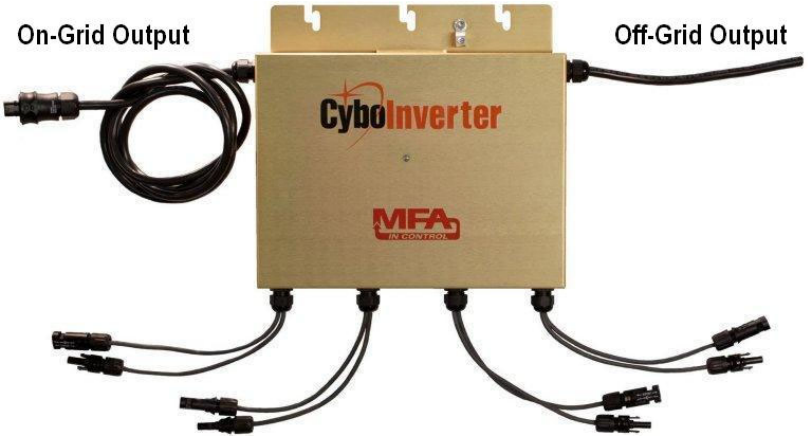
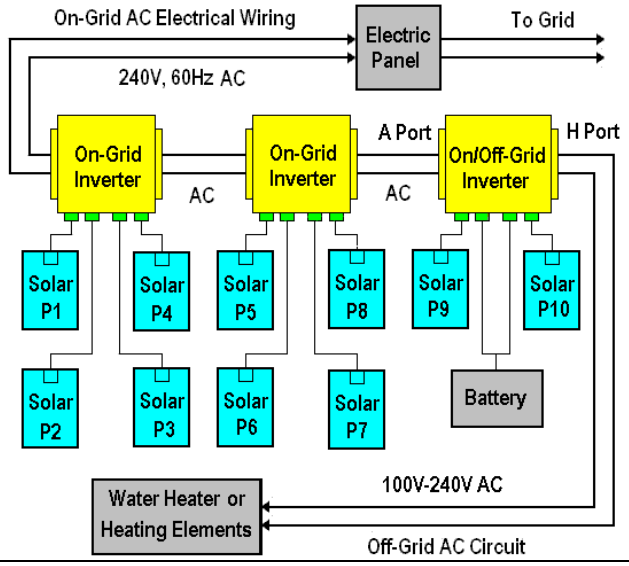
On/Off-Grid Mini-Inverter for Grid AC or Solar PV Water Heating

CyboInverter



- **On-Grid or Off-Grid Mode**
- **Specially Designed for Powering Electric Water Heaters in Off-Grid Mode**
- **Heat Water or Send Power to the Grid Based on Demand**
- **MPPT for Each Solar Panel**
- **Outdoor or Indoor Mounting**
- **High Efficiency and Long Life**
- **Much Easier to Install than Thermal Solar Water Heaters**

Each CyboInverter (CIM-1200A/H) can connect to 4 solar panels and produce 1250W, 240V, 60Hz to the grid in on-grid mode, or power an electric water heater through its H Output Port in off-grid mode.



When the grid is on, the inverter works like a regular on-grid inverter that meets UL1741 and IEEE1547 standards having over / under voltage shutdown; over / under frequency shutdown; and anti-islanding.

When the grid is down, the inverter will shutdown immediately and send a test signal from its off-grid output port to check the status of the connected off-grid AC circuit. If there is no AC present and an AC load is detected, it will generate AC to power the load.

In the off-grid mode, when the inverter detects the grid is back on, it will stop powering the load. After a 5-minute UL mandatory wait, the inverter will send AC power to the grid again.

An CIM-1200A/H CyboInverter can power a 1500W to 4500W heating element of an electric water heater.

Product: 4 Channel 1.25KW On/Off-Grid CyboInverter for Grid or PV Heating.
Part No: CIM-1200A/H H Port runs electric water heater/heating elements only.

Made in U.S.A.

Technical Data of CIM-1200A/H (Rev 6.6 - Jan 2024)

DC Input (per Channel)	60/66 Cell Panel	72 Cell Panel*	Battery
Supported Input Power	250W – 400W	300W – 450W	48V, 50-300AH
Operating Input DC Voltage Range	18V – 60V	18V – 60V	47V – 60V
Peak Power Performance Range	30V – 60V	30V – 60V	48V – 60V
Maximum Input DC Voltage / Current	60V / 11.5A	60V / 11.5A	60V / 11.5A
Maximum Input Power	330W	330W	330W
Minimum Starting Voltage	20V	20V	47V

AC Output	On-Grid, A Port	Off-Grid, H Port
Rated Output Power / Peak Output Power	960W / 1250W	960W / 1250W
Nominal Output Current (RMS)	4A	4A – 8A
Maximum Output Current (RMS)	6A	10.5A
Nominal Output Voltage / Range	240V (211V – 264V)	100V – 240V (10V – 264V)
Nominal Frequency / Range	60Hz (59.3 – 60.5) Hz	60Hz (59.5 – 60.5) Hz
Power Factor / Harmonic Distortion	>0.95 (THD < 4%, 2nd Harmonic < 1%)	
Compatible Water Heaters or Heating Elements	1500W to 4500W, 240V Heating Elements	

Efficiency	Data
Peak Efficiency / Solar MPPT Tracking	96% / 99%

Mechanical Data	SI	U.S.
Ambient Temperature Range	-40°C to +65°C	-40°F to +149°F
Internal Operating Temperature Range	-40°C to +88°C	-40°F to +190°F
Dimensions w/o mounting bracket (L x H x W)	32cm x 24cm x 5.8cm	12.5” x 9.5” x 2.3”
Weight	6.5 kg	14.25 lbs
Cooling / Enclosure	Natural Convection, No Fan / Potted	
DC Wire / AC Wire	1-2 Feet DC Wires / 10 Feet AC Wires (THHN), Copper	

Compliance and Features	Data
Safety and EMC Compliance	UL1741 and IEEE1547 (E113426), CSA 107.1, FCC Part 15 Class A.
Rapid Shutdown	Complies with NEC 2014/2017 690.12.
DC Ground Fault Detector Interrupter (GFDI)	Built-In
Standard Warranty	3 Years (Extended Warranty Available)
Enclosure Environmental Rating / Safety	Outdoor, NEMA 6 (IP67) / Transformer Isolated Circuits

*Do not use 72-cell solar panels in areas where temperature can get below -10 degrees F (-23 degrees C).