

CFR-IND 13000

Frequency Converter Static, three-phase, 40-600 kVA 2 Year Warranty

Features

- · Online double conversion
- Inverter with 3 level IGBT technology for higher efficiency and minimized interference to grid
- · Double DSP for high reliability and performance
- · Power Factor 1.0
- Self-load test function
- · Smart Ventilation Control
- ECO mode and EPO function
- · Double bypass: electronic and maintenance
- AC/AC efficiency up to 97%,
- · 2 slot for SNMP network card
- · Anti-corrosion resistant coating for all PCB boards
- Easy onsite parallel slot modification (up to 8 units)
- · PFC rectifier with IGBT Technology

Solves the following power quality issues

- Frequency change 60Hz to 50 Hz and 50 Hz to 60 Hz
- · High voltage surge
- · Low voltage surge
- · Sustained high voltage
- · Sustained low voltage
- · Electric noise
- · Voltage spikes
- · Frequency variations
- · Harmonic distortion

50 Hz Applications

- · Medical equipment
- Telecommunications
- Instrumentation equipment
- · Audio and video equipment
- Smart buildings
- · Shopping centers
- · Security systems
- · Electronic banking
- CNC Machinery
- Robotics

Optional

- Voltage transformer for coupling to the electrical power system or load voltage
- Industronic voltage conditioner to protect the UPS and extend battery life
- Voltage Surge Suppressor
- · Harmonic Filter









Model CFR-IND	1340	1360	1380	13100	13120	13160	13200	13300	13400	13500	13600									
Input																				
Capacity (kW/kVA)	40/40	60/60	80/80	100/100	120/120	160/160	200/200	300/300	400/400	500/500	600/600									
Voltage (Vca)		'	120/20	3, 127/220,	220/380	, 230/400	, 254/440	, 266/460	, 277/480											
Overload Protection		Therma	l magnetic	: input circu	it breake	and therr	mal magr	netic bypa:	ss circuit br	eaker										
Voltage Range (Vac)					+/- 2	20 % (Line 1	to line)													
Phase		Three ph	nase Wye,	3 phases +	neutral +	ground, c	ptional: c	delta (3 ph	ases + gro	und)										
Frequency Range (Hz)	Three phase Wye, 3 phases + neutral + ground, optional: delta (3 phases + ground) 40 ~ 70 55 ~ 66																			
Input Power Factor	≥ 0.99 at full load																			
THDi						≤ 3%														
Output																				
AC to AC Maximum Efficiency						97%														
Overload Protection	Thermal magnetic output circuit breaker																			
Output Power Factor						1.0														
Voltage (Vac)	220/380, 230/400, 240/415																			
Voltage Regulation Range (Vac)	+/- 1%																			
Frequency (Hz)					5	0 +/- 0.1%														
Waveform	50 +7- 0.1% Pure sinosoidal wave																			
Harmonic Distortion THDv				< 1% (1				load)												
Transfer Time (ms)	≤ 1% (Linear load), ≤ 4% (non linear load)																			
Connection Type	0.0 miliseconds (true online)vv																			
Overload	Three phase star, 3 phases + neutral + ground, optional: delta (3 phases + ground) 101 a 105% continuous, 106 a 110% 60 minutes, 111 to 125% 10 minutes,																			
Overland				5 150% 60 :																
Power Return		Do	oes not su	oport powe	r return			Suppoi	rts up to 10	0% of its c	apacity									
Battery bank (Optional)																				
Voltage (Vcd)																				
Physical & Mechanical																				
Audible Noise (dB)					< 6	5, at 1 me	ter				< 65, at 1 meter									
Operating Temperature (°C)						O to 40														
Relative Humidity		0 ~ 95% without condensation																		
Maximum Operating Altitude (m.a.s.l.)	2,400 al 100%, 3000 al 96%																			
3						without co														
Cabinet				Bakea	2,400 al	without co 100%, 300	00 al 96%													
Cabinet Dimensions height wwidth wdenth (mm)					2,400 al	without co	00 al 96%	iteel	00 v 1220	105(2×1800×1000									
Dimensions, height x width x depth (mm)	100		700	1600 x 950	2,400 al d electros	without co 100%, 300 atic Epoxy	00 al 96% coated S	iteel 1800 x 11	00 x 1220	1950										
Dimensions, height x width x depth (mm) UPS net weight (kg)	480		720		2,400 al d electros	without co 100%, 300	00 al 96% coated S	iteel	00 x 1220 1610	1950	0x1800x1000 2050									
Dimensions, height x width x depth (mm) UPS net weight (kg) Technology	480			1600 x 950	2,400 al d electros	without ca 100%, 300 atic Epoxy	00 al 96% coated S	1800 x 11	1610	1950										
Dimensions, height x width x depth (mm) UPS net weight (kg) Technology Inverter	480			1600 x 950 960 level IGBT	2,400 al d electros: 0 x1 000	without ca 100%, 300 atic Epoxy 1100	00 al 96% coated S 12	1800 x 11 00	1610	1950										
Dimensions, height x width x depth (mm) UPS net weight (kg) Technology Inverter Rectifier	480			1600 x 950 960 level IGBT	2,400 al d electros: 0 x1 000 0 etechnolog	without ca 100%, 300 atic Epoxy 1100 gy for higher	00 al 96% coated S 12	1800 x 11 00	1610	1950										
Dimensions, height x width x depth (mm) UPS net weight (kg) Technology Inverter Rectifier Output Isolation Transformer	480			1600 x 950 960 level IGBT High Ef	2,400 al d electrosi 0 x1 000 0 technolog	without ca 100%, 300 atic Epoxy 1100 gy for higher C type wit	oo al 96% coated S 12 er efficien	1800 x 11 000 cy (PWM chnology	1610	1950										
Dimensions, height x width x depth (mm) UPS net weight (kg) Technology Inverter Rectifier Output Isolation Transformer Battery Status			3	1600 x 950 960 level IGBT High Ef	2,400 al d electrosi 0 x1 000 0 technolog	without co 100%, 300 atic Epoxy 1100 gy for highe C type wit Optional e/Discharg	oo al 96% coated S 12 er efficien h IGBT tea	1800 x 11 00 cy (PWM chnology	1610 type)	1950	2050									
Dimensions, height x width x depth (mm) UPS net weight (kg) Technology Inverter Rectifier Output Isolation Transformer	480			1600 x 950 960 level IGBT High Ef	2,400 al d electrosi 0 x1 000 0 technolog	without ca 100%, 300 atic Epoxy 1100 gy for higher C type wit	oo al 96% coated S l 12 er efficien h IGBT tea	1800 x 11 000 cy (PWM chnology	1610	1950										
Dimensions, height x width x depth (mm) UPS net weight (kg) Technology Inverter Rectifier Output Isolation Transformer Battery Status			3	1600 x 950 960 level IGBT High Ef	2,400 ald electrosis 2) x1 000 2) technologiciency Plane Onlin	without co 100%, 300 atic Epoxy 1100 gy for highe C type wit Optional e/Discharg	oo al 96% coated S 12 er efficien th IGBT tea	1800 x 11 00 cy (PWM chnology	1610 type)	1950	2050									
Dimensions, height x width x depth (mm) UPS net weight (kg) Technology Inverter Rectifier Output Isolation Transformer Battery Status Thermal Dissipation (kBTU/h)			3	1600 x 950 960 level IGBT High Ef Real T 8.2	2,400 ald electrosis D x1000 D technologiciency Pl	without ca 100%, 300 atic Epoxy 1100 gy for higher C type wit Optional e/Discharg 10.2	oo al 96% coated S lear efficien th IGBT tea	1800 x 11 00 cy (PWM chnology ation 2.3	1610 type)	1950	2050									
Dimensions, height x width x depth (mm) UPS net weight (kg) Technology Inverter Rectifier Output Isolation Transformer Battery Status Thermal Dissipation (kBTU/h) Paralleling	4.1	RS485 + E	6.1	1600 x 950 960 level IGBT High Ef Real T 8.2	2,400 al d electrosis D x1 000 D technologiciency Pl me Onlin N + 1 u 040-1, CE	without co 100%, 300 ratic Epoxy 1100 gy for higher C type wit Optional e/Discharg 10.2 up to 8 unit 62040-2,	oo al 96% coated S coated S lear efficien ch IGBT ter ge Inform 1 s	1800 x 11 00 cy (PWM chnology ation 2.3	1610 type)		2050									
Dimensions, height x width x depth (mm) UPS net weight (kg) Technology Inverter Rectifier Output Isolation Transformer Battery Status Thermal Dissipation (kBTU/h) Paralleling Certifications	4.1	RS485 + E	6.1 PO, 5 dry o	1600 x 950 960 level IGBT High Ef Real T 8.2 CE-62 contact out : Input and	2,400 al d electrosi 0 x1 000 0 technolog iriciency Pl me Onlin N + 1 to 040-1, CE out signa output vo	without co 100%, 300 ratic Epoxy 1100 gy for higher FC type with Optional e/Discharg 10.2 up to 8 unit 62040-2, is, 1 dry cor	er efficien th IGBT tea ge Inform 18 ISO 9001: ad capaci	1800 x 11 00 cy (PWM chnology ation 2.3 2015 t, RS232, S ty, Battery	1610 type) 20.5 SNMP netw											
Dimensions, height x width x depth (mm) UPS net weight (kg) Technology Inverter Rectifier Output Isolation Transformer Battery Status Thermal Dissipation (kBTU / h) Paralleling Certifications Communications Interface	4.1	RS485 + E	6.1 PO, 5 dry o	level IGBT High Ef Real T 8.2 CE-62 contact out Input and	2,400 ald electrosic of technologic ficiency Plant N+10,040-1, CE out signal output veing Status	without co 100%, 300 ratic Epoxy 1100 gy for highe FC type wit Optional e/Discharg 10.2 up to 8 unit 62040-2, is, 1 dry cor bitage, Loc	er efficien th IGBT tea ge Inform ISS ISO 9001: ad capaci	1800 x 11 00 cy (PWM chnology ation 2.3 2015 t, RS232, S ty, Battery dicators	1610 type) 20.5 SNMP netw		2050									