3P Power

Passion **P**rofession **P**erfection

PRODUCT CATALOGUE

Excellence IND Series Industrial AC UPS

Excellence IND Series Industrial AC UPS

FEATURES

- **ADAPTABILITY**

  Designed to accept a wide range of input voltages and frequency range, this AC UPS is capable to cope with the worst utility conditions. It can eliminate harmful distortion from utility power and withstand all kinds of severe impacts from various loads. It is fully capable to support heavy duty equipment, production equipment and DCS (Distributed Control System) system.

- **DUAL BUS & LOAD BUS SYNC (LBS)**

  Dual Bus feature allows system to undergo partial system maintenance without any interruption to the load. LBS helps the 2 parallel UPS to synchronize during both inverter & battery mode

- **NEW EDGE DESIGN TOPOLOGY**

  The true online double conversion with Dual Digital Signal Processor (DDSP) control provides an improved solution with high performance in communication and network management. Double isolation between input/output and bypass is applied for total isolation between power line noise, spokes and transients

- **COMPREHENSIVE MONITORING**

  Dry contacts, RS232-1, RS232-2, RS485, Intelligent slots 1, 2 & 3 for SNMP, JBUS & MODBUS are available for users to monitor the system remotely

- **ADVANCED BATTERY MANAGEMENT**

  ABM system allows flexible battery configuration and 3 steps charged control as well as periodic battery self-test

- **PARALLEL REDUNDANCY UP TO 8 UNITS**

  This non-master and slave parallel redundancy configuration allows up to 8 systems to be parallel in order to increase the system capacity and operational reliability for power redundancy

- **POWER WALK-IN & ECO MODE**

  Comes with built-in power walk-in function for ease of adaptation to the gen-set as an upstream power. Unique energy efficiency design under good power condition, IND series UPS can work in ECO mode for up to 96% efficiency, green and energy saving

- **COLORFUL MULTIFUNCTIONAL HMI**

  Users have a choice between 5.7” and 7” colorful multifunctional human machine interface touch screen (HMI TFT). UPS comes with a friendly interface while having complete control to the essential operation parameters, status, alarms and measurements. Up to 500 event logs can be recorded allowing precise & detailed identification of any event

- **MAXIMUM SAFETY FEATURES**

  Safety features have always been the top priority for our equipment. Comprehensive built-in protection for system over-voltage, over-current and/or over-load, EPO and back feed protection device prevents any voltage back feed in the upstream distribution panel, ensuring the safety of maintenance personnel

SUITABLE FOR INDUSTRIAL & COMMERCIAL APPLICATIONS

* Industrial application such as Process and Control system, Industrial Machinery, Instrument and Measurement, Process monitoring, Control and Security

* Infrastructures application such as Hospital, Airport, Semiconductor, Water Treatment, Incinerator plant and Rail Transportation

* Energy industry application such as Oil & Gas, Petrochemicals, Refinery and Power Plant

* Security and Monitoring Application

Excellence IND Series Industrial AC UPS

MODEL	IND31010	IND31015	IND31020	IND31030	IND31040	IND31050	IND31060
CAPACITY in kVA	**10**	**15**	**20**	**30**	**40**	**50**	**60**
SYSTEM							
Output PF	0.8						
System Efficiency (inverter mode)	94% @ 100% Load and 90% @ 50% Load						
System Efficiency (ECO mode)	98% @ 100% Load						
Maximum Leakage Current	100mA						
MTBF	Above 200,000 Hours						
Dry Contact	Standard: Dry Contacts for Common Alarm of UPS						
Communication Interface	Standard: RS232 and RS485, OPTION: SNMP or MODBUS						
Operation Temperature	0 ~ 40 °C						
Humidity	95 % (Non-condense)						
Cooling	Forced Air (Fans' speeds vary according to the load percentage)						
Max. Altitude	Within 1000m (Every 100m increase, Capacity decrease 1%), Maximum 4000m						
Noise (dB)	52 ~ 58						
IP Protection (EN 60529)	IP20 as Standard Option: Up to IP54 upon request						
Input / Output way	Bottom / Rear						
Safety Standard	Safety: IEC60950-1, IEC62040-1-1 (2008), EMC: EN/IEC62040-2 (2005), Performance: IEC62040-3 (1999)						
PHYSICAL							
W * D * H in mm	690 * 600 * 1200			700 * 650 * 1400		790 * 700 * 1600	
Approx. Weight (KG)	220	260	360	400	500	600	660
RECTIFIER INPUT PARAMETERS							
Rated Voltage	380/400/415Vac 3 Phase 4W						
Input Voltage Range	± 15 % Adjustable (290 – 498Vac)						
Rate Frequency	50 / 60 Hz Automatic Sensing						
Frequency Range	50 / 60 Hz +/- 5Hz						
Input soft Start Function	0 - 100%, 10 - 300s (Settable)						
Current Harmonic Distortion	< 5% @ 50% Load, < 4% @ 100% Load						
Input Power Factor	0.998						
RECTIFIER OUTPUT PARAMETERS							
DC Nominal Voltage	384Vdc						
3 Levels Charging	Float Charge, Hi-rate Charge and Boost Charge						
Highest Charging Voltage	470Vdc						
Charger Output Voltage Regulation	1%						
Ripple Voltage Component	≤5%						
BATTERY							
Nominal Number of Cells Range	Selectable from 174 cells to 192 cells for Lead Acid Battery. Selectable from 290 cells to 300 cells for Ni-Cd Battery						
Charging Current Settings	0.1C for Lead Acid Battery Capacity and 0.2C for Ni-Cd Battery						
Battery Discharge End Voltage	320Vdc						
INVERTER OUTPUT							
Rated Capacity (kVA)	10	15	20	30	40	50	60
Rated Power (kW)	8	12	16	24	32	40	48
Rated Voltage (V)	220/230/240Vac 1 Phase 2W						
Phase Voltage Setting	200 ~ 244 V (Control Board)						
Crest Factor	3:1						
Waveform	Sine wave						
Steady State Voltage Stability	± 1 %						
Transient Voltage Response	± 5 % Within 10ms						
Rated Frequency	Same as Bypass Input						
Frequency Stability	When Asynchronous ± 0.5 %, Synchronization ± 2 %, (Can be set to ± 1~5 % from Touch Screen)						
Overload	600' / 10' / 1' (110 / 125 / 150% Rated Current)						
Short Circuit 0.1s	Double Input						
Inverter Efficiency @ 100% Load	94%						
BYPASS							
Rated Capacity (kVA)	10	15	20	30	40	50	60
Rated Voltage (V)	220 / 230 / 240Vac 1 Phase 2W						
Input Voltage Range	±15 % (Can be adjusted from Touch Screen to ± 10 %,± 20%)						
Rated frequency (Hz)	50 / 60						
Frequency Range	±2 % (Can be adjusted from Touch Screen to ± 5 %)						
"STANDBY ON" (Eco-mode) Transfer	2~4ms						
Inverter / Bypass Transfer Time	<4ms						
Overload	10' / 1' / 18" (150 / 175 / 200% Rated Current)						
Standard Configuration	Feed Flow Protection, Bypass Independently Isolated						

Excellence IND Series Industrial AC UPS

MODEL	IND33010	IND33020	IND33030	IND33040	IND33050	IND33060
CAPACITY in kVA	**10**	**20**	**30**	**40**	**50**	**60**
SYSTEM						
Output PF	0.8					
System Efficiency (Inverter mode)	92% @ 100% Load					
System Efficiency (ECO mode)	98% @ 100% Load					
Maximum Leakage Current	100mA					
MTBF	Above 200,000 Hours					
Dry Contact	Standard: Dry Contacts for Common Alarm of UPS					
Communication Interface	Standard: RS232 and RS485, OPTION: SNMP or MODBUS					
Operation Temperature	0 ~ 50 °C					
Humidity	95% (Non-condense)					
Cooling	Forced Air					
Max. Altitude	Within 1000m (Every 100m increase, Capacity decrease 1%), Maximum 4000m					
Noise (dB)	45dB ~ 55dB			55dB ~ 60dB		
IP Protection (EN 60529)	**IP20** as Standard Option: Up to IP54 upon request					
Cable Entry	Bottom / Rear					
Safety Standard	Safety: IEC60950-1, IEC62040-1-1 (2008), EMC: EN/IEC62040-2 (2005), Performance: IEC62040-3 (1999)					
PHYSICAL						
W * D * H in mm	405 * 655 * 815		440 * 820 * 1160			
Approx. Weight (kg)	120	150	200	280	330	370
RECTIFIER INPUT PARAMETERS						
Rated Voltage	380/400/415Vac 3 Phase 4W					
Input Voltage Range	± 15 %- ± 25 % adjustable 290-498Vac					
Rate Frequency	50Hz / 60 Hz Automatic Sensing					
Frequency Range	50Hz / 60Hz +/-10%					
Input Soft Start Function	0 - 100%, 10-300s (Settable)					
Current Harmonic Distortion (THDi)	< 5% @ 50% Load, < 4% @ 100% Load					
Input Power Factor	0.99					
RECTIFIER OUTPUT PARAMETERS						
DC Nominal Voltage	384Vdc					
3 Levels Charging	Float Charge, Hi-rate Charge and Boost Charge					
Highest Charging Voltage	470Vdc					
Charger Output Voltage Regulation	1%					
Ripple Voltage Component	≤5%					
BATTERY						
Nominal Number of Cells Range	Selectable from 174 cells to 192 cells for Lead Acid Battery. Selectable from 290 cells to 300 cells for Ni-Cd Battery					
Charging Current Settings	0.1C for Lead Acid Battery Capacity and 0.2C for Ni-Cd Battery					
Battery Discharge End Voltage	320Vdc					
INVERTER OUTPUT						
Rated Capacity (kVA)	10	20	30	40	50	60
Rated Power (kW)	0.8	16	24	32	40	48
Rated Voltage (V)	380/400/415Vac 3 Phase 4W					
Phase Voltage Setting	200 ~ 244V (Control Board)					
Crest Factor	3:1					
Waveform	Sine wave					
Steady-state Voltage Stability	± 1 %					
Transient Voltage Response	± 5 % Within 10ms					
Rated Frequency	Same as Bypass Input					
Frequency Stability	± 1%					
Overload	110% of Rated kVA: 60mins; 125% of Rated kVA: 10mins; 150% of Rated kVA: 1min: > 160% of Rated kVA: 200ms					
Short Circuit 0.1s	Double Input					
Inverter efficiency @ 100 Load	92%					
BYPASS						
Rated Capacity (kVA)	10	20	30	40	50	60
Rated Voltage (V)	380/400/415Vac 3 Phase 4W					
Input Voltage Range	176Vac ~ 264Vac (Phase ~ Neutral) / 304Vac ~ 456Vac (Phase ~ Phase)					
Rated Frequency (Hz)	50Hz / 60Hz					
Frequency Range	46Hz ~ 54Hz @ 50Hz; 65Hz ~ 64Hz @ 60Hz					
"STANDBY ON" (Eco-mode) Transfer	2 ~ 4ms					
Inverter / Bypass Transfer Time	0ms @ Synchronization between Inverter and Bypass					
Overload	150% of Rated kVA: 60mins; 180% of Rated kVA: 30s; > 200% Rated kVA: 200ms					
Standard Configuration	Feed Flow Protection, Bypass Independently Isolated					

Excellence IND Series Industrial AC UPS

MODEL	IND33080	IND33100	IND33120	IND33160	IND33200	IND33250	IND33300	IND33400
CAPACITY in kVA	80	100	120	160	200	250	300	400
SYSTEM								
Output PF	0.8							
System Efficiency (Inverter mode)	92% @ 100% Load							
System Efficiency (ECO mode)	98% @ 100% Load							
Maximum Leakage Current	100mA							
MTBF	Above 200,000 Hours							
Dry Contact	Standard: Dry Contacts for Common Alarm of UPS							
Communication Interface	Standard: RS232 and RS485, OPTION: SNMP or MODBUS							
Operation Temperature	0 ~ 50 °C							
Humidity	95% (Non-condense)							
Cooling	Forced Air							
Max. Altitude	Within 1000m (Every 100m increase, Capacity decrease 1%), Maximum 4000m							
Noise (dB)	45dB ~ 55dB				55dB ~ 60dB			
IP Protection (EN 60529)	IP20 as Standard Option: Up to IP54 upon request							
Cable Entry	Bottom / Rear							
Safety Standard	Safety: IEC60950-1, IEC62040-1-1 (2008), EMC: EN/IEC62040-2 (2005), Performance: IEC62040-3 (1999)							
PHYSICAL								
W * D * H in mm	635 * 975 * 1325			710 * 975 * 1650		800 * 1100 * 1800		
Approx. Weight (kg)	470	575	650	760	790	850	980	1100
RECTIFIER INPUT PARAMETERS								
Rated Voltage	380/400/415Vac 3 Phase 4W							
Input Voltage Range	± 15 %- ± 25 % adjustable 290-498Vac							
Rate Frequency	50Hz / 60 Hz Automatic Sensing							
Frequency Range	50Hz / 60Hz +/-10%							
Input Soft Start Function	0 - 100%, 10-300s (Settable)							
Current Harmonic Distortion (THDi)	< 5% @ 50% Load, < 4% @ 100% Load							
Input Power Factor	0.99							
RECTIFIER OUTPUT PARAMETERS								
DC Nominal Voltage	384Vdc							
3 Levels Charging	Float Charge, Hi-rate Charge and Boost Charge							
Highest Charging Voltage	470Vdc							
Charger Output Voltage Regulation	1%							
Ripple Voltage Component	≤5%							
BATTERY								
Nominal Number of Cells Range	Selectable from 174 cells to 192 cells for Lead Acid Battery. Selectable from 290 cells to 300 cells for Ni-Cd Battery							
Charging Current Settings	0.1C for Lead Acid Battery Capacity and 0.2C for Ni-Cd Battery							
Battery Discharge End Voltage	320Vdc							
INVERTER OUTPUT								
Rated Capacity (kVA)	80	100	120	160	200	250	300	400
Rated Power (kW)	64	80	96	128	160	200	240	320
Rated Voltage (V)	380/400/415Vac 3 Phase 4W							
Phase Voltage Setting	200 ~ 244V (Control Board)							
Crest Factor	3:1							
Waveform	Sine wave							
Steady-state Voltage Stability	± 1 %							
Transient Voltage Response	± 5 % Within 10ms							
Rated Frequency	Same as Bypass Input							
Frequency Stability	± 1%							
Overload	110% of Rated kVA: 60mins; 125% of Rated kVA: 10mins; 150% of Rated kVA: 1min: > 160% of Rated kVA: 200ms							
Short Circuit 0.1s	Double Input							
Inverter efficiency @ 100 Load	92%							
BYPASS								
Rated Capacity (kVA)	80	100	120	160	200	250	300	400
Rated Voltage (V)	380/400/415Vac 3 Phase 4W							
Input Voltage Range	176Vac ~ 264Vac (Phase ~ Neutral) / 304Vac ~ 456Vac (Phase ~ Phase)							
Rated Frequency (Hz)	50Hz / 60Hz							
Frequency Range	46Hz ~ 54Hz @ 50Hz; 65Hz ~ 64Hz @ 60Hz							
"STANDBY ON" (Eco-mode) Transfer	2 ~ 4ms							
Inverter / Bypass Transfer Time	0ms @ Synchronization between Inverter and Bypass							
Overload	150% of Rated kVA: 60mins; 180% of Rated kVA: 30s; > 200% Rated kVA: 200ms							
Standard Configuration	Feed Flow Protection, Bypass Independently Isolated							

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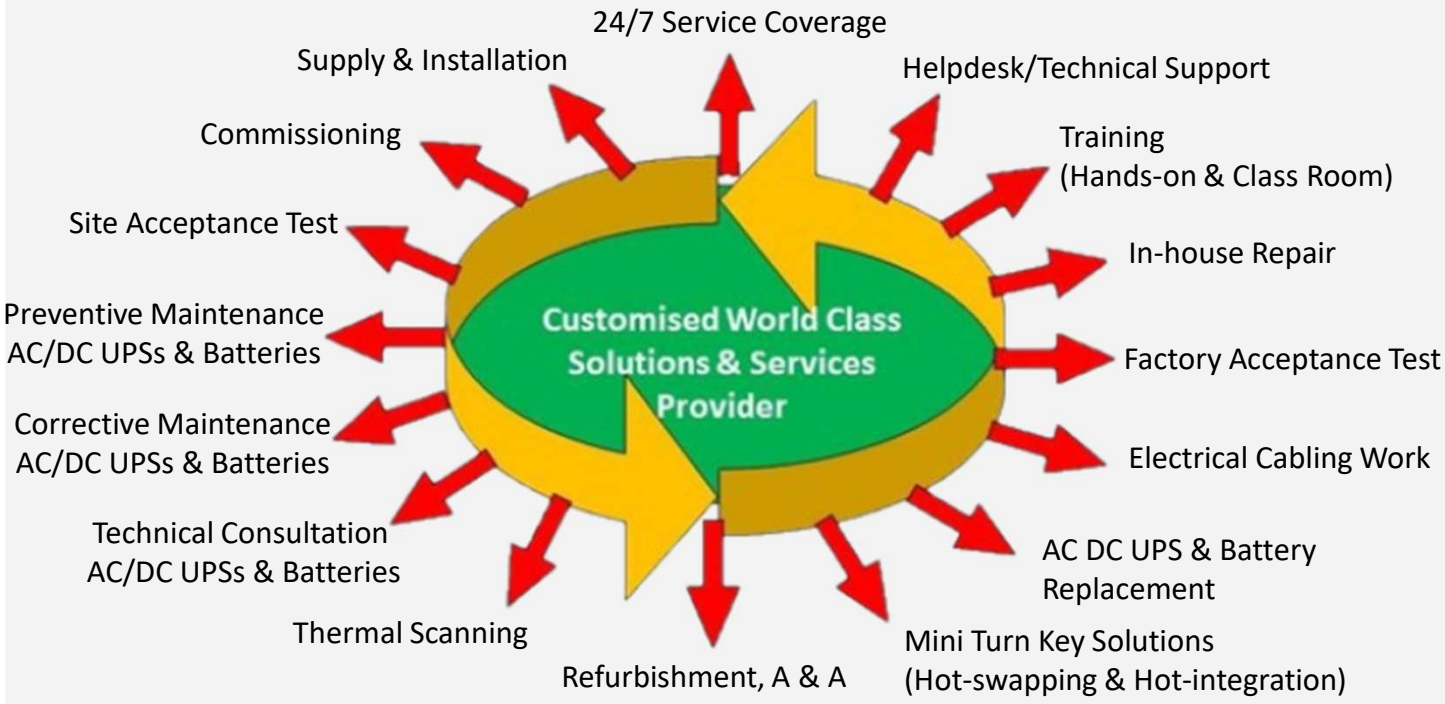
3P Power One Stop Solution



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