3PPower

Passion Profession Perfection



PRODUCT CATALOGUE

Excellence IND Series Industrial AC UPS



Excellence IND Series AC UPS are suitable for Industrial environment



 Industrial application such as Process & Control System, Industrial Machinery, Instrument & Measurement, Process Monitoring and Control



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



* Energy industry application such as Oil 7 Gas, Petrochemicals, Refinery, Power Plant,



* Military application such as Communication and Critical Power Backup

True online double conversion with DSP control

Double isolation between input/output ,and bypass is applied to totally isolate power line noise, spikes and transients. A Dual Digital Signal Processor (DDSP) control provides an improved solution with high performance in communication and Network management.

Robust electrical performance to prevent the damages caused by up and down-streams

This UPS is designed to accept wide input voltage and frequency range 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's capable to support heavy duty equipment, production equipment and DCS (Distributed Control System) system.

Colourful Multifunctional Panel

The 5.7" & 7" colorful multifunctional HMI (Human Machine Interface) TFT touch screen of 3In1Out and 3In3Out IND UPS allows easy and humanized operation of the UPS. It gives access to the most important parameters, status and alarms, control commands, input, output, battery measurements (power, current, voltage, frequency and temperature) and settings. The IND series UPS includes 500 events' log allowing precise and detailed identification of any event.





Power Walk-in and Settable Eco Mode Function

The built-in power walk-in makes IND UPS to easily adapt the gen-set as an up-stream power. Unique energy efficiency design under good power condition, UPS can work in ECO mode for 96% efficiency, green and energy saving.



Advanced Battery Management (ABM)

The ABM system allows the flexible battery configuration and 3 steps charged control as well as extends the life span of battery by having a periodic battery self-test.

Comprehensive UPS Monitoring

Built-in slots of RS232-1, RS232-2, RS485, intelligent slots 1, 2, 3 for SNMP, JBUS and MODBUS dry contacts provide users' total preference on-site.

Front access makes maintenance and replacement easily

Its considerate to allow access to all of the electronic cards and power components in the unit through the front panel for further maintenance and replacement.



Maximum Safety Features

The built-in comprehensive protection of over voltage, over current, over temperature, over load, EPO and backfeed protection device that prevents any voltage backfeed in the upstream distribution board, thus ensuring the safety of the maintenance personnel.

Dual Bus & Load Bus Sync (LBS)

Dual Bus feature provides the no interruption to the load during partial system maintenance. LBS makes the 2 parallel UPS in synchronization at inverter mode and battery mode.

Parallel Redundancy up to 8 units

The none master and slave parallel redundancy configuration can be up to 8 units in parallel to increase the system capacity and operational reliability for power redundancy.





Technical Specification - 3 Phase in / 1 Phase out

MODEL	IND 31010	IND 31015	IND 31020	IND 31030	IND 31040	IND 31050	IND 31060			
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) Forced Air (Fans' speeds vary according to the load percentage)									
Cooling Max. Altitude		With	in 1000m (Every 100m in			Om.				
Noise (dB)		VVILIII	in 1000in (Every 100in in	52 ~ 58	ise 1%), iviaximum 400	UIII				
IP Protection				IP20 as Standard						
(EN 60529)			Option	: Up to IP54 upon reque	est					
Input / Output way				Bottom / Rear						
Safety Standard		Safety: IEC60950-	1, IEC62040-1-1 (2008), I		005), Performance: IEC	(62040-3 (1999)				
PHYSICAL										
W * D * H in mm		690 * 600 * 1200		700 * 65	0 * 1400	790 * 70	00 * 1600			
	220		200							
Weight in kg	220	260	360	400	500	600	660			
RECTIFIER INPUT PARAMETERS										
Rated Voltage			·	100/415VAC 3 Phase 4						
Input Voltage Range	± 15 % Adjustable (290 – 498Vac)									
Rate Frequency Frequency Range	50 / 60 Hz Automatic Sensing 50 / 60 Hz +/- 5Hz									
Input soft Start Function			0 - 10	00%, 10 - 300s (Settable	1					
Current Harmonic Distortion				0% Load, < 4% @ 100%						
Input Power Factor				0.998						
RECTIFIER OUTPUT PARAMETE	FRS									
DC Nominal Voltage				384VDC						
3 Levels Charging			Float Charge,	Hi-rate Charge and Boo	st Charge					
Highest Charging Voltage				470VDC						
Charger Output Voltage Regulation				1%						
Ripple Voltage Component				≤5%						
BATTERY										
Nominal Number of Cells Range		Selectable from 174 cel	ls to 192 cells for Lead A	Acid Battery. Selectable	from 290 cells to 300 c	cells for Ni-Cd Battery				
Charging Current Settings			0.1C for Lead Acid B	attery Capacity, 0.2C5 f	or Ni-Cd Battery					
Battery Discharge End Voltage	295VDC									
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)				230 / 240VAC 1 Phase 2						
Phase Voltage Setting			200	~ 244 V (Control Board)						
Crest Factor				3:1						
Waveform Stoody State Voltage Stability				Sine wave						
Steady State Voltage Stability Transient Voltage Response				± 1 % ± 5 % Within 10ms						
Rated Frequency				ame as Bypass Input						
Frequency Stability		When Asynch			set to ± 1~5 % from To	uch Screen)				
Overload	When Asynchronous \pm 0.5 %, Synchronization \pm 2 %, (Can be set to \pm 1 $^{\infty}$ 5 % from Touch Screen) $600' / 10' / 1' (110 / 125 / 150\% Rated Current)$									
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)				230 / 240vAC 1 Phase 2						
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									

Technical Specification - 3 Phase in / 3 Phase out

MODEL	IND 33010	IND 33015	IND 33020	IND 33030	IND 33040	IND 33060	IND 33080	IND 33100	IND 33120		
CAPACITY in kVA	10kVA				40kVA	60kVA	_				
	IUKVA	15kVA	20kVA	30kVA	4UKVA	OUKVA	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			Charadand, 2 A		Above 200,000		\				
Dry Contact				S232,RS485 and SI			Option: 14 dry contac	ts			
Communication Interface Operation Temperature			K	5232, K5485 and SI			s as option				
Humidity		0 ~ 40 °C 95% (Non-condense)									
Cooling				Forced Air (Fans' s		ing to the load per	centage)				
Max. Altitude			Within	1000m (Every 100r							
Noise (dB)			VVICIIII	1000III (EVELY 100I	52 ~ 58	ty decrease 170j, ivi	axiiiiaiii 4000iii				
IP Protection					IP20 as Stand	lard					
(EN 60529)				Op	tion: Up to IP54 up						
Cable Entry					Bottom / Re						
Safety Standard		Sa	fetv: IEC60950-1	. IEC62040-1-1 (200			ormance: IEC62040-3	(1999)			
PHYSICAL					, , , , ,	(1 1 1)		()			
		00 * 750 * 1200*		600 * 75	* 1400	700 * 9/	10 * 1600	900 * 100	0 * 1900		
W * D * H in mm	220	90 * 750 * 1208*	360	690 * 750			10 * 1600 800	890 * 100 1000	1200		
Weight in kg		290	360	400	500	660	800	1000	1200		
RECTIFIER INPUT PARAMETE	RS										
Rated Voltage					0 / 400 / 415VAC						
Input Voltage Range					6- ± 25 % adjustab						
Rate Frequency				50	0 / 60 Hz Automat						
Frequency Range					50/60Hz+/-5						
Input Soft Start Function					- 100%, 10-300s (
Current Harmonic Distortion (THDi)				< 5%	@ 50% Load, < 4%	@ 100% Load					
Input Power Factor					0.998						
RECTIFIER OUTPUT PARAME	TERS										
DC Nominal Voltage					384VDC						
3 Levels Charging				Float Char		and Boost Charge					
Highest Charging Voltage					470VDC						
Charger Output Voltage Regulation					1%						
Ripple Voltage Component					≤5%						
BATTERY											
Nominal Number of Cells Range		Selectak	ale from 174 cells	to 192 cells for Le	ad Acid Rattery Se	electable from 290	cells to 300 cells for I	Ni-Cd Battery			
Charging Current Settings		Jelectar	ne nom 174 cens			, 0.2C5 for Ni-Cd B		vi-cu battery			
Battery Discharge End Voltage				0.10 10. 2000 10.	295VDC	,, 0.203 101 111 00 3	acce, y				
					233400						
INVERTER OUTPUT	- 10	45	20	20	10		1 00	400	120		
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)					0 / 400 / 415VAC						
Phase Voltage Setting Crest Factor					244 V (Contr 3:1	oi Boaru)					
Waveform											
Steady-state Voltage Stability		Sine wave									
Transient Voltage Response	±1%										
Rated Frequency		± 5 % Within 10ms									
Frequency Stability		Same as Bypass Input When Asynchronous ± 0.5% Synchronization ± 2% (Con ho set to ± 1.25% from Touch Screen)									
Overload	When Asynchronous ± 0.5%, Synchronization ± 2%, (Can be set to ± 1~5 % from Touch Screen)										
Short Circuit 0.1s	600' / 10' / 1' (110/125/150% Rated Current) Double Input										
Inverter efficiency @ 100 Load		94%									
BYPASS											
	10	15	20	30	40	C0	80	100	120		
Rated Capacity (kVA) Rated Voltage (V)	10	15	20	30	40	60	80	100	120		
	380 / 400 / 415 VAC 3 Phase 4W										
Input Voltage Range	±15 % (Can be adjusted from Touch Screen to ± 10 %,± 20%) -40%										
Rated Frequency (Hz)	50 / 60 ±2 % (Can be adjusted from Touch Screen to ± 5 %)										
Frequency Range "STANDBY ON" (Eco-mode) Transfer	±2 % (Can be adjusted from Touch Screen to ± 5 %) 2 ~ 4ms										
Inverter / Bypass Transfer Time	2 4IIIS < 4ms										
Overload	10'/1'/18" (150 / 175 / 200% Rated Current)										
Standard Configuration	Feed Flow Protection, Bypass Independently Isolated										
Standard Configuration				. cca now rit		penacity isolat					

Technical Specification - 3 Phase in / 3 Phase out

MODEL	IND 33160	IND 33200	IND 33250	IND 33300	IND 33350	IND 33400	IND33500	IND33600		
CAPACITY in kVA	160kVA	200kVA	250kVA	300kVA	350kVA	400kVA	500kVA	600kVA		
SYSTEM	TOOKVA	ZOORVA	ZJORVA	JOOKVA	SSORVA	TOOKVA	JOOKVA	OOOKVA		
Output PF	T			0.012	agging					
System Efficiency (Inverter mode)	0.9 Lagging 94% @ 100% Load and 90% @ 50% Load									
System Efficiency (ECO mode)	94% @ 100% Load and 90% @ 50% Load 98% @ 100% Load									
Maximum Leakage Current	100mA									
Standby Economic Mode	100MA Standard Functions									
Mean Time Before Failure (MTBF)	Standard Functions Above 200,000 Hours									
Dry Contact										
Communication Interface		Standard: 3 types signal (Bat Low, Battery Mode, Bypass / Failure),, Option: 14 dry contacts								
Running Temperature		RS232,RS485 and SNMP as Standard. JBUS and MODBUS as option								
Maximum Relative Humidity		0 ~ 40 °C								
Cooling		95 % (Non-condensing) Forced Air (Fans' speeds vary according to the load percentage)								
Max. Altitude		Forced Air (Fans' speeds vary according to the load percentage) Within 1000m (Every 100m increase, Capacity decrease 1%), Maximum 4000m								
Noise dB			(2.0.	54 ~		,				
Protection Class (EN 60529)			IP20 a	s Standard, Option: I		nuest				
Cable Entry			200	Bottom	· · · · · · · · · · · · · · · · · · ·	14454				
Safety Standard		Safety: IEC60	950-1 IFC62040-1-	1 (2008), EMC: EN/IE		erformance:IEC620	140-3 (1999)			
·		Surety. IECOO.	330 1,12002040 1	1 (2000), EIVIC. EIV) I	2 (2003), 1	errormance.izeoze	740 3 (1333)			
PHYISCAL						_				
Width in mm	140				163					
Depth * High in mm	920*:		1000	1000	1040*:		2200	3550		
Weight (kg)	1219	1425	1800	1800	1950	2050	2300	2550		
RECTIFIER INPUT PARAMETERS										
Rated Voltage				380 / 400 / 415V						
Voltage Range		± 15 % (± 25 % Adjustable) 290-498Vac								
Rated Frequency		50 / 60 Hz Aautomatic Sensing								
Frequency Range				45 ~						
Input Power Slow Start Function			Yes	, 0 - 100%, Can be se	t to 10 - 300 secon	ds				
Current Harmonic Distortion (THDi)				< 5% @ 50% Load, <						
Input Power Factor				0.99	98					
RECTIFIER OUTPUT PARAMETERS										
DC Nominal Voltage				384V	DC					
3 Levels Charging			Floa	t Charge, Hi-rate Cha	arge and Boost Cha	rge				
Highest Charging Voltage				470V	DC					
Charger Output Voltage Regulation				1%	,					
Ripple Voltage Component				≤5%	6					
BATTERY										
Nominal Number of Cells Range	S	electable from 174	cells to 192 cells	for Lead Acid Batter	v. Selectable from 2	90 cells to 300 cells	for Ni-Cd Battery	,		
Charging Current Settings				ad Acid Battery Capa			,			
Battery Discharge End Voltage				295V		· ·				
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)	244	100		380 / 400 / 415V		300	430	340		
Phase Voltage Setting	200 ~ 244 V (Control Board)									
Crest Factor				3:1						
Waveform				Sine w						
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				547						
	150	200	250	200	250	100	F00	500		
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 <4ms									
Inverter / Bypass Transfer Time Overload	44ms 10'/1'/18" (150 / 175 / 200% Rated Current)									
Standard Configuration	Feed Flow Protection, Bypass Independently Isolated									
Standard Configuration	recurrow motection, bypass independently isolated									

3P Power One Stop Solution





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