

Hybrid Inverter Energy Storage

CPHI05K-F2

Product Introduction

The CPHI series is a state-of-the-art hybrid photovoltaic energy storage inverter system, integrating solar and grid-charging storage with AC sine wave output. Using advanced control algorithms, it ensures fast response and high reliability. It features four charging modes: solar-only, grid-priority, solar-priority, and a grid-solar mix, with two output modes (inverter and grid) to meet diverse needs.



Key Features

Si g_ ltc '8Uk b': i bWjcbU'jm

Ci fgc Ufldck YfYX "[\hgWUrf Y Xi rj]b['hY XUmUbx'Ui tca UhWU'mi]I \hi d'mci fg ffc bX]b[gUhb] \hZdfc j X]b['i b]bYfmi dHYX ']i a]bUhc]b k \Yb mci 'bYXX 'hia cgt'

Bc'K]f]b['FYei]fYX

Qum[ccXVnY tca Wca d'YI 'k]f]b['gy'hi d'g' bgtUbh@[\h]g XYg] bYX ZcfYUgm]bgtU'Uh]cbzgj]b['mci 'hja Y'UbX YZc:ft'

5j U]UVY]b H'fY'G]hYg

K \YhYfmc i 'bYXX'g VhY "[\h]b['cfU'Vf] \hYf['ck Zk YfjY [ch mci 'Wcj YfYX k]h'ci fFUb['Y'cZcdh]cbg" '\$k Uhtg* '\$k UhtgUbX' - '\$k Uhtg'

J YfgU]Y '5dd']W]h]cbg

: fca]i a]bUhb['Vi]X]b['YI hYf]c fgc "[\h]b['i d' i b']h Xf] Yk Umz k U' k Umz UbX 'dUhc]g' bgtUbh@[\h]gd YfZWhZc f]Ufci qci hXccfgy'f]b[g'

6i]h]b' A ch]cb 'Gybgcf

9b'cmUXXYX'gyW f]mUbx 'Wcbj Yb]YbWw' k]h'ci fa ch]cb' gybgcfZYU' hY ZXYH'W]b['a c] Ya Ybhtc 'UW] UH' hY "[\h' k \Yb bYXXYX"

-bZUfYX 'FYa chY '7 cblfc`

HU_Y' Wcbhfc` cZ mci f "[\h]b['d'fYZfYbWw'g k]h' YUgy" 'Ci f]bZUfYX' fYa chY' U'ck g' mci 'hc' UX' gh' gy'f]b[g' Zca ' U' X]gU'bwZ' Ybg f]b['dYfgc bU']hYX "[\h]b['YI dYf]YbWw'g'

9bYf] mGUj]b['C dh]cbg

K]h' hY' UV]]m'hc' UX' gh' Vf] \hYgg' Yj Y'g' bgtUbh @[\h' cZYfg YbYf] m' g]j]b['gc' i' h]cbg' 'C dhZc fZ' " V]f] \hYgg' c f Wcbg f] Y' YbYf] mVmf] bb]b['Uh' ' \$i' V]f] \hYgg' k \Yb' a' ch]cb']gbchXYH'WYX"

7ca d'YH' '7 cblfc`

K Ubhtc' gk]hW' cZ hY "[\hYbh]fY m8 K]h' bgtUbh@[\hZmci ' \Uj Y' hY' cdh]cb' h' fi]h' cZ Wca d'YH' mZdfc j X]b['ZYI]]mUbx' g]j]b[' YbYf] mk \Yb]i a]bUhc]b]gbchYei]fYX".

Product Connection Diagram



Product Applications

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2. Úæ^c Áæ @æ* Áf :Á' cá [:Á ææ &æ^ • È
3. Q' { æ ææ* Áæ { { Á :ææÁæ } æ^ È
4. Ú^& :æ Áæ @æ* Áf :Á' :Á'c Á' Áæ ^c! • È
5. Šæ @æ* Áf :Á' cá [:Á'] [:Áæ] :æ È
6. Pæ @æ @æ* Á æá^ Á æ@ æ • È

Hybrid Inverter Control - Performance Parameters

Grid Module

Rated input voltage	220/230Vac
Input voltage range	(170Vac~280Vac) ±2% (90Vac-280Vac)±2%
Frequency	50Hz/ 60Hz (Automatically detects)
Frequency Range	47±0.3Hz ~ 55±0.3Hz (50Hz); 57±0.3Hz ~ 65±0.3Hz (60Hz);
Overload/short circuit protection	disconnect
Efficiency	>95%
Transfer Time (Bypass and Inverter)	10ms (Typical value)
AC Backfill Protection	YES
Maximum Bypass Overload Current	40A

Inverter Module

Output Voltage Waveform	Pure Sine Wave
Rated Output Power	5000 (VA)
Power Factor	1
Rated Output Voltage	230Vac
Output Voltage Error	±5%
Output Frequency Range	50Hz ± 0.3Hz 60Hz ± 0.3Hz
Efficiency	>92%
Overload protection	1) (102% < load < 125%) ± 10%: report an error and shut down the output after 5 minutes; 2) (125% < load < 150%) ± 10%: report an error and shut down the output after 10 seconds; 3) Load > 150% ± 10%: report an error and shut down the output after 5 seconds;
Peak Power	10000VA
On-load Motor Capacity	4HP
Output Short Circuit Protection	Breaker
Bypass Breaker Specifications	40A
Battery voltage range	40.0Vdc~60Vdc ± 0.6Vdc (Under-voltage alarm / shutdown e / the over-voltage alarm/over-voltage renew...LCD can be set)
Power Saving Mode	Load≤50W

Grid Charging

Maximum-Charging Current (can be set)	60A
Charging Current Error	± 5A _{dc}
Charging Voltage Range	40-58V _{dc}
Short Circuit Protection	Circuit Breakers and Blown Fuses
Circuit Breaker Specifications	40A
Overcharge Protection	Alarm and turn off charging after 1 minute

Solar Charging

Maximum PV, Open Circuit Voltage	145V _{dc}
PV Operating Voltage Range	60-145V _{dc}
MPPT Voltage Range	60-115V _{dc}
Battery Voltage Range	40-60V _{dc}
Maximum Input Power	4400W
Solar Charging Current Range (can be set)	0-80A
Charging Short Circuit Protection	Blow Fuse
Wiring Protection	Reverse Polarity Protection
Maximum Hybrid Charge Current	(PV+AC)
Maximum Hybrid Charge Current (can be set)	0-140A

Other Specs

Range of Working Temperature Range	-15°C to 55°C
Storage Temperature Range	-25°C ~ 60°C
Humidity Range	5% to 95% (Three anti-paint protection)
Noise	≤60dB
Heat Dissipation	Forced air cooling, adjustable wind speed
Communication Interface	USB/RS485(WiFi/GPRS)/Dry Node Control

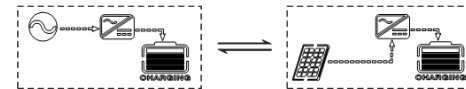
Operating Mode

Charging Mode

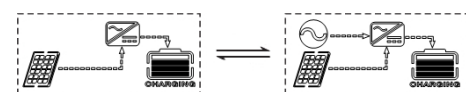
1) PV Priority: Solar power first, mains backup if needed. Ideal for stable grids and high-cost areas.



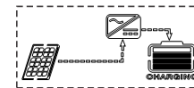
2) Mains Power Priority: Battery charging takes precedence. PV charging only when mains power is unavailable.



3) Hybrid Charging: PV and commercial power combined. Fastest backup power in unstable grid areas.

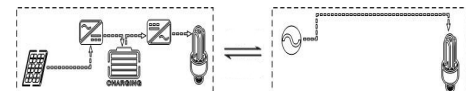


4) Only Solar: Exclusive photovoltaic charging without mains backup. The most energy-efficient method utilizing solar energy. Suitable for well-lit areas.

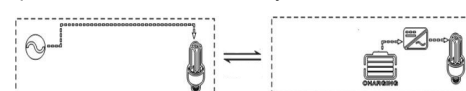


Power Supply Mode

1) PV Priority: Uses photovoltaic charging whenever possible. Switches to mains power only when photovoltaic is unavailable. Ideal for stable power grids. Sequence: Photovoltaic - Mains - Battery.



2) Mains Priority: Uses battery inverter when mains unavailable. Switches to mains charging when available. Suitable for unstable grids. Sequence: Mains - PV - Battery.



3) Inverter Priority: Switches to mains power when battery voltage is low. Enters battery discharge mode during mains charging if voltage is high. Maximizes DC power usage, suitable for stable grids. Sequence: PV - Battery - Mains.

