Technical Note - Heat Generated by SolarEdge Inverters

Version History

- Version 1.4, March 2024: Added SE330K Inverter model to table
- Version 1.3, April 2023: updated for newer inverter models
- Version 1.2, November 2020: updated for newer inverter models
- Version 1.1, February 2018: updated for newer inverter models
- Version 1.0, July 2015: first version

Contents

Introduction

SolarEdge inverters are designed to be installed in indoor and outdoor locations. Like all power generating devices, SolarEdge inverters dissipate heat. When installing many inverters in a confined indoor space, the amount of heat generated might be of interest when designing the amount of cooling needed in the room. This technical note provides data on the amount of heat generated by the SolarEdge inverters.

Heat Generation of Inverters

The sources of heat in the inverter are the same mechanisms that determine the inverter efficiency. All the efficiency losses of the inverter are converted into heat. The amount of heat generated by the inverter depends on its model type and on the amount of power it is generating at any given time. The numbers in the tables below describe the peak heat generated by an inverter operating at full output power.

Indoor location ventilation and air-conditioning requirements depend on the number of inverters, installation power, room size, other heat sources in the room and existing room ventilation and location. Refer to the SolarEdge inverter installation manual to select the proper inverter mounting location and to verify proper clearance, allowing for proper inverter ventilation.

The sources of heat in the inverter are the same mechanisms that determine the inverter efficiency. Thus, all the efficiency losses of the inverter are converted into heat. The amount of heat generated by the inverter depends on its model type and on the amount of power it is generating at any given time. The numbers in the tables below describe the **peak** heat generated by an inverter operating at **full** output power.

Europe and APAC

Inverter model	Peak power [W]	Max power lost @ peak power [%]	Max heat generated @ peak power [W]	Max heat generated @ peak power [BTUs/hour][1]
SE2200	2200	2.4	52.8	180.2
SE3000	3000	2.4	72	245.7
SE3500	3500	2.5	87.5	298.6
SE4000	4000	2.5	100	341.2
SE5000	5000	2.6	130	443.6
SE6000	6000	2.6	156	532.3
SE2200H	2200	1.7	37.4	127.6
SE3000H	3000	1.2	36	122.8
SE3500H	3500	1.2	42	143.3
SE3680H	3680	1.2	44.2	150.7
SE4000H	4000	1.2	48	163.8
SE5000H	5000	1	50	170.6
SE6000H	6000	1	60	204.7
SE4K	4000	2.7	108	368.5
SE5K	5000	2.7	135	460.6
SE7K	7000	2.7	189	644.9
SE8K	8000	2.5	200	682.4
SE8K E-Series	8000	2.4	192	655.1
SE9K	9000	2.5	225	767.7
SE10K	10000	2.4	240	818.9
SE12.5K	12500	2.3	287.5	981
SE15K	15000	2.4	360	1228.3
SE16K	16000	2.3	368	1255.6
SE17K	17000	2.3	391	1334.1
SE25K	25000	2	500	1706
SE27.6K	27600	2	552	1883.4
SE30K	30000	2	600	2047.2
SE33.3K	33300	2	666	2272.4
SE50K	50000	2	1000	3412
SE55K	55000	2	1100	3753.2
SE66.6K	66600	2	1332	4544.8
SE82.8K	82800	2	1656	5650.2
SE100K	100000	2	2000	6824
SE20K	20000	2	400	1364
SE20.1K	20100	2	402	1371
SE24.75K	24750	2	495	1688
SE26.2K	26200	2	524	1787
SE40K	40000	2	800	2728
SE75K	75000	2	1500	5115
SE90K	90000	2	1800	6138
SE120K	120000	2	2400	8184
SE330K	330000	1.2	3960	13500

[1] 1 Watt = 3.412 BTU/hour

Technical Note - Heat Generated by SolarEdge Inverters

North America

Inverter model	Peak power [W]	Max power lost @ peak power [%]	Max heat generated @ peak power [W]	Max heat generated @ peak power [BTUs/hour][2]
SE3000A-US	3000	2.5	75	255.9
SE3800A-US	3800	2	76	259.3
SE5000A-US @208V	5000	2.5	125	426.5
SE5000A-US @240V	5000	2	100	341.2
SE6000A-US	6000	2.5	150	511.8
SE7600A-US	7600	2.5	190	648.3
SE10000A-US @208V	10000	3	300	1023.6
SE10000A-US @240V	10000	2.5	250	853
SE11400A-US	11400	2.5	285	972.4
SE3000H-US	3000	1	30	102.4
SE3800H-US	3800	0.8	30.4	103.7
SE5000H-US	5000	0.8	40	136.5
SE6000H-US	6000	0.8	48	163.8
SE7600H-US	7600	0.8	60.8	207.4
SE9KUS	9000	3.5	315	1074.8
SE10KUS	10000	2	200	682.4
SE14.4KUS	14400	3	432	1474
SE17.3K	17300	3	519	1770.8
SE20KUS	20000	2	400	1364.8
SE30KUS	30000	1.5	450	1535.4
SE33.3KUS	33300	1.5	495	1688.9
SE40K	40000	1.5	600	2047.2
SE43.2KUS	43200	3	1296	4421.9
SE66.6KUS	66600	1.5	999	3408.6
SE100KUS	100000	1.5	1500	5118
SE330KUS	330000	1.2	3960	13500

[2] 1 Watt = 3.412 BTU/hour

Support Contact Information

If you have technical problems concerning SolarEdge products, please contact us:

Before contact, make sure to have the following information at hand:

- Model and serial number of the product in question.
- The error indicated on the product SetApp mobile application LCD screen or on the monitoring platform or by the LEDs, if there is such an indication.
- System configuration information, including the type and number of modules connected and the number and length of strings.
- The communication method to the SolarEdge server, if the site is connected.
- The product's software version as it appears in the ID status screen.