

Convert the energy of the sun into electrical power



Photovoltaic (PV) systems convert the energy of the sun into electrical power that is fed directly into the electric grid. Within the system, DC circuit breakers protect the wiring connected from the PV modules to the combiner or inverter, while providing a means to disconnect the circuit.

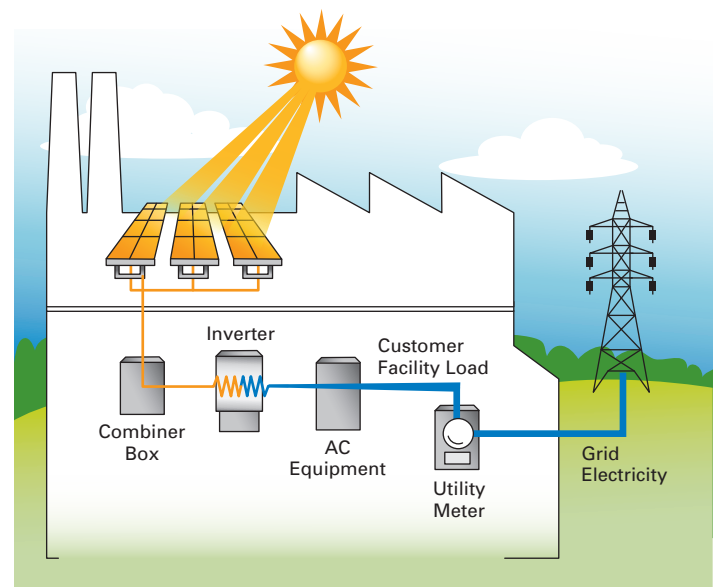
Eaton is a global leader in circuit protection and brings this expertise to bear in the photovoltaic market. PVGard™ solar circuit breakers are part of a product family that combines a disconnect with circuit protection in one device to protect and monitor photovoltaic systems. PVGard breakers can replace fuses and disconnects in combiner box and inverter applications—saving space, streamlining purchasing and receiving, and reducing spare parts requirements. They also help to protect, switch and isolate commercial and utility scale solar systems up to 1000 Vdc.

Features

- Designed to meet higher voltage and lower fault current levels of solar systems
- Can be applied in grounded or ungrounded systems
- Wide range of current ratings increases options for matching incoming strings
- Tested to extreme ambient conditions from -40°C to +90°C
- Ability to open on signal from PVGard DC arc fault detector
- Full complement of accessories for status, signaling and lock-out/tag-out
- Eliminates fuse stocking costs and matching issues
- Meets and exceeds the standards of UL® 489B for photovoltaic molded-case circuit breakers

Designed specifically for high and low temperature demands of PV installations, PVGard circuit breakers undergo extreme ambient cycling tests and carry a robust operating temperature range. Trip units calibrate at 100 percent of nameplate current in a 50°C ambient, ensuring continuous operation in higher temperature environments typical to solar.

Rigorous third-party testing includes limited and standard fault current tests, electrical and mechanical endurance, di-electric voltage withstand, and temperature tests. Breaker poles must be connected in series for operation.



Powering Business Worldwide

PVGard breakers are available with a full complement of accessories to provide string status, enable remote trip, and customize to site requirements. PVGard solar photovoltaic circuit breakers come with built-in conformance to the UL 489B standard for photovoltaic molded-case circuit breakers.

Available accessories

- Terminals
- Lock-off devices
- End cap kits
- Rotary handle mechanisms
- Flexible shaft handle mechanisms
- Alarm lock-out
- Auxiliary switch
- Shunt trip
- Undervoltage release
- Electrical operator

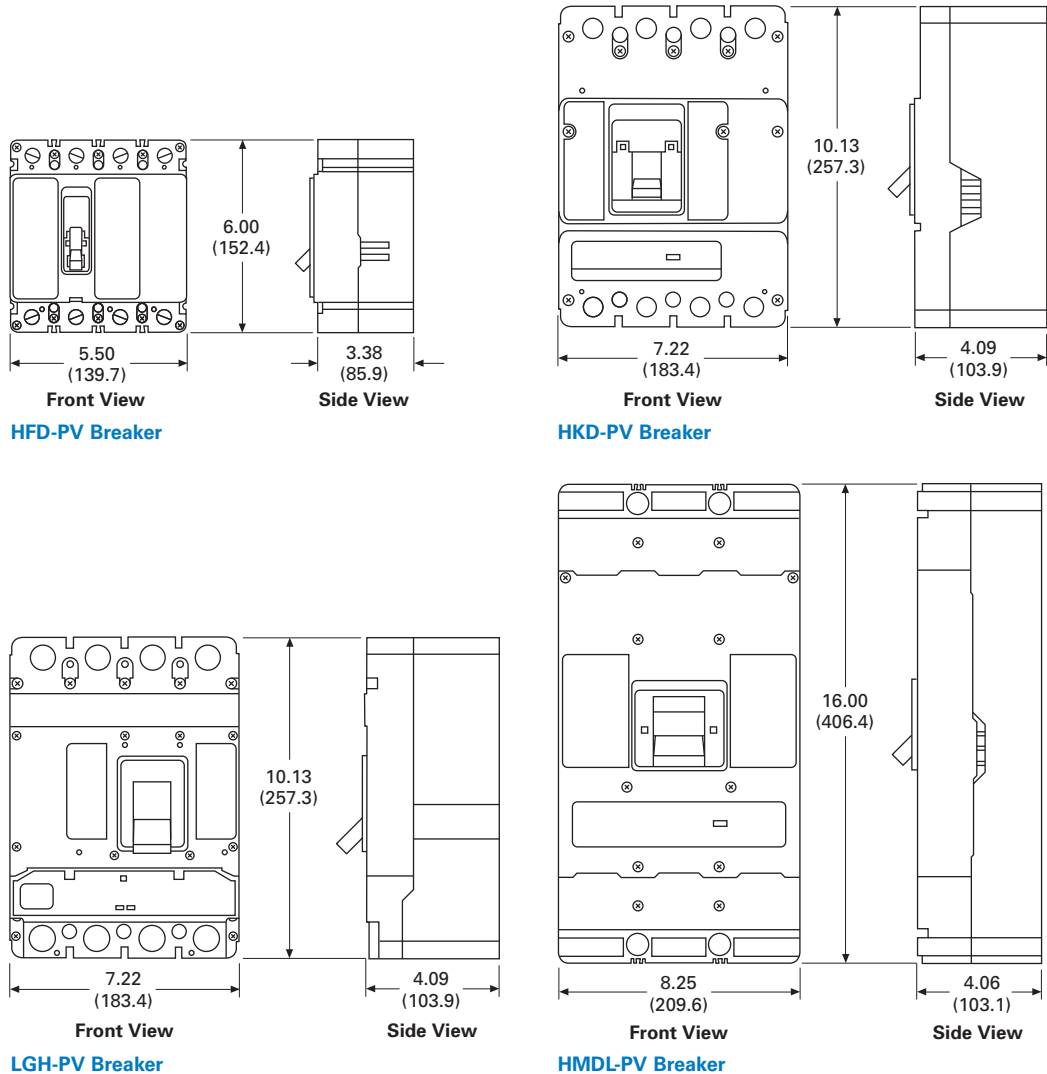
Optional modifications

- Freeze testing

PVGard Solar Photovoltaic Circuit Breakers

Description	Frame			
	HFD-PV	HKD-PV	LGH-PV	HMDL-PV
Ratings				
Number of poles	4	4	4	3
Ampere range	30–100A	125–250A	250–400A	300–600A
Maximum voltage rating	1000 Vdc	1000 Vdc	1000 Vdc	1000 Vdc
Interrupting capacity at 1000 Vdc	3 kA	3 kA	5 kA	7.5 kA
Design ambient temperature	50°C	50°C	50°C	50°C
Third-party certification	UL 489B	UL 489B	UL 489B	UL 489B
Suitable for reverse-feed applications	Yes	Yes	Yes	Yes
Terminations				
Al/Cu wire	#6–300 kcmil	(1) 250–500 kcmil	(2) #2–500 kcmil	(3) 3/0–400 kcmil
Cu wire	#4–4/0	(2) 2/0–250 kcmil or (1) 2/0–500 kcmil	(2) #2–500 kcmil	(3) 3/0–300 kcmil

Dimensions in inches (mm)



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