-2