

## 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

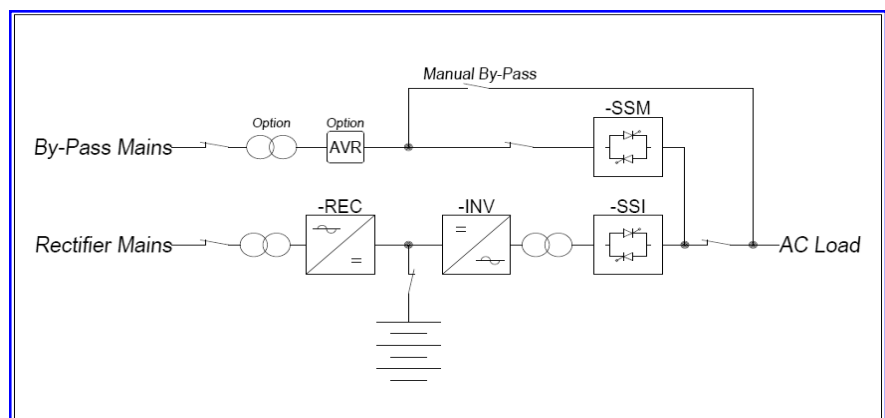


### Main Options

- ◆ 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

## AC Input

Rated Voltage Vac 380/400/415Vac +/-10% 3Ph 50/60Hz (other as option)

PF 0,8 @ full load

THD  $\leq 30\%$  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  $\leq 95\%$  @ 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	800
H	1900	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

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