

The original hybrid smart electrical panel and energy hub for Microgrid and Nanogrid.

GENIUS™ is a fully-integrated hybrid smart energy hub for residential or commercial microgrid/nanogrid. It replaces the century old electrical panel commonly used today.

GENIUS™ provides a simple connection to any home or building. Its revolutionary hybrid design brings your home into the digital era of IoT and is easy to install. GENIUS™ enables property owners to quickly realize the benefits of reliable and clean power.



The new energy grid involves a shift from utilities to end users, who will quickly become the largest energy generators in the system of Distributed Energy Resources (DERs). GENIUS™ lets you be your own energy expert.

GENIUS™ has its own Operating System. Q™ OS is the proprietary operating system developed by KOBEN that uses AI-based analytics to react to your energy use patterns and adapt its decision-making to your specific life. You tell Q™ your priorities – and GENIUS™ will do the rest.

GENIUS™ electrical panels eliminate the additional pieces of hardware required to achieve as resilient energy environment for your home. The plug'n play GENIUS™ electrical panel provides real-time dynamic pricing for each circuit/load for better control of your energy costs. Many equipment installers struggle with how to implement a solution which can provide total control over all energy resources.

The most advanced microgrid controller (MID) in the world

Provide a climate friendly, economically beneficial and high-efficient energy solution usable in houses and small companies based on fuel cells.

Gas to Power (SOFC)

With multi-fuel reformation capabilities, Mpower stacks can use wide variety of fuels including conventional and cleaner Bio-fuels.

Our versatility and scalability make the technology suitable for multiple-geographic regions and industries with vast application based solutions.

mPower stacks can act a bridge in transition of economies from conventional hydrocarbons to cleaner fuels. Our technology can enable true hydrogen based circular economies with zero



Power to Gas (SOEC)

In its reversible mode, the technology can be used for hydrogen generation from excessive renewable energy or grid electricity.

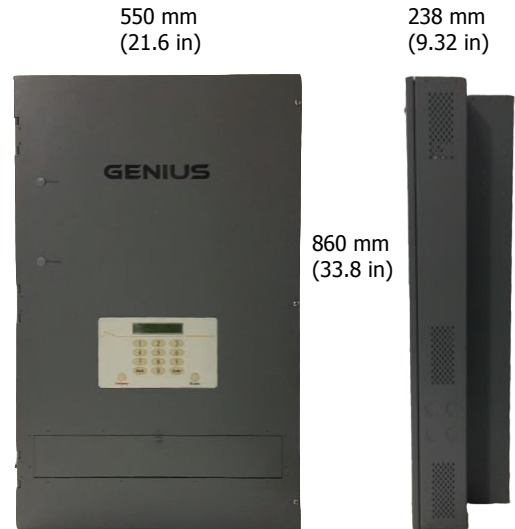
The hydrogen can be stored for future generation or other applications such as hydrogen pump stations for fuel cell vehicles, raw material for fertiliser industry or for production of value added chemicals.

PERFORMANCE SPECIFICATIONS

Electricity Network	3 wire Single Phase 120/240Vac + one additional 120V source 4 wire Three Phase 120/208Vac
Alternative Source	Option: Integrated alternative tied to grid. Option: Integration with backup battery or generator. Option: One phase may be replaced by alternative source.
Grid Frequency	45 - 65 Hz
Input Phase Current	Up to 250A at 240Vac Up to 500A at 120Vac (including additional input) Up to 200A per phase for 3 phase
No. and type of	Max channels/breakers: 24 channels. Max current per channel/breaker: Up to 50A circuit breaker may be controlled and monitored.
Load circuits	1, 2 or 3-pole circuits in a 3 phase network supported
DC Power Supply	Two DC power supplies, to Electronic circuits (100% redundancy). Power Consumption: <40W.
Internal Battery Backup UPS Connection	Included Option
Display & Keypad	LCD – 2 line display (24 characters per line) 12 keys.
Emergency Button Bypass Button	Disconnects all loads Bypass of electronic system in cases of suspected faults in electronic system. System will remain in the last position.
Phase Balancing	Transfers loads across phases in less than 100mSec without a gap. Voltage fading up to 40% of nominal voltage, at max load for less than 100mSec.
Load Management	Disconnects loads based on priority if and when the max main CB current threshold is exceeded.
Embedded Meter	Meter with 8 Time of Use, prepaid and holiday tariffs.
Utility Grade Meter	Option: 0.5, (Meets ANSI C.12.20) 8 'Time of Use' and holiday Tariffs. 1 – 24 meters.
Spark Detection Heat Sensors	Alerts or disconnects in case of sparks. Disconnects all loads (appliances) when temp exceeds 90C.
Lightning Protection Voltage Protection Over Load Protection Short Circuit Protection Temperature Protection	Transient voltage surge suppressors. Disconnects all loads when voltage exceeds standard thresholds.
Communication	Remote network communication: GPRS, WiFi or Ethernet. RS232 connection for maintenance. Option: RS485 local area network connection. ModBus RTU or TCP/IP, BACnet MSTP or XML API via web services.
Grid Phase Balancing	Option: Up to 32 GENIUS connected in a local RS485 network balancing electrical source, eg. Transformer, generator, other.
Real Time Measurement	V, I, kW, kVA, kVar, pf, Hz, Perphase V&I Total Harmonic Distortion(THD), Per phase V&I individual harmonic order up to 23rd.

MECHANICAL SPECIFICATIONS

Dimensions	550 mm x 860 mm x 238 mm (21.6 in x 33.8 in x 9.32 in)
Weight	50 kg (110 lbs)
Mounting options	Wall mount, flush mount and stud mount
Breaker Requirement	QO Type, Square D



COMPLIANCE INFORMATION

Certifications	UL STD 67, UL STD 50, FCC-Part 15, Certified to CAN/CSA STD. C22 No. 29
Utility Grade Meter	Option: Measurement Canada, CCSAUS, CULUS, CTEP (CA)
Grid Connection	Worldwide Compatibility
Emissions	FCC Part 15

ENVIRONMENTAL SPECIFICATIONS

Normal Operating Temp	-10°C to 40°C (14°F to 127°F)
Recommended Temp	0°C to 30°C (32°F to 86°F)
Operating Humidity (RH)	Up to 90%, condensing
Environment	Indoor rated and outdoor*
Ingress Rating	IP20

Simply

GENIUS



INSTANTON/ENERGY.COM