



Single Phase Buck - Boost Sizing Tables

SINGLE PHASE BUCK - BOOST TABLE, TYPE M

Type M		Single Phase / Single Unit - Type M												
Catalog Number	Load Line	Boost - Increase Voltage								Buck - Decrease Voltage				
		120	120	120	120	240	240	240	230	120	120	208	240	240
		96	100	108	109	216	218	228	208	132	144	230	252	264
35-M005	Load Amps	2.0	2.0	3.7	4.1	2.0	2.0	4.1	1.9	4.5	2.5	2.1	4.3	2.2
	kVA	0.25	0.25	0.45	0.49	0.50	0.49	1.00	0.45	0.55	0.30	0.45	1.05	0.55
	Line Fuse	5	5	8	8	5	5	7	5	7	5	5	7	5
35-M010	Load Amps	4.1	4.1	7.5	8.2	4.1	4.1	8.3	3.9	9.1	5.0	4.3	8.7	4.5
	kVA	0.50	0.50	0.90	0.99	1.00	0.99	2.00	0.90	1.10	0.60	0.91	2.10	1.10
	Line Fuse	10	10	15	15	8	8	15	8	15	7	7	15	7
35-M015	Load Amps	6.2	6.2	11.2	12.3	6.2	6.1	12.5	5.9	13.7	7.5	6.5	13.1	6.8
	kVA	0.75	0.75	1.35	1.48	1.50	1.48	3.00	1.36	1.65	0.90	1.36	3.15	1.65
	Line Fuse	15	15	20	20	12	12	20	12	20	12	10	20	12
85-M020	Load Amps	10.4	10.4	18.7	20.6	10.4	10.3	20.8	9.8	22.9	12.5	10.9	21.8	11.4
	kVA	1.25	1.25	2.25	2.47	2.50	2.47	5.00	2.26	2.75	1.50	2.27	5.25	2.75
	Line Fuse	20	20	30	30	15	15	30	15	30	15	15	30	15
85-M025	Load Amps	20.8	20.8	37.5	41.2	20.8	20.6	41.6	19.7	45.8	25.0	21.8	43.7	22.9
	kVA	2.50	2.50	4.50	4.95	5.00	4.95	10.00	4.53	5.50	3.00	4.55	10.50	5.50
	Line Fuse	35	35	60	60	30	30	60	30	60	30	30	60	30
85-M030	Load Amps	31.2	31.2	56.2	61.9	31.2	30.9	62.5	29.5	68.7	37.5	32.8	65.6	34.3
	kVA	3.75	3.75	6.75	7.43	7.50	7.43	15.00	6.79	8.25	4.50	6.83	15.75	8.25
	Line Fuse	50	50	80	90	45	45	80	45	80	40	40	80	40
85-M035	Load Amps	41.6	41.6	75.0	82.5	41.6	41.2	83.3	39.4	91.6	50.0	43.7	87.5	45.8
	kVA	5.00	5.00	9.00	9.90	10.00	9.90	20.00	9.06	11.00	6.00	9.10	21.00	11.00
	Line Fuse	70	70	125	125	60	60	110	60	110	60	60	110	60
85-M040	Load Amps	62.5	62.5	112.5	123.8	62.5	61.9	125.0	59.1	137.5	75.0	65.6	131.2	68.7
	kVA	7.5	7.5	13.5	14.8	15.0	14.8	30.0	13.5	16.5	9.0	13.6	31.5	16.5
	Line Fuse	100	100	175	175	80	80	175	90	175	80	80	175	80
85-M045	Load Amps	83.3	83.3	150.0	165.1	83.3	82.5	166.6	78.8	183.3	100.0	87.5	175.0	91.6
	kVA	10.0	10.0	18.0	19.8	20.0	19.8	40.0	18.1	22.0	12.0	18.2	42.0	22.0
	Line Fuse	150	150	250	250	125	125	225	125	225	110	110	225	110
85-M050	Load Amps	125.0	125.0	225.0	247.7	125.0	123.8	250.0	118.2	275.0	150.0	131.3	262.5	137.5
	kVA	15.0	15.0	27.0	29.7	30.0	29.7	60.0	27.1	33.0	18.0	27.3	63.0	33.0
	Line Fuse	200	200	350	350	175	175	350	175	350	175	150	350	175
85-M055	Load Amps	208.3	208.3	375.0	412.8	208.3	206.4	416.6	197.0	458.3	250.0	218.9	437.5	229.1
	kVA	25.0	25.0	45.0	49.5	50.0	49.5	100.0	45.3	55.0	30.0	45.5	105.0	55.0
	Line Fuse	350	350	600	600	300	300	600	300	600	300	250	600	300
Qty. Required		1	1	1	1	1	1	1	1	1	1	1	1	1
Connection Dia.		SP - 8	SP - 12	SP - 7	SP - 11	SP - 6	SP - 10	SP - 5	SP - 10	SP - 3	SP - 4	SP - 2	SP - 1	SP - 2
Page		59	60	59	60	59	60	59	60	59	59	59	59	59

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Connection diagrams may be found on Pgs. 59 - 60.
Connections found on this Page require ordering 1 Buck - Boost Transformer
 The appropriate size 35 or 80 Series Transformer may be substituted for the 85 Series where desired.



Single Phase Buck - Boost Sizing Tables

SINGLE PHASE BUCK - BOOST TABLE, TYPE Y

Type Y		Single Phase / Single Unit - Type Y												
Catalog Number	Load Line	Boost - Increase Voltage								Buck - Decrease Voltage				
		120	120	120	120	240	240	240	240	120	120	240	240	208
		88	95	104	106	212	224	225	208	136	152	256	272	240
35-Y005	Load Amps	1.5	1.9	3.1	3.1	1.5	3.1	3.1	1.5	3.5	1.9	3.3	1.7	1.8
	kVA	0.18	0.23	0.37	0.37	0.37	0.75	0.75	0.37	0.42	0.23	0.80	0.42	0.37
	Line Fuse	5	5	5	5	5	5	5	5	5	5	5	5	5
35-Y010	Load Amps	3.1	3.9	6.2	6.3	3.1	6.2	6.2	3.1	7.0	3.9	6.6	3.5	3.6
	kVA	0.37	0.47	0.75	0.75	0.75	1.50	1.50	0.75	0.85	0.47	1.60	0.85	0.75
	Line Fuse	7	8	12	12	6	10	10	6	10	5	10	5	5
35-Y015	Load Amps	4.6	5.9	9.3	9.4	4.7	9.3	9.3	4.6	10.6	5.9	10.0	5.3	5.4
	kVA	0.56	0.71	1.12	1.13	1.13	2.25	2.25	1.12	1.27	0.71	2.40	1.27	1.12
	Line Fuse	10	15	15	15	9	15	15	9	15	8	15	8	8
85-Y020	Load Amps	7.8	9.8	15.6	15.7	7.8	15.6	15.6	7.8	17.7	9.8	16.6	8.8	9.0
	kVA	0.93	1.18	1.87	1.89	1.89	3.75	3.75	1.87	2.12	1.18	4.00	2.12	1.87
	Line Fuse	15	25	25	25	15	25	25	15	20	15	20	15	15
85-Y025	Load Amps	15.6	19.7	31.2	31.5	15.7	31.2	31.2	15.6	35.4	19.7	33.3	17.7	18.0
	kVA	1.87	2.37	3.75	3.78	3.78	7.50	7.50	3.75	4.25	2.37	8.00	4.25	3.75
	Line Fuse	30	35	45	45	25	45	45	25	40	25	40	25	25
85-Y030	Load Amps	23.4	29.6	46.8	47.3	23.6	46.8	46.8	23.4	53.1	29.6	50.0	26.5	27.0
	kVA	2.81	3.56	5.62	5.67	5.67	11.25	11.25	5.62	6.37	3.56	12.00	6.37	5.62
	Line Fuse	40	50	70	70	35	70	70	35	60	30	60	35	30
85-Y035	Load Amps	31.2	39.5	62.5	63.0	31.5	62.5	62.5	31.2	70.8	39.5	66.6	35.4	36.0
	kVA	3.75	4.75	7.50	7.57	7.57	15.00	15.00	7.50	8.50	4.75	16.00	8.50	7.50
	Line Fuse	60	70	90	90	45	90	90	50	80	40	80	45	40
85-Y040	Load Amps	46.8	59.3	93.7	94.6	47.3	93.7	93.7	46.8	106.2	59.3	100.0	53.1	54.0
	kVA	5.6	7.1	11.2	11.3	11.3	22.5	22.5	11.2	12.7	7.1	24.0	12.7	11.2
	Line Fuse	80	100	150	150	70	125	125	70	125	60	125	70	60
85-Y045	Load Amps	62.5	79.1	125.0	126.1	63.0	125.0	125.0	62.5	141.6	79.1	133.3	70.8	72.1
	kVA	7.5	9.5	15.0	15.1	15.1	30.0	30.0	15.0	17.0	9.5	32.0	17.0	15.0
	Line Fuse	110	125	200	200	90	175	175	100	175	80	150	90	80
85-Y050	Load Amps	93.7	118.7	187.5	189.2	94.6	187.5	187.5	93.7	212.5	118.7	200.0	106.2	108.1
	kVA	11.2	14.2	22.5	22.7	22.7	45.0	45.0	22.5	25.5	14.2	48.0	25.5	22.5
	Line Fuse	175	200	300	300	150	300	300	150	250	125	225	150	125
85-Y055	Load Amps	156.2	197.9	312.5	315.4	157.7	312.5	312.5	156.2	354.1	197.9	333.3	177.0	180.2
	kVA	18.7	23.7	37.5	37.8	37.8	75.0	75.0	37.5	42.5	23.7	80.0	42.5	37.5
	Line Fuse	300	350	500	450	250	450	450	250	400	200	400	250	200
Qty. Required		1	1	1	1	1	1	1	1	1	1	1	1	1
Connection Dia.		SP - 8	SP -12	SP - 7	SP -11	SP - 10	SP - 5	SP - 9	SP - 6	SP - 3	SP - 4	SP - 1	SP - 2	SP -13
Page		59	60	59	60	60	59	60	59	59	59	59	59	60

Connection diagrams may be found on Pgs. 59 - 60.

Connections found on this Page require ordering 1 Buck - Boost Transformer

The appropriate size 35 or 80 Series Transformer may be substituted for the 85 Series where desired.

Single Phase Buck - Boost Sizing Tables

SINGLE PHASE BUCK - BOOST TABLE, TYPE LM

Type LM		Single Phase / Single Unit - Type LM													
Catalog Number	Load Line	Boost - Increase Voltage								Buck - Decrease Voltage					
		240	240	240	240	480	480	480	480	230	230	240	240	480	480
35-LM010	Line	192	200	216	218	432	437	456	457	253	277	264	288	504	528
	Load Amps	2.0	2.0	4.1	4.1	2.0	2.1	4.1	4.1	4.5	2.4	4.5	2.5	4.3	2.2
	kVA	0.50	0.50	1.00	1.00	1.00	1.01	2.00	1.98	1.05	0.56	1.10	0.60	2.10	1.10
35-LM015	Line Fuse	5	5	8	7	5	5	7	7	7	5	7	7	5	7
	Load Amps	3.1	3.1	6.2	6.2	3.1	3.1	6.2	6.2	6.8	3.6	6.8	3.7	6.5	3.4
	kVA	0.75	0.75	1.50	1.50	1.50	1.52	3.00	2.98	1.58	0.84	1.65	0.90	3.15	1.65
85-LM020	Line Fuse	7	7	10	12	6	6	10	10	10	5	10	5	10	5
	Load Amps	5.2	5.2	10.4	10.4	5.2	5.2	10.4	10.3	11.4	6.1	11.4	6.2	10.9	5.7
	kVA	1.25	1.25	2.50	2.50	2.50	2.54	5.00	4.96	2.63	1.41	2.75	1.50	5.25	2.75
85-LM025	Line Fuse	10	10	15	15	10	10	15	15	15	9	15	9	15	9
	Load Amps	10.4	10.4	20.8	20.8	10.4	10.5	20.8	20.6	22.9	12.2	22.9	12.5	21.8	11.4
	kVA	2.50	2.50	5.00	5.00	5.00	5.08	10.00	9.93	5.27	2.82	5.50	3.00	10.50	5.50
85-LM030	Line Fuse	20	20	30	30	15	15	30	30	30	15	30	15	30	15
	Load Amps	15.6	15.6	31.2	31.2	15.6	15.8	31.2	31.0	34.3	18.4	34.3	18.7	32.8	17.1
	kVA	3.75	3.75	7.50	7.50	7.50	7.62	15.00	14.90	7.90	4.23	8.25	4.50	15.75	8.25
85-LM035	Line Fuse	25	25	45	45	25	25	45	45	40	20	20	20	40	20
	Load Amps	20.8	20.8	41.6	41.6	20.8	21.1	41.6	41.3	45.8	24.5	45.8	25.0	43.7	22.9
	kVA	5.00	5.00	10.00	10.00	10.00	10.16	20.00	19.87	10.54	5.64	11.00	6.00	21.00	11.00
85-LM040	Line Fuse	35	35	60	60	30	30	60	60	60	30	60	30	60	30
	Load Amps	31.2	31.2	62.5	62.5	31.2	31.7	62.5	62.0	68.7	36.8	68.7	37.5	65.6	34.3
	kVA	7.50	7.50	15.00	15.00	15.00	15.24	30.00	29.80	15.81	8.47	16.50	9.00	31.50	16.50
85-LM045	Line Fuse	50	50	90	90	45	45	90	90	80	40	80	40	80	40
	Load Amps	41.6	41.6	83.3	83.3	41.6	42.3	83.3	82.7	91.6	49.1	91.6	50.0	87.5	45.8
	kVA	10.0	10.0	20.0	20.0	20.0	20.3	40.0	39.7	21.0	11.2	22.0	12.0	42.0	22.0
85-LM050	Line Fuse	70	70	125	125	60	60	110	110	110	60	110	60	110	60
	Load Amps	62.5	62.5	125.0	124.9	62.5	63.5	125.0	124.1	137.5	73.6	137.5	75.0	131.2	68.7
	kVA	15.0	15.0	30.0	30.0	30.0	30.4	60.0	59.6	31.6	16.9	33.0	18.0	63.0	33.0
85-LM055	Line Fuse	100	100	175	175	90	90	175	175	175	80	175	80	175	80
	Load Amps	104.1	104.1	208.3	208.3	104.1	105.8	208.3	206.9	229.1	122.7	229.1	125.0	218.7	114.5
	kVA	25.0	25.0	50.0	50.0	50.0	50.8	100.0	99.3	52.7	28.2	55.0	30.0	105.0	55.0
Qty. Required	Line Fuse	175	175	300	300	150	150	300	300	300	150	300	150	300	150
	Connection Dia. Page	1 SP - 8 59	1 SP -12 60	1 SP - 7 59	1 SP -11 60	1 SP - 6 59	1 SP -10 60	1 SP - 5 59	1 SP - 9 60	1 SP - 3 59	1 SP - 4 59	1 SP - 3 59	1 SP - 4 59	1 SP - 1 59	1 SP - 2 59

$$\text{Single Phase kVA} = \frac{\text{Load Voltage} \times \text{Load Amps}}{1000} \quad \text{kVA} = \frac{\text{Volt Amperes}}{1000}$$

$$\text{Three Phase kVA} = \frac{\text{Load Voltage} \times \text{Load Amps} \times 1.73}{1000} \quad \text{VA} = \text{kVA} \times 1000$$

Connection diagrams may be found on Pgs. 59 - 60.

Connections found on this Page require ordering 1 Buck - Boost Transformer

The appropriate size 35 or 80 Series Transformer may be substituted for the 85 Series where desired.