3P Power

Passion Profession Perfection

PRODUCT CATALOGUE

Excellence IND Series Industrial AC UPS

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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	10kVA	15kVA	20kVA	30kVA	40kVA	50kVA	60kVA
SYSTEM							
Output PF	0.8 Lagging						
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: 3 types of Signal (Batt Low, Battery Mode, Bypass / Failure),, Option: 18 dry contacts						
Communication Interface	RS232, RS485 and SNMP as Standard. JBUS and MODBUS as option						
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						

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MODEL	IND33010	IND33015	IND33020	IND33030	IND33040	IND33060	IND33080	IND33100	IND33120
CAPACITY in kVA	10kVA	15kVA	20kVA	30kVA	40kVA	60kVA	80kVA	100kVA	120kVA
SYSTEM									
Output PF	0.9 Lagging								
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: 3 types signal (Bat Low, Battery Mode, Bypass / Failure),, Option: 14 dry contacts								
Communication Interface	RS232, RS485 and SNMP as Standard. JBUS and MODBUS as option								
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								
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	690 * 750 * 1208*			690 * 750 * 1400		790 * 840 * 1600		890 * 1000 * 1800	
Approx. Weight (KG)	220	290	360	400	500	660	800	1000	1200
RECTIFIER INPUT PARAMETERS									
Rated Voltage	380/400/415Vac 3 Phase 4W								
Input Voltage Range	± 15 %- ± 25 % adjustable 290-498Vac								
Rate Frequency	50 / 60 Hz Automatic Sensing								
Frequency Range	50/60Hz+/-5Hz								
Input Soft Start Function	0 - 100%, 10-300s (Settable)								
Current Harmonic Distortion (THDi)	< 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	60	80	100	120
Rated Power (W)	9	13.5	18	27	36	54	72	90	108
Rated Voltage (V)	380 / 400 / 415Vac 3 Phase 4W								
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	60	80	100	120
Rated Voltage (V)	380/400/415Vac 3 Phase 4W								
Input Voltage Range	±15 % (Can be adjusted from Touch Screen to ± 10 %,± 20%) -40%								
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								

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MODEL	IND33160	IND33200	IND33250	IND33300	IND33350	IND33400	IND33500	IND33600
CAPACITY in kVA	160kVA	200kVA	250kVA	300kVA	350kVA	400kVA	500kVA	600kVA
SYSTEM								
Output PF	0.9 Lagging							
System Efficiency (Inverter mode)	94% @ 100% Load and 90% @ 50% Load							
System Efficiency (ECO mode)	98% @ 100% Load							
Maximum Leakage Current	100mA							
Standby Economic Mode	Standard Functions							
Mean Time Before Failure (MTBF)	Above 200,000 Hours							
Dry Contact	Standard: 3 types signal (Bat Low, Battery Mode, Bypass / Failure),, Option: 14 dry contacts							
Communication Interface	RS232, RS485 and SNMP as Standard. JBUS and MODBUS as option							
Running Temperature	0 ~ 40 °C							
Maximum Relative Humidity	95 % (Non-condensing)							
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	54 ~ 62							
Protection Class (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)							
PHYISCAL								
Width in mm	1400		1635					
Depth * High in mm	920*1900		1040*1900					
Approx. Weight (KG)	1219	1425	1800	1800	1950	2050	2300	2550
RECTIFIER INPUT PARAMETERS								
Rated Voltage	380/400/415Vac 3 Phase 4W							
Voltage Range	± 15 % (± 25 % Adjustable) 290-498Vac							
Rated Frequency	50 / 60 Hz Aautomatic Sensing							
Frequency Range	45 ~ 65							
Input Power Slow Start Function	Yes, 0 - 100%, Can be set to 10 - 300 seconds							
Current Harmonic Distortion (THDi)	< 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)	160	200	250	300	350	400	500	600
Rated Power (kW)	144	180	225	270	315	360	450	540
Rated Voltage (V)	380 / 400 / 415Vac 3 Phase 4W							
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 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)	160	200	250	300	350	400	500	600
Rated Voltage (V)	380 / 400 / 415Vac 3 Phase 4W							
Input Voltage Range	±15 % , Adjustable from Touch Screen to ± 10 %, ± 20%, -40%							
Rated Frequency (Hz)	50 / 60							
Frequency Range	±2 %, Adjustable 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							

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3P Power One Stop Solution

3P Power

Passion Profession Perfection

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