

Eaton Grid-Tied Solar Inverter (3.8–7 kW)

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Product Overview

The Eaton Grid-Tied Solar Inverter’s breakthrough technology and features deliver maximum return on investment for consumers. Eaton solar inverter units offer the highest efficiency and voltage operating ranges available in order to maximize energy yield.

Installation time and costs are greatly reduced through packaging the combiner box, AC/DC disconnects and wire raceway with the inverter. The design also simplifies service on the unit through a two-piece modular configuration, which allows the wiring box to remain connected and mounted if the need ever arises to replace the power module.

Features and Benefits

Ratings

- 3800W, 4000W, 5000W, 6000W, 7000W

Maximum Energy Harvest

- 97% CEC efficiency
- Broad voltage operating range (105–500 Vdc) for superior performance in low light and high temperature environments
- Transformerless design

Saves Installation Time and Cost

- Integrated PV system AC/DC disconnect switch
- Four branch circuit-rated negative and positive fused inputs
- Integrated NEC®-compliant wire raceway

Versatility in Installation

- Field-selectable voltage output: 208/240/277 Vac
- LCD display with side pushbutton for nighttime monitoring
- NEMA® 3R enclosure
- Two-piece modular design

Eaton Value

- A global leader in inverter technology
- Complete balance of system provider
- Eaton reputation for quality, support, and service
- Installation certification via Eaton Certified Contractor Network (ECCN)

Application Description

Available in four individual sizes: 4 kW, 5 kW, 6 kW and 7 kW respectively. The 4 kW unit has the ability to be field-converted to output 3.8 kW to accommodate lower rated AC loadcenters. This inverter family is to be used in grid-tied applications only, thus having the ability to feed power to the utility grid. The design focus of these residential/light commercial inverters was on maximizing energy harvest and minimizing installation time and cost. The inverters boast an extremely high efficiency and a wide DC voltage operating range, while fully integrating the complete balance of system into the unit, including a four-string DC combiner, a DC disconnect switch, an AC disconnect switch and a wire raceway.

Standards and Certifications

- ETL Listed (in compliance with UL® Std 1741)
- CSA® Listed (Std C22.2 No. 107.1)
- CEC Listed



Product Selection/Technical Data and Specifications

Eaton Grid-Tied Solar Inverter (3.8–7 kW)

Model	PV240	PV250	PV260	PV270
Input (DC)				
Nominal DC voltage	360V	360V	360V	360V
Maximum DC voltage	600V	600V	600V	600V
System startup voltage	150V	150V	150V	150V
Shutdown voltage	Typical 80V	Typical 80V	Typical 80V	Typical 80V
MPPT voltage range	105–500 V	105–500V	105–500V	105–500V
Full rating voltage range	225–500 V	200–500V	200–500V	200–500V
Maximum DC current	19A	26A	32A	37A
Number of DC input terminals	4	4	4	4
Output (AC)				
Nominal AC power at 240 Vac and 277 Vac	3800W	4000W	5000W	6000W
Nominal AC power at 208 Vac	3800W	3800W	4600W	7000W
Maximum AC power at 240 Vac and 277 Vac	3800W	4000W	5000W	7000W
Maximum AC power at 208 Vac	3800W	3800W	4600W	7000W
Nominal AC voltage	208V/240V/277V	208V/240V/277V	208V/240V/277V	208V/240V/277V
Nominal frequency	60Hz	60Hz	60Hz	60Hz
Disconnection time of excess operational frequency range	<0.16 sec	<0.16 sec	<0.16 sec	<0.16 sec
Nominal AC current at 208 Vac	18.3A	18.3A	22.1A	33.7A
Nominal AC current at 240 Vac	15.8A	16.7A	20.8A	29.2A
Nominal AC current at 277 Vac	13.7A	14.4A	18.1A	25.3A
Maximum AC current at 208 Vac	18.3A	18.5A	22.5A	35.0A
Maximum AC current at 240 Vac	15.8A	18.5A	22.5A	33.2A
Maximum AC current at 277 Vac	13.7A	16.4A	20.5A	28.7A
Power factor	> 0.99	> 0.99	> 0.99	> 0.99
Efficiency				
Peak efficiency	97.50%	97.50%	97.50%	97.50%
CEC efficiency	97%	97%	97%	97%
General Data				
Topology	Transformerless	Transformerless	Transformerless	Transformerless
Dimensions (W/H/D) inches	17.1/33.3/8.3	17.1/33.3/8.3	17.1/33.3/8.3	17.1/33.3/8.3
Weight (lbs)	86	90	101	101
Power consumption: standby/night	< 7W/< 0.2W	< 7W/< 0.2W	< 7W/< 0.2W	< 7W/< 0.2W
DC insulation resistance	> 4MΩ	> 4MΩ	> 4MΩ	> 4MΩ
Enclosure	NEMA 3R	NEMA 3R	NEMA 3R	NEMA 3R
Heat dissipation	Force air cooling, variable fan speed according to temperature on heat sink			
Operating temperature range	–25 to +50°C	–25 to +50°C	–25 to +50°C	–25 to +50°C
Humidity	0 to 95%, noncondensing	0 to 95%, noncondensing	0 to 95%, noncondensing	0 to 95%, noncondensing
Communication	RS-232/Super-485	RS-232/Super-485	RS-232/Super-485	RS-232/Super-485
Ground fault protection	Internal GFCI and Isolation detection function, in accordance with UL 1741			
Disconnect	Integrated AC and DC switch	Integrated AC and DC switch	Integrated AC and DC switch	Integrated AC and DC switch
Certifications	ETL (in compliance with UL 1741), CSA, CEC			
DC surge protection	4 kV	4 kV	4 kV	4 kV
AC surge protection	6 kV	6 kV	6 kV	6 kV

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Accessories

- Eaton Easy Logger Lite (ELL)—Used as a gateway for performance monitoring communications from the Solar Inverter. Connects to ProControl monitoring software

Dimensions

Approximate Dimensions in Inches (mm)

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Model	PV240	PV240	PV250	PV260	PV270
Nominal power output	3800W	4000W	5000W	6000W	7000W
Dimension WxHxD	17.10 (434.3) x 33.30 (845.8) x 8.3 (210.8)				
Gross weight lbs (kg)	86 (39)	86 (39)	90 (41)	101 (46)	101 (46)