

SC3 Series AC Drives Energy Efficiency Report

(Release date: 20230223 Version: Ver1.00)

According to GB/T 12668.902-2021/IEC 61800-9-2:2017

1. Product rated specifications

Model name	Input voltage (V)	Apparent output power (kVA)	Output power (kW)	Output current (A)	Standby loss (W)	Relative power loss (%)
SC3-021-0.2K	1PH 220V	0.6	0.2	1.8	3	0.49%
SC3-021-0.4K	1PH 220V	1	0.4	2.7	3	0.30%
SC3-021-0.75K	1PH 220V	1.5	0.75	4.5	3	0.21%
SC3-023-0.2K	3PH 220V	0.6	0.2	1.8	3	0.57%
SC3-023-0.4K	3PH 220V	1.2	0.4	3	4	0.31%
SC3-023-0.75K	3PH 220V	2	0.75	5	4	0.19%
SC3-023-1.5K	3PH 220V	3.2	1.5	8	4	0.11%
SC3-043-0.4K	3PH 440V	1	0.4	1.5	6	0.57%
SC3-043-0.75K	3PH 440V	2	0.75	2.6	6	0.29%
SC3-043-1.5K	3PH 440V	3	1.5	4.2	6	0.19%
SC3-021-1.5K	1PH 220V	2.5	1.5	8	4	0.16%
SC3-021-2.2K	1PH 220V	4.2	2.2	11	4	0.10%
SC3-023-2.2K	3PH 220V	4.2	2.2	11	4	0.10%
SC3-023-3.7K	3PH 220V	6.7	3.7	17.5	4	0.06%
SC3-043-2.2K	3PH 440V	4.6	2.2	6	6	0.14%
SC3-043-3.7K	3PH 440V	6.9	3.7	9	6	0.09%
SC3-043-5.5K	3PH 440V	9.2	5.5	12	6	0.07%
SC3-043-7.5K/11KF	3PH 440V	14	7.5	18	9	0.06%

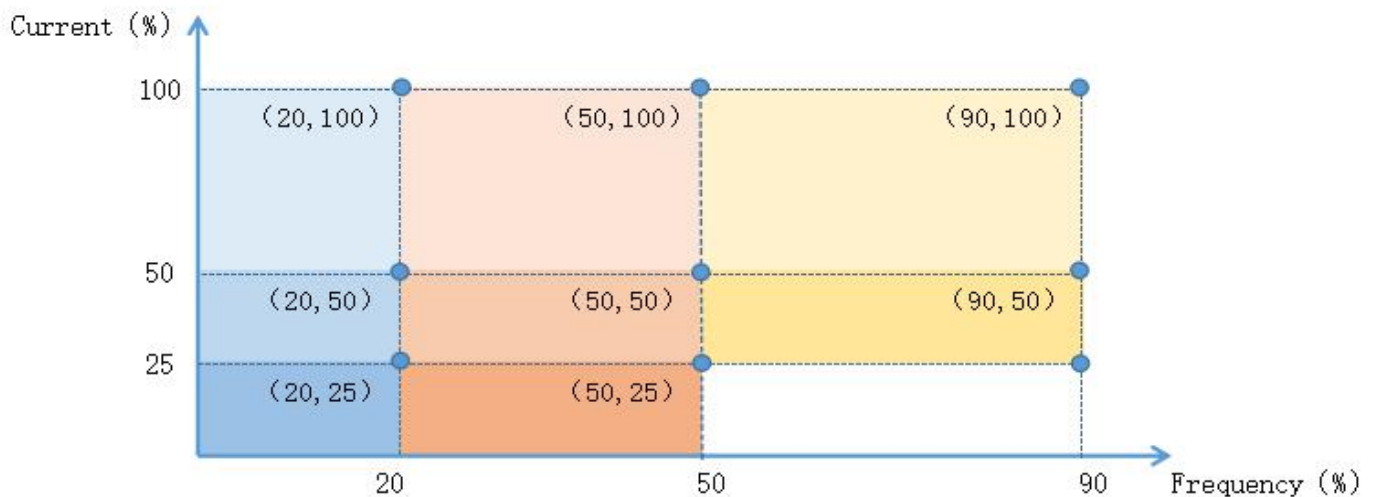
SC3-043-11K/15KF	3PH 440V	18	11	24	9	0.05%
SC3-043-15K/18.5KF	3PH 440V	25	15	32	9	0.04%
SC3-043-18.5K/22KF	3PH 440V	29	18.5	38	9	0.03%
SC3-043-22K	3PH 440V	34	22	45	9	0.03%

Note 1. The input power frequency of all the above models are 50/60HZ.

Note 2. The ambient temperature should be within 50°C, and for side-by-side installation, the ambient temperature should be within 40°C.

2. Reference operation points

Below are the 8 reference operation points by using 60HZ as 100% frequency and rated current as 100% current :



3. Power loss

Loss(W)	Reference operation points							
	(90, 100)	(90, 50)	(50, 100)	(50, 50)	(50, 25)	(20, 100)	(20, 50)	(20, 25)
SC3-021-0.2K	22	14	20	13	8	16	10	7
SC3-021-0.4K	33	20	27	17	11	24	14	10
SC3-021-0.75K	52	25	43	24	14	39	19	11
SC3-023-0.2K	21	14	19	13	9	17	10	8
SC3-023-0.4K	32	19	30	18	13	24	14	10

SC3-023-0.75K	57	27	51	25	15	41	21	12
SC3-023-1.5K	87	42	72	38	20	54	30	16
SC3-043-0.4K	29	23	26	17	15	20	15	14
SC3-043-0.75K	45	27	42	25	20	33	22	17
SC3-043-1.5K	80	44	74	41	26	53	26	23
SC3-021-1.5K	89	48	77	41	23	63	31	19
SC3-021-2.2K	124	63	107	56	28	86	43	26
SC3-023-2.2K	117	61	100	54	33	78	40	27
SC3-023-3.7K	167	98	135	85	45	129	65	34
SC3-043-2.2K	111	71	103	64	39	78	41	31
SC3-043-3.7K	146	77	143	71	49	115	49	37
SC3-043-5.5K	239	112	220	108	70	183	95	49
SC3-043-7.5K/11KF	293	156	263	143	82	208	109	65
SC3-043-11K/15KF	361	182	320	171	123	253	128	86
SC3-043-15K/18.5KF	574	274	489	255	152	352	168	107
SC3-043-18.5K/22KF	632	288	538	268	167	370	185	112
SC3-043-22K	794	364	676	339	210	468	232	142

4. Power loss rate and efficiency level

loss rate	Power loss rate with reference operation points(%)								IE class
	(90, 100)	(90, 50)	(50, 100)	(50, 50)	(50, 25)	(20, 100)	(20, 50)	(20, 25)	
Model name									
SC3-021-0.2K	3.67%	2.35%	3.33%	2.13%	1.37%	2.67%	1.62%	1.12%	IE2
SC3-021-0.4K	3.30%	1.95%	2.70%	1.66%	1.11%	2.38%	1.37%	0.98%	IE2
SC3-021-0.75K	3.47%	1.67%	2.87%	1.60%	0.94%	2.61%	1.27%	0.76%	IE2
SC3-023-0.2K	3.48%	2.32%	3.17%	2.13%	1.42%	2.75%	1.72%	1.28%	IE2
SC3-023-0.4K	2.67%	1.57%	2.50%	1.51%	1.05%	2.00%	1.18%	0.85%	IE2

SC3-023-0.75K	2.85%	1.37%	2.55%	1.27%	0.76%	2.05%	1.04%	0.61%	IE2
SC3-023-1.5K	2.72%	1.31%	2.25%	1.19%	0.62%	1.69%	0.94%	0.49%	IE2
SC3-043-0.4K	2.90%	2.30%	2.58%	1.74%	1.52%	2.03%	1.47%	1.40%	IE2
SC3-043-0.75K	2.25%	1.35%	2.10%	1.25%	1.01%	1.65%	1.10%	0.85%	IE2
SC3-043-1.5K	2.67%	1.47%	2.47%	1.35%	0.87%	1.77%	0.87%	0.76%	IE2
SC3-021-1.5K	3.56%	1.92%	3.08%	1.64%	0.94%	2.52%	1.24%	0.76%	IE2
SC3-021-2.2K	2.96%	1.50%	2.55%	1.33%	0.66%	2.04%	1.02%	0.61%	IE2
SC3-023-2.2K	2.79%	1.45%	2.38%	1.29%	0.79%	1.86%	0.95%	0.64%	IE2
SC3-023-3.7K	2.50%	1.46%	2.02%	1.27%	0.67%	1.93%	0.97%	0.51%	IE2
SC3-043-2.2K	2.41%	1.55%	2.25%	1.40%	0.85%	1.69%	0.89%	0.68%	IE2
SC3-043-3.7K	2.11%	1.12%	2.07%	1.03%	0.71%	1.66%	0.71%	0.53%	IE2
SC3-043-5.5K	2.60%	1.22%	2.39%	1.17%	0.77%	1.99%	1.03%	0.53%	IE2
SC3-043-7.5K/11KF	2.09%	1.11%	1.88%	1.02%	0.59%	1.49%	0.78%	0.46%	IE2
SC3-043-11K/15KF	2.01%	1.01%	1.78%	0.95%	0.68%	1.41%	0.71%	0.48%	IE2
SC3-043-15K/18.5KF	2.30%	1.10%	1.96%	1.02%	0.61%	1.41%	0.67%	0.43%	IE2
SC3-043-18.5K/22KF	2.18%	0.99%	1.86%	0.92%	0.58%	1.28%	0.64%	0.39%	IE2
SC3-043-22K	2.34%	1.07%	1.99%	1.00%	0.62%	1.38%	0.68%	0.42%	IE2

Note 1. All of the above inverter loss data are tested by adopting the " Input-output loss determination method for complete drive modules (CDM) " and are under a typical factory laboratory environment.

Note 2. The loss value of the inverter will be affected by the following factors: the inverter parameter settings (such as carrier frequency setting, torque boost, etc.), factory power voltage fluctuations, voltage harmonics, the type of motor used, the actual wiring, etc.