Industronic
Energy in Evolution

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

ISO 9001:2015

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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)	120/208, 127/220, 220/380, 230/400, 254/440, 266/460, 277/480										
Overload Protection	Thermal magnetic input circuit breaker and thermal magnetic bypass circuit breaker										
Voltage Range (Vac)	+/- 20 % (Line to line)										
Phase	Three phase Wye, 3 phases + neutral + ground, optional: delta (3 phases + ground)										
Frequency Range (Hz)	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)	50 +/- 0.1%										
Waveform	Pure sinosoidal wave										
Harmonic Distortion THDv	≤ 1% (Linear load), ≤ 4% (non linear load)										
Transfer Time (ms)	0.0 miliseconds (true online)vv										
Connection Type	Three phase star, 3 phases + neutral + ground, optional: delta (3 phases + ground)										
Overload	101 a 105% continuous, 106 a 110% 60 minutes, 111 to 125% 10 minutes, 126 to 150% 60 seconds > 150% immediate switch to bypass										
Power Return	Does not support power return							Supports up to 100% of its capacity			
Battery bank (Optional)											
Voltage (Vcd)											
Physical & Mechanical											
Audible Noise (dB)	< 65, at 1 meter										
Operating Temperature (°C)	0 to 40										
Relative Humidity	0 ~ 95% without condensation										
Maximum Operating Altitude (m.a.s.l.)	2,400 al 100%, 3000 al 96%										
Cabinet	Baked electrostatic Epoxy coated Steel										
Dimensions, height x width x depth (mm)	1600 x 950 x1 000							1800 x 1100 x 1220			1950x1800x1000
UPS net weight (kg)	480	720	960	1100				1200	1610		2050
Technology											
Inverter	3 level IGBT technology for higher efficiency (PWM type)										
Rectifier	High Efficiency PFC type with IGBT technology										
Output Isolation Transformer	Optional										
Battery Status	Real Time Online/Discharge Information										
Thermal Dissipation (kBTU / h)	4.1	6.1	8.2	10.2				12.3	20.5		31.7
Paralleling	N + 1 up to 8 units										
Certifications	CE-62040-1, CE 62040-2, ISO 9001:2015										
Communications Interface	RS485 + EPO, 5 dry contact output signals, 1 dry contact input, RS232, SNMP network card										
Digital Touch Screen	Displays: Input and output voltage, Load capacity, Battery voltage, Operating Status Mimic and LEDs Indicators										
Alarms	Abnormal Input, UPS Failure, etc.										
Protection	Low Battery, Overload, Short Circuit, Over Temperature, etc.										