



POWER GENERATION  
FOR GENERATIONS



# FOR SMART USERS OF SOLAR

NOVERGY IPCT & IPCL SERIES ARE  
ONE STEP AHEAD FOR BEST OPTIMISATION  
OF YOUR ENERGY HARVEST.

# AN INTELLIGENT INVERTER IS THE KEY TO GET THE BEST FROM YOUR SOLAR INVESTMENT



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These Solar Power Conditioning Units are the new generation of inverters. Designed to deliver Pure Sine Wave Output makes them ideal choice and safe for all appliances.

IPCT SERIES

## SOLAR MAINS HYBRID INVERTERS

The IPCT series of inverters have Puresinewave output with solar priority logic and PWM Solar input to ensure maximum power input from solar panels.



**TOUGH AND  
ECONOMICAL**



**WITH RTC CLOCK  
TO DRAW  
MAXIMUM POWER  
FROM THE  
SOLAR PANELS**

### Features

- Advance DSP technology
- Solar + mains integrated Inverter
- Pure sinewave output
- Better efficiency (as compared to normal home inverter)
- Priority for solar (Maximum utilization of solar energy from PV modules).
- Galvanic isolation between input & output.
- RTC Clock for better solar optimization as compared to normal solar inverters.
- Multi colour graphical LCD display
- Smart battery charging technology (For better & long battery life)
- UPS Function
- Cold start function
- Basic protections for solar PV input and battery.
- Low THD.
- 2 Years Warranty

## TECHNICAL SPECIFICATION OF IPCT MODELS

MODELS	IPCT 650 VA	IPCT 850 VA	IPCT 1000 VA	IPCT 1500 VA	IPCT 2500 VA	IPCT 3500 VA
Rated Power (VA)	650	850	1000	1500	2500	3500
Output Voltage (VAC)	230 ± 10%					
Output Frequency (Hz)	50.0 ± 1 Hz					
Output type	Pure sinewave					
Max. AC (Mains/Grid) Charge Current	12 Amps (INV mode) / 9 Amps (UPS mode)					
Nominal battery voltage (VDC)	12V	12V	12V	24V	48V	48V
Max. solar PV open circuit voltage	25	25	25	50	100	100
AC Input voltage range	180-260 (UPS mode) / 100-280 (inverter mode)					
Transfer time	<10 ms (UPS mode) / <40 ms (inverter mode)					
Solar Controller Type	RTC clock based PWM solar controller					
Solar Controller Charging Current (Max)	50 Amps					
Battery low cut-off	10.5 ± 0.2 VDC (Per 12V battery)					
Battery charging boost voltage	14.4 ± 0.1 VDC (Per 12V battery)					
Battery charging float voltage	13.6 ± 0.2 VDC (Per 12V battery)					
Total Harmonic Distortion (THD)	< = 3% @ resistive load					
Protections	PV short-circuit ; AC short circuit ; Battery low voltage ; Overload; Battery Short Circuit ; Surge ; Over / Under input voltage					
Display	LCD (Colour Changing back light)					
Dimension (mm)	275 x 250 x 110			276 x 305 x 205		276 x 305 x 295
Operating conditions	Temp : -10 to + 50 Deg. C : RH : 0 - 90% non condensing					
Cooling	Automatically control by cooling fan.					
Net Weight (Kgs)	8.6	9.5	9.9	15.8	17.3	19.8
Gross Weight (Kgs)	9.5	10.3	10.7	17	19	22.5

IPCL SERIES

# OFF GRID INVERTERS WITH SOLAR MPPT CHARGER

The IPCL series of inverters have Pure sinewave output to ensure suitability to power all types of loads without any noise or damage to the AC equipment. They have in-built solar MPPT charger and have advanced priority algorithm to derive maximum power from solar array.

**1-10 kW &  
10-100 kW**



**PREMIUM  
AND ADVANCED**

**PROGRAMMABLE WITH  
HIGHER EFFICIENCY**

## Features

- Higher DC-AC efficiency.
- Pure Sinewave output
- Advanced priority logic for using solar energy first and to maximum extent possible
- Higher efficiency results in more power output delivered to loads
- Solar MPPT charger (Maximum power point tracker)
- UPS Function
- Programmability allows user to set various parameters.
- Galvanic isolation between input and output
- Various Protections on input, output & battery
- High surge capability.
- In-built mains / grid charger
- Large LCD display showing all system and input / output parameters.
- MCBs fan Solar, AC & Battery Integrated.
- 2 Years Warranty

## TECHNICAL SPECIFICATION OF LOWER RATING IPCL MODELS (1 to 10 kw)

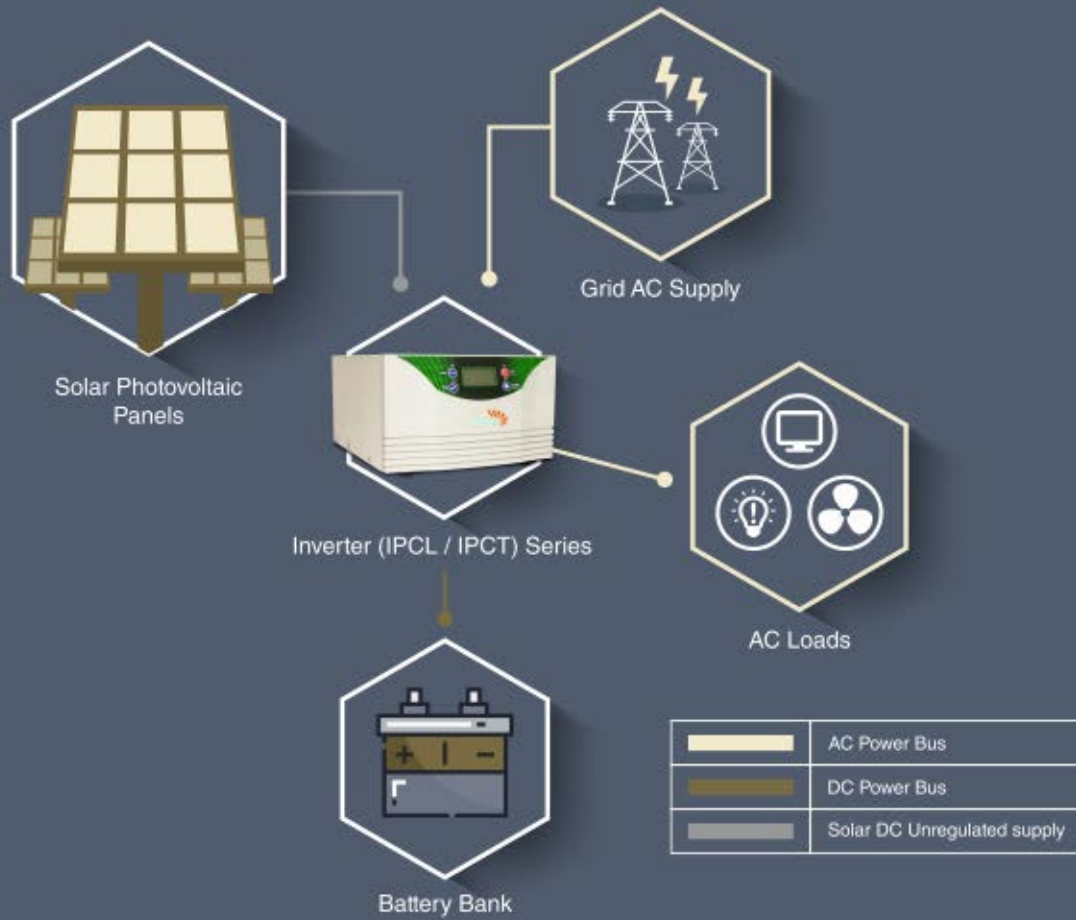
MODELS	IPCL-1	IPCL-2	IPCL-3	IPCL-5	IPCL-6	IPCL-7.5	IPCL-10
<b>POWER RATING</b>							
KW (Output Load)	1	2	3	5	6	7.5	10
<b>INPUT</b>							
Solar Array Input range (VDC)	36-90	72 – 180		144 – 360	180-450	180 – 450	270-450
Max Voc (VDC)	45	180		360	450	450	450
Max Solar PV input KW (STC)	1.05	2.10	3.15	5.25	6.30	7.88	10.50
<b>SOLAR CHARGER CONTROLLER</b>							
Type	MPPT						
Switching element	IGBT						
Controller	DSP						
<b>BATTERY</b>							
Battery Nominal (VDC)	24	48		96	120	120	180
Type	Tubular flooded / SMF / Gel / AGM						
Temperature compensation	@ 3mV per 2v cell						
<b>INVERTER OUTPUT</b>							
Power Capacity (KW)	1	2	3	5	6	7.5	10
Load Power Factor	0.8 lag to Unity						
Nominal Voltage	220 VAC, Single phase 3 Wire						
Frequency	50HZ (+/- 1 Hz)						
Voltage Regulation	+/- 1%						
Waveform	True Sinewave						
Voltage Distortion	< 3 % at Linear Load						
Overload Capacity	300% for 1 sec ; 150% for 30 sec ; 125% for 1 min						
<b>EFFICIENCY</b>							
Inverter Efficiency (DC to AC)	>85%						
<b>ENVIRONMENTAL</b>							
Acoustic Noise @ 1mtr	60db.						
Ambient Temperature	0 to 50 Deg C						
Storage Temperature	-10 to +55 Deg C						
Humidity	Upto 95% RH, Non Condensing						
Altitude	< 1000 Mtrs. Above Sea Level						
<b>PHYSICAL</b>							
Enclosure Protection	IP – 21						
Cooling	Temperature controlled Forced Cooling						
Cable Entry	Back						
<b>DIMENSIONS</b>							
L x W x H (inch)	18 x 10 x 20			23 x 13 x 26			26x13x26
Weight (kgs)	35	43	50	60	65	78	90
<b>LCD Display</b>							
General :	Alpha numeric LCD display showing parameters from Solar PV array, Battery, Grid, Load like Power, Voltage, Current, etc. Fault display						

## TECHNICAL SPECIFICATION OF HIGHER RATING IPCL MODELS (10 to 100 kw)

MODELS		IPCL 10 kw	IPCL 15 kw	IPCL 20 kw	IPCL 25 kw	IPCL 30 kw	IPCL 40 kw	IPCL 50 kw	IPCL 60 kw	IPCL 80 kw	IPCL 100 kw	
Parameters	Units	Rating										
System Rating	KVA	10	15	20	25	30	40	50	60	80	100	
Operating DC Voltage	V	240			360							
Charging Voltage (Grid Mode)	V	260			390							
Charging Voltage (SPV Mode)	V	260			420							
Charging Current (Grid Mode)	A	2.5 - 10 (Adjustable)										
Charging Current (SPV Mode)	A	5 - 20										
<b>Photovoltaic Input</b>												
Input Voltage Range (Min-Max)	VDC	360 - 450			540 - 675							
Maximum PV Power recommended	KW	10	15	20	25	30	40	50	60	80	100	
Number of charge controller		1										
<b>MPPT Based charge controller</b>												
Priority		Solar / Grid / Batt.										
Switching Element		IGBT										
Controller		DSP										
Type of charger		PWM with MPPT										
Peak Efficiency	%	95										
<b>Input</b>												
Input Voltage	V	360V to 480V 3 Phase 4 Wire										
Frequency	Hz	50±10%										
Input Power factor	Lag	>0.9										
Charger Topology		BUCK										
Electrical Connections R Y B	Sq. m	6	6	6	8	10	16	16	20	25	35	
Neutral	Sq. mm	2.5										
<b>Output</b>												
Voltage	V	380 / 400 / 415 V 3 Phase 4 Wire										
Voltage Regulation	%	± 1										
Frequency	Hz	50										
Frequency Regulation	Hz	± 0.05										
Power Factor	Lag	0.8										
Waveform		Pure Sine Wave										
Transient Response	%	<8 (10% - 90% Linear Load)										
Voltage Harmonic	%	<3 (Linear Load)										
Overload Capacity	%	100 - 110% : 5 min; 150 - 200% : 1 Sec; 110 - 120% : 2 min; 200 - 300% : 50 ms; 120 - 150 % : 30 sec; >300% : 20 ms										
Crest Factor		3 : 1										
<b>Audible Warning</b>												
Battery Back-up Ending		Intermittent										
Overload		Continuous										
<b>Display</b>												
Switches		Reset for System On / Off # Scroll Switch										
LED		UPS on # Chg. On (spv / grid) # Overload (R, Y, B) # Output Low / High (R, Y, B) # Input Low / High (R, Y, B) # Batt. low / high										
LCD Display		Input Voltage & Frequency - R, Y, B # Output Voltage and equency - R, Y, B # Batt. Voltage # Load Level # Working Statu										
Interface		# Fault Status # SPV Voltage # SPV Current # SPV Power										
		USB / Ethernet / SNMP (Optional)										
Protections		Verload, Batt. low/high, Output high/low (R, Y, B), Output Short Ckt, Overheat, Under / Over frequency, Solar Panel reverse										
<b>Others</b>												
Battery Start		Standard										
Cabinet Wheels		Standard										
Extended Battery Charging		Optional										
<b>Overall</b>												
Peak Efficiency (AC-AC)	%	90										
Peak Efficiency (DC-AC)	%	92										
Transfer Time	ms	0										
Operating Temperature	*C	0 - 50										
Humidity	%	0 - 95 %										

\*Specifications are subject to change without prior notice

# SOLAR BATTERY BASED / HYBRID / OFF GRID DIAGRAM



Get Better Energy Output from Solar.  
Contact a Novergy Expert Today!

Write to [enquiry@novergy.net](mailto:enquiry@novergy.net) | [info@novergy.co.in](mailto:info@novergy.co.in)

Visit us at [novergy.co.in](http://novergy.co.in)