HoluPower Smart Panel

Enabling Homeowner Energy Prioritization and Load Control

The HoluPower Smart Panel from Holu Hou Energy enables homeowners to have an "APP" based control over load sources in their home. HoluPower Smart Panel can be used as a stand-alone product without the need for 3rd Party devices, or in conjunction with an energy storage or solar + energy storage system.

Users can actively monitor and prioritize when their high usage appliances operate and under what conditions, providing a capability that can result in lower electricity bills or, if used in conjunction with an energy storage system, prioritize which appliances run and for how long, during power outages.

Many utilities now have time of use rates, energy storage dispatch programs, load up and/or load shedding programs, and the HoluPower Smart Panel can play a key role in the homeowner's participation, savings or earnings.

The HoluPower Smart Panel is equipped with a programmable controller capable of storing data locally, as well as in the "Holu-Cloud". It features more capability than alternatives and has been fully tested and certified to UL916 and FCC.

Price: $1,999 + shipping and tax (if applicable). 16 weeks lead time from time of order.

See www.holuhou.com for more details on ordering.

HOLU HOU
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Powering Multi-Dwelling Unit and Single-Family Homes

HHE HoluPower Smart Panel
Higher Performance, More Capability, Better Value

The HoluPower Smart Home AC Panel integrates with the HoluPower Energy Storage system to enable intelligent management of both energy supply and energy demand.

- Can operate as a stand-alone product or as part of a solar and energy storage system
- On and Off-grid operation
- Indoor and Outdoor rated
- Up to 20x 120V or 10x 240V loads, or combinations of both
- Integrates with your existing Main AC Panel, so you don't have to do a full panel replacement or costly home rewiring
- Can integrate major household loads for settable control through the HoluPower ESS product, including EV Chargers, Electric Water Heaters, HVAC, Pool Pumps – this is critically important during off-grid operation.
- Integrates 3rd Party Back-up Generators
- Simple Installation – qualified Electrician can do it in a few hours
- Requires only 20" x 24" wall space
- Certified to UL916 and FCC.
- Communications via Ethernet, WiFi, Bluetooth, or Cellular with hotspot. Can operate without the internet.
- Data stored locally (standard); Holu-Cloud storage optional

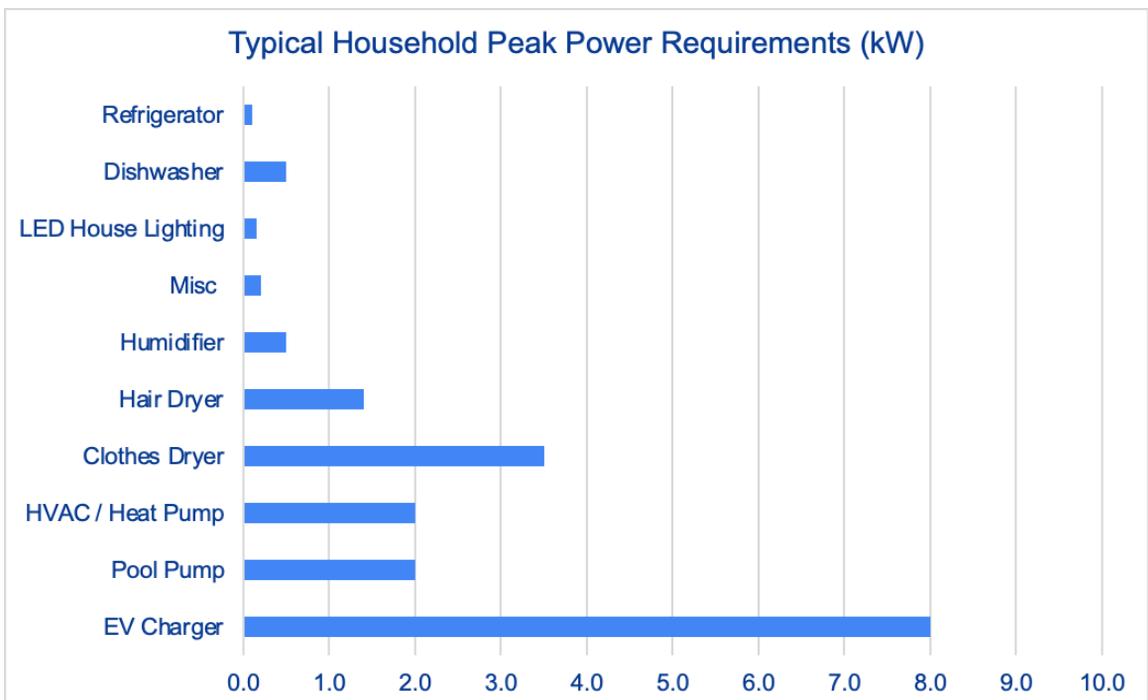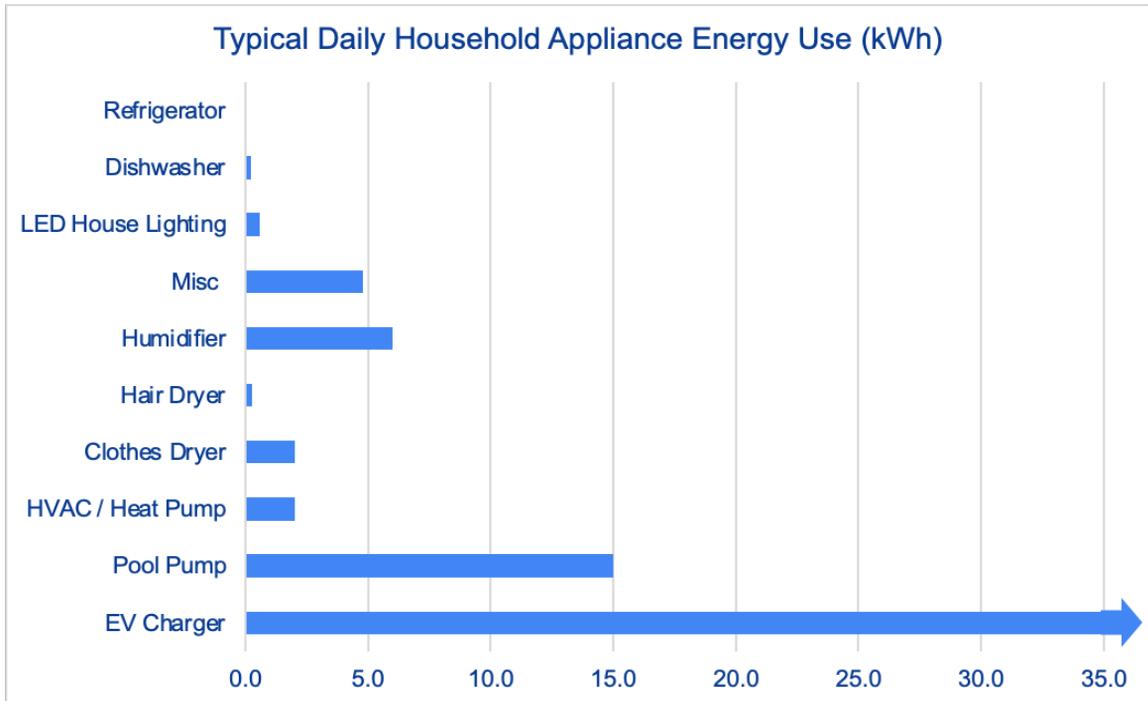|	Scheduling	Respond to Uility Prices and Outages	Respond to Settable Energy Goals	Load Channels	Topology	Price	Install Effort / Cost	Integrated or Stand-alone	Energy Measurements	UL916 Compliant	Off-Grid Operation	Environment	Local Storage	Comms
HoluPower Smart Panel	✓	✓	✓	Up to 20 120V or 10 240V Loads	Add-on Panel (like a sub-panel)	$1,999	Simple, add-on panel	Both. Integrated with HHE ESS, single app for integrated controls, EV charger, Generator and Smart Devices	Current measurements on every channel. Four voltage measurements in off-grid scenarios -- (4) 120V or (2) 240V circuits, so generators / voltage generating sources can be connected	Yes	Yes	Indoor / Outdoor; NEMA 4X (anti-corrosion); -20 to 50C	>6GB of Internal Storage	WiFi, Bluetooth, Cellular with hotspot, Hardwired Ethernet; Can operate with other smart devices in home w/o internet. Option to add up to up to 5 ethernet ports & 4 serial ports for local network to control/view IOT devices (locally) when internet is out
SPAN I/O	✓	✓	✓	Up to 32 120V or 16 240V Loads	Entire Replacement of Existing Home Panel	$3,500	Extensive, replace primary panel of home	Can add on of LG Chem Resu; SolarEdge Energy Bank/SolarEdge Hub; Tesla PowerWall + Gateway; EV charger	Current measurements on every channel.	Yes	Unclear - with 3rd Party Device	Indoor / Outdoor; NEMA 3R; -30 to 50C	N/A	WiFi, Bluetooth, Hardwire Ethernet, Cellular
Lumin Panel	✓	✓	✓	Up to 16 120V or 8 240V Loads	Add-on Panel (like a sub-panel)	$2,500	Simple, add-on panel	Stand-alone. No direct control of any ESS	Current measurements on every channel.	Yes - Indoor; No - Outdoor	Unclear - with 3rd Party Device	Indoor 0C to 60C; Outdoor NEMA 3R -30C to 70C	Yes, but unknown how much	Ethernet or WiFi

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HHE HoluPower Smart Panel
Bringing the "Smart Home" to Reality

The HoluPower Smart Panel lets the homeowner to optimize their appliance loads to save money on utility bills, and if part of a solar + storage system, prioritize appliances during power outages.

Typical Daily Household Appliance Energy Use (kWh)

Appliance	Value
Refrigerator	
Dishwasher	~0.3
LED House Lighting	~0.5
Misc	~4.5
Humidifier	~6.0
Hair Dryer	~0.3
Clothes Dryer	~2.0
HVAC / Heat Pump	~2.0
Pool Pump	~15.0
EV Charger	>35.0

(x-axis: 0.0, 5.0, 10.0, 15.0, 20.0, 25.0, 30.0, 35.0)

Typical Household Peak Power Requirements (kW)

Appliance	Value
Refrigerator	~0.2
Dishwasher	~0.5
LED House Lighting	~0.2
Misc	~0.3
Humidifier	~0.5
Hair Dryer	~1.3
Clothes Dryer	~3.5
HVAC / Heat Pump	~2.0
Pool Pump	~2.0
EV Charger	~8.0

(x-axis: 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0)

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HHE HoluPower Smart Panel
Product Specifications

Technical Specifications	
Model Number	HH5020H-SP
ELECTRICAL DATA	
Voltage Range (VAC)	211~264
Nominal AC Voltage (VAC)	120 / 240
Feed-In Type	Split Phase
Frequency Range (Hz)	55~65
Nominal Frequency (Hz)	60
Supported Loads (A)	20 Channels (up to 50A ea)
Grid CT's (A)	2 x 200
Supported Input Source	Generator / Inverter
GENERAL DATA	
Operating Temperature Range	-4F~122F (-20C~50C)
Relative Humidity	0-95% Non-Condensing
Maximum Operating Altitude	$\leq$ 9842 Ft (3000 m)
Cooling Method	Natural Convection
User Interface	LED & APP
Communication	LAN, Wi-Fi, Bluetooth, Cellular hotspot
Weight	24 lbs. (11 kg)
Dimension (W x H x D)	19.7in x 23.6in x 4.7in (500mm x 600mm x 122mm)
Noise Emission	$\leq$ 29 dB
Mounting Method	Wall Mounted
Protection Degree	Type 4X
Standard Warranty	10 Years
CERTIFICATION AND STANDARD	
Safety Regulation	UL916
EMC	FCC part 15 Class B

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