Type EP

Buck-Boost and Low Voltage Lighting Transformers

Product Description

Note: The following pages provide listings for most standard transformer ratings and catalog numbers. For other ratings or catalog numbers not shown, or for special enclosure types (including stainless steel), refer to Eaton.

Types EP, EPT

- Encapsulated design
- Suitable for indoor or outdoor applications
- Totally enclosed, non-ventilated enclosures
- Enclosures are NEMA 3R rated
- Mountable in any position indoors and upright-only outdoors
- 180°C insulation system
- 115°C rise standard; 80°C rise optional
- Available in single-phase ratings through 7.5 kVA

Application Description

A buck-boost transformer is used to provide an economical method of correcting a lower or higher voltage rating more suitable for efficient operation of electrical equipment. Type EP buck-boost transformers are small kVA, single-phase transformers with dual primary and dual secondary windings, and are usually connected as autotransformers by using one unit for single-phase applications and either two or three units banked for three-phase operation. They are primarily used for motor operation and should not be used for motor control circuits, to correct fluctuating line voltage or to obtain a neutral on a delta system. Buck-boost transformers are ideally suited for use with low voltage lighting systems, such as outdoor lighting.

Features, Benefits and Functions

- 60 Hz operation
- 600 volt class insulation
- Short-term overload capability as required by ANSI
- Meet NEMA ST-20 sound levels

Standards and Certifications

- UL listed
- CSA certified

Industry Standards

All Eaton dry-type distribution and control transformers are built and tested in accordance with applicable NEMA, ANSI and IEEE Standards. All 600 volt class transformers are UL listed unless otherwise noted.

Seismically Qualified

Eaton-manufactured dry-type distribution transformers are seismically qualified, and exceed requirements of the International Building Code (IBC) and California Code Title 24.

Catalog Number Selection

Please refer to Section 2.7 **Page V2-T2-187**.

Product Selection

For quick selection data, refer to the tables on this and the following pages.

Selection Requirements

You should have the following information before selecting a buck-boost transformer:

Line Voltage

The voltage that you want to buck (decrease) or boost (increase). This can be found by measuring the supply line voltage with a voltmeter.

Load Voltage

The voltage at which your equipment is designed to operate. This is listed on the nameplate of the load equipment.

Load Amperes or Load kVA

You do not need to know both—one or the other is sufficient for selection purposes. This information usually can be found on the nameplate of the equipment that you want to operate.

Frequency

The supply line frequency must be the same as the frequency of the equipment to be operated—Eaton's buck-boost transformers operate at 60 Hz only.

Phase

The supply line should be the same as the equipment to be operated—either single- or three-phase.

Transformer Interconnection

For three-phase applications, interconnections of transformers should be made in a junction box. Two or three transformers may be used depending on an open delta (2) or wye (3) connection.

5-Step Selector

The tables that follow will simplify the selection of the buck-boost transformers. There are no calculations needed; simply follow these five steps:

1. Refer to the table having the same output voltage as the equipment you want to operate. For example, if you are installing a 240 volt 6 kVA single-phase load use selection table on the page.
2. Select the available line voltage across the top of the chart that is closest to the actual supply voltage. Therefore, for example, if the available line voltage is 213 volts, use the 212 volt column.
3. Read down the column until you reach an output kVA or amps rating equal to or greater than the load requirements. Since 6 kVA, in the example, is not listed, use the next higher rating, or 7.5 kVA.
4. Read across to the far left columns for the catalog number and quantity of transformers for your application. In this case, you will need one (1) catalog number S10N06P01P.
5. Connect the buck-boost transformer(s) you have selected in accordance with the connection diagram specified at the bottom of the available line voltage column. In this example, Diagram "F" would be used.

Note: For single-phase connections and three-phase open delta connections, inputs and outputs may be reversed. kVA capacity remains constant.

Additional Product Selection information begins on **Page V2-T2-189**.

120 x 240 Volts to 12/24 Volts

kVA	°C Temp. Rise	Frame	Weight Lbs (kg)	Catalog Number
0.05	115	FR52	7 (3)	**S10N04A81N**
0.10	115	FR54	7 (3)	**S10N04A82N**
0.15	115	FR55	8 (4)	**S10N04A83N**
0.25	115	FR57P	12 (5)	**S10N04P26P**
0.50	115	FR57P	13 (5)	**S10N04P51P**
0.75	115	FR58AP	21 (10)	**S10N04P76P**
1	115	FR67P	31 (14)	**S10N04P01P**
1.5	115	FR67P	40 (18)	**S10N04P16P**
2	115	FR68P	40 (18)	**S10N04P02P**
3	115	FR176	65 (29)	**S10N04A03N**
5	115	FR177	113 (51)	**S10N04A05N**
7.5	115	FR178	123 (55)	**S10N04A07N**

120 x 240 Volts to 16/32 Volts

kVA	°C Temp. Rise	Frame	Weight Lbs (kg)	Catalog Number
0.05	115	FR52	7 (3)	**S10N06A81N**
0.10	115	FR54	7 (3)	**S10N06A82N**
0.15	115	FR55	8 (4)	**S10N06A83N**
0.25	115	FR57P	12 (5)	**S10N06P26P**
0.50	115	FR57P	13 (5)	**S10N06P51P**
0.75	115	FR58AP	21 (10)	**S10N06P76P**
1	115	FR67P	31 (14)	**S10N06P01P**
1.5	115	FR67P	40 (18)	**S10N06P16P**
2	115	FR68P	40 (18)	**S10N06P02P**
3	115	FR176	65 (29)	**S10N06A03N**
5	115	FR177	113 (51)	**S10N06A05N**
7.5	115	FR178	123 (55)	**S10N06A07N**

240 x 480 Volts to 24/48 Volts

kVA	°C Temp. Rise	Frame	Weight Lbs (kg)	Catalog Number
0.05	115	FR52	7 (3)	**S20N08A81N**
0.10	115	FR54	7 (3)	**S20N08A82N**
0.15	115	FR55	8 (4)	**S20N08A83N**
0.25	115	FR57P	12 (5)	**S20N08P26P**
0.50	115	FR57P	13 (5)	**S20N08P51P**
0.75	115	FR58AP	21 (10)	**S20N08P76P**
1	115	FR67P	31 (14)	**S20N08P01P**
1.5	115	FR67P	40 (18)	**S20N08P16P**
2	115	FR68P	40 (18)	**S20N08P02P**
3	115	FR176	65 (29)	**S20N08A03N**
5	115	FR177	113 (51)	**S20N08A05N**
7.5	115	FR178	123 (55)	**S20N08A07N**

Note

Frame drawings/dimensions information begins on **Page V2-T2-215**.

Single-Phase 115 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage 84 Output kVA	Amps	91 Output kVA	Amps	96 Output kVA	Amps	100 Output kVA	Amps	102 Output kVA	Amps	Catalog Number
1	0.05	—	—	—	—	0.24	2.09	—	—	—	—	**S10N04A81N**
1	0.05	0.13	1.14	0.18	1.56	—	—	0.31	2.70	0.36	3.13	**S10N06A81N**
1	0.10	—	—	—	—	0.48	4.17	—	—	—	—	**S10N04A82N**
1	0.10	0.26	2.29	0.36	3.12	—	—	0.62	5.41	0.72	6.25	**S10N06A82N**
1	0.15	—	—	—	—	0.72	6.25	—	—	—	—	**S10N04A83N**
1	0.15	0.39	3.44	0.54	4.69	—	—	0.93	8.12	1.08	9.37	**S10N06A83N**
1	0.25	—	—	—	—	1.2	10.4	—	—	—	—	**S10N04P26P**
1	0.25	0.659	5.73	0.899	7.81	—	—	1.56	13.5	1.8	15.6	**S10N06P26P**
1	0.50	—	—	—	—	2.4	20.8	—	—	—	—	**S10N04P51P**
1	0.50	1.32	11.5	1.8	15.6	—	—	3.11	27.1	3.59	31.2	**S10N06P51P**
1	0.75	—	—	—	—	3.6	31.2	—	—	—	—	**S10N04P76P**
1	0.75	1.98	17.2	2.7	23.4	—	—	4.67	40.6	5.39	46.8	**S10N06P76P**
1	1	—	—	—	—	4.79	41.7	—	—	—	—	**S10N04P01P**
1	1	2.64	22.9	3.59	31.2	—	—	6.23	54.1	7.19	62.5	**S10N06P01P**
1	1.5	—	—	—	—	7.2	62.5	—	—	—	—	**S10N04P16P**
1	1.5	3.95	34.4	5.39	46.9	—	—	9.34	81.2	10.8	93.7	**S10N06P16P**
1	2	—	—	—	—	9.58	83.3	—	—	—	—	**S10N04P02P**
1	2	5.27	45.8	7.19	62.5	—	—	12.5	108	14.4	125	**S10N06P02P**
1	3	—	—	—	—	14.37	125.1	—	—	—	—	**S10N04A03N**
1	3	7.92	68.7	10.77	93.6	—	—	18.69	162.3	21.57	187.5	**S10N06A03N**
1	5	—	—	—	—	23.95	208.5	—	—	—	—	**S10N04A05N**
1	5	13.2	115	18	156	—	—	31.15	270.5	35.95	312.5	**S10N06A05N**
1	7.5	—	—	—	—	36	312	—	—	—	—	**S10N04A07N**
1	7.5	19.8	172	27	234	—	—	46.7	406	53.9	468	**S10N06A07N**
Connection Diagram ②		D		B		B		C		A		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

Single-Phase 115 Volt Output Required, 60 Hz

		Input Available Voltage										
		105		127		130		138		146		
Units Required ①	Unit kVA	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Catalog Number
1	0.05	0.48	4.17	0.54	4.58	—	—	0.29	2.5	—	—	**S10N04A81N**
1	0.05	—	—	—	—	0.41	3.54	—	—	0.23	1.98	**S10N06A81N**
1	0.10	0.96	8.33	1.1	9.17	—	—	0.58	5.0	—	—	**S10N04A82N**
1	0.10	—	—	—	—	0.82	7.08	—	—	0.46	3.95	**S10N06A82N**
1	0.15	1.44	12.5	1.6	13.7	—	—	0.87	7.5	—	—	**S10N04A83N**
1	0.15	—	—	—	—	1.3	10.6	—	—	0.69	5.93	**S10N06A83N**
1	0.25	2.39	20.8	2.63	22.9	—	—	1.44	12.5	—	—	**S10N04P26P**
1	0.25	—	—	—	—	2.03	17.7	—	—	1.14	9.88	**S10N06P26P**
1	0.50	4.79	41.6	5.27	45.8	—	—	2.87	25	—	—	**S10N04P51P**
1	0.50	——	—	—	—	4.07	35.4	—	—	2.27	19.8	**S10N06P51P**
1	0.75	7.19	62.4	7.9	68.7	—	—	4.31	37.5	—	—	**S10N04P76P**
1	0.75	—	—	—	—	6.1	53.1	—	—	3.41	29.6	**S10N06P76P**
1	1	9.58	83.3	10.5	91.7	—	—	5.75	50	—	—	**S10N04P01P**
1	1	—	—	—	—	8.14	70.8	—	—	4.55	39.5	**S10N06P01P**
1	1.5	14.4	125	15.8	137	—	—	8.62	75	—	—	**S10N04P16P**
1	1.5	—	—	—	—	12.2	106	—	—	6.82	59.3	**S10N06P16P**
1	2	19.2	16.7	21.1	183	—	—	11.5	100	—	—	**S10N04P02P**
1	2	—	—	—	—	16.3	142	—	—	9.10	79.2	**S10N06P02P**
1	3	28.7	249.9	31.5	275.1	—	—	17.3	150	—	—	**S10N04A03N**
1	3	—	—	—	—	24.4	212.4	—	—	13.6	118.5	**S10N06A03N**
1	5	47.9	416.5	52.5	458.5	—	—	28.7	250	—	—	**S10N04A05N**
1	5	—	—	—	—	40.7	354	—	—	22.7	197.5	**S10N06A05N**
1	7.5	71.9	624	79	687	—	—	43.1	357	—	—	**S10N04A07N**
1	7.5	—	—	—	—	61	531	—	—	34.1	296	**S10N06A07N**
Connection Diagram ②		A		A		A		B		B		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

Single-Phase 120 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage 88 Output kVA	Amps	95 Output kVA	Amps	100 Output kVA	Amps	104 Output kVA	Amps	106 Output kVA	Amps	Catalog Number
1	0.05	—	—	—	—	0.25	2.09	—	—	—	—	**S10N04A81N**
1	0.05	0.14	1.15	0.19	1.56	—	—	0.33	2.70	0.38	3.13	**S10N06A81N**
1	0.10	—	—	—	—	0.50	4.17	—	—	—	—	**S10N04A82N**
1	0.10	0.28	2.29	0.38	3.12	—	—	0.65	5.41	0.75	6.25	**S10N06A82N**
1	0.15	—	—	—	—	0.75	6.25	—	—	—	—	**S10N04A83N**
1	0.15	0.41	3.44	0.56	4.69	—	—	0.98	8.12	1.12	9.37	**S10N06A83N**
1	0.25	—	—	—	—	1.25	10.4	—	—	—	—	**S10N04P26P**
1	0.25	0.687	5.73	0.937	7.81	—	—	1.62	13.5	1.87	15.6	**S10N06P26P**
1	0.50	—	—	—	—	2.5	20.8	—	—	—	—	**S10N04P51P**
1	0.50	1.37	11.5	1.87	15.6	—	—	3.25	27.1	3.75	31.2	**S10N06P51P**
1	0.75	—	—	—	—	3.75	31.2	—	—	—	—	**S10N04P76P**
1	0.75	2.06	17.2	2.82	23.4	—	—	4.87	40.6	5.62	46.8	**S10N06P76P**
1	1	—	—	—	—	5	41.7	—	——	—	—	**S10N04P01P**
1	1	2.75	22.9	3.75	31.2	—	—	6.5	54.1	7.5	62.5	**S10N06P01P**
1	1.5	—	—	—	—	7.5	62.5	—	—	—	—	**S10N04P16P**
1	1.5	4.12	34.4	5.62	46.9	—	—	9.75	81.2	11.2	93.7	**S10N06P16P**
1	2	—	—	—	—	10	83.3	—	—	—	—	**S10N04P02P**
1	2	5.5	45.8	7.5	62.5	—	—	13	108	15	125	**S10N06P02P**
1	3	—	—	—	—	15	125.1	—	—	—	—	**S10N04A03N**
1	3	8.25	68.7	11.25	93.6	—	—	19.5	162.3	22.5	187.5	**S10N06A03N**
1	5	—	—	—	—	25	208.5	—	—	—	—	**S10N04A05N**
1	5	13.75	114.5	18.75	156	—	—	32.5	270.5	37.5	312.5	**S10N06A05N**
1	7.5	—	—	—	—	37.5	312	—	—	—	—	**S10N04A07N**
1	7.5	20.6	172	28.2	234	—	—	48.7	406	56.2	468	**S10N06A07N**
Connection Diagram ②		D		B		B		C		A		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

Single-Phase 120 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage 109 Output kVA	Amps	132 Output kVA	Amps	136 Output kVA	Amps	144 Output kVA	Amps	152 Output kVA	Amps	Catalog Number
1	0.05	0.5	4.17	0.55	4.58	—	—	0.3	2.5	—	—	**S10N04A81N**
1	0.05	—	—	—	—	0.43	3.54	—	—	0.24	1.98	**S10N06A81N**
1	0.10	1.0	8.33	1.1	9.17	—	—	0.6	5.0	—	—	**S10N04A82N**
1	0.10	—	—	—	—	0.85	7.08	—	—	0.48	3.95	**S10N06A82N**
1	0.15	1.5	12.5	1.6	13.7	—	—	0.9	7.5	—	—	**S10N04A83N**
1	0.15	—	—	—	—	1.27	10.6	—	—	0.71	5.93	**S10N06A83N**
1	0.25	2.5	20.8	2.75	22.9	—	—	1.5	12.5	—	—	**S10N04P26P**
1	0.25	—	—	—	—	2.12	17.7	—	—	1.19	9.88	**S10N06P26P**
1	0.50	5	41.6	5.5	45.8	—	—	3	25	—	—	**S10N04P51P**
1	0.50	—	—	—	—	4.25	35.4	—	—	2.37	19.8	**S10N06P51P**
1	0.75	7.5	62.4	8.25	68.7	—	—	4.5	37.5	—	—	**S10N04P76P**
1	0.75	—	—	—	—	6.37	53.1	—	—	3.56	29.6	**S10N06P76P**
1	1	10	83.3	11	91.7	—	—	6	50	—	—	**S10N04P01P**
1	1	—	—	—	—	8.5	70.8	—	—	4.75	39.5	**S10N06P01P**
1	1.5	15	125	16.5	137	—	—	9	75	—	—	**S10N04P16P**
1	1.5	—	—	—	—	12.7	106	—	—	7.12	59.3	**S10N06P16P**
1	2	20	167	22	183	—	—	12	100	—	—	**S10N04P02P**
1	2	—	—	—	—	17	142	—	—	9.5	79.2	**S10N06P02P**
1	3	30	249.9	33	275.1	—	—	18	150	—	—	**S10N04A03N**
1	3	—	—	—	—	25.5	212.4	—	—	14.25	118.5	**S10N06A03N**
1	5	50	416.5	55	458.5	—	—	30	250	—	—	**S10N04A05N**
1	5	—	—	—	—	42.5	354	—	—	23.7	197.5	**S10N06A05N**
1	7.5	75	624	82.5	687	—	—	45	375	—	—	**S10N04A07N**
1	7.5	—	—	—	—	63.7	531	—	—	35.6	296	**S10N06A07N**
Connection Diagram ②		A		A		A		B		B		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

2

Single-Phase 230 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage 199 Output kVA	Amps	203 Output kVA	Amps	207 Output kVA	Amps	209 Output kVA	Amps	216 Output kVA	Amps	Catalog Number
1	0.05	—	—	—	—	0.43	1.88	0.48	2.08	—	—	**S10N04A81N**
1	0.05	0.31	1.36	0.36	1.56	—	—	—	—	0.72	3.12	**S10N06A81N**
1	0.10	—	—	—	—	0.86	3.75	0.96	4.17	—	—	**S10N04A82N**
1	0.10	0.62	2.71	0.72	3.12	—	—	—	—	1.44	6.25	**S10N06A82N**
1	0.15	—	—	—	—	1.29	5.62	1.44	6.25	—	—	**S10N04A83N**
1	0.15	0.93	4.06	1.08	4.69	—	—	—	—	2.16	9.37	**S10N06A83N**
1	0.25	—	—	—	—	2.15	9.37	2.39	10.4	—	—	**S10N04P26P**
1	0.25	1.55	6.77	1.8	7.81	—	—	—	—	3.59	15.6	**S10N06P26P**
1	0.50	—	—	—	—	4.31	18.7	4.79	20.8	—	—	**S10N04P51P**
1	0.50	3.11	13.5	3.6	15.6	—	—	—	—	7.19	31.2	**S10N06P51P**
1	0.75	—	—	—	—	6.46	28.2	7.19	31.2	—	—	**S10N04P76P**
1	0.75	4.66	20.3	5.4	23.4	—	—	—	—	10.8	46.8	**S10N06P76P**
1	1	—	—	—	—	8.62	37.5	9.58	41.7	—	—	**S10N04P01P**
1	1	6.23	27.1	7.2	31.2	—	—	—	—	14.4	62.5	**S10N06P01P**
1	1.5	—	—	—	—	12.9	56.2	14.4	62.5	—	—	**S10N04P16P**
1	1.5	9.34	40.6	10.8	46.9	—	—	—	—	21.6	93.7	**S10N06P16P**
1	2	—	—	—	—	17.2	75	19.2	83.3	—	—	**S10N04P02P**
1	2	12.5	54.2	14.4	62.5	—	—	—	—	28.7	125	**S10N06P02P**
1	3	—	—	—	—	25.8	112.5	28.7	125.1	—	—	**S10N04A03N**
1	3	18.6	81.3	21.6	93.6	—	—	—	—	43.2	187.5	**S10N06A03N**
1	5	—	—	—	—	43.1	187.5	47.9	208.5	—	—	**S10N04A05N**
1	5	31.1	135.5	36	156	—	—	—	—	72	312.5	**S10N06A05N**
1	7.5	—	—	—	—	64.6	282	71.9	312	—	—	**S10N04A07N**
1	7.5	46.6	203	54	234	—	—	—	—	108	468	**S10N06A07N**
Connection Diagram ②		G		F		G		F		E		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

Single-Phase 230 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage 219 Output kVA	Amps	242 Output kVA	Amps	246 Output kVA	Amps	253 Output kVA	Amps	260 Output kVA	Amps	Catalog Number
1	0.05	0.96	4.16	1.0	4.38	—	—	0.53	2.29	—	—	**S10N04A81N**
1	0.05	—	—	—	—	0.77	3.34	—	—	0.41	1.77	**S10N06A81N**
1	0.10	1.92	8.33	2.01	8.75	—	—	1.05	4.58	—	—	**S10N04A82N**
1	0.10	—	—	—	—	1.53	6.67	—	—	0.82	3.54	**S10N06A82N**
1	0.15	2.87	12.5	3.02	13.1	—	—	1.58	6.87	—	—	**S10N04A83N**
1	0.15	—	—	—	—	2.3	10.0	—	—	1.22	5.31	**S10N06A83N**
1	0.25	4.79	20.8	5.03	21.9	—	—	2.63	11.5	—	—	**S10N04P26P**
1	0.25	—	—	—	—	3.83	16.7	—	—	2.04	8.85	**S10N06P26P**
1	0.50	9.58	41.6	10.1	43.7	—	—	5.27	22.9	—	—	**S10N04P51P**
1	0.50	—	—	—	—	7.67	33.3	—	—	4.07	17.7	**S10N06P51P**
1	0.75	14.4	62.4	15.1	65.6	—	—	7.9	34.4	—	—	**S10N04P76P**
1	0.75	—	—	—	—	11.5	50	—	—	6.11	26.6	**S10N06P76P**
1	1	19.2	83.3	20.1	87.5	—	—	10.5	45.8	—	—	**S10N04P01P**
1	1	—	—	—	—	15.3	66.7	—	—	8.15	35.4	**S10N06P01P**
1	1.5	28.7	125	30.2	131	—	—	15.8	68.7	—	—	**S10N04P16P**
1	1.5	—	—	—	—	23	100	—	—	12.2	53.1	**S10N06P16P**
1	2	38.3	167	40.2	175	—	—	21.1	91.7	—	—	**S10N04P02P**
1	2	—	—	—	—	30.7	133	—	—	16.3	70.8	**S10N06P02P**
1	3	57.6	249.9	60.3	262.5	—	—	31.5	137.4	—	—	**S10N04A03N**
1	3	—	—	—	—	45.9	200.1	—	—	24.4	106.2	**S10N06A03N**
1	5	96	416.5	100.5	437.5	—	—	52.5	229	—	—	**S10N04A05N**
1	5	—	—	—	—	76.5	333.5	—	—	40.7	177	**S10N06A05N**
1	7.5	144	624	151	656	—	—	79	344	—	—	**S10N04A07N**
1	7.5	—	—	—	—	115	500	—	—	61.1	266	**S10N06A07N**
Connection Diagram ②		E		E		E		F		F		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

2

Single-Phase 240 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage 208 Output kVA	Amps	212 Output kVA	Amps	216 Output kVA	Amps	218 Output kVA	Amps	225 Output kVA	Amps	Catalog Number
1	0.05	—	—	—	—	0.45	1.88	0.5	2.08	—	—	**S10N04A81N**
1	0.05	0.32	1.35	0.38	1.56	—	—	—	—	0.75	3.12	**S10N06A81N**
1	0.10	—	—	—	—	0.9	3.75	1.0	4.17	—	—	**S10N04A82N**
1	0.10	0.65	2.71	0.75	3.12	—	—	—	—	1.5	6.25	**S10N06A82N**
1	0.15	—	—	—	—	1.35	5.62	1.5	6.25	—	—	**S10N04A83N**
1	0.15	0.98	4.06	1.12	4.69	—	—	—	—	2.25	9.37	**S10N06A83N**
1	0.25	—	—	—	—	2.25	9.37	2.5	10.4	—	—	**S10N04P26P**
1	0.25	1.62	6.77	1.87	7.81	—	—	—	—	3.75	15.6	**S10N06P26P**
1	0.50	—	—	—	—	4.5	18.7	5	20.8	—	—	**S10N04P51P**
1	0.50	3.25	13.5	3.75	15.6	—	—	—	—	7.5	31.2	**S10N06P51P**
1	0.75	—	—	—	—	6.75	28.2	7.5	31.2	—	—	**S10N04P76P**
1	0.75	4.87	20.3	5.62	23.4	—	—	—	—	11.2	46.8	**S10N06P76P**
1	1	—	—	—	—	9	37.5	10	41.7	—	—	**S10N04P01P**
1	1	6.5	27.1	7.5	31.2	—	—	—	—	15	62.5	**S10N06A01**
1	1.5	—	—	—	—	13.5	56.2	15	62.5	—	—	**S10N04P16P**
1	1.5	9.75	40.6	11.2	46.9	—	—	—	—	22.5	93.7	**S10N06P16P**
1	2	—	—	—	—	18	75	20	83.3	—	—	**S10N04P02P**
1	2	13	54.2	15	62.5	—	—	—	—	30	125	**S10N06P02P**
1	3	—	—	—	—	27	112.5	30	125.1	—	—	**S10N04A03N**
1	3	19.5	81.3	22.5	93.6	—	—	—	—	45	187.5	**S10N06A03N**
1	5	—	—	—	—	45	187	50	208	—	—	**S10N04A05N**
1	5	32.5	135	37.5	156	—	—	—	—	75	312	**S10N06A05N**
1	7.5	—	—	—	—	67.5	282	75	312	—	—	**S10N04A07N**
1	7.5	48.7	203	56.2	234	—	—	—	—	112	468	**S10N06A07N**
Connection Diagram ②		G		F		G		F		E		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

Single-Phase 240 Volt Output Required, 60 Hz

		Input Available Voltage										
		229		252		256		264		272		
Units Required ①	Unit kVA	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Catalog Number
1	0.05	1.0	4.16	1.05	4.38	—	—	0.55	2.29	—	—	**S10N04A81N**
1	0.05	—	—	—	—	0.8	3.33	—	—	0.42	1.77	**S10N06A81N**
1	0.10	2.0	8.33	2.1	8.75	—	—	1.1	4.58	—	—	**S10N04A82N**
1	0.10	—	—	—	—	1.6	6.67	—	—	0.85	3.54	**S10N06A82N**
1	0.15	3.0	12.5	3.15	13.1	—	—	1.65	6.87	—	—	**S10N04A83N**
1	0.15	—	—	—	—	2.4	10.0	—	—	1.27	5.31	**S10N06A83N**
1	0.25	5	20.8	5.25	21.9	—	—	2.75	11.5	—	—	**S10N04P26P**
1	0.25	—	—	—	—	4	16.7	—	—	2.12	8.85	**S10N06P26P**
1	0.50	10	41.6	10.5	43.7	—	—	5.5	22.9	—	—	**S10N04P51P**
1	0.50	—	—	—	—	8	33.3	—	—	4.25	17.7	**S10N06P51P**
1	0.75	15	62.4	15.7	65.6	—	—	8.25	34.4	—	—	**S10N04P76P**
1	0.75	—	—	—	—	12	50	—	—	6.37	26.6	**S10N06P76P**
1	1	20	83.3	21	87.5	—	—	11	45.8	—	—	**S10N04P01P**
1	1	—	—	—	—	16	66.7	—	—	8.5	35.4	**S10N06P01P**
1	1.5	30	125	31.5	131	—	—	16.5	68.7	—	—	**S10N04P16P**
1	1.5	—	—	—	—	24	100	—	—	12.7	53.1	**S10N06P16P**
1	2	40	167	42	175	—	—	22	91.7	—	—	**S10N04P02P**
1	2	—	—	—	—	32	133	—	—	17	70.8	**S10N06P02P**
1	3	60	249.9	63	262.5	—	—	33	137.4	—	—	**S10N04A03N**
1	3	—	—	—	—	48	200.1	—	—	25.5	106.2	**S10N06A03N**
1	5	100	416.5	105	437.5	—	—	55	229	—	—	**S10N04A05N**
1	5	—	—	—	—	80	333	—	—	42.5	177	**S10N06A05N**
1	7.5	150	624	157	656	—	—	82.5	344	—	—	**S10N04A07N**
1	7.5	—	—	—	—	120	500	—	—	63.7	266	**S10N06A07N**
Connection Diagram ②		E		E		E		F		F		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

2

Three-Phase Open Delta Connection 230 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage 199 Output kVA	Amps	203 Output kVA	Amps	207 Output kVA	Amps	209 Output kVA	Amps	216 Output kVA	Amps	Catalog Number
2	0.05	—	—	—	—	0.75	1.87	0.83	2.08	—	—	**S10N04A81N**
2	0.05	0.54	1.35	0.62	1.56	—	—	—	—	1.24	3.12	**S10N06A81N**
2	0.10	—	—	—	—	1.49	3.75	1.66	4.17	—	—	**S10N04A82N**
2	0.10	1.08	2.71	1.24	3.12	—	—	—	—	2.49	6.25	**S10N06A82N**
2	0.15	—	—	—	—	2.24	5.62	2.49	6.25	—	—	**S10N04A83N**
2	0.15	1.62	4.06	1.87	4.69	—	—	—	—	3.73	9.37	**S10N06A83N**
2	0.25	—	—	—	—	3.3	9.37	4.15	10.4	—	—	**S10N04P26P**
2	0.25	2.7	6.77	3.11	7.81	—	—	—	—	6.22	15.6	**S10N06P26P**
2	0.50	—	—	—	—	7.47	18.7	8.3	20.8	—	—	**S10N04P51P**
2	0.50	5.39	13.5	6.22	15.6	—	—	—	—	12.4	31.2	**S10N06P51P**
2	0.75	—	—	—	—	11.2	28.2	12.4	31.2	—	—	**S10N04P76P**
2	0.75	8.09	20.3	9.33	23.4	—	—	—	—	18.7	46.8	**S10N06P76P**
2	1	—	—	—	—	14.9	37.5	16.6	41.7	—	—	**S10N04P01P**
2	1	10.8	27.1	12.4	31.2	—	—	—	—	24.9	62.5	**S10N06P01P**
2	1.5	—	—	—	—	22.4	56.2	24.9	62.5	—	—	**S10N04P16P**
2	1.5	16.2	40.6	18.7	46.9	—	—	—	—	37.3	93.7	**S10N06P16P**
2	2	—	—	—	—	29.9	75	33.2	83.3	—	—	**S10N04P02P**
2	2	21.6	54.2	24.9	62.5	—	—	—	—	49.8	125	**S10N06P02P**
2	3	—	—	—	—	44.7	112.5	49.8	125.1	—	—	**S10N04A03N**
2	3	32.4	81.3	32.7	93.6	—	—	—	—	74.7	187.5	**S10N06A03N**
2	5	—	—	—	—	74.7	187	83	208	—	—	**S10N04A05N**
2	5	53.9	135	62.2	156	—	—	—	—	124	312.5	**S10N06A05N**
2	7.5	—	—	—	—	112	282	124	312	—	—	**S10N04A07N**
2	7.5	80.9	203	93.3	234	—	—	—	—	187	468	**S10N06A07N**
Connection Diagram ②		L		K		L		K		I		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

2

Three-Phase Open Delta Connection 230 Volt Output Required, 60 Hz

		Input Available Voltage										
		219		242		246		253		260		
Units Required ①	Unit kVA	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Catalog Number
2	0.05	1.66	4.17	1.74	4.37	—	—	0.91	2.29	—	—	**S10N04A81N**
2	0.05	—	—	—	—	1.33	3.33	—	—	0.70	1.77	**S10N06A81N**
2	0.10	3.32	8.33	3.48	8.75	—	—	1.83	4.58	—	—	**S10N04A82N**
2	0.10	—	—	—	—	2.65	6.67	—	—	1.41	3.54	**S10N06A82N**
2	0.15	4.98	12.5	5.23	13.1	—	—	2.74	6.87	—	—	**S10N04A83N**
2	0.15	—	—	—	—	3.98	10.0	—	—	2.12	5.13	**S10N06A83N**
2	0.25	8.3	20.8	8.71	21.9	—	—	4.56	11.5	—	—	**S10N04P26P**
2	0.25	—	—	—	—	6.64	16.7	—	—	3.52	8.85	**S10N06P26P**
2	0.50	16.6	41.7	17.4	43.7	—	—	9.73	22.9	—	—	**S10N04P51P**
2	0.50	—	—	—	—	13.3	33.3	—	—	7.05	17.7	**S10N06P51P**
2	0.75	24.9	62.4	26.1	65.6	—	—	13.7	34.4	—	—	**S10N04P76P**
2	0.75	—	—	—	—	19.9	50	—	—	10.6	26.6	**S10N06P76P**
2	1	33.2	83.3	34.8	87.5	—	—	18.3	45.8	—	—	**S10N04P01P**
2	1	—	—	—	—	26.5	66.7	—	—	14.1	35.4	**S10N06P01P**
2	1.5	49.8	125	52.3	131	—	—	27.4	68.7	—	—	**S10N04P16P**
2	1.5	—	—	—	—	39.8	100	—	—	21.2	53.1	**S10N06P16P**
2	2	66.4	167	69.7	175	—	—	36.5	91.7	—	—	**S10N04P02P**
2	2	—	—	—	—	53.1	133	—	—	28.2	70.8	**S10N06P02P**
2	3	99.6	249.9	104.4	262.5	—	—	54.9	137.4	—	—	**S10N04A03N**
2	3	—	—	—	—	79.5	200	—	—	42.3	106.2	**S10N06A03N**
2	5	166	417	174	437	—	—	91.3	229	—	—	**S10N04A05N**
2	5	—	—	—	—	133	333	—	—	70.5	177	**S10N06A05N**
2	7.5	249	624	261	656	—	—	137	344	—	—	**S10N04A07N**
2	7.5	—	—	—	—	199	500	—	—	106	266	**S10N06A07N**
Connection Diagram ②		I		I		I		K		K		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

2

Three-Phase Open Delta Connection 240 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage 208 Output kVA	Amps	212 Output kVA	Amps	216 Output kVA	Amps	218 Output kVA	Amps	225 Output kVA	Amps	Catalog Number
2	0.05	—	—	—	—	0.73	1.87	0.87	2.08	—	—	**S10N04A81N**
2	0.05	0.56	1.35	0.65	1.56	—	—	—	—	1.3	3.12	**S10N06A81N**
2	0.10	—	—	—	—	1.56	3.75	1.73	4.17	—	—	**S10N04A82N**
2	0.10	1.13	2.71	1.3	3.12	—	—	—	—	2.6	6.25	**S10N06A82N**
2	0.15	—	—	—	—	2.34	5.62	2.6	6.25	—	—	**S10N04A83N**
2	0.15	1.69	4.06	1.95	4.69	—	—	—	—	3.9	9.37	**S10N06A83N**
2	0.25	——	—	—	—	3.9	9.37	4.33	10.4	—	—	**S10N04P26P**
2	0.25	2.81	6.77	3.25	7.81	—	—	—	—	6.49	15.6	**S10N06P26P**
2	0.50	—	—	—	—	7.79	18.7	8.66	20.8	—	—	**S10N04P51P**
2	0.50	5.63	13.5	6.5	15.6	——	—	—	—	13	31.2	**S10N06P51P**
2	0.75	—	—	—	—	11.7	28.2	13	31.2	—	—	**S10N04P76P**
2	0.75	8.44	20.3	9.75	23.4	—	—	—	—	19.5	46.8	**S10N06P76P**
2	1	—	—	—	—	15.6	37.5	17.3	41.7	—	—	**S10N04P01P**
2	1	11.3	27.1	13	31.2	—	—	—	—	26	62.5	**S10N06P01P**
2	1.5	—	—	—	—	23.4	56.2	26	62.5	—	—	**S10N04P16P**
2	1.5	16.9	40.6	19.5	46.9	—	—	—	—	39	93.7	**S10N06P16P**
2	2	—	—	—	—	31.2	75	34.6	83.3	—	—	**S10N04P02P**
2	2	22.5	54.2	26	62.5	—	—	—	—	52	125	**S10N06P02P**
2	3	—	—	—	—	46.8	112.5	51.9	125.1	—	—	**S10N04A03N**
2	3	33.9	81.3	39	93.6	—	—	—	—	78	187.5	**S10N06A03N**
2	5	—	—	—	—	77.9	187	86.6	208	—	—	**S10N04A05N**
2	5	56.3	135	65	156	—	—	—	—	130	312	**S10N06A05N**
2	7.5	—	—	—	—	117	282	130	312	—	—	**S10N04A07N**
2	7.5	84.4	203	97.5	234	—	—	—	—	195	468	**S10N06A07N**
Connection Diagram ②		L		K		L		K		I		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

Three-Phase Open Delta Connection 240 Volt Output Required, 60 Hz

		Input Available Voltage										
		229		252		256		264		272		
Units Required ①	Unit kVA	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Catalog Number
2	0.05	1.73	4.16	1.82	4.37	—	—	0.95	2.29	—	—	**S10N04A81N**
2	0.05	—	—	—	—	1.38	3.33	—	—	0.74	1.77	**S10N06A81N**
2	0.10	3.46	8.33	3.64	8.75	—	—	1.91	4.58	—	—	**S10N04A82N**
2	0.10	—	—	—	—	2.77	6.67	—	—	1.47	3.54	**S10N06A82N**
2	0.15	5.19	12.5	5.45	13.1	—	—	2.86	6.87	—	—	**S10N04A83N**
2	0.15	—	—	—	—	4.15	10.0	—	—	2.21	5.31	**S10N06A83N**
2	0.25	8.66	20.8	9.09	21.9	—	—	4.76	11.5	—	—	**S10N04P26P**
2	0.25	—	—	—	—	6.92	16.7	—	—	3.68	8.85	**S10N06P26P**
2	0.50	17.3	41.6	18.2	43.7	—	—	9.53	22.9	—	—	**S10N04P51P**
2	0.50	—	—	—	—	13.8	33.3	—	—	7.36	17.7	**S10N06P51P**
2	0.75	26	62.4	27.3	65.6	—	—	14.3	34.4	—	—	**S10N04P76P**
2	0.75	—	—	—	—	20.8	50	—	—	11	26.6	**S10N06P76P**
2	1	34.6	83.3	36.4	87.5	—	—	19.1	45.8	—	—	**S10N04P01P**
2	1	—	—	—	—	27.7	66.7	—	—	14.7	35.4	**S10N06P01P**
2	1.5	51.9	125	54.5	131	—	—	28.6	68.7	—	—	**S10N04P16P**
2	1.5	—	—	—	—	41.5	100	—	—	22.1	53.1	**S10N06P16P**
2	2	69.3	167	72.7	175	—	—	38.1	91.7	—	—	**S10N04P02P**
2	2	—	—	—	—	55.4	133	—	—	29.4	70.8	**S10N06P02P**
2	3	103.8	249.9	109.2	262.5	—	—	57.3	137.4	—	—	**S10N04A03N**
2	3	—	—	—	—	83.1	200	—	—	44.1	106.2	**S10N06A03N**
2	5	173	416	182	437	—	—	95.3	229	—	—	**S10N04A05N**
2	5	—	—	—	—	138	333	—	—	73.6	177	**S10N06A05N**
2	7.5	260	624	273	656	—	—	143	344	—	—	**S10N04A07N**
2	7.5	—	—	—	—	208	500	—	—	110	266	**S10N06A07N**
Connection Diagram ②		I		I		I		K		K		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

WARNING! Three-phase autotransformers should never be used to obtain four-wire output with three-wire input. Four-wire output requires four-wire wye input.

Three-Phase Wye Connection 208 Volt Output Required, 60 Hz

		Input Available Voltage										
		152		164		173		180		184		
Units Required ①	Unit kVA	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Catalog Number
3	0.05	—	—	—	—	0.75	2.08	—	—	—	—	**S10N04A81N**
3	0.05	0.41	1.15	0.56	1.56	—	—	0.98	2.71	1.12	3.12	**S10N06A81N**
3	0.10	—	—	—	—	1.50	4.17	—	—	—	—	**S10N04A82N**
3	0.10	0.82	2.29	1.12	3.12	—	—	1.95	5.41	2.25	6.25	**S10N06A82N**
3	0.15	—	—	—	—	2.25	6.25	—	—	—	—	**S10N04A83N**
3	0.15	1.24	3.44	1.69	4.69	—	—	2.92	8.12	3.73	9.37	**S10N06A83N**
3	0.25	—	—	—	—	3.75	10.4	—	—	—	—	**S10N04P26P**
3	0.25	2.06	5.73	2.81	7.81	—	—	4.87	13.5	5.62	15.6	**S10N06P26P**
3	0.50	—	—	—	—	7.5	20.8	—	—	—	—	**S10N04P51P**
3	0.50	4.12	11.5	5.62	15.6	—	—	9.75	27.1	11.2	31.2	**S10N06P51P**
3	0.75	—	—	—	—	11.2	31.2	—	—	—	—	**S10N04P76P**
3	0.75	6.19	17.2	8.44	23.4	—	—	14.6	40.6	16.8	46.8	**S10N06P76P**
3	1	—	—	—	—	15	41.7	—	—	—	—	**S10N04P01P**
3	1	8.25	22.9	11.2	31.2	—	—	19.5	54.1	22.5	62.5	**S10N06P01P**
3	1.5	—	—	—	—	22.5	62.5	—	—	—	—	**S10N04P16P**
3	1.5	12.4	34.4	16.9	46.9	—	—	29.2	81.2	33.7	93.7	**S10N06P16P**
3	2	—	—	—	—	30	83.3	—	—	—	—	**S10N04P02P**
3	2	16.5	45.8	22.5	62.5	—	—	39	108	45	125	**S10N06P02P**
3	3	—	—	—	—	45	125	—	—	—	—	**S10N04A03N**
3	3	24.7	68.7	33.6	93.6	—	—	58.5	162.3	67.5	187.5	**S10N06A03N**
3	5	—	—	—	—	75	208	—	—	—	—	**S10N04A05N**
3	5	41.2	115	56.2	156	—	—	97.5	271	112	312	**S10N06A05N**
3	7.5	—	—	—	—	112	312	—	—	—	—	**S10N04A07N**
3	7.5	61.9	172	84.4	234	—	—	146	406	168	468	**S10N06A07N**
Connection Diagram ②		P		N		N		O		M		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

WARNING! Three-phase autotransformers should never be used to obtain four-wire output with three-wire input. Four-wire output requires four-wire wye input.

Three-Phase Wye Connection 208 Volt Output Required, 60 Hz

		Input Available Voltage										
		189		229		236		250		264		
Units Required ①	Unit kVA	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Catalog Number
3	0.05	1.5	4.16	1.65	4.58	—	—	0.9	2.5	—	—	**S10N04A81N**
3	0.05	—	—	—	—	1.27	3.54	—	—	0.71	1.98	**S10N06A81N**
3	0.10	3.0	8.33	3.3	9.17	—	—	1.8	5.0	—	—	**S10N04A82N**
3	0.10	—	—	—	—	2.55	7.08	—	—	1.42	3.95	**S10N06A82N**
3	0.15	4.5	12.5	4.95	13.7	—	—	2.7	7.5	—	—	**S10N04A83N**
3	0.15	—	—	—	—	3.82	10.6	—	—	2.14	5.93	**S10N06A83N**
3	0.25	7.5	20.8	8.25	22.9	—	—	4.5	12.5	—	—	**S10N04P26P**
3	0.25	—	—	—	—	6.35	17.7	—	—	3.56	9.88	**S10N06P26P**
3	0.50	15	41.6	16.5	45.8	—	—	9	25	—	—	**S10N04P51P**
3	0.50	—	—	—	—	12.7	35.4		—	7.12	19.3	**S10N06P51P**
3	0.75	22.5	62.4	24.7	68.7	—	—	13.5	37.5	—	—	**S10N04P76P**
3	0.75	—	—	—	—	19	53.1	—	—	10.7	29.3	**S10N06P76P**
3	1	30	83.3	33	91.7	—	—	18	50	—	—	**S10N04P01P**
3	1	—	—	—	—	25.5	70.8	—	—	14.2	39.5	**S10N06P01P**
3	1.5	45	125	49.5	137	—	—	27	75	—	—	**S10N04P16P**
3	1.5	—	—	—	—	38.2	106	—	—	21.4	59.3	**S10N06P16P**
3	2	60	167	66	183	—	—	361	100	—	—	**S10N04P02P**
3	2	—	—	—	—	51	142	—	—	28.5	79.2	**S10N06P02P**
3	3	90	249.9	99	275.1	—	—	54	150	—	—	**S10N04A03N**
3	3	—	—	—	—	76.5	212.4	—	—	46.2	118.5	**S10N06A03N**
3	5	150	416	165	458	—	—	90	250	—	—	**S10N04A05N**
3	5	—	—	—	—	127	354	—	—	71.2	198	**S10N06A05N**
3	7.5	225	624	274	687	—	—	135	375	—	—	**S10N04A07N**
3	7.5	—	—	—	—	190	531	—	—	107	293	**S10N06A07N**
Connection Diagram ②		M		M		M		N		N		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

WARNING! Three-phase autotransformers should never be used to obtain four-wire output with three-wire input. Four-wire output requires four-wire wye input.

Three-Phase Wye Connection 230 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage 183 Output kVA	Amps	192 Output kVA	Amps	199 Output kVA	Amps	208 Output kVA	Amps	218 Output kVA	Amps	Catalog Number
3	0.05	—	—	0.83	2.08	—	—	1.65	4.58	1.66	4.17	**S10N04A81N**
3	0.05	0.62	1.56	—	—	0.54	1.35	—	—	—	—	**S10N06A81N**
3	0.10	—	—	1.66	4.17	—	—	3.3	9.17	3.32	8.35	**S10N04A82N**
3	0.10	1.25	3.12	—	—	1.08	2.71	—	—	—	—	**S10N06A82N**
3	0.15	—	—	2.49	6.25	—	—	4.95	13.7	4.98	12.5	**S10N04A83N**
3	0.15	1.87	4.69	—	—	1.62	4.06	—	—	—	—	**S10N06A83N**
3	0.25	—	—	4.15	10.4	—	—	8.2	22.9	8.3	20.9	**S10N04P26P**
3	0.25	3.11	7.81	—	—	2.70	6.77	—	—	—	—	**S10N06P26P**
3	0.50	—	—	8.3	20.8	—	—	16.5	45.8	16.6	41.7	**S10N04P51P**
3	0.50	6.22	15.6	—	—	5.39	13.5	—	—	—	—	**S10N06P51P**
3	0.75	—	—	12.4	31.2	—	—	24.7	68.8	24.9	62.6	**S10N04P76P**
3	0.75	9.33	23.4	—	—	8.09	20.3	—	—	—	—	**S10N06P76P**
3	1	—	—	16.6	41.7	—	—	33	91.7	33.2	83.5	**S10N04P01P**
3	1	12.5	31.2	—	—	10.8	27.1	—	—	—	—	**S10N06P01P**
3	1.5	—	—	24.9	62.5	—	—	49.5	137	49.8	125	**S10N04P16P**
3	1.5	18.7	46.9	—	—	16.2	40.6	—	—	—	—	**S10N06P16P**
3	2	—	—	33.2	83.3	—	—	66	183	66.4	167	**S10N04P02P**
3	2	24.9	62.5	—	—	21.6	54.2	—	—	—	—	**S10N06P02P**
3	3	—	—	49.8	125.1	—	—	99	275	99.6	250.5	**S10N04A03N**
3	3	37.5	93.6	—	—	32.4	81.3	—	—	—	—	**S10N06A03N**
3	5	—	—	83	208	—	—	165	458	166	417	**S10N04A05N**
3	5	62.2	156	—	—	53.9	135	—	—	—	—	**S10N06A05N**
3	7.5	—	—	124	312	—	—	247	688	249	626	**S10N04A07N**
3	7.5	93.3	234	—	—	80.9	203	—	—	—	—	**S10N06A07N**
Connection Diagram ②		N		N		S		M		Q		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

WARNING! Three-phase autotransformers should never be used to obtain four-wire output with three-wire input. Four-wire output requires four-wire wye input.

Three-Phase Wye Connection 230 Volt Output Required, 60 Hz

		Input Available Voltage										
		242		245		253		260		265		
Units Required ①	Unit kVA	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Catalog Number
3	0.05	1.74	4.37	—	—	0.91	2.29	—	—	—	—	**S10N04A81N**
3	0.05	—	—	1.33	3.33	—	—	0.70	1.77	0.62	1.56	**S10N06A81N**
3	0.10	3.48	8.75	—	—	1.83	4.58	—	—	—	—	**S10N04A82N**
3	0.10	—	—	2.65	6.67	—	—	1.41	3.54	1.25	3.12	**S10N06A82N**
3	0.15	5.23	13.1	—	—	2.74	6.87	—	—	—	—	**S10N04A83N**
3	0.15	—	—	3.98	10.0	—	—	2.12	5.31	1.87	4.69	**S10N06A83N**
3	0.25	8.71	21.9	—	—	4.56	11.5	—	—	—	—	**S10N04P26P**
3	0.25	—	—	6.63	16.7	—	—	3.52	8.85	3.11	7.81	**S10N06P26P**
3	0.50	17.4	43.7	—	—	9.31	22.9	—	—	—	—	**S10N04P51P**
3	0.50	—	—	13.3	33.3	—	—	7.05	17.7	6.22	15.6	**S10N06P51P**
3	0.75	26.1	65.6	—	—	13.7	34.4	—	—	—	—	**S10N04P76P**
3	0.75	—	—	19.9	50	—	—	10.6	26.6	9.33	23.4	**S10N06P76P**
3	1	34.8	87.5	—	—	18.3	45.8	—	—	—	—	**S10N04P01P**
3	1	—	—	26.5	66.7	—	—	14.1	35.4	12.5	31.2	**S10N06P01P**
3	1.5	52.3	131	—	—	27.4	68.7	—	—	—	—	**S10N04P16P**
3	1.5	—	—	39.8	100	—	—	21.2	53.1	18.7	46.9	**S10N06P16P**
3	2	69.7	175	—	—	36.6	91.6	—	—	—	—	**S10N04P02P**
3	2	—	—	53.1	133	—	—	28.2	70.8	24.9	62.5	**S10N06P02P**
3	3	104.4	262.5	—	—	54.9	137.4	—	—	—	—	**S10N04A03N**
3	3	—	—	79.5	200	—	—	42.3	106.2	37.5	93.6	**S10N06A03N**
3	5	174	437	—	—	91.3	229	—	—	—	—	**S10N04A05N**
3	5	—	—	133	333	—	—	70.5	177	62.2	156	**S10N06A05N**
3	7.5	261	656	—	—	137	344		—	—	—	**S10N04A07N**
3	7.5	—	—	199	500	—	—	106	266	93.3	234	**S10N06A07N**
Connection Diagram ②		Q		Q		R		R		S		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

WARNING! Three-phase autotransformers should never be used to obtain four-wire output with three-wire input. Four-wire output requires four-wire wye input.

Three-Phase Wye Connection 240 Volt Output Required, 60 Hz

		Input Available Voltage										
		190		200		208		218		228		
Units Required ①	Unit kVA	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Catalog Number
3	0.05	—	—	0.86	2.08	—	—	0.86	2.08	1.73	4.17	**S10N04A81N**
3	0.05	0.65	1.65	—	—	1.27	3.05	—	—	—	—	**S10N06A81N**
3	0.10	—	—	1.73	4.17	—	—	1.73	4.17	3.46	8.34	**S10N04A82N**
3	0.10	1.3	3.12	—	—	2.55	6.12	—	—	—	—	**S10N06A82N**
3	0.15	—	—	2.59	6.25	—	—	2.59	6.25	5.20	12.5	**S10N04A83N**
3	0.15	1.95	4.69	—	—	3.82	9.16	—	—	—	—	**S10N06A83N**
3	0.25	—	—	4.32	10.4	—	—	4.32	10.4	8.66	20.9	**S10N04P26P**
3	0.25	3.25	7.81	—	—	6.3	15.1	—	—	—	—	**S10N06P26P**
3	0.50	—	—	8.65	20.8	—	—	8.65	20.8	17.3	41.7	**S10N04P51P**
3	0.50	6.5	15.6	—	—	12.7	30.4	—	—	—	—	**S10N06P51P**
3	0.75	—	—	13	31.2	—	—	13	31.2	26	62.6	**S10N04P76P**
3	0.75	9.75	23.4	—	—	19.2	46	—	—	—	—	**S10N06P76P**
3	1	—	—	17.3	41.7	—	—	17.3	41.7	34.6	83.4	**S10N04P01P**
3	1	13	31.2	—	—	25.5	61.2	—	—	—	—	**S10N06P01P**
3	1.5	—	—	25.9	62.5	—	—	25.9	62.5	52	125	**S10N04P16P**
3	1.5	19.5	46.9	—	—	38.2	91.6	—	—	—	—	**S10N06P16P**
3	2	—	—	34.6	83.3	—	—	34.6	83.3	69.3	167	**S10N04P02P**
3	2	26	62.5	—	—	51	122.4	—	—	—	—	**S10N06P02P**
3	3	—	—	51.9	125.1	—	—	51.9	125.1	103.8	250.2	**S10N04A03N**
3	3	39	93.6	—	—	76.5	183.6	—	—	—	—	**S10N06A03N**
3	5	—	—	86.5	208	—	—	86.5	208	173	417	**S10N04A05N**
3	5	65	156	—	—	127.2	305.2	—	—	—	—	**S10N06A05N**
3	7.5	—	—	130	312	—	—	130	312	260	626	**S10N04A07N**
3	7.5	97.5	234	—	—	192	460	—	—	—	—	**S10N06A07N**
Connection Diagram ②		N		N		M		R		Q		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

WARNING! Three-phase autotransformers should never be used to obtain four-wire output with three-wire input. Four-wire output requires four-wire wye input.

Three-Phase Wye Connection 240 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage 252 Output kVA	Amps	256 Output kVA	Amps	264 Output kVA	Amps	272 Output kVA	Amps	277 Output kVA	Amps	Catalog Number
3	0.05	1.85	4.37	—	—	0.95	2.29	—	—	—	—	**S10N04A81N**
3	0.05	—	—	1.39	3.33	—	—	0.74	1.77	0.65	1.56	**S10N06A81N**
3	0.10	3.64	8.75	—	—	1.91	4.58	—	—	—	—	**S10N04A82N**
3	0.10	—	—	2.77	6.67	—	—	1.47	3.54	1.3	3.12	**S10N06A82N**
3	0.15	5.46	13.1	—	—	2.86	6.87	—	—	—	—	**S10N04A83N**
3	0.15	—	—	4.16	10.0	—	—	2.21	5.31	1.95	4.69	**S10N06A83N**
3	0.25	9.09	21.9	—	—	4.76	11.5	—	—	—	—	**S10N04P26P**
3	0.25	—	—	6.93	16.7	—	—	3.68	8.85	3.25	7.81	**S10N06P26P**
3	0.50	18.2	43.7	—	—	9.53	22.9	—	—	—	—	**S10N04P51P**
3	0.50	—	—	13.9	33.3	—	—	7.36	17.7	6.5	15.6	**S10N06P51P**
3	0.75	27.3	65.6	—	—	14.3	34.4	—	—	—	—	**S10N04P76P**
3	0.75	—	—	20.8	50	—	—	11	26.6	9.75	23.4	**S10N06P76P**
3	1	36.4	87.5	—	—	19.1	45.8	—	—	—	—	**S10N04P01P**
3	1	—	—	27.7	66.7	—	—	14.7	35.4	13	31.2	**S10N06P01P**
3	1.5	54.6	131	—	—	28.6	68.7	—	—	—	—	**S10N04P16P**
3	1.5	—	—	41.6	100	—	—	22.1	53.1	19.5	46.9	**S10N06P16P**
3	2	72.8	175	—	—	38.1	91.7	—	—	—	—	**S10N04P02P**
3	2	—	—	55.4	133	—	—	29.5	70.8	26	62.5	**S10N06P02P**
3	3	109.2	262.5	—	—	57.3	137.4	—	—	—	—	**S10N04A03N**
3	3	—	—	83.1	200	—	—	44.1	106.2	39	93.6	**S10N06A03N**
3	5	182	437	—	—	95.3	229	—	—	—	—	**S10N04A05N**
3	5	—	—	139	333	—	—	73.6	177	65	156	**S10N06A05N**
3	7.5	273	656	—	—	143	344	—	—	—	—	**S10N04A07N**
3	7.5	—	—	208	500	—	—	110	266	97.5	234	**S10N06A07N**
Connection Diagram ②		Q		Q		R		R		S		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

WARNING! Three-phase autotransformers should never be used to obtain four-wire output with three-wire input. Four-wire output requires four-wire wye input.

Three-Phase Wye Connection 460 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage 406 Output kVA	Amps	418 Output kVA	Amps	432 Output kVA	Amps	438 Output kVA	Amps	Catalog Number
3	0.05	—	—	1.66	2.08	—	—	3.22	4.04	**S10N04A81N**
3	0.05	1.25	1.57	—	—	2.49	3.12	—	—	**S10N06A81N**
3	0.10	—	—	3.31	4.15	—	—	6.62	8.31	**S10N04A82N**
3	0.10	2.49	3.12	—	—	4.97	6.24	—	—	**S10N06A82N**
3	0.15	—	—	4.97	6.24	—	—	9.94	12.48	**S10N04A83N**
3	0.15	3.73	4.68	—	—	7.46	9.36	—	—	**S10N06A83N**
3	0.25	—	—	8.28	10.39	—	—	16.6	20.84	**S10N04P26P**
3	0.25	6.22	7.81	—	—	12.4	15.56	—	—	**S10N06P26P**
3	0.50	—	—	16.6	20.84	—	—	33.2	41.67	**S10N04P51P**
3	0.50	12.5	15.69	—	—	24.69	31.25	—	—	**S10N06P51P**
3	0.75	—	—	24.8	31.12	—	—	49.6	62.25	**S10N04P76P**
3	0.75	18.7	23.47	—	—	37.3	46.82	—	—	**S10N06P76P**
3	1	—	—	33.1	41.54	—	—	66.2	83.09	**S10N04P01P**
3	1	24.9	31.25	—	—	49.7	62.38	—	—	**S10N06P01P**
3	1.5	—	—	49.7	62.38	—	—	99.4	124.75	**S10N04P16P**
3	1.5	37.3	46.94	—	—	74.6	93.63	—	—	**S10N06P16P**
3	2	—	—	66.3	83.22	—	—	133	166.93	**S10N04P02P**
3	2	49.7	62.38	—	—	99.5	124.88	—	—	**S10N06P02P**
3	3	—	—	99.3	124.64	—	—	198.6	249.27	**S10N04A03N**
3	3	74.6	93.63	—	—	149	187.01	—	—	**S10N06A03N**
3	5	—	—	166	208.35	—	—	322	404.16	**S10N04A05N**
3	5	125	156.89	—	—	249	312.53	—	—	**S10N06A05N**
3	7.5	—	—	248	311	—	—	496	622	**S10N04A07N**
3	7.5	187	235	—	—	373	468	—	—	**S10N06A07N**
Connection Diagram ②		R		R		Q		Q		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

WARNING! Three-phase autotransformers should never be used to obtain four-wire output with three-wire input. Four-wire output requires four-wire wye input.

Three-Phase Wye Connection 460 Volt Output Required, 60 Hz

		Input Available Voltage						
		424		436		450		
Units Required ①	Unit kVA	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Catalog Number
3	0.05	—	1.7	2.1	—	—	—	**S10N04A81N**
3	0.05	1.3	1.56	—	—	2.6	3.13	**S10N06A81N**
3	0.10	—	—	3.5	4.2	—	—	**S10N04A82N**
3	0.10	2.6	3.12	—	—	5.2	6.25	**S10N06A82N**
3	0.15		—	5.2	6.25	—	—	**S10N04A83N**
3	0.15	3.9	4.68	—	—	7.8	9.38	**S10N06A83N**
3	0.25	—	—	8.7	10.4	—	—	**S10N04P26P**
3	0.25	6.5	7.82	—	—	13	15.6	**S10N06P26P**
3	0.50	—	—	17.4	20.9	—	—	**S10N04P51P**
3	0.50	13	15.6	—	—	26	31.2	**S10N06P51P**
3	0.75	—	—	26	31.2	—	—	**S10N04P76P**
3	0.75	19.5	23.4	—	—	39	46.9	**S10N06P76P**
3	1	—	—	35	42	—	—	**S10N04P01P**
3	1	26	31.2	—	—	52	62.5	**S10N06P01P**
3	1.5	—	—	52	62.5	—	—	**S10N04P16P**
3	1.5	39	46.8	—	—	78	93.8	**S10N06P16P**
3	2	—	—	69	82.9	—	—	**S10N04P02P**
3	2	52	62.5	—	—	104	125	**S10N06P02P**
3	3	—	—	104	125	—	—	**S10N04A03N**
3	3	78	93.8	—	—	156	187.6	**S10N06A03N**
3	5	—	—	174	209.2	—	—	**S10N04A05N**
3	5	130	156.3	—	—	260	312.7	**S10N06A05N**
3	7.5	—	—	260	312	—	—	**S10N04A07N**
3	7.5	195	234	—	—	390	469	**S10N06A07N**
Connection Diagram ②		R		R		Q		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

Single-Phase Required, 60 Hz

		Input Available Voltage/Output Voltage								
		200/240		230/277		346/380		362/380		
Units Required ①	Unit kVA	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Catalog Number
1	0.25	1.25	5.2	1.44	5.2	1.98	5.2	3.95	10.4	**S20N08P26P**
1	0.50	2.50	10.4	2.88	10.4	3.95	10.4	7.90	20.8	**S20N08P51P**
1	0.75	3.75	15.6	4.32	15.6	5.93	15.6	11.9	31.2	**S20N08P76P**
1	1	5.00	20.8	5.76	20.8	7.90	20.8	15.8	41.6	**S20N08P01P**
1	1.5	7.50	31.2	8.64	31.2	11.9	31.2	23.8	62.5	**S20N08P16P**
1	2	10.0	41.6	11.5	41.6	15.8	41.6	31.6	83.3	**S20N08P02P**
1	3	15.0	62.5	17.3	62.5	23.8	62.5	47.5	125.0	**S20N08A03N**
1	5	25.0	104.0	28.8	104.0	39.5	104.0	79.0	208.0	**S20N08A05N**
1	7.5	37.5	156.0	43.2	156.0	59.3	156.0	118.6	312.0	**S20N08A07N**
Connection Diagram ②		B		B		F		E		

Single-Phase Required, 60 Hz

		Input Available Voltage/Output Voltage								
		378/416		416/457		436/480		458/480		
Units Required ①	Unit kVA	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Catalog Number
1	0.25	2.16	5.2	2.38	5.2	2.50	5.2	4.99	10.4	**S20N08P26P**
1	0.50	4.33	10.4	4.76	10.4	4.99	10.4	9.98	20.8	**S20N08P51P**
1	0.75	6.49	15.6	7.14	15.6	7.49	15.6	15.0	31.2	**S20N08P76P**
1	1	8.65	20.8	9.52	20.8	9.98	20.8	20.0	41.6	**S20N08P01P**
1	1.5	13.0	31.2	14.3	31.2	15.0	31.2	30.0	62.5	**S20N08P16P**
1	2	17.3	41.6	19.0	41.6	20.0	41.6	40.0	83.3	**S20N08P02P**
1	3	26.0	62.5	28.6	62.5	30.0	62.5	60.0	125.0	**S20N08A03N**
1	5	43.3	104.0	47.6	104.0	49.9	104.0	99.8	208.0	**S20N08A05N**
1	7.5	64.9	156.0	71.4	156.0	74.9	156.0	149.8	312.0	**S20N08A07N**
Connection Diagram ②		F		F		F		E		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

Single-Phase Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage/Output Voltage 277/230 Output kVA	Amps	480/456 Output kVA	Amps	504/480 Output kVA	Amps	528/480 Output kVA	Amps	Catalog Number
1	0.25	1.44	6.26	5.23	11.4	5.47	11.4	2.75	5.72	**S20N08P26P**
1	0.50	2.88	12.5	10.4	22.8	10.9	22.8	5.49	11.4	**S20N08P51P**
1	0.75	4.33	18.8	15.7	34.2	16.4	34.2	8.24	17.2	**S20N08P76P**
1	1	5.76	25.0	20.9	45.6	21.8	45.6	11.0	22.9	**S20N08P01P**
1	1.5	8.64	37.6	31.3	68.4	32.8	68.4	16.5	34.3	**S20N08P16P**
1	2	11.5	50.1	41.8	91.2	43.7	91.2	22.0	45.8	**S20N08P02P**
1	3	17.3	75.3	62.7	136.0	65.2	136.0	33.0	68.8	**S20N08A03N**
1	5	28.8	125.3	104.5	227.0	108.0	227.0	54.9	114.4	**S20N08A05N**
1	7.5	43.2	187.9	156.8	341.0	163.0	341.0	82.4	171.6	**S20N08A07N**
Connection Diagram ②		B		E		E		F		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

Three-Phase Required, 60 Hz

	Input Available Voltage/Output Voltage										
	362/380		346/416		430/473		400/480		436/480		
Unit kVA	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Catalog Number
0.25	6.52	10.4	3.75	5.2	4.26	5.2	4.33	5.2	4.33	5.2	**S20N08P26P**
0.50	13.0	20.8	7.50	10.4	8.52	10.4	8.65	10.4	8.65	10.4	**S20N08P51P**
0.75	19.6	31.2	11.2	15.6	12.8	15.6	13.0	15.6	13.0	15.6	**S20N08P76P**
1	26.1	41.6	15.0	20.8	17.0	20.8	17.3	20.8	17.3	20.8	**S20N08P01P**
1.5	39.1	62.4	22.5	31.2	25.5	31.2	26.0	31.2	26.0	31.2	**S20N08P16P**
2	52.2	83.2	30.0	41.6	34.1	41.6	34.6	41.6	34.6	41.6	**S20N08P02P**
3	78.4	125.0	45.0	62.5	51.2	62.5	52.0	62.5	52.0	62.5	**S20N08A03N**
5	130.4	208.0	75.1	104.0	85.2	104.0	86.6	104.0	86.6	104.0	**S20N08A05N**
7.5	195.6	312.0	112.6	156.0	127.8	156.0	129.9	156.0	129.9	156.0	**S20N08A07N**
Connection Diagram ①	I		N		K		N		K		
Units Required ②	2		3		2		3		2		

Three-Phase Required, 60 Hz

	Input Available Voltage/Output Voltage								
	460/483		457/380		504/480		528/480		
Unit kVA	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Catalog Number
0.25	8.7	10.4	4.12	6.25	9.08	10.9	4.76	5.72	**S20N08P26P**
0.50	17.4	20.8	8.23	12.5	18.2	21.8	9.51	11.4	**S20N08P51P**
0.75	26.1	31.2	12.3	18.8	27.2	32.8	14.3	17.2	**S20N08P76P**
1	34.8	41.6	16.5	25.0	36.3	43.7	19.0	22.9	**S20N08P01P**
1.5	52.2	62.4	24.7	37.5	54.5	65.5	28.5	34.3	**S20N08P16P**
2	69.6	83.2	32.9	50.0	72.6	87.4	38.0	45.8	**S20N08P02P**
3	104.6	125.0	49.5	75.2	109.7	131.3	57.2	68.8	**S20N08A03N**
5	174.0	208.0	82.3	125.1	181.6	218.4	95.1	114.4	**S20N08A05N**
7.5	261.0	312.0	123.5	187.6	272.4	327.6	142.7	171.6	**S20N08A07N**
Connection Diagram ①	I		N		I		K		
Units Required ②	2		3		2		2		

Notes

① Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

② Additional wiring trough may be required.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

Three-Phase Open Delta Connection 480 Volt Output Required, 60 Hz

Units Required ①	Input Available Voltage 600 Output kVA	Amps	575 Output kVA	Amps	575 Output kVA	Amps	Catalog Number ②
2	4.3	5.1	—	—	—	—	**S20N11P51P**
2	—	—	—	—	4.1	4.9	**S60G11P51P**
2	6.5	7.8	—	—	—	—	**S20N11P76P**
2	—	—	—	—	6.2	7.4	**S60G11P76P**
2	8.6	10.3	—	—	—	—	**S20N11P01P**
2	—	—	—	—	8.3	9.9	**S60G11P01P**
2	13.0	15.6	—	—	—	—	**S20N11P16P**
2	—	—	—	—	12.4	14.9	**S60G11P16P**
2	17.2	20.6	—	—	—	—	**S20N11P02P**
2	—	—	—	—	16.5	19.8	**S60G11P02P**
2	25.8	31	—	—	—	—	**S20N11S03N**
2	—	—	—	—	24.8	29.8	**S60G11P03P**
2	43.2	51.9	—	—	—	—	**S20N11S05N**
2	—	—	—	—	41	49.3	**S60G11S05N**
2	65	78.1	—	—	—	—	**S20N11S07N**
2	—	—	—	—	62	74.5	**S60G11S07N**
2	86	103.4	—	—	—	—	**S20N11S10N**
2	—	—	83	99.8	—	—	**S60G11S10N**
2	130	156.3	—	—	—	—	**S20N11S15N**
2	—	—	124	149.1	—	—	**S60N11S15N**
2	216	259.8	—	—	—	—	**T20P11S25EE**
2	—	—	207	248.9	—	—	**S60J11S25N**
2	324	389.7	—	—	—	—	**T20P11S37EE**
2	432	519.6	—	—	—	—	**T20P11S50EE**
Connection Diagram ③	I		J		T		

Notes

① Additional wiring trough may be required.
② On transformers supplied with standard taps, taps must be placed at nominal settings.
③ Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Autotransformers can be used only where local electric codes permit and isolation of the two circuits is not required.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

Single-Phase 480 Volt Output Required, 60 Hz

	Input Available Voltage						
	600		575		575		
	Output		Output		Output		
Units Required ①	kVA	Amps	kVA	Amps	kVA	Amps	Catalog Number ②
1	2.5	5.2	—	—	—	—	**S20N11P51P**
1	—	—	—	—	2.4	5	**S60G11P51P**
1	3.7	7.7	—	—	—	—	**S20N11P76P**
1	—	—	—	—	3.6	7.5	**S60G11P76P**
1	5.0	10.4	—	—	—	—	**S20N11P01P**
1	—	—	—	—	4.8	10	**S60G11P01P**
1	7.5	15.6	—	—	—	—	**S20N11P16P**
1	—	—	—	—	7.2	15	**S60G11P16P**
1	10	20.8	—	—	—	—	**S20N11P02P**
1	—	—	—	—	9.6	20	**S60G11P02P**
1	15	31.2	—	—	—	—	**S20N11S03N**
1	—	—	—	—	14.3	29.7	**S60G11P03P**
1	25	52	—	—	—	—	**S20N11S05N**
1	—	—	—	—	24	50	**S60G11S05N**
1	37.5	78.1	—	—	—	—	**S20N11S07N**
1	—	—	—	—	36	75	**S60G11S07N**
1	50	104.1	—	—	—	—	**S20N11S10N**
1	—	—	43	100	—	—	**S60G11S10N**
1	75	156.2	—	—	—	—	**S20N11S15N**
1	—	—	72	150	—	—	**S60N11S15N**
1	125	260.4	—	—	—	—	**T20P11S25EE**
1	—	—	120	250	—	—	**S60J11S25N**
1	187	389.6	—	—	—	—	**T20P11S37EE**
1	250	520.8	—	—	—	—	**T20P11S50EE**
Connection Diagram ③	E		H		U		

Notes

① Additional wiring trough may be required.
② On transformers supplied with standard taps, taps must be placed at nominal settings.
③ Refer to **Page V2-T2-172** for buck-boost wiring diagrams.

Autotransformers can be used only where local electric codes permit and isolation of the two circuits is not required.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}}$ x Input Actual Voltage = Output New Voltage.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}}$ x Output kVA = New kVA Rating.

Frame drawings/dimensions information begins on **Page V2-T2-215**.

Accessories

Please refer to Section 2.7 **Page V2-T2-191**.

Technical Data and Specifications

Frequency

Eaton buck-boost transformers are designed for 60 Hz operation.

Overload Capability

Short-term overload is designed into transformers as required by ANSI. Dry-type distribution transformers will deliver 200% nameplate load for one-half hour, 150% load for one hour, and 125% load for four hours without being damaged, provided that a constant 50% load precedes and follows the overload. See ANSI C57.96-01.250 for additional limitations.

Continuous overload capacity is not deliberately designed into a transformer because the design objective is to be within the allowed winding temperature rise with nameplate loading.

Insulation System and Temperature Rise

Industry standards classify insulation systems and rise as shown below:

Insulation System Classification

Ambient	+ Winding Rise	+ Hot Spot	= Temp. Class
40°C	55°C	10°C	105°C
40°C	80°C	30°C	150°C
25°C	135°C	20°C	180°C
40°C	115°C	30°C	185°C
40°C	150°C	30°C	220°C

The design life of transformers having different insulation systems is the same—the lower-temperature systems are designed for the same life as the higher-temperature systems.

Enclosures

Eaton encapsulated buck-boost transformers use a NEMA 3R rated enclosure.

Winding Terminations

Primary and secondary windings are terminated in the wiring compartment. Encapsulated units have copper leads or stabs brought out for connections. **Lugs are not supplied with these transformers.** Eaton recommends that external cables be rated 90°C (sized at 75°C ampacity) for encapsulated designs.

Series-Multiple Windings

Series-multiple windings consist of two similar coils in each winding that can be connected in series or parallel (multiple). Transformers with series-multiple windings are designated with an "x" or "/" between the voltage ratings, such as voltages of "120/240" or "240 x 480." If the series-multiple winding is designated by an "x," the winding can be connected only for a series or parallel. With the "/" designation, a mid-point also becomes available in addition to the series or parallel connection. As an example, a 120 x 240 winding can be connected for either 120 (parallel) or 240 (series), but a 120/240 winding can be connected for 120 (parallel), 240 (series) or 240 with a 120 mid-point.

Sound Levels

All Eaton 600 volt class general-purpose dry-type distribution transformers are designed to meet NEMA ST-20 sound levels listed here. These are the sound levels measured in a soundproof environment. Actual sound levels measured at an installation will likely be higher due to electrical connections and environmental conditions. Lower sound levels are available and should be specified when the transformer is going to be installed in an area where sound may be a concern.

For additional information, please refer to Section 2.7 **Page V2-T2-194**.

Note: When installation is to be made on a grounded system, consideration must be given to the resulting voltage. Thus, on a 208 grounded wye/120 system, the voltage can be boosted to 240 volts but the voltage to ground will be 139 volts. If 240/120 volts with a mid-point ground is needed, a standard two-winding transformer must be used.

The following formulas can be used to calculate specific requirements.

For single-phase:

$$\text{LOAD kVA} = \frac{\text{Load Voltage x Full Line Amperes}}{1000}$$

For three-phase:

$$\text{LOAD kVA} = \frac{\text{Line Load Voltage x 1 73 x Full Load Amperes}}{1000}$$

Average Sound Levels

NEMA ST-20 Average Sound Level, dB

Equivalent Winding kVA Range	Self-Cooled Ventilated (up to 1.2 kV) K-Factor 1, 4, 9	K-Factor 13, 20	Encapsulated (up to 1.2 kV)
3.00 and below	40	40	45
3.01 to 9.00	40	40	45
9.01 to 15.00	45	45	50
15.01 to 30.00	45	45	50
30.01 to 50.00	45	48	50
50.01 to 75.00	50	53	55
75.01 to 112.50	50	53	55
112.51 to 150.00	50	53	55
150.01 to 225.00	55	58	57
225.01 to 300.00	55	58	57
300.01 to 500.00	60	63	59
500.01 to 700.00	62	65	61
700.01 to 1000.00	64	67	63
Greater than 1000	Consult factory	Consult factory	Consult factory

Wiring Diagrams

Buck-Boost Transformers Wiring Diagrams

Diagram A

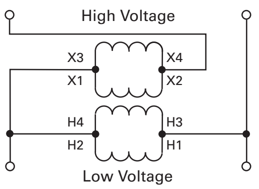


Diagram B

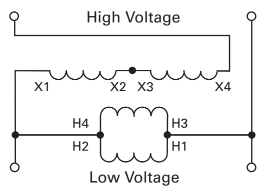


Diagram C

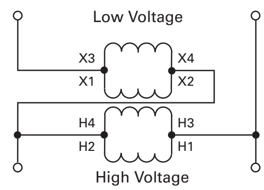


Diagram D

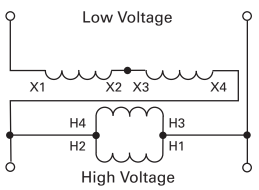


Diagram E

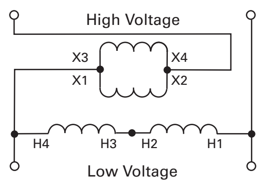


Diagram F

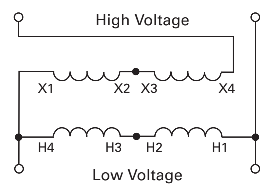


Diagram G

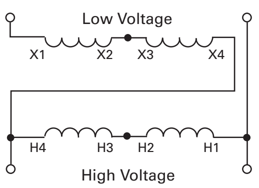


Diagram H

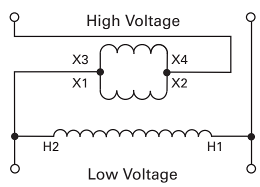


Diagram I

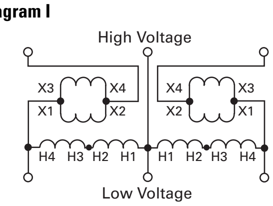


Diagram J

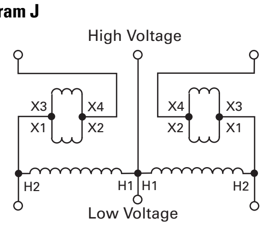


Diagram K

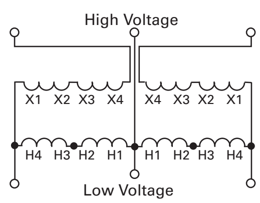


Diagram L

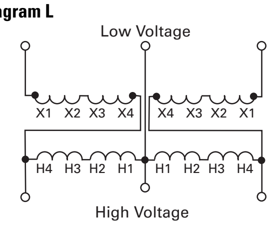


Diagram M ①

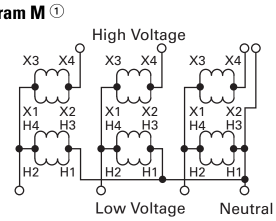


Diagram N ①

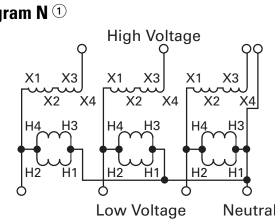


Diagram O ①

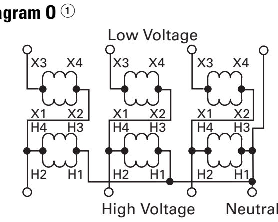


Diagram P ①

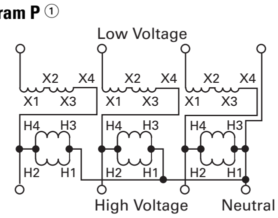


Diagram Q ①

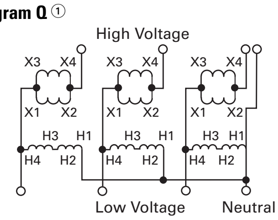


Diagram R ①

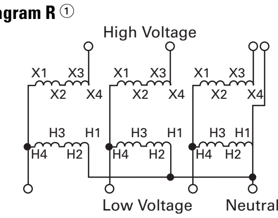


Diagram S ①

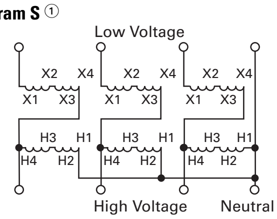


Diagram T

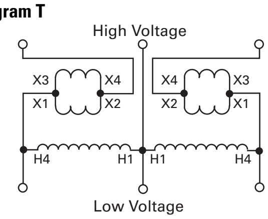
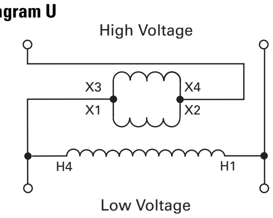


Diagram U



Note

① **WARNING!** If input is three-wire, "neutral" connection must be isolated and insulated! When used to supply a three-phase, four-wire load, the source must be three-phase, four-wire wye.