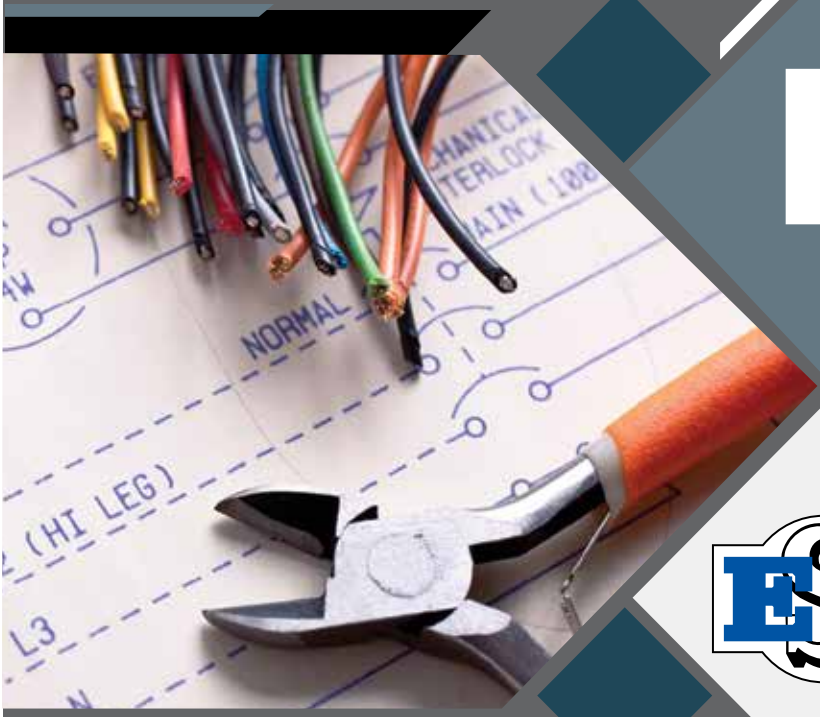


SECTION

References

References

Useful Tables

Elliott Electric Supply Store Information

Indexes

Appliances Powered by Generator

HOW MUCH POWER DO YOU NEED FROM YOUR GENERATOR SYSTEM?

Eaton Electrical offers a complete line of emergency automatic standby generators for home or business that can be installed during new construction or retrofitted into existing structures. Residential emergency home standby generators are permanently installed outside (similar to an air-conditioning unit), supply electrical power to all pre-selected lights and appliances, and are powered by either natural gas or LPG. Models range from 7,000 to 40,000 watts. They work with a matched automatic transfer switch that responds within seconds when utility power shuts down, even when no one is home!

In addition, Eaton has introduced a feature packed Commercial Product Line that will revolutionize the generator industry. Ranging from 20 kW to 150 kW, these gensets provide value without sacrificing quality and cover the needs of most any larger residence, business or light commercial application. Single phase and three phase models available. Residential Home Standby emergency power generator can utilize the following special features.

UL-LISTED AUTOMATIC TRANSFER SWITCH
- Automatically signals the generator to produce emergency electrical power when utility fails and disconnects when utility power returns.
- Within seconds your generator is producing electrical power without you having to even flip a switch. You don't have to be home for your system to work!

AUTOMATIC EXERCISER
- Seven (7) day interval testing of the power generating system.
- You set the system to exercise at a prescribed time and day of the week. This allows you to verify that your system is in peak operating condition between utility failures.

CONVENIENT FUEL SUPPLY
- Operates on home/business natural gas or LP gas service.
- Provides you with potentially unlimited run time during extended utility power failures.
- On Board LED System Fault Indicators - low oil pressure, high engine temperature shutdown, overspeed / overcrank shutdown and system ready light (air-cooled models only).
- Aids in performance of servicing in the event of a system difficulty. Leads technician to a more specific area for troubleshooting purposes. Reduces service time.

OHVI® SINGLE OR TWIN-CYLINDER ENGINE
- Full-pressure lubrication system with automotive spin-on oil filter (air-cooled only).
- Finest lubrication technology available and provides instantaneous disbursement of lubricant to all engine parts. Easy change filter.

AUTOMATIC VOLTAGE REGULATOR
- Maintains constant voltage with varying loads.
- Eliminates voltage spikes and allows operation of sensitive electronic equipment.

MAINTENANCE FRIENDLY
- Air-cooled models include a hinged top and removable front panel. Liquid-cooled models feature large removable enclosure doors.
- Provides easy and quick access to all maintenance and service parts. Reduces preventative maintenance or repair time.

Appliances That Can Be Powered*	Generator Kilowatts			
	8 kW	14 kW	17 kW	20 kW
Furnace Fan	√	√	√	√
Refrigerator	√	√	√	√
Four 100W Lamps	√	√	√	√
Water Pump	√	√	√	√
Sump Pump	√	√	√	√
Stereo	√	√	√	√
Color Television	√	√	√	√
Coffee Maker	√	√	√	√
Hair Dryer	√	√	√	√
Clock Radio	√	√	√	√
Computer	√	√	√	√
Deep Freezer	√	√	√	√
Microwave		√	√	√
Electric Range (1 element)		√	√	√
Electric Blanket		√	√	√
Attic Fan		√	√	√
Garage Door Opener (1/4 HP)		√	√	√
Security System		√	√	√
Washing Machine		√	√	√
Clothes Dryer		√	√	√
Dishwasher		√	√	√
Water Heater			√	√
Vacuum Cleaner			√	√
Toaster			√	√
Humidifier			√	√
Whirlpool Bath			√	√
Air Conditioner			√	√
Office Lighting				√
Coper and Fax Machines				√
Telephone System				√
Computer Network System				√
Central Air Conditioner				√

This chart is for estimating purposes only. Calculations are based on estimates of average wattage in each appliance type. Some appliances may be substituted for others. Appliances may not be able to run simultaneously.

Generator Fuel Pipe Sizing Guide

NATURAL GAS MAXIMUM PIPE RUN (IN FEET)

Kilowatts (kW)	Pipe Size (Diameter)						
	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
7 – 8	55	200	820				
10	20	85	370	800			
13 – 14	10	50	245	545			
16 – 17		40	190	425			
20		20	130	305	945		
22		15	115	260	799		
25		10	95	220	739		
27			85	203	552		
30			60	147	565		
35 – 36			35	95	370	915	
40			25	75	315	790	
45			15	60	260	650	
48				50	230	585	
50				50	220	560	
60				25	145	390	1185
70				5	75	225	710
80					65	195	630
100					40	140	460
130						50	215
150						30	150

LP VAPOR MAXIMUM PIPE RUN (IN FEET)

Kilowatts (kW)	Pipe Size (Diameter)						
	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
7 – 8	165	570					
10	70	255	1000				
13 – 14	45	170	690				
16 – 17	25	130	540				
20	15	115	480				
22		85	365				
25		60	275	605			
27		55	260	575			
30		40	195	435			
35 – 36		20	125	290	1030		
40		15	107	250	890		
45			82	195	725		
48			70	165	620		
50			70	160	610		
60			45	115	445	1095	
70			20	60	260	660	
80			15	50	230	590	
100				30	165	430	1305
130					70	205	660
150					45	150	490

LP

- LPG: 8.55 ft^3/lb., 4.24 lbs./gal., 2500 btu/ft^3
- LPG: 36.3 ft^3 = 1 gal.

NATURAL GAS

- 1 cubic foot = 1,000 BTU.
- 1 therm = 100,000 BTU.
- Gas consumption = 13,000 – 16,000 BTU per kW/hr.

PRESSURE

- 1 inch mercury = 13.61 inches water column.
- 1 inch Water Column = 0.036 psi.
- 5-14 inches water column = 0.18 psi to 0.50 psi.

NOTE

- Pipe sizing is based on 0.5" H_2O pressure drop
- Sizing includes a nominal number of elbows and tees.
- Please verify adequate service and meter sizing.

Generator LP Vapor Tank Sizing Guide

VAPOR WITHDRAWAL

Tank Capacity Total (gallons)	Tank Capacity Usable (gallons)	Minimum Temperature (°F)	Tank Capacity (BTU/hour)	Dimensions (inches)		
				Length	Diameter	Overall Height
120	72	40	246,240	57	24	33
		20	164,140			
		0	82,080			
150	90	40	293,760	68	24	33
		20	195,840			
		0	97,920			
250	150	40	507,600	94	30	39
		20	338,400			
		0	169,200			
325	195	40	642,600	119	30	39
		20	428,400			
		0	214,200			
500	300	40	792,540	119	37	46
		20	528,360			
		0	264,180			
850	510	40	1,217,700	165	41	50
		20	811,800			
		0	405,900			
1000	600	40	1,416,960	192	41	50
		20	944,640			
		0	472,320			

ESTIMATED FUEL USAGE

Load (kW)	BTU/Hour	LP (Gal/hr)	NG (ft^3/hr)	NG (Therms/hr)
5	110,000	1.2	110	1.1
10	176,400	2.0	156	1.6
15	231,800	2.5	220	2.2
20	267,100	2.8	262	2.6
25	352,800	3.8	316	3.2
30	418,300	4.5	417	4.2
35	467,400	5.1	485	4.8
40	550,000	6.1	550	5.5
50	675,000	7.5	675	6.7
60	836,600	9.0	862	8.6
70	1,035,700	11.0	1,020	10.2
80	1,170,000	12.7	1,154	11.5
90	1,200,000	13.0	1,200	12.0
100	1,280,000	13.8	1,260	12.6
110	1,550,000	17.1	1,550	15.5
120	1,675,000	18.5	1,675	16.7
130	1,800,000	19.5	1,786	17.8
140	1,925,000	21.3	1,925	19.2
150	2,050,000	22.7	2,050	20.5
200	2,800,000	30.9	2,800	28.0
300	4,100,000	45.3	4,100	49.0

Operating Cost Per Hour = NG Therms/hour x Cost of NG Therm

GAS REQUIRED FOR COMMON APPLIANCES

Appliance	Approximate Input (BTU/hr)
WARM AIR FURNACE	
Single Family	100,000
Multi-family, Per Unit	60,000
HYDRONIC BOILER, SPACE HEATING	
Single Family	100,000
Multi-family, Per Unit	60,000
HYDRONIC BOILER, SPACE AND WATER HEATING	
Single Family	120,000
Multi-family, Per Unit	75,000
RANGES	
Free Standing, Domestic	65,000
Built-in Oven or Broiler Unit, Domestic	25,000
Built-in Top Unit, Domestic	40,000
WATER HEATER, AUTOMATIC STORAGE	
30 – 40 Gallon Tank	35,000
50 Gallon Tank	50,000
WATER HEATER, INSTANTANEOUS	
2 Gallons Per Minute	142,800
4 Gallons Per Minute	285,000
6 Gallons Per Minute	428,000
OTHER APPLIANCES	
Water Heater, Circulating or Side-arm, Domestic	35,000
Refrigerator	3,000
Clothes Dryer, Type 1 (Domestic)	35,000
Gas Fireplace, Direct Vent	40,000
Gas Log	80,000
Barbecue	40,000
Gas Light	2,500
Incinerator, Domestic	35,000

SELECTION PROCEDURE:
The following steps will assure that the secondary voltage delivered by your transformer will be either 85%, 90% or 95% of the nameplate secondary voltage under maximum inrush conditions, at rated input voltage.

STEP 1
Calculate the total SEALED (steady state) VA load of your control circuit. This is done by adding the continuous VA requirements of the maximum number of components that will be energized at any given time, including non-inductive as well as inductive components. For Sealed VA data see chart below.

STEP 2
Calculate the PEAK INRUSH VA of your control circuit. First, analyze the sequence of operation of all components. Then add together the inrush VA ratings of the components that will be energized simultaneously. Next, determine the peak—or maximum simultaneous—inrush VA load that the transformer will "see." The VA requirements for indicating lights, timers and other non-inductive components which do not have an inrush VA also should be included since they will present a load to the transformer at the time of maximum inrush.

STEP 3
Calculate the TRANSFORMER SELECTION INRUSH VA. Use the following formula:

Selection Inrush VA = $\sqrt{(\text{VA Sealed})^2 + (\text{VA Inrush})^2}$

NOTE: Transformer Selection inrush VA also can be determined by adding the inrush VA and sealed VA arithmetically, but this usually results in an oversized transformer.

STEP 4
Determine the correct transformer NAMEPLATE VA Rating. Refer to the Inrush/Regulation Data table: if the line supply to the transformer is fairly stable (does not vary more than 5%), use the 90% secondary voltage column—the 90% column is most commonly used. If the line supply voltage varies up to 10%, use the 95% voltage regulation column. To determine the correct VA transformer rating, go down the column until you arrive at the inrush VA rating closest to, but not less than, the Transformer Selection Inrush VA calculated in Step 3. The left hand column of the table will give the corresponding transformer NAMEPLATE VA RATING.

NOTE: When evaluating supply-line stability, remember that supply-line voltage drop frequently is associated with motor-starting inrush current. When motors and motor controls are connected to a common feeder, the controls will experience a momentary voltage dip when the motor starts. This reduces the control transformer voltage supplied to the motor starting contactor and may cause the contactor to chatter or drop out.

INRUSH / REGULATION DATA

Transformer VA Rating at 55°C	Inrush VA — 40% Power Factor		
	At 95% Secondary Voltage	At 90% Secondary Voltage	At 85% Secondary Voltage
60	137	185	227
95	242	329	409
105	294	407	512
180	592	842	1071
225	929	1312	1663
275	1271	1801	2288
320	1581	2224	2816
380	2124	3048	3895
550	3196	4604	5896
850	5500	7914	10141
1100	8382	12067	15477
1500	11100	16066	21032
2000	21820	24356	41100
3000	29123	32770	59997
5000	74595	111000	145000
7500	104000	162000	219000
10000	111000	166000	237000

COMPONENT VA TABLES

Device	Inrush			Sealed		
	VAR	Watts	VA	VAR	Watts	VA
FREEDOM SERIES STARTERS AND CONTACTORS: AE16, AN16, AE56, AN56, CE15, CN35, CE55, CN55, MCE15						
IEC Sizes A – C	64	49	80	7.1	2.4	7.5
IEC Sizes D – F	78	65	100	9.2	3.1	10.0
IEC Sizes G – K	210	95	230	27.0	7.8	28.0
IEC Sizes L – N	374	112	390	48.0	13.0	49.8
IEC Sizes P – S	1132	240	1158	96.0	27.2	100.0
NEMA Size 00	64	49	80	7.1	2.4	7.5
NEMA Size 0	78	65	100	9.2	3.1	10.0
NEMA Sizes 1 – 2	210	95	230	27.0	7.8	28.0
NEMA Size 3	374	112	390	48.0	13.0	49.8
NEMA Sizes 4 – 5	1132	240	1158	96.0	27.2	100.0
NEMA Size 6	868	1345	1600	11.0	21.0	25.0
CITATION CONTACTORS AND STARTERS: A10, A50, B10, B50, C10, C50						
Size 00: Series C1	64	49	80	7.1	2.4	7.5
Sizes 0 – 1	81.5	63	103	18.7	7.0	20.0
Size 2	115	80	140	22.0	9.3	24.0
Size 3	374	112	390	48.0	13.0	49.8
Sizes 4 – 5	1132	240	1158	96.0	27.2	100.0
Size 6: Series C1	868	1345	1600	11.0	21.0	25.0
Size 7: Series B1						
Interposing Relay	29	68	74	5.1	6.8	8.5
Main Contactor	6275	2989	6950	170.0	60.0	180.0
Size 8: Series B1						
Main Coil	1262	2100	2450	56.0	50.0	75.0

Device	Inrush			Sealed		
	VAR	Watts	VA	VAR	Watts	VA
RELAYS						
Type AA (1–2 Pole)	18.0	8.5	20.0	8.0	6.6	11.0
Type D15	64.0	49.0	80.0	7.1	2.4	7.5
Type M (2–12 Pole)	122.0	95.0	155.0	20.0	9.0	22.0
Type M Latch Coil	36.5	18.5	41.0	13.0	11.0	17.0
Type MRD	–	168.0	–	–	13.2	13.2
Type MRD Ltc. Coil	–	21.6	–	–	21.6	–
Type R	–	6.0	6.0	–	6.0	6.0
Type RM – Set	–	–	–	–	3.5	3.5
Type RM – Release	–	–	–	–	3.1	3.1
Type TF	3.0	3.0	4.0	3.0	3.0	4.0
Type TH	4.0	4.0	5.0	4.0	4.0	5.0
TIMERS						
Type D80	60.0	67.0	90.0	18.0	6.0	19.0
Type D80 with Installed Contacts	89.0	95.0	130.0	20.0	7.0	21.0

Buck / Boost Transformers · Transformer Full Load Current

Buck-Boost Transformers are small single phase isolation transformers that will reduce (Buck) or raise (Boost) line voltage when connected as an Autotransformer. The most common application is Boosting 208 to 230V. Two or three may be banked for three phase application where the neutral is available from the input. Much smaller transformers may be used in Buck-Boost applications, since the size of the transformer is roughly proportional to the change in voltage.
i.e.: A 10 kVA load at 240V can be increased to 264V, a 10% change can be achieved with a 1 kVA transformer.

VOLTAGE CHANGE TABLE

Rating	Reference Diagrams Below for Characteristics							
	A1	A2	B1	B2	C1	C2	D1	D2
120/240 x 12/24	1.10	0.90	1.20	0.80	1.05	0.95	1.10	0.90
120/240 x 16/32	1.13	0.87	1.27	0.77	1.07	0.93	1.13	0.87
240/480 x 24/48	1.10	0.90	1.20	0.80	1.05	0.95	1.10	0.90

Multiply Input Voltage by multiplier in Voltage Change Table for output voltage.

TRANSFORMER MULTIPLIER TABLE

Rating	Reference Diagrams Below for Characteristics							
	A1	A2	B1	B2	C1	C2	D1	D2
120/240 x 12/24	0.10	0.11	0.20	0.24	0.05	0.05	0.10	0.11
120/240 x 16/32	0.13	0.15	0.27	0.34	0.07	0.07	0.13	0.15
240/480 x 24/48	0.10	0.11	0.20	0.24	0.05	0.05	0.10	0.11

Multiply Load by multiplier in Transformer Multiplier Table for approximate transformer size.

DIAGRAM A1: BOOSTING

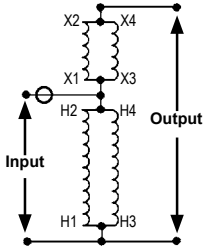


DIAGRAM B1: BOOSTING

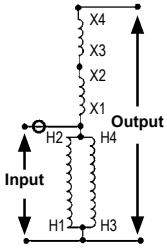


DIAGRAM C1: BOOSTING

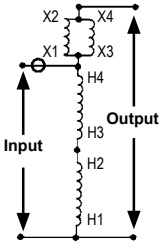


DIAGRAM D1: BOOSTING

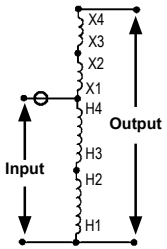
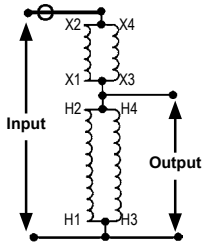


DIAGRAM A2: BUCKING



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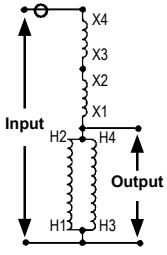


DIAGRAM C2: BUCKING

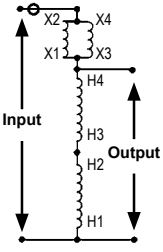
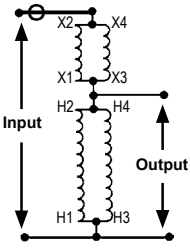


DIAGRAM D2: BUCKING



TRANSFORMER FULL LOAD CURRENT TABLES

SINGLE PHASE

kVA Rating	120V	208V	240V	277V	480V	600V
0.050	0.42	0.24	0.21	0.18	0.10	0.08
0.100	0.83	0.48	0.42	0.36	0.21	0.17
0.150	1.25	0.72	0.63	0.54	0.31	0.25
0.250	2.08	1.20	1.04	0.90	0.52	0.42
0.500	4.17	2.40	2.18	1.81	1.04	0.83
0.750	6.25	3.61	3.13	2.71	1.56	1.25
1.00	8.33	4.81	4.17	3.61	2.08	1.67
1.50	12.50	7.21	6.25	5.42	3.13	2.50
2.00	16.67	9.62	8.33	7.22	4.17	3.33
3.00	25.00	14.42	12.50	10.3	6.25	5.00
5.00	41.67	24.04	20.83	18.05	10.42	8.33
7.50	62.50	36.06	31.25	27.08	15.63	12.50
10.0	83.33	48.08	41.67	36.10	20.83	16.67
15.0	125.00	72.12	62.50	54.15	31.25	25.00
25.0	208.33	120.19	104.17	90.25	52.08	41.67

THREE PHASE

kVA Rating	208V	240V	480V	600V
3.0	8.34	7.23	3.61	2.89
9.0	25.01	21.68	10.84	8.67
15.0	41.69	36.13	18.06	14.45
30.0	83.37	72.25	36.13	28.90
45.0	125.06	108.38	54.19	43.35
75.0	208.43	180.64	90.32	72.25
112.5	312.64	271.95	135.48	108.38

$$\text{Three Phase kVA} = \frac{\text{Volts x Amps x 1.73}}{1000}$$

$$\text{Single Phase kVA} = \frac{\text{Volts x Amps}}{1000}$$

AMPACITIES OF INSULATED CONDUCTORS WITH NOT MORE THAN THREE CURRENT-CARRYING CONDUCTORS IN RACEWAY, CABLE OR EARTH (DIRECTLY BURIED)

TABLE 310-16, 2020 N.E.C.

Wire Size	Copper			Aluminum		
	60°C	75°C	90°C	60°C	75°C	90°C
	TW, UF	THW, THWN, THHW, USE	THHN, TFFN	TW, UF	THW, THWN, THHW, USE	THHN, TFFN
18 AWG*	–	–	14	–	–	–
16 AWG*	–	–	18	–	–	–
14 AWG*	15	20	25	–	–	–
12 AWG*	20	25	30	15	20	25
10 AWG*	30	35	40	25	30	35
8 AWG	40	50	55	35	40	45
6 AWG	55	65	75	40	50	55
4 AWG	70	85	95	55	65	75
3 AWG	85	100	115	65	75	85
2 AWG	95	115	130	75	90	100
1 AWG	110	130	145	85	100	115
1/0 AWG	125	150	170	100	120	135
2/0 AWG	145	175	195	115	135	150
3/0 AWG	165	200	225	130	155	175
4/0 AWG	195	230	260	150	180	205
250 MCM	215	255	290	170	205	230
300 MCM	240	285	320	195	230	260
350 MCM	260	310	350	210	250	280
400 MCM	280	335	380	225	270	305
500 MCM	320	380	430	260	310	350
600 MCM	350	420	475	285	340	385
700 MCM	385	460	520	315	375	425
750 MCM	400	475	535	320	385	435

Section 310.15(B) shall be referenced for ampacity correction factors whee the ambient temperature is other than 30°C (86°F).
Section 310.15(C)(1) shall be referenced for more than three current-carrying conductors. (see below)
Section 310.16 shall be referenced for conditions of use.
*Section 240.4(D) shall be referenced for conductor overcurrent protection limitations, except as modified elsewhere in the Code.

ADJUSTMENT FACTORS FOR MORE THAN THREE CURRENT-CARRYING CONDUCTORS

TABLE 310-15(C)(1), 2020 N.E.C.

Number of Conductors in a Raceway	Percent of Total Value
4 – 6	80
7 – 9	70
10 – 20	50
21 – 30	45
31 – 40	40
41 or Above	35

AMBIENT TEMPERATURE CORRECTION FACTORS BASED ON 30°C (86°F)

TABLE 310-15(B)(1), 2020 N.E.C.

Ambient Temperature	Temperature Rating of Conductor		
	60°C	75°C	90°C
10 or less	1.29	1.20	1.15
11 – 15	1.22	1.15	1.12
16 – 20	1.15	1.11	1.08
21 – 25	1.08	1.05	1.04
26 – 30	1.00	1.00	1.00
31 – 35	0.91	0.94	0.96
36 – 40	0.82	0.88	0.91
41 – 45	0.71	0.82	0.87
46 – 50	0.58	0.75	0.82
51 – 55	0.41	0.67	0.76
56 – 60	—	0.58	0.71
61 – 65	—	0.47	0.65
66 – 70	—	0.33	0.58
71 – 75	—	—	0.50
76 – 80	—	—	0.41
81 – 85	—	—	0.29

VOLTAGE DROP TABLE

$$\text{Voltage Drop} = \frac{\text{Factor x Amps x Feet}}{100}$$

Copper Conductor: 80% Power Factor

Wire Size	Single Phase	Three Phase
14 AWG	0.4762	0.4167
12 AWG	0.3125	0.2632
10 AWG	0.1961	0.1677
8 AWG	0.1250	0.1087
6 AWG	0.0833	0.0714
4 AWG	0.0538	0.0463
3 AWG	0.0431	0.0379
2 AWG	0.0370	0.0323
1 AWG	0.0323	0.0278
1/0 AWG	0.0269	0.0231
2/0 AWG	0.0222	0.0196
3/0 AWG	0.0190	0.0163
4/0 AWG	0.0161	0.0139
250 MCM	0.0147	0.0128
300 MCM	0.0131	0.0114
350 MCM	0.0121	0.0106
400 MCM	0.0115	0.0091
500 MCM	0.0101	0.0088

SINGLE-PHASE DWELLING SERVICES AND FEEDERS

TABLE 310-12, 2020 N.E.C.

Copper (AWG)	Aluminum (AWG)	Service Amps
4	2	**100**
3	1	**110**
2	1/0	**125**
1	2/0	**150**
1/0	3/0	**175**
2/0	4/0	**200**

Conduit Fill Table

MAXIMUM NUMBER OF REGULAR CONDUCTORS IN EMT, IMC OR RMC

DATA EXTRACTED FROM TABLE C.1, TABLE C.4 AND TABLE C.9 IN 2020 N.E.C.

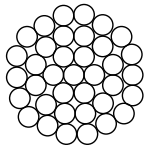
Conduit Trade Size in Inches		Wire Size (THWN, THHN)																			
		AWG													MCM						
		14	12	10	8	6	4	3	2	1	1/0	2/0	3/0	4/0	250	300	350	400	500	600	700	750
½	EMT	12	9	5	3	2	1	1	1	1	1	–	–	–	–	–	–	–	–	–	–	–
	IMC	14	10	6	3	2	1	1	1	1	1	1	–	–	–	–	–	–	–	–	–	–
	GALV	13	9	6	3	2	1	1	1	1	1	–	–	–	–	–	–	–	–	–	–	–
¾	EMT	22	16	10	6	4	2	1	1	1	1	1	1	1	–	–	–	–	–	–	–	–
	IMC	24	17	11	6	4	3	2	1	1	1	1	1	1	–	–	–	–	–	–	–	–
	GALV	22	16	10	6	4	2	1	1	1	1	1	1	1	–	–	–	–	–	–	–	–
1	EMT	35	26	16	9	7	4	3	3	1	1	1	1	1	1	1	1	–	–	–	–	–
	IMC	39	29	18	10	7	4	4	3	2	1	1	1	1	1	1	1	1	–	–	–	–
	GALV	36	26	17	9	7	4	3	3	1	1	1	1	1	1	1	1	1	–	–	–	–
1¼	EMT	61	45	28	16	12	7	6	5	4	3	2	1	1	1	1	1	1	1	1	1	–
	IMC	68	49	31	18	13	8	6	5	4	3	3	2	1	1	1	1	1	1	1	1	1
	GALV	63	46	29	16	12	7	6	5	4	3	2	1	1	1	1	1	1	1	1	1	–
1½	EMT	84	61	38	22	16	10	8	7	5	4	3	3	2	1	1	1	1	1	1	1	1
	IMC	91	67	42	24	17	11	9	7	5	4	4	3	2	1	1	1	1	1	1	1	1
	GALV	85	62	39	22	16	10	8	7	5	4	3	3	2	1	1	1	1	1	1	1	1
2	EMT	138	101	63	36	26	16	13	11	8	7	6	5	4	3	3	2	1	1	1	1	1
	IMC	149	109	69	39	28	17	15	12	9	8	6	5	4	3	3	2	2	1	1	1	1
	GALV	140	102	64	37	27	16	14	11	8	7	6	5	4	3	3	2	2	1	1	1	1
2½	EMT	241	176	111	64	46	28	24	20	15	12	10	8	7	6	5	4	4	3	2	2	1
	IMC	211	154	97	56	40	25	21	17	13	11	9	7	6	5	4	4	3	3	2	1	1
	GALV	200	146	92	53	38	23	20	17	12	10	8	7	6	5	4	3	3	2	1	1	1
3	EMT	364	266	167	96	69	43	36	30	22	19	16	13	11	9	7	6	6	5	4	3	3
	IMC	326	238	150	86	62	38	32	27	20	17	14	12	9	8	7	6	5	4	3	3	3
	GALV	309	225	142	82	59	36	31	26	19	16	13	11	9	7	6	5	5	4	3	3	3
3½	EMT	476	347	219	126	91	56	47	40	29	25	20	17	14	11	10	9	8	6	5	4	4
	IMC	436	318	200	115	83	51	43	36	27	23	19	16	13	10	9	8	7	6	5	4	4
	GALV	412	301	189	109	79	48	41	34	25	21	18	15	12	10	8	7	7	5	4	4	4
4	EMT	608	443	279	161	116	71	60	51	37	32	26	22	18	15	13	11	10	8	7	6	5
	IMC	562	410	258	149	107	66	56	47	35	29	24	20	17	13	12	10	9	7	6	5	5
	GALV	531	387	244	140	101	62	53	44	33	27	23	19	16	13	11	10	8	7	6	5	5

Please refer to the 2020 N.E.C. for more information of the following conduit fill tables. Table C.2 for ENT, Table C.3 for FMC, Table C.5 for LFNC-A, Table C.6 for LFNC-B, Table C.7 for LFNC-C, Table C.8 for LFMC, Table C.10 for Rigid PVC Schedule 80, Table C.11 for Rigid PVC Schedule 40, Table C.12 for Type A PVC, and Table C.13 for Type EB PVC.

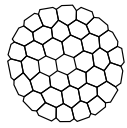
Conduit Fill Table for Compact Conductors

Compact Stranding

A stranding configuration with concentric strands in which each layer is passed through a compacting die to reduce the conductor diameter by approximately 10%



Regular Conductor



Compacted Conductor

Compact Stranding is typical of Aluminum Conductors which allows more conductors in the same size conduit.

MAXIMUM NUMBER OF COMPACTED CONDUCTORS IN EMT, IMC OR RMC

DATA EXTRACTED FROM TABLE C.1(A), TABLE C.4(A) AND TABLE C.9(A) IN 2020 N.E.C.

Conduit Trade Size in Inches		Wire Size (Aluminum XHHW, THHN)																	
		AWG									MCM								
		8	6	4	2	1	1/0	2/0	3/0	4/0	250	300	350	400	500	600	700	750
½	EMT	–	2	1	1	1	1	1	–	–	–	–	–	–	–	–	–	–
	IMC	–	3	1	1	1	1	1	–	–	–	–	–	–	–	–	–	–
	GALV	–	2	1	1	1	1	1	–	–	–	–	–	–	–	–	–	–
¾	EMT	–	4	3	1	1	1	1	1	1	1	–	–	–	–	–	–	–
	IMC	–	5	3	1	1	1	1	1	1	1	–	–	–	–	–	–	–
	GALV	–	5	3	1	1	1	1	1	1	1	–	–	–	–	–	–	–
1	EMT	–	7	4	3	2	1	1	1	1	1	1	1	1	–	–	–	–
	IMC	–	8	5	3	3	2	1	1	1	1	1	1	1	1	–	–	–
	GALV	–	8	5	3	2	1	1	1	1	1	1	1	1	–	–	–	–
1¼	EMT	–	13	8	6	4	3	3	2	1	1	1	1	1	1	1	1	1
	IMC	–	14	9	6	5	4	3	3	2	1	1	1	1	1	1	1	1
	GALV	–	13	8	6	4	4	3	2	1	1	1	1	1	1	1	1	1
1½	EMT	–	18	11	8	6	5	4	3	3	1	1	1	1	1	1	1	1
	IMC	–	19	12	8	6	5	4	4	3	2	1	1	1	1	1	1	1
	GALV	–	18	11	8	6	5	4	3	3	2	1	1	1	1	1	1	1
2	EMT	–	29	18	13	10	8	7	6	5	4	3	3	2	1	1	1	1
	IMC	–	32	20	14	10	9	7	6	5	4	3	3	2	2	1	1	1
	GALV	–	30	18	13	10	8	7	6	5	4	3	3	2	1	1	1	1
2½	EMT	–	52	32	23	17	14	12	10	8	6	5	5	4	4	3	2	2
	IMC	–	45	28	20	15	13	10	9	7	6	5	4	4	3	2	2	1
	GALV	–	43	26	19	14	12	10	8	7	5	4	4	3	3	2	1	1
3	EMT	–	78	48	34	26	22	18	15	12	10	8	7	6	5	4	4	4
	IMC	–	70	43	31	23	20	16	14	11	9	7	7	6	5	4	3	3
	GALV	–	66	41	29	22	19	15	13	10	8	7	6	5	5	4	3	3
3½	EMT	–	102	63	45	34	29	24	20	16	13	11	10	9	7	6	5	5
	IMC	–	93	58	41	31	26	22	18	15	12	10	9	8	7	5	5	4
	GALV	–	88	55	39	29	25	21	17	14	11	10	8	7	6	5	4	4
4	EMT	–	130	81	58	43	37	30	25	21	16	14	12	11	9	7	7	6
	IMC	–	120	74	53	40	34	28	24	19	15	13	11	10	9	7	6	6
	GALV	–	114	70	50	38	32	26	22	18	14	12	11	10	8	6	6	5

Please refer to the 2020 N.E.C. for more information of the following compacted conductor conduit fill tables. Table C.2(A) for ENT, Table C.3(A) for FMC, Table C.5(A) for LFNC-A, Table C.6(A) for LFNC-B, Table C.7(A) for LFNC-C, Table C.8(A) for LFMC, Table C.10(A) for Rigid PVC Schedule 80, Table C.11(A) for Rigid PVC Schedule 40, Table C.12(A) for Type A PVC, and Table C.13(A) for Type EB PVC.

TEMPERATURE CONVERSION TABLE

°C	°F	°C	°F	°C	°F	°C	°F
0	32.0	°F = (9/5 x °C) + 32		°C = 5/9 x (°F - 32)		°K = °C + 273.15	
1	33.8	26	78.8	51	123.8	76	168.8
2	35.6	27	80.6	52	125.6	77	170.6
3	37.4	28	82.4	53	127.4	78	172.4
4	39.2	29	84.2	54	129.2	79	174.2
5	41.0	30	86.0	55	131.0	80	176.0
6	42.8	31	87.8	56	132.8	81	177.8
7	44.6	32	89.6	57	134.6	82	179.6
8	46.4	33	91.4	58	136.4	83	181.4
9	48.2	34	93.2	59	138.2	84	183.2
10	50.0	35	95.0	60	140.0	85	185.0
11	51.8	36	96.8	61	141.8	86	186.8
12	53.6	37	98.6	62	143.6	87	188.6
13	55.4	38	100.4	63	145.4	88	190.4
14	57.2	39	102.2	64	147.2	89	192.2
15	59.0	40	104.0	65	149.0	90	194.0
16	60.8	41	105.8	66	150.8	91	195.8
17	62.6	42	107.6	67	152.6	92	197.6
18	64.4	43	109.4	68	154.4	93	199.4
19	66.2	44	111.2	69	156.2	94	201.2
20	68.0	45	113.0	70	158.0	95	203.0
21	69.8	46	114.8	71	159.8	96	204.8
22	71.6	47	116.6	72	161.6	97	206.6
23	73.4	48	118.4	73	163.4	98	208.4
24	75.2	49	120.2	74	165.2	99	210.2
25	77.0	50	122.0	75	167.0	100	212.0

ELECTRICAL FORMULAS FOR CALCULATING AMPERES, HORSEPOWER, KILOWATTS AND KVA

Use to find:	Direct Current	Alternating Current	
		Single Phase	Three Phase
Amperes when HP is known	$\frac{HP \times 746}{E \times \%EFF}$	$\frac{HP \times 746}{E \times \%EFF \times PF}$	$\frac{HP \times 746}{E \times \%EFF \times PF \times \sqrt{3}}$
Amperes when kW is known	$\frac{kW \times 1000}{E}$	$\frac{kW \times 1000}{E \times PF}$	$\frac{kW \times 1000}{E \times PF \times \sqrt{3}}$
Amperes when kVA is known		$\frac{kVA \times 1000}{E}$	$\frac{kVA \times 1000}{E \times \sqrt{3}}$
Horsepower (HP)	$\frac{E \times I \times \%EFF}{746}$	$\frac{E \times I \times \%EFF \times PF}{746}$	$\frac{E \times I \times \%EFF \times PF \times \sqrt{3}}{746}$
Kilowatts (kW)	$\frac{E \times I}{1000}$	$\frac{E \times I \times PF}{1000}$	$\frac{E \times I \times PF \times \sqrt{3}}{1000}$
Kilovolt-Amperes (kVA)		$\frac{E \times I}{1000}$	$\frac{E \times I \times \sqrt{3}}{1000}$

E = Voltage; %EFF = Percent Efficiency; PF = Power Factor of Motor; I = Amps

FULL LOAD CURRENT IN AMPERES SINGLE-PHASE, ALTERNATING-CURRENT MOTORS

TABLE 430.248, 2020 N.E.C.

Horsepower (HP)	115V	200V	208V	230V
1/6	4.4	2.5	2.4	2.2
1/4	5.8	3.3	3.2	2.9
1/3	7.2	4.1	4.0	3.6
1/2	9.8	5.6	5.4	4.9
3/4	13.8	7.9	7.6	6.9
1	16.0	9.2	8.8	8.0
1-1/2	20.0	11.5	11.0	10.0
2	24.0	13.8	13.2	12.0
3	34.0	19.6	18.7	17.0
5	56.0	32.2	30.8	28.0
7-1/2	80.0	46.0	44.0	40.0
10	100.0	57.5	55.0	50.0

The voltages listed are rated motor voltages. The listed currents are for system voltage ranges of 110 to 120 and 220 to 240.

FULL LOAD CURRENT IN AMPERES, DIRECT-CURRENT MOTORS

TABLE 430.247, 2020 N.E.C.

HP	90V	120V	180V	240V	500V	550V
1/4	4.0	3.1	2.0	1.6	–	–
1/3	5.2	4.1	2.6	2.0	–	–
1/2	6.8	5.4	3.4	2.7	–	–
3/4	9.6	7.6	4.8	3.8	–	–
1	12.2	9.5	6.1	4.7	–	–
1-1/2	–	13.2	8.3	6.6	–	–
2	–	17.0	10.8	8.5	–	–
3	–	25.0	16.0	12.2	–	–
5	–	40.0	27.0	20.0	–	–
7-1/2	–	58.0	–	29.0	13.6	12.2
10	–	76.0	–	38.0	18.0	16.0
15	–	–	–	55.0	27.0	24.0
20	–	–	–	72.0	34.0	31.0
25	–	–	–	89.0	43.0	38.0
30	–	–	–	106.0	51.0	46.0
40	–	–	–	140.0	67.0	61.0
50	–	–	–	173.0	83.0	75.0
60	–	–	–	206.0	99.0	90.0
75	–	–	–	255.0	123.0	111.0
100	–	–	–	341.0	164.0	148.0
125	–	–	–	425.0	205.0	185.0
150	–	–	–	506.0	246.0	222.0
200	–	–	–	675.0	330.0	294.0

OHM'S LAW

A. When Volts and OHMS are known:
Amperes = Volts / OHMS, or I = E / R
Example: Find the current of a 120 volt circuit with a resistance of 60 OHMS.
I= E / R = 120 / 60 = 2 Amperes

B. When Watts and Volts are known:
Amperes = Watts / Volts, or I = P / E
Example: A 120 Volt Circuit has a 1440 Watt Load. Determine the current.
I = P / E = 1440 / 120 = 12 Amperes

C. When OHMS and Watts are known:
Amperes = √(Watts / OHMS), or I = √(P / R)
Example: A circuit consumes 625 watts through a 12.75 OHM resistor. Determine the current.
I = √(P / R) = √(625 / 12.75) = √49 = 7 Amperes

Notes:
A. One electrical horsepower (HP) = 746 watts. Electric motors are rated in horsepower in the US (kW is used by many other countries).
B. One kilowatt (kW) = 1000 watts. Generators are rated in kilowatts.

APPROXIMATE FULL LOAD CURRENT IN AMPERES, THREE-PHASE MOTORS

Horsepower (HP)	Volts	Motor R.P.M. @3800	@1800	@1200	@900
1/2	230	–	1.72	2.15	2.38
	460	–	0.86	1.08	1.19
3/4	230	–	2.46	2.93	3.26
	460	–	1.23	1.46	1.63
1	230	2.80	3.56	3.76	4.30
	460	1.40	1.78	1.88	2.15
1-1/2	230	4.36	4.86	5.28	5.60
	460	2.18	2.43	2.64	2.80
2	230	5.60	6.40	6.84	7.90
	460	2.80	3.20	3.42	3.95
3	230	8.34	9.40	10.20	11.40
	460	4.17	4.70	5.12	5.70
5	230	13.50	14.40	15.80	15.90
	460	6.76	7.21	7.91	7.92
7-1/2	230	19.50	21.50	21.80	23.00
	460	9.79	10.70	10.90	11.50
10	230	25.40	26.80	28.00	30.50
	460	12.70	13.40	24.00	15.20
15	230	36.40	39.20	41.40	44.50
	460	18.20	19.60	20.70	22.20
20	230	50.40	51.20	52.80	54.90
	460	25.20	25.60	26.40	27.40
25	230	60.80	64.80	65.60	67.30
	460	30.40	32.40	32.80	33.70
30	230	73.70	75.60	78.80	81.80
	460	36.80	37.80	39.40	40.90
40	230	96.40	101.00	102.00	105.00
	460	48.20	50.50	50.60	52.50
50	230	120.00	124.00	126.00	130.00
	460	60.00	62.00	63.00	65.00
60	230	143.00	149.00	150.00	154.00
	460	71.50	74.50	75.00	77.00
75	230	179.00	183.00	184.00	193.00
	460	89.60	91.50	92.00	96.50
100	230	231.00	236.00	239.00	252.00
	460	115.00	118.00	120.00	126.00
125	230	292.00	293.00	298.00	305.00
	460	146.00	147.00	149.00	153.00
150	230	343.00	348.00	350.00	365.00
	460	171.00	174.00	175.00	183.00
200	230	458.00	452.00	460.00	482.00
	460	229.00	226.00	230.00	241.00

FULL LOAD CURRENT AND OTHER DATA, THREE-PHASE, ALTERNATING-CURRENT MOTORS

Motor HP	Volts	Motor Amps	Size Breaker	NEMA Size Starter	Heater Amps	Size Wire AWG	Size Conduit
1	230	4.2	15	00	4.830	12	3/4"
	460	2.1	15	00	2.415	12	3/4"
1-1/2	230	6.0	15	00	6.900	12	3/4"
	460	3.0	15	00	3.450	12	3/4"
2	230	6.8	15	0	7.820	12	3/4"
	460	3.4	15	00	3.910	12	3/4"
3	230	9.6	15	0	11.040	12	3/4"
	460	4.8	15	0	5.520	12	3/4"
5	230	15.2	15	1	17.480	12	3/4"
	460	7.6	15	0	8.740	12	3/4"
7-1/2	230	22.0	40	1	25.300	10	3/4"
	460	11.0	30	1	12.650	12	3/4"
10	230	28.0	50	2	32.200	10	3/4"
	460	14.0	30	1	16.100	12	3/4"
15	230	42.0	70	2	48.300	6	1"
	460	21.0	40	2	24.150	10	3/4"
20	230	54.0	100	3	62.100	6	1"
	460	27.0	50	2	31.050	10	3/4"
25	230	68.0	100	3	78.200	4	1-1/2"
	460	34.0	50	2	39.100	8	1"

1) Overcurrent device may have to be increased due to starting current and load conditions. See NEC Table 430-52. Wire based on 75°C terminations and insulation.
2) Overload heater must be based on motor nameplate and sized per NEC 430-32.
3) Conduit size based on rigid metal conduit with some spare capacity. For minimum size & other conduit types, see NEC Appendix C.

FULL LOAD CURRENT IN AMPERES, SINGLE-PHASE, TRANSFORMER

$$\text{F.L.A.} = \frac{\text{kVA} \times 1000}{\text{Volts}}$$

FULL LOAD CURRENT IN AMPERES, THREE-PHASE, TRANSFORMER

kVA	208V	240V	480V
3	8.3	7.2	3.6
4	12.5	10.8	5.4
6	16.6	14.4	7.2
9	25.0	21.6	10.8
15	41.0	36.0	18.0
22	62.0	54.0	27.0
30	83.0	72.0	36.0

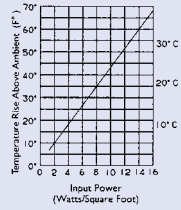
kVA	208V	240V	480V
45	124	108	54
75	208	180	90
112	312	270	135
150	416	360	180
225	624	541	270
300	832	721	360
500	1389	1202	601

HEAT DISSIPATION IN ELECTRICAL ENCLOSURES

Selection Procedure:

1. Determine input power in watts per square feet by dividing the heat dissipated in the enclosure (in watts) by the enclosure surface area (in square feet).
2. Locate on the graph the appropriate input power on the horizontal axis and draw a line vertically until it intersects the temperature rise curve.
3. Read horizontally to determine the enclosure temperature rise.

Example: What is the temperature rise that can be expected from a 48" x 36" x 16" enclosure with 300 watts of heat dissipated within it?
Solution: Surface Area = 2[(48x36) + (48x16) + (36x16)] divided by 144 sq.ft.
Input Power = 300 / 42 = 7.1 Watts/SqFt.
From Curve: Temp. Rise = 30°F (16.7°C)

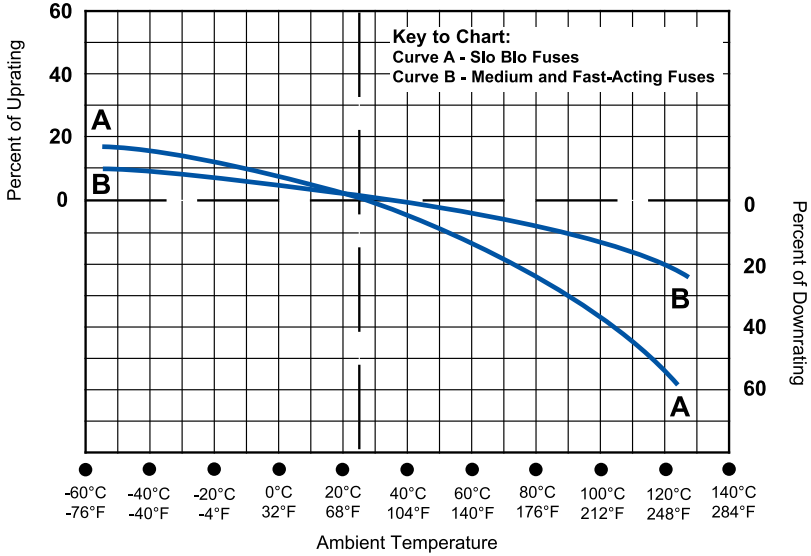


Relay Cross Reference Guide · Ambient Temperature Derating Curve for Fuses

RELAY CROSS REFERENCE GUIDE

Eaton	Rockwell Automation (Allen-Bradley)	Cyberdyn	Magnecraft (Struthers Dunn)	Omron	Tyco (Potter & Brumfield)	Square D	Tyco (Schrack)	Idec
D3PR2, D5PR2, D5PR3	700-HA32, 700-HAB2, 700-HAX2	N/A	750XBX, A314XBX, W250ACPX	MK2P	KRP(A)-11	8501KP12	MT2	RR2P
D3PR3	700-HA33, 700-HAB3, 700-HAX3	N/A	750XCX, A314XCX, W250CPX	MK3P	KRP(A)-14	8501KP13	MT3	RR3PA
D2PR4	700-HC14, 700-HC24	HJQ-22F	782XDX1, 782XDX2, W78(A)CSX	N/A	KHAU-17	8501RS(D)14, 8501RS(D)4	PT4	RU4S
D7PR2	700-HF32	N/A	782XBX, W78(A)R	N/A	K10	8501RS(D)42	N/A	RH2B
D7PR3	700-HF33	N/A	783XCX, 78XCX	N/A	N/A	8501RS(D)43	N/A	RH3B
D7PR4	700-HF34	N/A	784XDX, 78XDX	N/A	N/A	8501RS(D)44	N/A	RH4B
D2PR2	N/A	N/A	782XBX1, 782XBX2	N/A	KHUA-11	N/A	PT2	RU2S
D2PR5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	RY2LS
D3PR5	N/A	N/A	N/A	MRL	N/A	N/A	N/A	RR2KP

AMBIENT TEMPERATURE DERATING CURVE FOR FUSES



The current capacity of fuses is 110% of rating when installed in a standard UL test circuit and tested in open air at 25°C ambient. This allows for derating to 100% of rating in an enclosure at 40°C ambient. At higher ambient temperatures, continuous current-carrying capacity will be decreased as shown in the chart above. This closely follows the derating tables for all electrical equipment, and reduces equipment burnout due to high ambient conditions.

Motor Protection Tables – Fuse Selection based on Motor FLA

Using AC Motor Protection Tables to Select Fuse Ratings
Fuse ratings selected in accordance with the following recommendations also meet NEC requirements for Motor Branch Circuit and Short Circuit Protection.

Selecting Fuses for Motor Running Protection Based on Motor Actual Full Load Currents
Better protection is achieved when fuse ratings are based on motor actual FLA as obtained from motor nameplates. Locate motor nameplate FLA in the column appropriate for the type motor and type of protection required. Read to the left and obtain the recommended fuse ampere rating.

DUAL ELEMENT FUSES (FUSETRON)

Fuse Ampere Rating	Motor Full Load Amps (FLA)			
	Without Overload Relays		With Overload Relays	
	S.F. ≥ 1.15 or with Rise ≤ 40°C	S.F. < 1.15 or with Rise > 40°C	S.F. ≥ 1.15 or with Rise ≤ 40°C	S.F. < 1.15 or with Rise > 40°C
1/10	0.08 – 0.09	0.09 – 0.10	0.00 – 0.08	0.00 – 0.09
1/8	0.10 – 0.11	0.11 – 0.125	0.09 – 0.10	0.10 – 0.11
15/100	0.12 – 0.15	0.14 – 0.15	0.11 – 0.12	0.12 – 0.13
2/10	0.16 – 0.19	0.18 – 0.20	0.13 – 0.16	0.14 – 0.17
1/4	0.20 – 0.23	0.22 – 0.25	0.17 – 0.20	0.18 – 0.22
3/10	0.24 – 0.30	0.27 – 0.30	0.21 – 0.24	0.23 – 0.26
4/10	0.32 – 0.39	0.35 – 0.40	0.25 – 0.32	0.27 – 0.35
1/2	0.40 – 0.47	0.44 – 0.50	0.33 – 0.40	0.36 – 0.43
6/10	0.48 – 0.60	0.53 – 0.60	0.41 – 0.48	0.44 – 0.52
8/10	0.64 – 0.79	0.70 – 0.80	0.49 – 0.64	0.53 – 0.70
1	0.80 – 0.89	0.87 – 0.97	0.65 – 0.80	0.71 – 0.87
1-1/8	0.90 – 0.99	0.98 – 1.08	0.81 – 0.90	0.88 – 0.98
1-1/4	1.00 – 1.11	1.09 – 1.21	0.91 – 1.00	0.99 – 1.09
1-4/10	1.12 – 1.19	1.22 – 1.30	1.01 – 1.12	1.10 – 1.22
1-1/2	1.20 – 1.27	1.31 – 1.39	1.13 – 1.20	1.23 – 1.30
1-6/10	1.28 – 1.43	1.40 – 1.56	1.21 – 1.28	1.31 – 1.39
1-8/10	1.44 – 1.59	1.57 – 1.73	1.29 – 1.44	1.40 – 1.57
2	1.60 – 1.79	1.74 – 1.95	1.45 – 1.60	1.58 – 1.74
2-1/4	1.80 – 1.99	1.96 – 2.17	1.61 – 1.80	1.75 – 1.96
2-1/2	2.00 – 2.23	2.18 – 2.43	1.81 – 2.00	1.97 – 2.17
2-8/10	2.24 – 2.39	2.44 – 2.60	2.01 – 2.24	2.18 – 2.43
3	2.40 – 2.55	2.61 – 2.78	2.25 – 2.40	2.44 – 2.60
3-2/10	2.56 – 2.79	2.79 – 3.04	2.41 – 2.56	2.61 – 2.78
3-1/2	2.80 – 3.19	3.05 – 3.47	2.57 – 2.80	2.79 – 3.04
4	3.20 – 3.59	3.48 – 3.91	2.81 – 3.20	3.05 – 3.48
4-1/2	3.60 – 3.99	3.92 – 4.34	3.21 – 3.60	3.49 – 3.91
5	4.00 – 4.47	4.35 – 4.86	3.61 – 4.00	3.92 – 4.35
5-6/10	4.48 – 4.79	4.87 – 5.21	4.01 – 4.48	4.36 – 4.87
6	4.80 – 4.99	5.22 – 5.43	4.49 – 4.80	4.88 – 5.22
6-1/4	5.00 – 5.59	5.44 – 6.08	4.81 – 5.00	5.23 – 5.43
7	5.60 – 5.99	6.09 – 6.52	5.01 –5.60	5.44 – 6.09
7-1/2	6.00 – 6.39	6.53 – 6.95	5.61 – 6.00	6.10 – 6.52
8	6.40 – 7.19	6.96 – 7.82	6.01 – 6.40	6.53 – 6.96
9	7.20 – 7.99	7.83 – 8.69	6.41 – 7.20	6.97 – 7.83
10	8.00 – 9.59	8.70 – 10.00	7.21 – 8.00	7.84 – 8.70

Fuse Ampere Rating	Motor Full Load Amps (FLA)			
	Without Overload Relays		With Overload Relays	
	S.F. ≥ 1.15 or with Rise ≤ 40°C	S.F. < 1.15 or with Rise > 40°C	S.F. ≥ 1.15 or with Rise ≤ 40°C	S.F. < 1.15 or with Rise > 40°C
12	9.60 – 11.99	10.44 – 12.00	8.01 – 9.60	8.71 – 10.43
15	12.00 – 13.99	13.05 – 15.00	9.61 – 12.00	10.44 – 13.04
17-1/2	14.00 – 15.99	15.22 – 17.39	12.01 – 14.00	13.05 – 15.21
20	16.00 – 19.99	17.40 – 20.00	14.01 – 16.00	15.22 – 17.39
25	20.00 – 23.99	21.74 – 25.00	16.01 – 20.00	17.40 – 21.74
30	24.00 – 27.99	26.09 – 30.00	20.01 – 24.00	21.75 – 26.09
35	28.00 – 31.99	30.44 – 34.78	24.01 – 28.00	26.10 – 30.43
40	32.00 – 35.99	34.79 – 39.12	28.01 – 32.00	30.44 – 37.78
45	36.00 – 39.99	39.13 – 43.47	32.01 – 36.00	37.79 – 39.13
50	40.00 – 47.99	43.48 – 50.00	36.01 – 40.00	39.14 – 43.48
60	48.00 – 55.99	52.17 – 60.00	40.01 – 48.00	43.49 – 52.17
70	56.00 – 59.99	60.87 – 65.21	48.01 – 56.00	52.18 – 60.87
75	60.00 – 63.99	65.22 – 69.56	56.01 – 60.00	60.88 – 65.22
80	64.00 – 71.99	69.57 – 78.25	60.01 – 64.00	65.23 – 69.57
90	72.00 – 79.99	78.26 – 86.95	64.01 – 72.00	69.58 – 78.26
100	80.00 – 87.99	86.96 – 95.64	72.01 – 80.00	78.27 – 86.96
110	88.00 – 99.99	95.65 – 108.69	80.01 – 88.00	86.97 – 95.65
125	100.00 – 119.99	108.70 – 125.00	88.01 – 100.00	95.66 – 108.70
150	120.00 – 139.99	131.30 – 150.00	100.01 – 120.00	108.71 – 130.43
175	140.00 – 159.99	152.17 – 173.90	120.01 – 140.00	130.44 – 152.17
200	160.00 – 179.99	173.91 – 195.64	140.01 – 160.00	152.18 – 173.91
225	180.00 – 199.99	195.65 – 217.38	160.01 – 180.00	173.92 – 195.62
250	200.00 – 239.99	217.39 – 250.00	180.01 – 200.00	195.63 – 217.39
300	240.00 – 279.99	260.87 – 300.00	200.01 – 240.00	217.40 – 260.87
350	280.00 – 319.99	304.35 – 347.82	240.01 – 280.00	260.88 – 304.35
400	320.00 – 359.99	347.83 – 391.29	280.01 – 320.00	304.36 – 347.83
450	360.00 – 399.99	391.30 – 434.77	320.01 – 360.00	347.84 – 391.30
500	400.00 – 479.99	434.78 – 500.00	360.01 – 400.00	391.31 – 434.78
600	480.00 – 600.00	521.74 – 600.00	400.01 – 480.00	434.79 – 521.74

Motor Protection Tables – Fuse Selection based on Motor HP

Motor HP	Full Load Amps	Horsepower (HP) Without Overload Relays S.F. ≥ 1.15 or with Rise ≤ 40°C	Without Overload Relays S.F. < 1.15 or with Rise > 40°C	With Overload Relays S.F. ≥ 1.15 or with Rise ≤ 40°C	With Overload Relays S.F. < 1.15 or with Rise > 40°C	Switch or Fuse Clip Rating
120 VOLT, 1-PHASE MOTORS – 120V CIRCUIT						
1/6	4.4	5	5	5-6/10	5-6/10	30
1/4	5.8	7	6-1/4	7-1/2	7	30
1/3	7.2	9	8	9	9	30
1/2	9.8	12	10	15	12	30
3/4	13.8	15	15	17-1/2	17-1/2	30
1	16.0	20	17-1/2	20	20	30
1-1/2	20.0	25	20	25	25	30
2	24.0	30	25	30	30	30
230 VOLT, 1-PHASE MOTORS – 240V CIRCUIT						
1/6	2.2	2-1/2	2-1/2	2-8/10	2-8/10	30
1/4	2.9	3-1/2	3-2/10	4	3-1/2	30
1/3	3.6	4-1/2	4	4-1/2	4-1/2	30
1/2	4.9	5-6/10	5-6/10	6-1/4	6	30
3/4	6.9	8	7-1/2	9	8	30
1	8.0	10	9	10	10	30
1-1/2	10.0	12	10	15	12	30
2	12.0	15	12	15	15	30
3	17.0	20	17-1/2	25	20	30
5	28.0	35	30*	35	35	60
7-1/2	40.0	50	45	50	50	60
10	50.0	60	50	70	60	60
200 VOLT, 3-PHASE MOTORS – 208V CIRCUIT						
1/2	2.5	2-6/10	2-1/2	3	2-8/10	30
3/4	3.7	4	3-1/2	4-1/2	4	30
1	4.8	5	4-1/2	5-6/10	5	30
1-1/2	6.9	7	6-1/4	7-1/2	7	30
2	7.8	9	8	10	9	30
3	11.0	12	12	15	15	30
5	17.5	20*	20	25	25	30
7-1/2	25.3	30*	25*	35	30*	60
10	32.2	40	35	45	40	60
15	48.3	60	50	70**	60	60
20	62.1	75	70	80	75	100
25	78.2	90	80	100	90	100
30	92.0	110	100*	125	110	200
40	120.0	150	125	150	150	200
50	150.0	175*	150	200	175	200
60	177.0	200*	200*	225	225	400
75	221.0	250	250	300	300	400
100	285.0	350*	300	400	350	400
125	359.0	400*	400*	450	450	600
150	415.0	500	450	600	500	600
230 VOLT, 3-PHASE MOTORS – 240V CIRCUIT						
1/2	2.2	2-1/2	2-1/4	2-1/2	2-1/2	30
3/4	3.2	3-1/2	3-2/10	3-1/2	3-1/2	30
1	4.2	4-1/2	4	4-1/2	4-1/2	30
1-1/2	6.0	6-1/4	5-6/10	7	6	30
2	6.8	8	7-1/2	9	8	30
3	9.6	12	10	12	12	30
5	15.2	17-1/2	17-1/2	20	17-1/2	30
7-1/2	22.0	25	25	30	30	30
10	28.0	35	30*	35	35	60
15	42.0	50*	45	60	50	60
20	54.0	60*	60*	70	70	100
25	68.0	80	75	90	80	100
30	80.0	100	90	100	100	100
40	104.0	125	110	150	125	200
50	130.0	150	150	175	150	200
60	154.0	175	175	200	200	200
75	192.0	225	200*	250	225	400
100	248.0	300	250	350	300	400
125	312.0	350	350	400	400	400
150	360.0	450	400*	450	450	600
200	480.0	600	500	600	600	600

Motor HP	Full Load Amps	Horsepower (HP) Without Overload Relays S.F. ≥ 1.15 or with Rise ≤ 40°C	Without Overload Relays S.F. < 1.15 or with Rise > 40°C	With Overload Relays S.F. ≥ 1.15 or with Rise ≤ 40°C	With Overload Relays S.F. < 1.15 or with Rise > 40°C	Switch or Fuse Clip Rating
460 VOLT, 3-PHASE MOTORS – 480V CIRCUIT						
1/2	1.1	1-1/4	1-1/8	1-1/4	1-1/4	30
3/4	1.6	1-6/10	1-6/10	1-8/10	1-8/10	30
1	2.1	2-1/4	2	2-1/4	2-1/4	30
1-1/2	3.0	3-2/10	2-6/10	3-1/2	3	30
2	3.4	4	3-1/2	4-1/2	4	30
3	4.8	5-6/10	5	6	5-6/10	30
5	7.6	9	8	10	9	30
7-1/2	11.0	12	12	15	15	30
10	14.0	17-1/2	15	17-1/2	17-1/2	30
15	21.0	25	20	30	25	30
20	27.0	30*	30*	35	35	60
25	34.0	40	35	45	40	60
30	40.0	50	45	50	50	60
40	52.0	60*	60*	70	60*	100
50	65.0	80	70	90	75	100
60	77.0	90	80	100	90	100
75	96.0	110	110	125	125	200
100	124.0	150	125	175	150	200
125	156.0	175	175	200	200	200
150	180.0	225	200*	225	225	400
200	240.0	300	250	300	300	400
575 VOLT, 3-PHASE MOTORS – 600V CIRCUIT						
1/2	0.9	1	8/10	1	1	30
3/4	1.3	1-1/4	1-1/4	1-4/10	1-4/10	30
1	1.7	1-8/10	1-6/10	1-8/10	1-8/10	30
1-1/2	2.4	2-1/2	2-1/4	2-8/10	2-1/2	30
2	2.7	3-2/10	2-8/10	3-1/2	3-2/10	30
3	3.9	4-1/2	4	5	4-1/2	30
5	6.1	7-1/2	7	8	7-1/2	30
7-1/2	9.0	10	10	12	12	30
10	11.0	12	12	15	15	30
15	17.0	20	17-1/2	25	20	30
20	22.0	25	25	30	30	30
25	27.0	30*	30*	35	35	60
30	32.0	40	35	40	40	60
40	41.0	50	45	60	50	60
50	52.0	60	60	70**	60	60
60	62.0	75	70	80	75	100
75	77.0	90	80	100	90	100
100	99.0	110	110	125	125	200
125	125.0	150	125	175	150	200
150	144.0	175	150	200	175	200
200	192.0	225	200*	250	225	400

*Fuse reducers required
**100 Amp switch required
S.F. = Motor Service Factor

SELECTING FUSES FOR MOTOR RUNNING PROTECTION BASED ON MOTOR HORSEPOWER

Motor horsepower and motor full load amperes (FLA) shown are taken from NEC Tables 430.248 and 430.250 covering standard speed AC motors with normal torque characteristics. Fuse ratings for motors with special characteristics may need to vary from given values.

If motor running protection will be provided by the fuses, select fuse ratings for corresponding motor type from the table's columns headed "Without Overload Relays."

If overload relays will provide principle motor running protection, select fuse ratings for corresponding motor type from the table's columns headed "With Overload Relays." Fuse ratings selected from these columns coordinate with most UL Class 10 and 20 overload relays which cover over 90% of motor applications.

NEMA Straight Blade Configurations

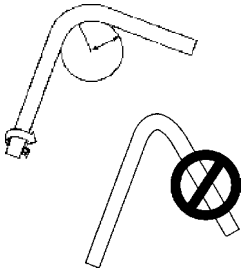
Voltage	Type	15 Amperes		20 Amperes		30 Amperes		50 Amperes		60 Amperes	
		Receptacle	Plug	Receptacle	Plug	Receptacle	Plug	Receptacle	Plug	Receptacle	Plug
2 POLE, 3 WIRE, GROUNDED											
125V	5	 5-15R	 5-15P	 5-20R	 5-20P	 5-30R	 5-30P				
	TT					 TT-30R	 TT-30P				
250V	6	 6-15R	 6-15P	 6-20R	 6-20P	 6-30R	 6-30P	 6-50R	 6-50P		
277V AC	7			 7-20R	 7-20P						
3 POLE, 3 WIRE, UNGROUNDED											
125 / 250V	10			 10-20R	 10-20P	 10-30R	 10-30P	 10-50R	 10-50P		
3 POLE, 4 WIRE, GROUNDED											
125 / 250V	14			 14-20R	 14-20P	 14-30R	 14-30P	 14-50R	 14-50P		
3Ø 250V	15					 15-30R	 15-30P	 15-50R	 15-50P	 15-60R	 15-60P
4 POLE, 4 WIRE, UNGROUNDED											
3ØY 120 / 208V	18			 18-20R	 18-20P					 18-60R	 18-60P

NEMA Turnlok® Device Configurations

Voltage	Type	15 Amperes Receptacle	15 Amperes Plug	20 Amperes Receptacle	20 Amperes Plug	30 Amperes Receptacle	30 Amperes Plug
2 POLE, 3 WIRE, GROUNDED							
125V	L5	**L5-15R** L515-R L515-C L515-FO	**L5-15P** L515-P L515-FI	**L5-20R** L520-R L520-C L520-FO	**L5-20P** L520-P L520-FI	**L5-30R** L530-R L530-C L530-FO	**L5-30P** L530-P L530-FI
250V	L6	**L6-15R** L615-R L615-C L615-FO	**L6-15P** L615-P L615-FI	**L6-20R** L620-R L620-C L620-FO	**L6-20P** L620-P L620-FI	**L6-30R** L630-R L630-C L630-FO	**L6-30P** L630-P L630-FI
277V AC	L7	**L7-15R** L715-R L715-C L715-FO	**L7-15P** L715-P L715-FI	**L7-20R** L720-R L720-C L720-FO	**L7-20P** L720-P L720-FI	**L7-30R** L730-R L730-C L730-FO	**L7-30P** L730-P L730-FI
480V AC	L8	***Receptacle Legend*** **R** = Receptacle **C** = Corded Female **FO** = Flanged Outlet	***Plug Legend*** **P** = Plug **FI** = Flanged Inlet	**L8-20R** L820-R L820-C L820-FO	**L8-20P** L820-P L820-FI	**L8-30R** L830-R L830-C L830-FO	**L8-30P** L830-P L830-FI
600V AC	L9			**L9-20R** L920-R L920-C L920-FO	**L9-20P** L920-P L920-FI	**L9-30R** L930-R L930-C L930-FO	**L9-30P** L930-P L930-FI
3 POLE, 3 WIRE, UNGROUNDED							
125 / 250V	L10			**L10-20R** L1020-R L1020-C L1020-FO	**L10-20P** L1020-P L1020-FI	**L10-30R** L1030-R L1030-C L1030-FO	**L10-30P** L1030-P L1030-FI
3Ø 250V	L11			**L11-20R** L1120-R L1120-C L1120-FO	**L11-20P** L1120-P L1120-FI	**L11-30R** L1130-R L1130-C L1130-FO	**L11-30P** L1130-P L1130-FI
3Ø 480V	L12			**L12-20R** L1220-R L1220-C L1220-FO	**L12-20P** L1220-P L1220-FI	**L12-30R** L1230-R L1230-C L1230-FO	**L12-30P** L1230-P L1230-FI
3Ø 600V	L13					**L13-30R** L1330-R L1330-C L1330-FO	**L13-30P** L1330-P L1330-FI
3 POLE, 4 WIRE, GROUNDED							
125 / 250V	L14			**L14-20R** L1420-R L1420-C L1420-FO	**L14-20P** L1420-P L1420-FI	**L14-30R** L1430-R L1430-C L1430-FO	**L14-30P** L1430-P L1430-FI
3Ø 250V	L15			**L15-20R** L1520-R L1520-C L1520-FO	**L15-20P** L1520-P L1520-FI	**L15-30R** L1530-R L1530-C L1530-FO	**L15-30P** L1530-P L1530-FI
3Ø 480V	L16			**L16-20R** L1620-R L1620-C L1620-FO	**L16-20P** L1620-P L1620-FI	**L16-30R** L1630-R L1630-C L1630-FO	**L16-30P** L1630-P L1630-FI
4 POLE, 4 WIRE, UNGROUNDED							
3ØY 120 / 208V	L18			**L18-20R** L1820-R L1820-C L1820-FO	**L18-20P** L1820-P L1820-FI	**L18-30R** L1830-R L1830-C L1830-FO	**L18-30P** L1830-P L1830-FI
3ØY 277 / 480V	L19			**L19-20R** L1920-R L1920-C L1920-FO	**L19-20P** L1920-P L1920-FI	**L19-30R** L1930-R L1930-C L1930-FO	**L19-30P** L1930-P L1930-FI
3ØY 347 / 600V	L20			**L20-20R** L2020-R L2020-C L2020-FO	**L20-20P** L2020-P L2020-FI	**L20-30R** L2030-R L2030-C L2030-FO	**L20-30P** L2030-P L2030-FI
4 POLE, 5 WIRE, GROUNDED							
3ØY 120 / 208V	L21			**L21-20R** L2120-R L2120-C L2120-FO	**L21-20P** L2120-P L2120-FI	**L21-30R** L2130-R L2130-C L2130-FO	**L21-30P** L2130-P L2130-FI
3ØY 277 / 480V	L22			**L22-20R** L2220-R L2220-C L2220-FO	**L22-20P** L2220-P L2220-FI	**L22-30R** L2230-R L2230-C L2230-FO	**L22-30P** L2230-P L2230-FI
3ØY 347 / 600V	L23			**L23-20R** L2320-R L2320-C L2320-FO	**L23-20P** L2320-P L2320-FI	**L23-30R** L2330-R L2330-C L2330-FO	**L23-30P** L2330-P L2330-FI

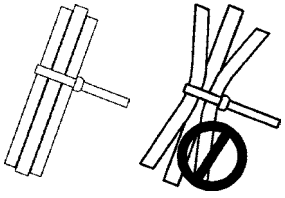
Installing Category Data Cables

BENDING CATEGORY CABLES



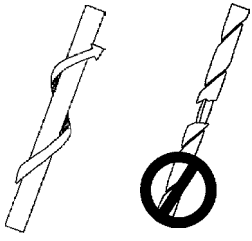
Maintain a maximum bend radius of 4 times the cable diameter (4-pair cables). Never exceed a 90 degree bend! Exceeding a 90 degree bend causes disruption in conductor and cable integrity.

CABLE TIES



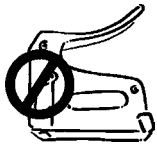
Apply cable ties loosely and at random intervals. Don't overtighten cable ties, as pinching or crushing will result in attenuation or impedance.

TWISTING CABLES



Try to minimize the amount of jacket twisting. If the cable is over-twisted, it can lead to torn jackets.

STAPLE GUNS



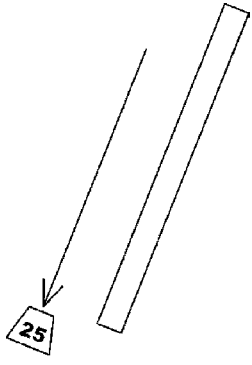
DO NOT use staple guns to position cables.

CABLE TERMINATION

Make sure twisted pair cable maintains its pair twisting to within 1/2" or less of the point of termination on the connecting hardware.

Any untwisting of pairs greater than this will adversely affect the performance of the cable and reduce its ability to transmit at effective speed.

CABLE RUNS



Try to plan out your installation so that you do not run cable further than 90 meters (295').

Never run data cables in the same conduit as electrical wiring.

Home run cable wherever possible to maximize data transmission.

Category 5 Patch cables… ANSI/TIA/EIA 568A allows for a maximum patch cable length of 6m (20') in the wiring closet and 3m (10') at the workstation outlet. If either of these lengths is exceeded, your horizontal cable run must be reduced by the excess amount.

When pulling cable, avoid kinking and tugging. Constant tension should be used when pulling cable into place. EIA/TIA-568A specifies a 25 pound maximum pulling tension for category cable installations.

INSTALLATION TIPS

Many networks that run on UTP cable use only two of the four pair of wires. To prevent crosstalk, do not use the second unused pair for voice or other data applications.

When routing cables through walls and ceilings, always keep data cable as far as possible from sources of EMI (electromagnetic interference) and RFI (radio frequency interference), such as fluorescent lights, electric panels, light dimmers and electrical motors.

Avoid heat and moisture. High temperature and moist locations may cause attenuation problems.

Select only the highest grade category cables as overall performance is a key ingredient for system success.

Patch cables are intended to be flexed and moved. Stranded conductor patch cords are recommended due to their greater flexibility over solid conductors.

BASIC TOPOLOGIES

Star Topology utilizes a central point of control. Each station or device in the telecommunications system communicates via point to point wiring to the central link. In most situations, address recognition and routing is performed at the central control point.

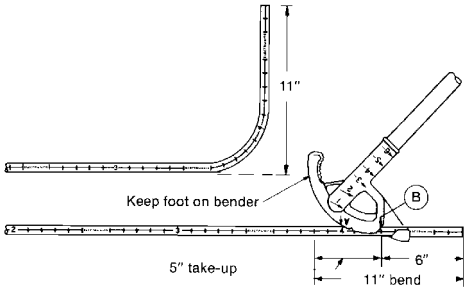
A star topology is considered the easiest to design and install since each station's cabling is run directly out from the central location to the appropriate work area. It is also adaptable to other topologies.

Ring Topology is structured with stations cabled together in a logical circle. Information travels in one direction passing through each station and only stopping at the addressed station. Only one station can transmit on the ring at any one time. Stations take turns gaining access to the ring via polling or by passing an access token from one to another.

Bus Topology has all the devices attached to a linear transmission media. When a station transmits, the signal travels in both directions. Signals travelling along the bus are made available to all stations. Each station checks the intended address of the signal and ignores all information not addressed to its location.

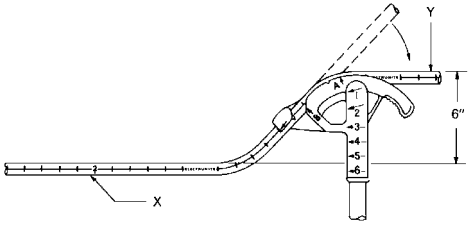
Conduit Bending Instructions – EMT Bender

ACCURATE STUBS



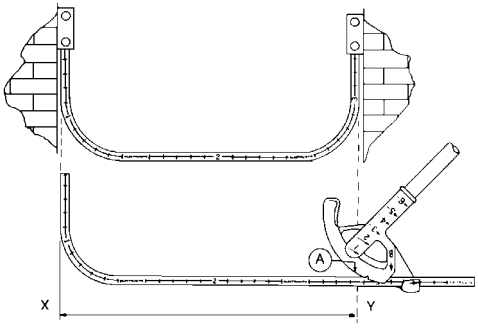
Subtract take-up from desired stub height. This gives distance at which to place B on bender from the end of the tube. To make an 11", 90° bend with 1/2" tube, allow 5" for take-up as shown on diagram. With 3/4" tube, allow 6". With 1" tube, allow 8".

TRUE OFFSETS



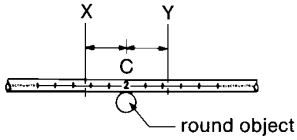
Line up arrow on either side of hook with guide-line and make 45° bend in tube. Reverse tube in bender and adjust so that X is lined up with inch-mark on bender corresponding to depth of offset desired. Line up guide-line with opposite arrow and make second 45° bend. A true offset, in the same plane, will result between X and Y.

BACK-TO-BACK BENDS

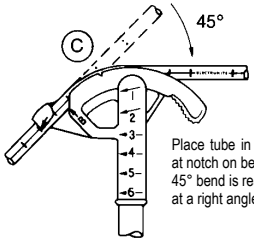


Make stub bend at X with guide-line centered on either arrow located on side of hook. Measure distances from X to Y on tube.
Reverse bender and put A on bender at Y on tube. Line up guide-line with opposite arrow used when making first stub and make second bend.

SADDLE BENDS



C = Center of finished Saddle Bend
X = Double of the diameter of round object from C
Y = Double of the diameter of round object from C

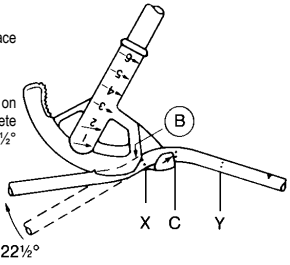


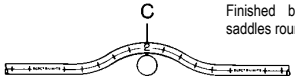
Place tube in bender so that C on tube is at notch on bender and make 45° bend. (A 45° bend is reached when bender handle is at a right angle to the tube.)

Reverse tube in bender and place B on bender at X on tube.

Make return bend of 22½°.

Duplicate procedure placing B on bender at Y on tube and complete saddle by making another 22½° bend.

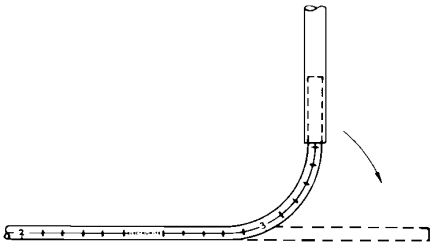




Finished bend neatly saddles round object.

Proper alignment of the guide line with arrows on bender hook will result in the saddle being in a straight line.

TO STRAIGHTEN



Place handle of bender over stub or piece of pipe that will fit inside and push down to the floor in one full sweep.

FLOOD LIGHTING CALCULATIONS

Step 1: Determine foot-candle level from outdoor foot-candle table below.

Step 2: Determine square footage of area to be lighted (length x width).

Step 3: Determine type of fixture to be used and proper mounting height.

Step 4: Identify initial lumens of fixture type.

Step 5: Determine dirt depreciation factor of fixture from Light Depreciation Chart.

Step 6: Use formula with above data to calculate number of fixtures. Round fractions to nearest whole number.

Formula: Number of Fixtures = 3 x (Number of Foot-Candles Needed) x (Square Footage of Area) / (Initial Lumens of Fixture Lamp Type) x (Dirt Depreciation)

Example: Using 400 watt High Pressure Sodium (HPS) on 30 foot pole. 3 x 2 x 40,000 / 50,000 x 1.01 = 4.85. All fractions should be rounded off. Required number of fixtures = **5**.

Note: This is not a precise lighting guide.

FOOT-CANDLE TABLE

Lighting Area	Recommended Foot-Candles
Storage Yards – Inactive	**1**
Railroad Yard Switch Points	**2**
Shipyards	**5**
General Building Construction	**10**
Corridors / Stairways / Restrooms	**10 – 20**
Storage Rooms	**10 – 50**
Storage Yards – Active	**20**
Loading Platforms	**20**
Conference Rooms	**20 – 50**
Gymnasiums	**30 – 50**
Merchandising	**30 – 150**
Cafeterias	**50**
Classrooms	**50 – 75**
General Offices	**50 – 100**
Manufacturing Assembly	**50 – 500**
Areas with Video Display Terminals (VDTs)	**75**
Drafting / Accounting	**100 – 200**
AIRPORTS	
Terminal Apron / Parking	**0.5**
Hangar Aprons	**1**
BULLETIN BOARDS	
Light Surfaces	**20 – 50**
Dark Surfaces	**50 – 100**
PARKING AREAS / VEHICULAR TRAFFIC	
Low Activity	**1**
Medium Activity	**2**
High Activity	**2**
SPORTS	
Playground	**5**
Basketball Court – Recreational	**10**
Baseball – Recreational	**10 – 15**
Tennis Court – Club	**20**
Basketball Court – High School	**30**

LIGHT DEPRECIATION CHART

Clean Environment	Medium Environment	Dirty Environment
0.96	**1.01**	**1.06**

MOUNTING HEIGHT GUIDE

Watts	High Pressure Sodium (HPS)	Metal Halide (MH)	Mercury Vapor	Tungsten / Halogen
70	10 – 15'	–	–	–
100	15 – 20'	–	–	–
150	20 – 25'	–	–	–
175	–	–	18 – 23'	–
200	20 – 25'	–	–	–
250	22 – 27'	20 – 25'	20 – 25'	–
400	30 – 35'	25 – 30'	20 – 25'	–
500	–	–	–	15 – 20'
1000	40 – 50'	40 – 45'	35 – 40'	20 – 25'
1500	–	–	–	25 – 30'

INDOOR LIGHTING CALCULATIONS ZONAL CAVITY METHOD

Step 1. Determine cavity ratios = (2.5 X height of cavity X cavity perimeter) / area of cavity base

Step 2. Determine effective cavity reflectances: use chart below

Step 3. Select coefficient of utilization: use manufacturer's tables with effective cavity reflectances from step 2 for specific fixture type

Step 4. Compute average illuminance level : use formula below to determine appropriate number of fixtures

Number of Fixtures = (room area in square feet X desired foot candles) / (lumens per fixture X coefficient of utilization)

Note: This method is used for estimating purposes only and other factors may contribute to resulting illuminance level. Refer to the IESNA Lighting Handbook for further details.

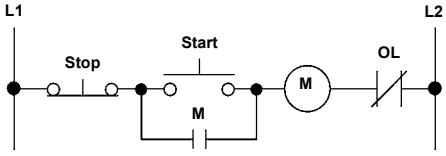
% Ceiling or Floor Reflectance	90				50				10		
% Wall Reflectance	90	70	50	30	70	50	30	10	50	30	10
Cavity Ratio											
0.2	89	88	86	85	49	48	47	30	10	10	09
0.4	88	86	84	81	48	47	45	30	11	10	09
0.6	87	84	80	77	47	45	43	30	11	10	08
0.8	87	82	77	73	47	44	40	30	11	10	08
1.0	86	80	75	69	46	43	38	30	12	10	08
1.2	85	78	72	66	45	41	36	30	12	10	07
1.4	85	77	69	62	45	40	35	30	12	10	07
1.6	84	75	67	59	44	39	33	29	12	09	07
1.8	83	73	64	56	43	38	31	29	13	09	06
2.0	83	72	62	53	43	37	30	29	13	09	06
2.2	82	70	59	50	42	36	29	29	13	09	06
2.4	82	69	58	48	42	35	27	29	13	09	06
2.6	81	67	56	46	41	34	26	29	13	09	06
2.8	81	66	54	44	41	33	25	29	13	09	05
3.0	80	64	52	42	40	32	24	29	13	09	05
3.2	79	63	50	40	39	31	23	29	13	09	05
3.4	79	62	48	38	39	30	22	29	13	09	05
3.6	78	61	47	36	39	29	21	29	13	09	04
3.8	78	60	45	35	38	29	21	28	14	09	04
4.0	77	58	44	33	38	28	20	28	14	09	04
4.2	77	57	43	32	37	28	20	28	14	09	04
4.4	76	56	42	31	37	27	19	28	14	08	04
4.6	76	55	40	30	36	26	18	28	14	08	04
4.8	75	54	39	28	36	26	18	28	14	08	04
5.0	75	53	38	28	35	25	17	28	14	08	04

NEMA Enclosure Type Classifications

NEMA Type	Description
1	Enclosures constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment and to provide a degree of protection against falling dirt.
2	Same as NEMA Type 1 including protection against dripping and light splashing of liquids.
3	Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, snow, and windblown dust; and that will be undamaged by the external formation of ice on the enclosure.
3R	Same as NEMA Type 3 excluding protection against windblown dust.
3S	Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, snow, and windblown dust; and in which the external mechanism(s) remain operable when ice laden.
4	Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, snow, windblown dust, splashing water, and hose-directed water; and that will be undamaged by the external formation of ice on the enclosure.
4X	Same as NEMA Type 4 including protection against corrosion.
5	Enclosures constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt; against settling airborne dust, lint, fibers, and flyings; and to provide a degree of protection against dripping and light splashing of liquids.
6	Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt; against hose-directed water and the entry of water during occasional temporary submersion at a limited depth; and that will be undamaged by the external formation of ice on the enclosure.
6P	Same as NEMA Type 6 including protection against the entry of water during prolonged submersion at a limited depth.
7	Enclosures are for indoor use in locations classified as Class I, Groups A, B, C, or D and shall be capable of withstanding the pressures resulting from an internal explosion of specified gases, and contain such an explosion sufficiently that an explosive gas-air mixture existing in the atmosphere surrounding the enclosure will not be ignited. Enclosed heat generating devices shall not cause external surfaces to reach temperatures capable of igniting explosive gas-air mixtures in the surrounding atmosphere. Enclosures shall meet explosion, hydro-static, and temperature design tests.
9	Enclosures are intended for indoor use in locations classified as Class II, Groups E, F, or G, and shall be capable of preventing the entrance of dust. Enclosed heat generating devices shall not cause external surfaces to reach temperatures capable of igniting or discoloring dust on the enclosure or igniting dust-air mixtures in the surrounding atmosphere. Enclosures shall meet dust penetration and temperature design tests, and aging of gaskets (if used).
12	Enclosures constructed (without knockouts) for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt; against circulating dust, lint, fibers, and flyings; and against dripping and light splashing of liquids.
12K	Same as NEMA Type 12 including enclosures constructed with knockouts.
13	Enclosures constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt; against circulating dust, lint, fibers, and flyings; and against the spraying, splashing, and seepage of water, oil, and non-corrosive coolants.

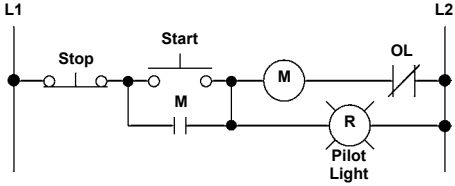
Common Pilot Device Diagrams

START / STOP FOR NON-REVERSING STARTER



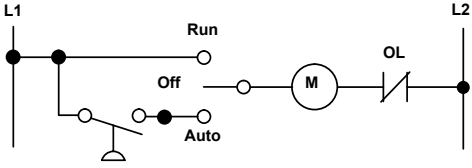
Device Type	Operator	Contact Block	Legend Plate
Start Button	10250T103	10250T53C	10250TM33
Stop Button	10250T102	10250T51C	10250TM34

START / STOP WITH MOTOR RUN LIGHT



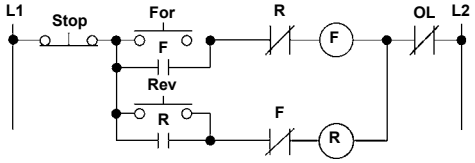
Device Type	Operator	Contact Block	Legend Plate
Start Button	10250T103	10250T53C	10250TM33
Stop Button	10250T102	10250T51C	10250TM34
Run Light	10250T181N	10250TC1N	10250TM31

HAND / OFF / AUTO CIRCUIT



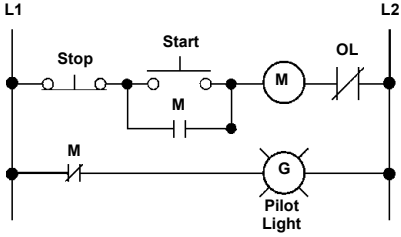
Device Type	Operator	Contact Block	Legend Plate
Selector Switch	10250T1323	10250T2C	10250TM51

FORWARD / STOP / REVERSE FOR REVERSING STARTER



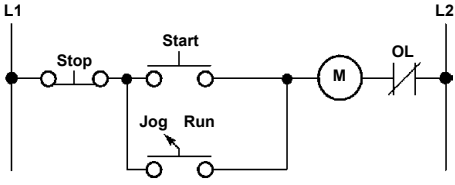
Device Type	Operator	Contact Block	Legend Plate
Forward Button	10250T103	10250T53C	10250TM15
Stop Button	10250T102	10250T51C	10250TM34
Reverse Button	10250T101	10250T53C	10250TM30

START / STOP WITH MOTOR OFF LIGHT



Device Type	Operator	Contact Block	Legend Plate
Start Button	10250T103	10250T53C	10250TM33
Stop Button	10250T102	10250T51C	10250TM34
Off Light	10250T181N	10250TC2N	10250TM24

START / STOP WITH JOG / RUN SELECTOR SWITCH



Device Type	Operator	Contact Block	Legend Plate
Start Button	10250T103	10250T53C	10250TM33
Stop Button	10250T102	10250T51C	10250TM34
Selector Switch	10250T1311	10250T53C	10250TM44

Summary of Code Requirements for Lighting Control

Vive wireless solutions ensure you can meet new construction and retrofit (lighting alterations code requirements for ASHRAE 2010, ASHRAE 2013, IECC 2012, IECC 2015, and Title 24-2016).

For specific commercial building code lighting requirements in your state, please visit www.lutron.com/energycodes.

	Code Requirements					Solution(s)	
Control Method(s)	**ASHRAE 90.1-2010**	**ASHRAE 90.1-2013**	**IECC 2012**	**IECC 2015**	**Title 24-2016**	 **Vive**	 **Vive with Wireless Hub**
Local Switch	•	•	• •	• •	• •	√	√
Occupancy Sensing	• •	• •	• •	• •	• •	√	√
Bi-Level Control	•	•	• •	• •	• •	√	√
Multi-Level Dimming					• •	√	√
Automatic Daylighting	•	•		• •	• •	√	√
Demand Response					• •		√
Energy Monitoring		•			•		√

Key: • New Construction • Lighting Alteration

Disclaimer: This table is a summary only; other exceptions or details may apply. Jurisdictions may have requirements that differ from these standards. For specific code requirements please visit: www.lutron.com/energycodes

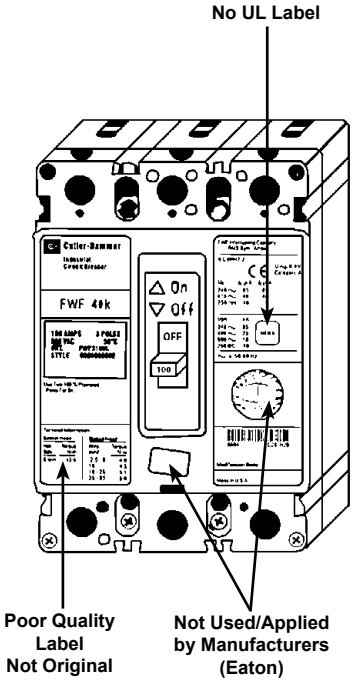
WARNING! WARNING! WARNING!
COUNTERFEIT CIRCUIT BREAKERS

WHY BUY NEW?
You should never compromise when selecting the electrical device whose fundamental purpose is protection. When you buy an Eaton circuit breaker from Elliott Electric Supply, you get a circuit breaker you can depend on, plus a whole lot more.

RELIABILITY
Eaton assures the quality and reliability of each new circuit breaker before it leaves the manufacturing facility. Each unit is tested with state-of-the-art test equipment especially designed for each type of breaker. Eaton circuit breakers carry UL 489 and IEC 60947-2 ratings and meet or exceed many other international testing standards.

SAFETY
Accidents happen each day. The risk of equipment damage or injured personnel may be reduced by using the correct circuit protective devices. In order to assure your safety, you need to know the differences between new, used and surplus and third-party repaired circuit breakers. When it comes to protecting your equipment and people, it is truly what you don't know that can hurt you.

PEACE OF MIND
Why risk buying used, surplus or third-party repaired breakers? The cost of even one circuit failing to operate can be staggering and the results catastrophic, maybe even tragic. There is also the whole issue of liability. As the individual who decides whether to buy used or buy new, you bear great responsibility. Why risk your reputation, your livelihood, or your safety?



HOW TO SPOT A COUNTERFEIT BREAKER

Missing Date Code
- Removed to hide the age of the circuit breaker.

Old Date Code
- Any product over two years old no longer has any factory warranty.

Factory Seals Broken or Removed
- Product has been tampered with and has no warranty or guarantee that it meets performance specifications.

Mislabeled Products to Change Size/Type
- Product has been tampered with, causing a possible misapplication and a safety hazard.

Non-English Text
- Product that appears with labels in languages other than English.

Missing UL Sticker
- Product is likely imported illegally and is NOT certified to meet U.S. electrical codes.

Low-Quality Labeling and/or Misspelled Words
- Product is likely a counterfeit and made with substandard materials and workmanship.

Old Westinghouse or Challenger Label
- These products have not been produced since 1999 and 1997 respectively.

Not in a Carton or in Older White Carton
- Product is used and/or outdated

Power Defense
Molded Case Circuit Breaker Replacement Guide

125 A	225 A	250 A	400 A	600 A	800 A	1200 A	2500 A
POWER DEFENSE™—GLOBAL—UL®/CSA®/CE/CCC Dimensions in inches (per three-pole breaker)							
PDG1	**PDG2**	**PDG3**			**PDG4**	**PDG5**	**PDG6**
125 A Frame (15–125 A)	225 A Frame (15–225 A)	400 A & 600 A Frame (45–600 A)			800 A Frame (300–800 A)	800 A & 1200 A Frame (320–1200 A)	1600 A, 2000 A & 2500 A Frame (700–2500 A)
 W: 3.00 H: 5.50 D: 3.00	 W: 4.13 H: 6.00 D: 3.50	 W: 5.50 H: 10.10 D: 4.30			 W: 8.25 H: 16.00 D: 4.38	 W: 8.30 H: 16.00 D: 5.50	 W: 15.50 H: 16.00 D: 9.80
SERIES G—GLOBAL—UL/CSA/CE/CCC Dimensions in inches (per three-pole breaker)							
EG	**JG**		**LG**		**NG**		**RG**
125 A Frame (15–125 A)	250 A Frame (20–250 A)		600 A Frame (100–600 A)		800 A & 1200 A Frame (320–1200 A)		1600 A, 2000 A & 2500 A Frame (800–2500 A)
 W: 3.00 H: 5.50 D: 3.00	 W: 4.13 H: 7.00 D: 3.57		 W: 5.50 H: 10.10 D: 4.10		 W: 8.30 H: 16.00 D: 5.50		 W: 15.50 H: 16.00 D: 9.80
SERIES C—DOMESTIC—UL/CSA Dimensions in inches (per three-pole breaker)							
GD	**FD**	**JD**	**KD**	**LD**	**MDL**	**ND (Aftermarket)**	**RD (Aftermarket)**
100 A Frame (15–100 A)	225 A Frame (15–225 A)	250 A Frame (70–250 A)	400 A Frame (55–400 A)	600 A Frame (70–600 A)	800 A Frame (300–800 A)	800 A & 1200 A Frame	1600 A, 2000 A & 2500 A Frame
 W: 3.00 H: 4.88 D: 2.63	 W: 4.13 H: 6.00 D: 3.38	 W: 4.13 H: 10.00 D: 4.06	 W: 5.50 H: 10.10 D: 4.10	 W: 8.25 H: 10.80 D: 4.06	 W: 8.25 H: 16.00 D: 4.06	 W: 8.30 H: 16.00 D: 5.50	 W: 15.50 H: 16.00 D: 9.80

Note: Available Continuous Current Ranges are Shown in Parentheses. These Options are Dependent on the Frame and Trip Unit Used with Each Breaker. Please Consult Eaton's Volume 4 Circuit Protection Catalog for More Information.

Product selector and technical data
Scan the QR code for additional assistance in selecting a breaker or to obtain data sheets and 2D or 3D drawings. You can also visit our website at Eaton.com/PowerDefense.

Store Information: Arizona, Arkansas

Arizona

NEW STORE! **AVONDALE #169** | PHONE: 623-259-1366 | FAX: 623-259-1367

				24/7 CONTACTS
Reid Goins ... ReidGoins@elliottelectric.com ... Branch Manager Host Store: **Phoenix, AZ #148**	M–F: 5am–4pm Sat: 8am–Noon	1205 N Eliseo Felix Jr. Way, #A101 Avondale, AZ 85323		Reid ... 210-464-2171

DEER VALLEY #153 | PHONE: 480-681-0668 | FAX: 480-681-0669

				24/7 CONTACTS
Steven Dawson ... StevenDawson@elliottelectric.com ... Branch Manager Host Store: **Phoenix, AZ #148**	M–F: 5am–4pm Sat: 8am–Noon	21415 North 15th Lane, #116 Phoenix, AZ 85027		Steven ... 210-954-2351

NEW STORE! **GILBERT #166** | PHONE: 602-325-9757 | FAX: 602-325-9758

				24/7 CONTACTS
Austin Simms ... AustinSimms@elliottelectric.com ... Branch Manager Host Store: **Phoenix, AZ #148**	M–F: 5am–4pm Sat: 8am–Noon	425 East Germann Road, #101 Gilbert, AZ 85297		Austin ... 760-336-1165

MESA #152 | PHONE: 623-900-2983 | FAX: 623-900-2984

				24/7 CONTACTS
Nick Shattuck ... NickShattuck@elliottelectric.com ... Branch Manager Host Store: **Phoenix, AZ #148**	M–F: 5am–4pm Sat: 8am–Noon	2250 West Broadway Road, #102 Mesa, AZ 85202		Nick ... 210-355-6004

PHOENIX #148 | PHONE: 480-372-4901 | FAX: 480-372-4902

				24/7 CONTACTS
Quentin Bell ... QuentinBell@elliottelectric.com ... Area Manager Michael Daake ... MichaelDaake@elliottelectric.com ... Area Operations Manager	M–F: 5am–4pm Sat: 8am–Noon	121 South 39th Avenue, #100 Phoenix, AZ 85009		Quentin ... 210-232-1838 Michael ... 623-213-9860

TUCSON #159 | PHONE: 520-526-1947 | FAX: 520-526-1948

				24/7 CONTACTS
Anacely Martinez ... AnacelyMartinez@elliottelectric.com ... Branch Manager Host Store: **Phoenix, AZ #148**	M–F: 6am–4pm Sat: 8am–Noon	3130 S. Dodge Boulevard Tucson, AZ 85713		Anacely ... 520-247-3449

Arkansas

BENTON #131 | PHONE: 501-303-4983 | FAX: 501-508-4978

				24/7 CONTACTS
David Work ... DavidWork@elliottelectric.com ... Operations Manager Host Store: **Little Rock, AR #091**	M–F: 7am–5:30pm Sat: 8am–Noon	2114 Military Road Benton, AR 72015		David ... 501-804-6198

NEW ADDRESS **BENTONVILLE #112** | PHONE: 479-250-1930 | FAX: 479-250-1931

				24/7 CONTACTS
Tyler Wright ... TylerWright@elliottelectric.com ... Branch Manager Host Store: **Springdale, AR #106**	M–F: 7am–5pm Sat: 8am–Noon	320 SW 28th Street Bentonville, AR 72712		Tyler ... 281-467-6044

CABOT #094 | PHONE: 501-605-1780 | FAX: 501-605-1785

				24/7 CONTACTS
Lawrence Gabbard ... LawrenceGabbard@elliottelectric.com ... Branch Manager Host Store: **Little Rock, AR #091**	M–F: 7am–5pm Sat: Closed	132 Professional Drive Cabot, AR 72023		Lawrence ... 501-908-1404

CONWAY #099 | PHONE: 501-336-8444 | FAX: 501-329-5636

				24/7 CONTACTS
Lawrence Gabbard ... LawrenceGabbard@elliottelectric.com ... Branch Manager Host Store: **Little Rock, AR #091**	M–F: 6:30am–5pm Sat: Closed	520 Equity Avenue Conway, AR 72032		Lawrence ... 501-908-1404

EL DORADO #138 | PHONE: 870-639-6289 | FAX: 870-864-8850

				24/7 CONTACTS
Wayne Jackson ... WayneJackson@elliottelectric.com ... Branch Manager Host Store: **West Monroe, LA #055**	M–F: 7am–5:30pm Sat: 8am–Noon	805 South Timberlane Drive El Dorado, AR 71730		Wayne ... 870-310-8623

FAYETTEVILLE #125 | PHONE: 479-443-4948 | FAX: 479-443-6465

				24/7 CONTACTS
David Christenberry ... DavidChristenberry@elliottelectric.com ... Area Manager Host Store: **Springdale, AR #106**	M–F: 7am–5:30pm Sat: 8am–Noon	2642 South School Street Fayetteville, AR 72701		David ... 479-225-6948

FORT SMITH #105 | PHONE: 479-648-1902 | FAX: 479-648-1960

				24/7 CONTACTS
Dana Borum ... DanaBorum@elliottelectric.com ... Branch Manager Host Store: **Springdale, AR #106**	M–F: 7am–5:30pm Sat: 8am–Noon	5500 Wheeler Avenue Fort Smith, AR 72901		Dana ... 208-691-4167

HOPE #037 | PHONE: 870-777-4225 | FAX: 870-777-4343

				24/7 CONTACTS
Gil Murry ... GilMurry@elliottelectric.com ... Operations Supervisor Host Store: **Texarkana, TX #030**	M–F: 7am–5:30pm Sat: 8am–Noon	1615 North Hazel Street Hope, AR 71801		Gil ... 870-602-0947

HOT SPRINGS #114 | PHONE: 501-762-8210 | FAX: 501-762-8211

				24/7 CONTACTS
Matthew Thompson ... MatthewThompson@elliottelectric.com ... Branch Manager Host Store: **Little Rock, AR #091**	M–F: 7am–5:30pm Sat: 8am–Noon	411 Autumn Street Hot Springs, AR 71901		Matthew ... 501-249-0102

Store Information: Arkansas, Colorado, Georgia

Arkansas (cont.)

LITTLE ROCK #091 — PHONE: 501-565-1785 — FAX: 501-565-0827

James Felton	JamesFelton@elliottelectric.com	Area Operations Manager	
Donald White	DonaldWhite@elliottelectric.com	Area Manager	

M–F: 7am–5:30pm, Sat: 8am–Noon
5510 West 65th Street, Little Rock, AR 72209

24/7 CONTACTS: James .....501-912-0175; Donald 501-650-6909

NEW ADDRESS

MAGNOLIA #139 — PHONE: 870-626-4277 — FAX: 870-234-7640

Beau Potts	BeauPotts@elliottelectric.com	Operations Supervisor

Host Store: **Texarkana, TX #030**

M–F: 7am–5:30pm, Sat: 8am–Noon
102 Harvey Couch Boulevard, Magnolia, AR 71753

24/7 CONTACTS: Beau 903-490-2343

NORTH LITTLE ROCK #086 — PHONE: 501-945-9398 — FAX: 501-508-2426

Tyler Ward	TylerWard@elliottelectric.com	Operations Manager

Host Store: **Little Rock, AR #091**

M–F: 7am–5:30pm, Sat: 8am–Noon
1501 North Cypress Street, North Little Rock, AR 72114

24/7 CONTACTS: Tyler.....501-749-2311

PINE BLUFF #149 — PHONE: 870-671-4805 — FAX: 870-671-4806

Donald White	DonaldWhite@elliottelectric.com	Area Manager

Host Store: **Little Rock, AR #091**

M–F: 7am–5:30pm, Sat: 8am–Noon
1701 Commerce Road, Pine Bluff, AR 71601

24/7 CONTACTS: Donald 501-650-6909

NEW ADDRESS

ROGERS #124 — PHONE: 479-636-4190 — FAX: 479-636-5604

Tom Dawson	TomDawson@elliottelectric.com	Branch Manager

Host Store: **Springdale, AR #106**

M–F: 7am–5pm, Sat: Closed
2214 South 8th Street, Rogers, AR 72758

24/7 CONTACTS: Tom..... 479-616-6041

RUSSELLVILLE #104 — PHONE: 479-967-2303 — FAX: 479-967-2306

Terry Hansell	TerryHansell@elliottelectric.com	Branch Manager

Host Store: **Little Rock, AR #091**

M–F: 7am–5:30pm, Sat: 8am–Noon
1715 South Knoxville Avenue, Russellville, AR 72802

24/7 CONTACTS: Terry.....479-747-2271

SEARCY #089 — PHONE: 501-368-0309 — FAX: 501-368-0619

Rick Debord	RickDebord@elliottelectric.com	Branch Manager

Host Store: **Little Rock, AR #091**

M–F: 7am–5:30pm, Sat: 8am–Noon
1612 East Booth Road, Searcy, AR 72143

24/7 CONTACTS: Rick.....501-831-3852

SILOAM SPRINGS #126 — PHONE: 479-238-1561 — FAX: 479-238-1461

Wesley Holt	WesleyHolt@elliottelectric.com	Branch Manager

Host Store: **Springdale, AR #106**

M–F: 7am–5:30pm, Sat: 8am–Noon
1201 East Lake Francis Drive, Siloam Springs, AR 72761

24/7 CONTACTS: Wesley.....479-644-0049

SPRINGDALE #106 — PHONE: 479-361-2266 — FAX: 479-361-9188

Jim Mitchell	JimMitchell@elliottelectric.com	Area Operations Manager
Tina Priddy	TinaPriddy@elliottelectric.com	Branch Manager
David Christenberry	DavidChristenberry@elliottelectric.com	Area Manager

M–F: 7am–5:30pm, Sat: 8am–Noon
537 North 40th Street, Springdale, AR 72762

24/7 CONTACTS: Jim .....479-466-2884; Tina.....479-530-5276; David 479-225-6948

STUTTGART #107 — PHONE: 870-672-7082 — FAX: 870-672-7086

Jamie Crane	JamieCrane@elliottelectric.com	Branch Manager

Host Store: **Little Rock, AR #091**

M–F: 7am–5:30pm, Sat: 8am–Noon
310 West 22nd Street, Stuttgart, AR 72160

24/7 CONTACTS: Jamie 870-456-2306

Colorado

DENVER #174 — PHONE: 720-259-9108 — FAX: 720-259-9109

Alex Fritsch	AlexFritsch@elliottelectric.com	Branch Manager
Chris Petty	ChrisPetty@elliottelectric.com	Area Manager

M–F: 7am–5:30pm, Sat: 8am–Noon
10070 E. 40th Ave., Denver, CO 80238

24/7 CONTACTS: Alex.....713-298-5632; Chris 512-789-2679

OPENING SOON!

Georgia

ATLANTA #046 — PHONE: 470-237-5352 — FAX: 470-237-5353

Jamen Costner	JamenCostner@elliottelectric.com	Area Operations Manager

M–F: 7am–5:30pm, Sat: 8am–Noon
4075 Bolder Ridge Drive, Atlanta, GA 30336

24/7 CONTACTS: Jamen.....706-204-4703

MARIETTA #165 — PHONE: 678-398-4904 — FAX: 678-398-4905

Tim Adams	TimAdams@elliottelectric.com	Branch Manager

Host Store: **Atlanta, GA #046**

M–F: 7am–5:30pm, Sat: 8am–Noon
2255 Northwest Parkway SE, Marietta, GA 30067

24/7 CONTACTS: Tim.....404-904-9090

NEWNAN #154 — PHONE: 678-621-2507 — FAX: 678-621-2508

Jessica Durand	JessicaDurand@elliottelectric.com	Branch Manager

Host Store: **Atlanta, GA #046**

M–F: 7am–5:30pm, Sat: 8am–Noon
2 Solar Circle, Newnan, GA 30265

24/7 CONTACTS: Jessica.....770-328-0836

ROME #150 — PHONE: 706-622-4953 — FAX: 706-622-4954

Jason Eaton	JasonEaton@elliottelectric.com	Branch Manager

Host Store: **Atlanta, GA #046**

M–F: 7am–5:30pm, Sat: 8am–Noon
1461 Technology Parkway, Rome, GA 30165

24/7 CONTACTS: Jason 470-214-0812

Elliott Electric Supply

Store Information: Kansas, Louisiana

Kansas

DODGE CITY #135 — PHONE: 620-682-8503 — FAX: 620-682-8504

Bryan Mercer ..... BryanMercer@elliottelectric.com ..... Area Manager
Levi Steele ..... LeviSteele@elliottelectric.com ..... Branch Manager
Host Store: **Wichita (West), KS #146**

M–F: 7am–5:30pm
Sat: 8am–Noon

112 Pearl Street
Dodge City, KS 67801

24/7 CONTACTS
Bryan 806-336-0761
Levi 620-390-9713

HUTCHINSON #155 — PHONE: 620-860-8405 — FAX: 620-860-8406

Bob Ahlgrim ..... RobertAhlgrim@elliottelectric.com ..... Branch Manager
Host Store: **Wichita (West), KS #146**

M–F: 7am–5:30pm
Sat: 8am–Noon

2501 East 14th Avenue
Hutchinson, KS 67501

24/7 CONTACTS
Bob 316-409-6730

NEW STORE!

LENEXA #171 — PHONE: 913-563-7000 — FAX: 913-563-7050

Max Cook ..... MaxCook@elliottelectric.com ..... Branch Manager
Justin Roe ..... JustinRoe@elliottelectric.com ..... Operations Manager

M–F: 7am–5:30pm
Sat: 8am–Noon

14851 W. 99th St.
Lenexa, KS 66215

24/7 CONTACTS
Max 913-544-7321
Justin 913-707-4456

NEW STORE!

SALINA #168 — PHONE: 785-914-5431 — FAX: 785-914-5432

Kenn Sellers ..... KennSellers@elliottelectric.com ..... Branch Manager
Host Store: **Wichita (West), KS #146**

M–F: 7am–5:30pm
Sat: 8am–Noon

700 York Avenue
Salina, KS 67401

24/7 CONTACTS
Kenn 785-376-1908

NEW ADDRESS

WICHITA (WEST) #146 — PHONE: 316-854-0028 — FAX: 316-854-0029

Bryan Mercer ..... BryanMercer@elliottelectric.com ..... Area Manager
Hunter Rowland ..... HunterRowland@elliottelectric.com ..... Host Manager

M–F: 7am–5:30pm
Sat: 8am–Noon

3804 W. Esthner Avenue
Wichita, KS 67213

24/7 CONTACTS
Bryan 806-336-0761
Hunter.....316-737-8968

Louisiana

ALEXANDRIA #054 — PHONE: 318-445-1336 — FAX: 318-445-8356

Johnny Winfree ..... JohnnyWinfree@elliottelectric.com ..... Area Manager
Chris Rogers ..... ChristopherRogers@elliottelectric.com .... Area Operations Manager

M–F: 7am–5:30pm
Sat: 8am–Noon

3705 Lee Street
Alexandria, LA 71302

24/7 CONTACTS
Johnny 318-447-8925
Chris 318-447-0378

BATON ROUGE #102 — PHONE: 225-292-7746 — FAX: 225-292-7840

Bob Jones ..... BobJones@elliottelectric.com ..... Host Manager
Karen Bennett ..... KarenBennett@elliottelectric.com ..... Operations Manager

M–F: 6am–5:30pm
Sat: 8am–Noon

10440 Airline Highway
Baton Rouge, LA 70816

24/7 CONTACTS
Bob 225-620-8707
Karen 225-235-3852

BOSSIER CITY #003 — PHONE: 318-746-5712 — FAX: 318-746-8036

Sharon Elliott ..... SharonElliott@elliottelectric.com ..... Host Manager
Kyle Baker ..... KyleBaker@elliottelectric.com ..... Area Operations Manager

M–F: 7am–5:30pm
Sat: 8am–Noon

2414 Montgomery Lane
Bossier City, LA 71111

24/7 CONTACTS
Sharon 318-458-7157
Kyle.....318-272-3251

COVINGTON #137 — PHONE: 985-302-3016 — FAX: 985-249-6076

JT Thompson ..... JulianThompson@elliottelectric.com ..... Branch Manager
Host Store: **Baton Rouge, LA #102**

M–F: 6am–5pm
Sat: 8am–Noon

1026 North Collins Boulevard
Covington, LA 70433

24/7 CONTACTS
JT..... 985-687-1110

NEW STORE!

GONZALES #170 — PHONE: 225-960-6273 — FAX: 225-960-6274

Alan Bryant ..... RichardBryant@elliottelectric.com ..... Branch Manager
Wade Sullivan ..... WadeSullivan@elliottelectric.com ..... Operations Manager
Host Store: **Baton Rouge, LA #102**

M–F: 7am–5:30pm
Sat: 8am–Noon

1617 W Highway 30
Gonzales, LA 70737

24/7 CONTACTS
Alan 225-279-6749
Wade 225-313-0850

LAFAYETTE #059 — PHONE: 337-235-7681 — FAX: 337-235-7725

Dwight Dufour ..... DwightDufour@elliottelectric.com ..... Branch Manager
Host Store: **Alexandria, LA #054**

M–F: 7am–5:30pm
Sat: 8am–Noon

1811 N. University Ave., Ste. 100
Lafayette, LA 70507

24/7 CONTACTS
Dwight.....337-534-7910

LEESVILLE #057 — PHONE: 337-238-1624 — FAX: 337-239-2527

Heather Littleton ..... HeatherLittleton@elliottelectric.com ..... Branch Manager
Host Store: **Alexandria, LA #054**

M–F: 7am–5:30pm
Sat: 8am–Noon

206 Stanton Street
Leesville, LA 71446

24/7 CONTACTS
Heather.....337-353-6211

MONROE #079 — PHONE: 318-387-1621 — FAX: 318-387-1763

Eric Williams ..... EricWilliams@elliottelectric.com ..... Operations Manager
Host Store: **West Monroe, LA #055**

M–F: 7am–5:30pm
Sat: 8am–Noon

801 Sterlington Road
Monroe, LA 71203

24/7 CONTACTS
Eric 318-737-9395

NATCHITOCHES #020 — PHONE: 318-352-7414 — FAX: 318-352-4100

Bobby Garlington ..... BobbyGarlington@elliottelectric.com ..... Branch Manager
Host Store: **Alexandria, LA #054**

M–F: 7am–5:30pm
Sat: 8am–Noon

500 Rapides Drive
Natchitoches, LA 71457

24/7 CONTACTS
Bobby 318-332-0015

NEW ORLEANS #111 — PHONE: 504-264-9995 — FAX: 504-264-5996

CJ McLennan ..... CharlesMcLennan@elliottelectric.com ..... Branch Manager
Host Store: **Baton Rouge, LA #102**

M–F: 6am–5pm
Sat: 8am–Noon

221 Hord Street
Harahan, LA 70123

24/7 CONTACTS
CJ 225-910-0424

Store Information: Louisiana, Missouri, New Mexico, Oklahoma

Louisiana (cont.)

PINEVILLE #035 PHONE: 318-767-0900 FAX: 318-767-0010

Joshua Henry ..... JoshuaHenry@elliottelectric.com ..... Operations Manager
Host Store: **Alexandria, LA #054**

M–F: 7am–5:30pm
Sat: 8am–Noon

4406 Highway 28 East
Pineville, LA 71360

24/7 CONTACTS
Joshua 318-625-9636

RUSTON #067 PHONE: 318-251-9393 FAX: 318-255-1402

Van Phillips ..... VanPhillips@elliottelectric.com ..... Host Manager
Host Store: **West Monroe, LA #055**

M–F: 7am–5:30pm
Sat: 8am–Noon

2020 Farmerville Highway
Ruston, LA 71270

24/7 CONTACTS
Van 318-557-5591

SHREVEPORT #014 PHONE: 318-688-9822 FAX: 318-688-0702

Sharon Elliott ..... SharonElliott@elliottelectric.com ..... Host Manager
Host Store: **Bossier City, LA #003**

M–F: 7am–5:30pm
Sat: 8am–Noon

9139 Linwood Avenue
Shreveport, LA 71106

24/7 CONTACTS
Sharon 318-458-7157

SULPHUR #080 PHONE: 337-533-8019 FAX: 337-533-8055

Neil Peveto ..... NeilPeveto@elliottelectric.com ..... Branch Manager
Host Store: **Alexandria, LA #054**

M–F: 7am–5:30pm
Sat: 8am–Noon

1336 Swisco Road
Sulphur, LA 70665

24/7 CONTACTS
Neil 337-540-2842

VIDALIA #074 PHONE: 318-336-5113 FAX: 318-336-5587

Edward Bourdin ..... JeanBourdin@elliottelectric.com ..... Operations Supervisor
Host Store: **Alexandria, LA #054**

M–F: 7am–5:30pm
Sat: 8am–Noon

6 South Hickory Street
Vidalia, LA 71373

24/7 CONTACTS
Edward 601-431-1944

WEST MONROE #055 PHONE: 318-398-9757 FAX: 318-398-9704

Van Phillips ..... VanPhillips@elliottelectric.com ..... Host Manager
Michael Jordan ..... MichaelJordan@elliottelectric.com ..... Operations Manager

M–F: 7am–5:30pm
Sat: 8am–Noon

106 Industrial Drive
West Monroe, LA 71292

24/7 CONTACTS
Van 318-557-5591
Michael 318-376-9254

Missouri

KANSAS CITY #172 PHONE: 816-924-7000 FAX: 816-931-2918

Mike Mitchell ..... MichaelGideon@elliottelectric.com ..... Branch Manager
Bryan Mercer ..... BryanMercer@elliottelectric.com ..... Area Manager
Host Store: **Lenexa, KS #171**

M–F: 7am–5:30pm
Sat: 8am–Noon

4451 Troost Ave.
Kansas City, MO 64110

24/7 CONTACTS
Mike 816-642-0929
Bryan 806-336-0761

NEW STORE!

New Mexico

CARLSBAD #156 PHONE: 575-988-7017 FAX: 575-988-7018

Michael Gideon ..... MichaelGideon@elliottelectric.com ..... Branch Manager
Keagan McDermett ..... KeaganMcDermett@elliottelectric.com ..... Host Manager
Host Store: **Lubbock, TX #110**

M–F: 7am–5:30pm
Sat: 8am–Noon

5004 National Parks Highway
Carlsbad, NM 88220

24/7 CONTACTS
Michael 575-390-4354
Keagan 806-831-1755

CLOVIS #092 PHONE: 575-742-2504 FAX: 575-742-2508

David Chaney ..... DavidChaney@elliottelectric.com ..... Branch Manager
Keagan McDermett ..... KeaganMcDermett@elliottelectric.com ..... Host Manager
Host Store: **Lubbock, TX #110**

M–F: 7am–5:30pm
Sat: 8am–Noon

3205 Axtell Street
Clovis, NM 88101

24/7 CONTACTS
David 325-277-7599
Keagan 806-831-1755

HOBBS #076 PHONE: 575-397-2122 FAX: 575-397-2178

Mathew Mendez ..... MathewMendez@elliottelectric.com ..... Operations Manager
Host Store: **Odessa, TX #066**

M–F: 7am–5:30pm
Sat: Closed

1105 West Sanger Street
Hobbs, NM 88240

24/7 CONTACTS
Mathew 210-265-7793

ROSWELL #141 PHONE: 575-208-1571 FAX: 575-208-1572

Keagan McDermett ..... KeaganMcDermett@elliottelectric.com ..... Host Manager
Host Store: **Lubbock, TX #110**

M–F: 7am–5:30pm
Sat: 8am–Noon

907 East 2nd Street
Roswell, NM 88201

24/7 CONTACTS
Keagan 806-831-1755

Oklahoma

DUNCAN #118 PHONE: 580-252-2582 FAX: 580-252-2738

Becky Pierce ..... BeckyPierce@elliottelectric.com ..... Operations Manager
Host Store: **Oklahoma City, OK #122**

M–F: 7am–5:30pm
Sat: 8am–Noon

5150 North Highway 81
Duncan, OK 73533

24/7 CONTACTS
Becky 580-222-6359

EDMOND #128 PHONE: 405-562-6283 FAX: 405-562-6284

Justin Casteel ..... JustinCasteel@elliottelectric.com ..... Branch Manager
Host Store: **Oklahoma City, OK #122**

M–F: 7am–5:30pm
Sat: 8am–Noon

308 Centennial Boulevard
Edmond, OK 73013

24/7 CONTACTS
Justin 405-312-4280

ENID #133 PHONE: 580-701-6818 FAX: 580-234-5655

Jerrid Bramwell ..... JerridBramwell@elliottelectric.com ..... Branch Manager
Host Store: **Oklahoma City, OK #122**

M–F: 7am–5:30pm
Sat: 8am–Noon

3507 North Van Buren Bypass
Enid, OK 73701

24/7 CONTACTS
Jerrid 580-542-6920

Store Information: Oklahoma, Tennessee, Texas

Oklahoma (cont.)

LAWTON #109 — PHONE: 580-581-7270 — FAX: 580-215-4548

Michael Peckinpaugh .. MichaelPeckinpaugh@elliottelectric.com ..... Branch Manager
Host Store: **Oklahoma City, OK #122**

M–F: 7am–5:30pm
Sat: 8am–Noon

1010 SE 1st Street
Lawton, OK 73501

24/7 CONTACTS
Michael 580-695-6187

MOORE #132 — PHONE: 405-759-4139 — FAX: 405-237-1928

Kody Rackley ..... JonathanRackley@elliottelectric.com ..... Branch Manager
Host Store: **Oklahoma City, OK #122**

M–F: 7am–5:30pm
Sat: 8am–Noon

2101 South Eastern Avenue
Moore, OK 73160

24/7 CONTACTS
Kody 405-727-0326

OKLAHOMA CITY #122 — PHONE: 405-896-3723 — FAX: 405-272-3057

Chris Woodall..... ChrisWoodall@elliottelectric.com..... Area Manager
David Tanner..... DavidTanner@elliottelectric.com..... Area Operations Manager

M–F: 7am–5:30pm
Sat: 8am–Noon

1800 South May Avenue
Oklahoma City, OK 73108

24/7 CONTACTS
Chris 806-570-6110
David 817-899-7990

PRYOR #162 — PHONE: 918-803-0063 — FAX: 918-803-0064

Jacob Morgan ..... JacobMorgan@elliottelectric.com ..... Branch Manager
Host Store: **Tulsa, OK #134**

M–F: 7am–5:30pm
Sat: 8am–Noon

1315 2nd Street MAIP
Pryor, OK 74361

24/7 CONTACTS
Chris 918-640-8884

STILLWATER #147 — PHONE: 405-880-8633 — FAX: 405-880-8634

Darrel Johnson ..... DarrelJohnson@elliottelectric.com..... Branch Manager
Host Store: **Tulsa, OK #134**

M–F: 7am–5:30pm
Sat: 8am–Noon

303 East Harned Avenue
Stillwater, OK 74075

24/7 CONTACTS
Darrel.....405-612-1783

TULSA #134 — PHONE: 918-948-7825 — FAX: 918-835-8085

Chris Rozene..... ChrisRozene@elliottelectric.com ..... Branch Manager
Misty Cavner ..... MistyCavner@elliottelectric.com ..... Operations Manager

M–F: 7am–5:30pm
Sat: 8am–Noon

10131 East 21st Street
Tulsa, OK 74129

24/7 CONTACTS
Chris 918-804-3557
Misty 918-693-9969

Tennessee

NASHVILLE #164 — PHONE: 629-262-0932 — FAX: 692-262-0933

Blake Woods..... BlakeWoods@elliottelectric.com..... Area Manager
Will Houston ..... WilliamHouston@elliottelectric.com ..... Operations Manager

M–F: 7am–5:30pm
Sat: 8am–Noon

3723 Keystone Avenue
Nashville, TN 37211

24/7 CONTACTS
Blake.....713-305-9185
Will.....256-468-4077

Texas

ABILENE #058 — PHONE: 325-793-1570 — FAX: 325-692-9649

Reese Etter..... ReeseEtter@elliottelectric.com ..... Area Operations Manager
James Meazell..... JamesMeazell@elliottelectric.com ..... Area Manager

M–F: 7am–5:30pm
Sat: 8am–Noon

4281 Crawford Drive
Abilene, TX 79602

24/7 CONTACTS
Reese 817-937-5078
James 325-660-1730

AMARILLO #081 — PHONE: 806-220-0404 — FAX: 806-220-0811

Michael Lopez ..... MichaelLopez@elliottelectric.com..... Host Manager
Alexis Calderon ..... AlexisCalderon@elliottelectric.com ..... Operations Manager

M–F: 7am–5:30pm
Sat: 8am–Noon

4000 Mockingbird Lane
Amarillo, TX 79109

24/7 CONTACTS
Michael 806-433-2472
Alexis 214-918-8364

ANDREWS #070 — PHONE: 432-523-2423 — FAX: 432-523-2428

James Meazell..... JamesMeazell@elliottelectric.com..... Area Manager
Host Store: **Odessa, TX #066**

M–F: 7am–5:30pm
Sat: Closed

1201 West Broadway
Andrews, TX 79714

24/7 CONTACTS
James 325-660-1730

ARLINGTON #012 — PHONE: 817-695-1616 — FAX: 817-633-9062

Santiago Martinez..... SantiagoMartinez@elliottelectric.com ..... Branch Manager
Rick Franklin ..... RickFranklin@elliottelectric.com ..... Operations Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 7am–5:30pm
Sat: 8am–Noon

2900 East Pioneer Parkway
Building 100, Suite 170
Arlington, TX 76010

24/7 CONTACTS
Santiago 469-600-0488
Rick.....936-715-5195

ATHENS #024 — PHONE: 903-675-7999 — FAX: 903-675-9414

Dusty Godwin..... PaulGodwin@elliottelectric.com..... Branch Manager
Dwain Johnson..... DwainJohnson@elliottelectric.com ..... Operations Manager
Host Store: **Tyler, TX #002**

M–F: 7am–5:30pm
Sat: 8am–Noon

1755 Enterprise Street
Athens, TX 75751

24/7 CONTACTS
Dusty 903-681-1468
Dwain.....903-477-3322

AUSTIN (NORTH) #120 — PHONE: 512-351-3290 — FAX: 512-973-9027

Shawn Ford..... ShawnFord@elliottelectric.com..... Branch Manager
Host Store: **Austin (RDC), TX #064**

M–F: 6am–5:30pm
Sat: 8am–Noon

3101 Industrial Terrace
Austin, TX 78758

24/7 CONTACTS
Shawn.....512-925-3208

AUSTIN (RDC) #064 — PHONE: 512-339-8750 — FAX: 512-339-6732

Mike Hogan ..... MikeHogan@elliottelectric.com..... Area Operations Manager
Chris Petty..... ChrisPetty@elliottelectric.com ..... Regional Manager

M–F: 6am–5:30pm
Sat: 8am–Noon

12555 Harris Branch Pkwy., Ste. 105
Manor, TX 78653

24/7 CONTACTS
Mike 512-289-7149
Chris 512-789-2679

Store Information: Texas

Texas (cont.)

AUSTIN (SOUTH) #053 PHONE: 512-443-5600 FAX: 512-443-5601

Adam Parker ..... AdamParker@elliottelectric.com ..... Branch Manager
Host Store: **Austin (RDC), TX #064**

M–F: 7am–5:30pm
Sat: 8am–Noon

2301 E Saint Elmo Road, Ste. 105
Austin, TX 78744

24/7 CONTACTS
Adam 512-999-8383

BASTROP #145 PHONE: 512-772-2493 FAX: 512-772-2494

Blaine Williams ..... BlaineWilliams@elliottelectric.com ..... Branch Manager
Host Store: **Austin (RDC), TX #064**

M–F: 7am–5:30pm
Sat: 8am–Noon

405 Technology Drive
Bastrop, TX 78602

24/7 CONTACTS
Blaine.....979-716-2744

BIG SPRING #101 PHONE: 432-264-0316 FAX: 432-264-0483

Jamie Roberts ..... JamieRoberts@elliottelectric.com ..... Operations Manager
Host Store: **Odessa, TX #066**

M–F: 7am–5:30pm
Sat: Closed

1308 East 4th Street
Big Spring, TX 79720

24/7 CONTACTS
Jamie 432-270-2387

BORGER #075 PHONE: 806-273-3085 FAX: 806-273-2487

Austin Boyd ..... AustinBoyd@elliottelectric.com ..... Branch Manager
Host Store: **Amarillo, TX #081**

M–F: 7am–5:30pm
Sat: 8am–Noon

2108 South Huber
Borger, TX 79007

24/7 CONTACTS
Austin.....806-930-0510

BRIDGEPORT #023 PHONE: 940-683-5740 FAX: 940-683-5299

Heath Sparks ..... JamesSparks@elliottelectric.com ..... Branch Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 7am–5:30pm
Sat: 8am–Noon

204 Lake Road
Bridgeport, TX 76426

24/7 CONTACTS
Heath 214-914-7438

BROWNSVILLE #151 PHONE: 956-295-3007 FAX: 956-295-3008

Lance Shelley ..... LanceShelley@elliottelectric.com ..... Branch Manager
JD Cardenas ..... JesusCardenas@elliottelectric.com ..... Operations Manager
Host Store: **McAllen, TX #144**

M–F: 7am–5:30pm
Sat: 8am–Noon

5575 Ruben M Torres Boulevard
Brownsville, TX 78526

24/7 CONTACTS
Lance 512-656-0084
JD 956-372-8030

BROWNWOOD #027 PHONE: 325-646-6566 FAX: 325-646-3777

Ross Neel ..... RossNeel@elliottelectric.com ..... Branch Manager
Jacob Teague ..... JacobTeague@elliottelectric.com ..... Operations Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 7am–5:30pm
Sat: 8am–Noon

4300 Danhill Drive
Brownwood, TX 76801

24/7 CONTACTS
Ross 325-660-4658
Jacob 325-641-0734

BRYAN #047 PHONE: 979-779-6630 FAX: 979-779-6620

Quentin Risner ..... QuentinRisner@elliottelectric.com ..... Branch Manager
Host Store: **Houston (RDC), TX #049**

M–F: 7am–5:30pm
Sat: 8am–Noon

2501 Cavitt Avenue
Bryan, TX 77801

24/7 CONTACTS
Quentin 936-554-0313

BURLESON #040 PHONE: 817-447-0192 FAX: 817-426-1193

Louis Perkins ..... LouisPerkins@elliottelectric.com ..... Branch Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 7am–5:30pm
Sat: 8am–Noon

149 North Wilson Street
Burleson, TX 76028

24/7 CONTACTS
Louis 817-253-2212

CARTHAGE #068 PHONE: 903-694-9924 FAX: 903-694-9928

Nathan Lenox ..... NathanLenox@elliottelectric.com ..... Branch Manager
Host Store: **Nacogdoches, TX #001**

M–F: 7am–5:30pm
Sat: Closed

3168 SW Loop 436
Carthage, TX 75633

24/7 CONTACTS
Nathan 903-692-4832

CEDAR PARK #051 PHONE: 512-260-0684 FAX: 512-260-7269

Kody King ..... KodyKing@elliottelectric.com ..... Branch Manager
Jacob Raflik ..... JacobRaflik@elliottelectric.com ..... Operations Manager
Host Store: **Austin (RDC), TX #064**

M–F: 6am–5:30pm
Sat: 8am–Noon

300 East New Hope Road
Suite 308
Cedar Park, TX 78613

24/7 CONTACTS
Kody 512-567-2927
Jacob 512-962-0857

CLEBURNE #116 PHONE: 817-202-8933 FAX: 817-202-8998

Brady Allen ..... BradyAllen@elliottelectric.com ..... Branch Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 7am–5:30pm
Sat: 8am–Noon

1820 North Main Street
Cleburne, TX 76033

24/7 CONTACTS
Brady 817-734-1657

CONROE #069 PHONE: 936-788-6850 FAX: 936-788-8283

Jason Renfrow ..... JasonRenfrow@elliottelectric.com ..... Branch Manager
Devin Ray ..... DevinRay@elliottelectric.com ..... Operations Manager
Host Store: **Houston (RDC), TX #049**

M–F: 7am–5:30pm
Sat: 8am–Noon

660 Frazier Commerce Dr.
Conroe, TX 77303

24/7 CONTACTS
Jason 281-330-0070
Devin 936-232-8111
NEW ADDRESS

CORSICANA #031 PHONE: 903-872-9696 FAX: 903-872-9980

Patrick McGuire ..... PatrickMcGuire@elliottelectric.com ..... Branch Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 7am–5:30pm
Sat: 8am–Noon

1732 South Business 287
Corsicana, TX 75110

24/7 CONTACTS
Patrick.....903-641-2993

DALLAS (EAST) #006 PHONE: 214-503-7227 FAX: 214-503-9766

Lance Knight ..... LanceKnight@elliottelectric.com ..... Branch Manager
Carley Camp ..... CarleyCamp@elliottelectric.com ..... Operations Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 6am–5:30pm
Sat: 8am–Noon

3737 Grader Street, Suite #120
Garland, TX 75041

24/7 CONTACTS
Lance 972-333-8618
Carley 903-240-9638

Texas (cont.)

DALLAS/FORT WORTH (RDC) #034
PHONE: 972-206-0016 | FAX: 972-352-2818

Doug Blevins ..... DougBlevins@elliottelectric.com ..... Area Manager
Taylor Kulovitz ..... TaylorKulovitz@elliottelectric.com ..... Area Operations Manager

M–F: 7am–5:30pm
Sat: 8am–Noon

13405 Stemmons Freeway
Farmers Branch, TX 75234

24/7 CONTACTS
Doug 214-497-2562
Taylor 469-688-6178

DALLAS (WEST) #018
PHONE: 214-351-0785 | FAX: 972-241-1564

Lance Knight ..... LanceKnight@elliottelectric.com ..... Branch Manager
Mark Newcomb ..... MarkNewcomb@elliottelectric.com ..... Operations Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 7am–5:30pm
Sat: 8am–Noon

13405 Stemmons Freeway
Farmers Branch, TX 75234

24/7 CONTACTS
Lance 972-333-8618
Mark 562-332-8925

DEER PARK #130
PHONE: 281-220-3780 | FAX: 713-740-6104

Steve King ..... SteveKing@elliottelectric.com ..... Operations Manager

M–F: 7am–5:30pm
Sat: 8am–Noon

3700 Pasadena Fwy
Pasadena, TX 77503

24/7 CONTACTS
Steve 832-580-0055

DENTON #019
PHONE: 940-381-9070 | FAX: 940-380-0325

Austin Fitzgerald ..... AustinFitzgerald@elliottelectric.com ..... Branch Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 7am–5:30pm
Sat: 8am–Noon

4221 Mesa Drive
Denton, TX 76207

24/7 CONTACTS
Austin 281-415-8757

OPENING SOON!

DRIPPING SPRINGS #173
PHONE: 737-317-5073 | FAX: 737-317-5074

Chris Petty ..... ChrisPetty@elliottelectric.com ..... Regional Manager
Host Store: **Austin (RDC), TX #064**

M–F: 7am–5:30pm
Sat: 8am–Noon

4955 Bell Springs Rd Unit 9
Dripping Springs, TX 78620

24/7 CONTACTS
Chris 512-733-7402

DUMAS #085
PHONE: 806-934-4805 | FAX: 806-717-2052

Austin Boyd ..... AustinBoyd@elliottelectric.com ..... Branch Manager
Host Store: **Amarillo, TX #081**

M–F: 7am–5:30pm
Sat: 8am–Noon

110 Success Boulevard
Dumas, TX 79029

24/7 CONTACTS
Austin 806-930-0510

ENNIS #044
PHONE: 972-875-3413 | FAX: 972-875-3174

Shannon Lott ..... ShannonLott@elliottelectric.com ..... Branch Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 7am–5:30pm
Sat: 8am–Noon

711 Lake Bardwell Drive
Ennis, TX 75119

24/7 CONTACTS
Shannon 972-217-6006

OPENING SOON!

FORNEY #175
PHONE: 972-210-2783 | FAX: 972-210-2784

Doug Blevins ..... DougBlevins@elliottelectric.com ..... Area Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 7am–5:30pm
Sat: 8am–Noon

10524 W US Hwy 80
Forney, TX 75126

24/7 CONTACTS
Doug 214-497-2562

FORT STOCKTON #087
PHONE: 432-336-8730 | FAX: 432-336-3279

Cassandra Sanchez ..... CassandraSanchez@elliottelectric.com ..... Operations Manager
Host Store: **Odessa, TX #066**

M–F: 7am–5:30pm
Sat: 8am–Noon

1308 North Nelson Street
Fort Stockton, TX 79735

24/7 CONTACTS
Cassandra ..432-290-6609

FORT WORTH (EAST) #025
PHONE: 682-647-1594 | FAX: 682-647-1528

Cody Sears ..... CodySears@elliottelectric.com ..... Branch Manager
Juan Alvarado ..... InsideSales25B@elliottelectric.com ..... Operations Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 7am–5:30pm
Sat: 8am–Noon

6312A Airport Freeway
Fort Worth, TX 76117

24/7 CONTACTS
Cody 817-271-9614
Juan 469-508-2037

FORT WORTH (WEST) #121
PHONE: 817-560-0585 | FAX: 817-560-0723

Cody Sears ..... CodySears@elliottelectric.com ..... Branch Manager
Scott Ewing ..... ScottEwing@elliottelectric.com ..... Operations Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 7am–5:30pm
Sat: 8am–Noon

9651 Camp Bowie W. Boulevard
Fort Worth, TX 76116

24/7 CONTACTS
Cody 817-271-9614
Scott 817-538-4131

GAINESVILLE #083
PHONE: 940-612-1388 | FAX: 940-612-1499

John Carr ..... JohnCarr@elliottelectric.com ..... Branch Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 7am–5:30pm
Sat: 8am–Noon

1725 East Highway 82
Gainesville, TX 76240

24/7 CONTACTS
John 940-395-4124

GALENA PARK #017
PHONE: 713-675-6700 | FAX: 713-675-6777

Joe Hernandez ..... JoeHernandez@elliottelectric.com ..... Branch Manager
Jose Lopez ..... JoeLopez@elliottelectric.com ..... Operations Manager
Host Store: **Deer Park, TX #130**

M–F: 7am–5:30pm
Sat: 8am–Noon

1915 Turning Basin
Suite 500
Houston, TX 77029

24/7 CONTACTS
Joe 281-840-8922
Jose 832-641-3686

GALVESTON #100
PHONE: 409-741-0072 | FAX: 409-741-0433

Anthony Pardue ..... AnthonyPardue@elliottelectric.com ..... Branch Manager
Host Store: **Deer Park, TX #130**

M–F: 7am–5:30pm
Sat: 8am–Noon

6510 Broadway Street
Galveston, TX 77554

24/7 CONTACTS
Anthony 346-278-8349

GEORGETOWN #136
PHONE: 737-444-2615 | FAX: 737-444-2617

Kody King ..... KodyKing@elliottelectric.com ..... Branch Manager
Brady Crenwelge ..... BradyCrenwelge@elliottelectric.com ..... Operations Manager
Host Store: **Austin (RDC), TX #064**

M–F: 6am–5:30pm
Sat: 8am–Noon

2450 NE Inner Loop, Building 1
Georgetown, TX 78626

24/7 CONTACTS
Kody 512-567-2927
Brady 512-971-2625

Texas (cont.)

GRANBURY #050 PHONE: 817-573-0675 FAX: 817-573-0776

Brady Allen ..... BradyAllen@elliottelectric.com ..... Branch Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 7am–5:30pm
Sat: 8am–Noon

4510 East Highway 377
Granbury, TX 76049

24/7 CONTACTS
Brady 817-734-1657

GREENVILLE #011 PHONE: 903-454-3354 FAX: 903-454-8926

Chad Oats ..... ChadOats@elliottelectric.com ..... Branch Manager
Eric McCormack ..... EricMcCormack@elliottelectric.com ..... Operations Manager
Host Store: **Tyler, TX #002**

M–F: 7am–5:30pm
Sat: 8am–Noon

2805 Poplar Avenue
Greenville, TX 75401

24/7 CONTACTS
Chad 214-908-7716
Eric 903-366-6328

HARLINGEN #142 PHONE: 956-622-4123 FAX: 956-622-4124

Hugo De Hoyos ..... HugoDeHoyos@elliottelectric.com ..... Operations Manager
Host Store: **McAllen, TX #144**

M–F: 7am–5:30pm
Sat: 8am–Noon

720 S Lewis Ln
Harlingen, TX 78552

24/7 CONTACTS
Hugo 956-354-1885

NEW STORE!

HENDERSON #005 PHONE: 903-657-1517 FAX: 903-657-0253

Jana Pace ..... JanaPace@elliottelectric.com ..... Operations Manager
Host Store: **Nacogdoches, TX #001**

M–F: 7am–5:30pm
Sat: Closed

802 West Main Street
Henderson, TX 75652

24/7 CONTACTS
Jana 936-554-7921

HEREFORD #090 PHONE: 806-364-1529 FAX: 806-364-1540

Payton Coldiron ..... PaytonColdiron@elliottelectric.com ..... Branch Manager
Host Store: **Amarillo, TX #081**

M–F: 7am–5:30pm
Sat: 8am–Noon

401 E. 2nd Street
Hereford, TX 79045

24/7 CONTACTS
Payton 806-223-6933

HOUSTON (NORTHWEST) #108 PHONE: 713-462-9901 FAX: 713-462-4509

Todd Pistor ..... ToddPistor@elliottelectric.com ..... Branch Manager
Host Store: **Houston (RDC), TX #049**

M–F: 7am–5:30pm
Sat: 8am–Noon

7929 N Sam Houston Pkwy W
Houston, TX 77064

24/7 CONTACTS
Todd 281-635-8310

NEW ADDRESS

HOUSTON (RDC) #049 PHONE: 281-345-1143 FAX: 281-345-7697

Greg Fitzgerald ..... GregFitzgerald@elliottelectric.com ..... Regional Manager
Jason Nevill ..... JasonNevill@elliottelectric.com ..... Area Operations Manager
Brian Combs ..... BrianCombs@elliottelectric.com ..... Area Manager

M–F: 7am–5:30pm
Sat: 8am–Noon

7929 N Sam Houston Pkwy W
Houston, TX 77064

24/7 CONTACTS
Greg 832-689-7460
Jason 281-989-9322
Brian 713-927-4812

NEW ADDRESS

HUMBLE #033 PHONE: 281-548-0169 FAX: 281-548-0198

Jason Renfrow ..... JasonRenfrow@elliottelectric.com ..... Branch Manager
Eddie Martinez ..... EddieMartinez@elliottelectric.com ..... Operations Manager
Host Store: **Deer Park, TX #130**

M–F: 7am–5:30pm
Sat: 8am–Noon

1550 Wilson Road
Humble, TX 77338

24/7 CONTACTS
Jason 281-330-0070
Eddie 832-741-1847

HUNTSVILLE #010 PHONE: 936-439-0658 FAX: 936-439-9182

Quentin Risner ..... QuentinRisner@elliottelectric.com ..... Branch Manager
Host Store: **Houston (RDC), TX #049**

M–F: 7am–5:30pm
Sat: On Call 8–Noon

402 Hwy 190 East
Huntsville, TX 77340

24/7 CONTACTS
Quentin 936-554-0313

JACKSONVILLE #015 PHONE: 903-586-2904 FAX: 903-586-5271

Joshua Thornhill ..... JoshuaThornhill@elliottelectric.com ..... Branch Manager
Host Store: **Nacogdoches, TX #001**

M–F: 7am–5:30pm
Sat: 8am–Noon

2202 East Rusk Street
Jacksonville, TX 75766

24/7 CONTACTS
Joshua 903-809-3836

JASPER #032 PHONE: 409-489-0056 FAX: 409-489-0059

Richard Barnhart ..... RichardBarnhart@elliottelectric.com ..... Branch Manager
Host Store: **Nacogdoches, TX #001**

M–F: 7am–5:30pm
Sat: 8am–Noon

430 South Fletcher Street
Jasper, TX 75951

24/7 CONTACTS
Richard 409-594-9164

KATY #038 PHONE: 281-828-2012 FAX: 281-828-2512

Phillip Bragg ..... PhillipBragg@elliottelectric.com ..... Branch Manager
Host Store: **Houston (RDC), TX #049**

M–F: 7am–5:30pm
Sat: 8am–Noon

1722 Primewest Parkway
Katy, TX 77449

24/7 CONTACTS
Phillip 832-428-1823

KENEDY #119 PHONE: 830-299-4593 FAX: 830-583-9886

Ross Wendele ..... RossWendele@elliottelectric.com ..... Branch Manager
Host Store: **San Antonio (RDC), TX #073**

M–F: 7am–5:30pm
Sat: 8am–Noon

475 Boardwalk
Kenedy, TX 78119

24/7 CONTACTS
Ross 254-285-8565

KERRVILLE #082 PHONE: 830-896-9240 FAX: 830-896-9244

Chadd Smart ..... ChaddSmart@elliottelectric.com ..... Branch Manager
Host Store: **San Antonio (RDC), TX #073**

M–F: 7am–5:30pm
Sat: 8am–Noon

1200 Water Street
Kerrville, TX 78028

24/7 CONTACTS
Chadd 830-708-9926

KILGORE #013 PHONE: 903-984-8485 FAX: 903-984-8193

Jeffrey Lester ..... JeffreyLester@elliottelectric.com ..... Branch Manager
Host Store: **Longview, TX #016**

M–F: 7am–5:30pm
Sat: 8am–Noon

1207 Energy Drive
Kilgore, TX 75662

24/7 CONTACTS
Jeffrey 903-985-3478

Texas (cont.)

KILLEEN #048 PHONE: 254-554-5958 FAX: 254-554-8423

Kellen Ducey ..... KellenDucey@elliottelectric.com ..... Branch Manager
DJ McHarry ..... DJMcHarry@elliottelectric.com ..... Operations Manager
Host Store: **Austin (RDC), TX #064**

M–F: 7am–5:30pm
Sat: 8am–Noon

2501 South Fort Hood Street
Killeen, TX 76542

24/7 CONTACTS
Kellen.....254-458-2204
DJ 254-291-0674

LANCASTER #158 PHONE: 469-913-1947 FAX: 469-913-1948

Santiago Martinez ..... SantiagoMartinez@elliottelectric.com ..... Branch Manager
Store: **DFW (RDC), TX #034**

M–F: 6:30am–5pm
Sat: 8am–Noon

1810 North Interstate 35 E
Lancaster, TX 75134

24/7 CONTACTS
Santiago 469-600-0488

LEAGUE CITY #056 PHONE: 281-833-5333 FAX: 281-833-5334

Raymond Gutierrez ..... RaymondGutierrez@elliottelectric.com ..... Branch Manager
Brian Combs ..... BCombs@elliottelectric.com ..... Area Manager
Host Store: **Deer Park, TX #130**

M–F: 7am–5:30pm
Sat: 8am–Noon

1135 Butler Road
League City, TX 77573

24/7 CONTACTS
Raymond 713-505-4860
Brian 713-927-4812

LONGVIEW #016 PHONE: 903-757-8491 FAX: 903-758-0441

Jerry Camp ..... JerryCamp@elliottelectric.com ..... Area Manager
Steve Coots ..... SteveCoots@elliottelectric.com ..... Operations Manager

M–F: 7am–5:30pm
Sat: 8am–Noon

1500 West Cotton Street
Longview, TX 75604

24/7 CONTACTS
Jerry.....903-557-0963
Steve 903-720-4327

LUBBOCK #110 PHONE: 806-698-6329 FAX: 806-698-6805

Keetha Lucero ..... KeethaLucero@elliottelectric.com ..... Operations Manager
Keagan McDermett ..... KeaganMcDermett@elliottelectric.com ..... Host Manager

M–F: 7am–5:30pm
Sat: 8am–Noon

6112 42nd Street
Lubbock, TX 79407

24/7 CONTACTS
Keetha 806-241-5629
Keagan 806-831-1755

LUFKIN #022 PHONE: 936-632-9733 FAX: 936-632-9736

Michael Cates ..... MichaelCates@elliottelectric.com ..... Branch Manager
Host Store: **Nacogdoches, TX #001**

M–F: 7am–5:30pm
Sat: 8am–Noon

2001 Atkinson Drive
Lufkin, TX 75901

24/7 CONTACTS
Michael 936-675-0880

MANSFIELD #071 PHONE: 682-518-7272 FAX: 682-518-7255

Jonathan Castillo ..... JonathanCastillo@elliottelectric.com ..... Operations Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 7am–5:30pm
Sat: 8am–Noon

1501 Heritage Pkwy, Suite 101
Mansfield, TX 76063

24/7 CONTACTS
Jonathan.....469-765-7354

MARBLE FALLS #036 PHONE: 830-693-9910 FAX: 830-693-0544

Orion Barry ..... OrionBarry@elliottelectric.com ..... Branch Manager
Host Store: **Austin (RDC), TX #064**

M–F: 7am–5:30pm
Sat: 8am–Noon

608 Industrial Boulevard
Marble Falls, TX 78654

24/7 CONTACTS
Orion.....512-525-4380

MARSHALL #008 PHONE: 903-935-9535 FAX: 903-935-3490

Eric Sparks ..... EricSparks@elliottelectric.com ..... Branch Manager
Host Store: **Longview, TX #016**

M–F: 7am–5:30pm
Sat: 8am–Noon

210 Veterans Avenue
Marshall, TX 75672

24/7 CONTACTS
Eric 318-751-5923

MCALLEN #144 PHONE: 956-331-2410 FAX: 956-331-2411

Lance Shelley ..... LanceShelley@elliottelectric.com ..... Branch Manager
Danny Almanza ..... DanielAlmanza@elliottelectric.com ..... Operations Manager

M–F: 7am–5:30pm
Sat: 8am–Noon

1701 North Jackson, Suite E
McAllen, TX 78501

24/7 CONTACTS
Lance.....512-656-0084
Danny 956-890-0650

MCKINNEY #043 PHONE: 972-542-1196 FAX: 972-542-2279

Jenny Martin ..... JenniferMartin@elliottelectric.com ..... Branch Manager
Rich Correia ..... RichCorreia@elliottelectric.com ..... Operations Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 7am–5:30pm
Sat: 8am–Noon

427 Metro Park Drive
McKinney, TX 75071

24/7 CONTACTS
Jenny 214-725-4983
Rich 469-323-5290

MIDLAND #062 PHONE: 432-685-3108 FAX: 432-685-3706

Braulio Bueno ..... BraulioBueno@elliottelectric.com ..... Operations Manager
Johnny Busick ..... JohnnyBusick@elliottelectric.com ..... Branch Manager
Host Store: **Odessa, TX #066**

M–F: 7am–5:30pm
Sat: 8am–Noon

1001 South Goode Street
Midland, TX 79701

24/7 CONTACTS
Braulio 432-847-7678
Johnny 432-967-2059

MINERAL WELLS #095 PHONE: 940-325-5503 FAX: 940-325-5544

Lee Robinson ..... LeeRobinson@elliottelectric.com ..... Branch Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 7am–5:30pm
Sat: 8am–Noon

201 North East 20th Avenue
Mineral Wells, TX 76067

24/7 CONTACTS
Lee.....817-597-0847

MOUNT PLEASANT #021 PHONE: 903-577-7311 FAX: 903-577-7320

Robert Daniel ..... RobertDaniel@elliottelectric.com ..... Branch Manager
Host Store: **Tyler, TX #002**

M–F: 7am–5:30pm
Sat: 8am–Noon

1121 West 16th Street
Mt. Pleasant, TX 75455

24/7 CONTACTS
Robert.....903-440-0907

NACOGDOCHES #001 PHONE: 936-569-7941 FAX: 936-560-4685

Jerry Camp ..... JerryCamp@elliottelectric.com ..... Area Manager
Allen Watson ..... AllenWatson@elliottelectric.com ..... Operations Manager

M–F: 7am–5:30pm
Sat: 8am–Noon

2310 North Stallings Drive
Nacogdoches, TX 75964

24/7 CONTACTS
Jerry.....903-557-0963
Allen.....936-552-1122

Texas (cont.)

NAC LIGHTING SHOWROOM #161 PHONE: 936-585-8641 FAX: 936-585-8642

			24/7 CONTACTS
Susan Hardesty ..... SusanHardesty@elliottelectric.com ..... Showroom Manager Host Store: **Nacogdoches, TX #001**	M–F: 7am–5:30pm Sat: 8am–Noon	2310 North Stallings Drive Nacogdoches, TX 75964	Susan 936-240-9320

NEW BRAUNFELS #060 PHONE: 830-626-6880 FAX: 830-626-8075

			24/7 CONTACTS
Tyler Petty ..... TylerPetty@elliottelectric.com ..... Branch Manager Host Store: **San Antonio RDC, TX #073**	M–F: 7am–5:30pm Sat: 8am–Noon	212 Lucinda Drive New Braunfels, TX 78130	Tyler.....512-750-1645

ODESSA #066 PHONE: 432-366-0008 FAX: 432-366-6045

			24/7 CONTACTS
Johnny Busick ..... JohnnyBusick@elliottelectric.com ..... Branch Manager James Meazell ..... JamesMeazell@elliottelectric.com ..... Area Manager	M–F: 7am–5:30pm Sat: 8am–Noon	5617 Andrews Highway Odessa, TX 79762	Johnny .....432-967-2059 James 325-660-1730

PALESTINE #007 PHONE: 903-723-2141 FAX: 903-723-1451

			24/7 CONTACTS
Craig Surginer ..... CraigSurginer@elliottelectric.com ..... Branch Manager Host Store: **Nacogdoches, TX #001**	M–F: 7am–5:30pm Sat: 8am–Noon	1620 Highway 155 Palestine, TX 75803	Craig 936-222-8466

PAMPA #140 PHONE: 806-665-0433 FAX: 806-665-1002

			24/7 CONTACTS
Brad Anderson ..... BradAnderson@elliottelectric.com ..... Branch Manager Host Store: **Amarillo, TX #81**	M–F: 7am–5:30pm Sat: 8am–Noon	1620 Alcock Street Pampa, TX 79065	Brad 405-820-7732

PARIS #039 PHONE: 903-784-1916 FAX: 903-784-0107

			24/7 CONTACTS
Brian Monk ..... BrianMonk@elliottelectric.com ..... Branch Manager Steven Tillery ..... StevenTillery@elliottelectric.com ..... Operations Manager Host Store: **Tyler, TX #002**	M–F: 7am–5:30pm Sat: 8am–Noon	3315 Park Place Paris, TX 75462	Brian .....903-348-3524 Steven 903-517-3612

PEARLAND #041 PHONE: 281-412-7049 FAX: 281-412-7314

			24/7 CONTACTS
Raymond Gutierrez ..... RaymondGutierrez@elliottelectric.com ..... Branch Manager Chester Pitman ..... ChetPitman@elliottelectric.com ..... Operations Manager Brian Combs ..... BrianCombs@elliottelectric.com ..... Area Operations Manager Host Store: **Deer Park, TX #130**	M–F: 7am–5:30pm Sat: 8am–Noon	3520 S Sam Houston Parkway E Suite 900 Houston, TX 77047	Raymond ....713-505-4860 Chester .....832-622-8749 Brian 713-927-4812

NEW ADDRESS

PEARSALL #127 PHONE: 830-334-5353 FAX: 830-334-5757

			24/7 CONTACTS
Julian Garcia ..... JulianGarcia@elliottelectric.com ..... Branch Manager Host Store: **San Antonio RDC, TX #073**	M–F: 7am–5:30pm Sat: 8am–Noon	1910 Business Interstate 35E Pearsall, TX 78061	Julian 210-213-5622

PECOS #117 PHONE: 432-445-1472 FAX: 432-445-1474

			24/7 CONTACTS
Taylor Russell ..... TaylorRussell@elliottelectric.com ..... Branch Manager Reese Etter ..... ReeseEtter@elliottelectric.com ..... Area Operations Manager Host Store: **Odessa, TX #066**	M–F: 7am–5:30pm Sat: 8am–Noon	166 Raul Florez Boulevard Pecos, TX 79772	William .....903-456-1387 Reese 817-937-5078

PLAINVIEW #096 PHONE: 806-296-5518 FAX: 806-291-0839

			24/7 CONTACTS
Chris Courtney ..... ChrisCourtney@elliottelectric.com ..... Branch Manager Keagan McDermett ..... KeaganMcDermett@elliottelectric.com ..... Host Manager Host Store: **Lubbock, TX #110**	M–F: 7am–5:30pm Sat: Closed	2509 West 5th Street Plainview, TX 79072	Chris .....806-518-4970 Keagan 806-831-1755

PLANO #078 PHONE: 469-467-7771 FAX: 469-467-0282

			24/7 CONTACTS
Jenny Martin ..... JenniferMartin@elliottelectric.com ..... Branch Manager Host Store: **Dallas/Fort Worth (RDC), TX #034**	M–F: 7am–5:30pm Sat: 8am–Noon	2700 Summit Avenue, Suite 200 Plano, TX 75074	Jenny 214-725-4983

PLEASANTON #088 PHONE: 830-569-3390 FAX: 830-569-3608

			24/7 CONTACTS
Justin McCrary ..... JustinMccrary@elliottelectric.com ..... Branch Manager Host Store: **San Antonio RDC, TX #073**	M–F: 7am–5:30pm Sat: 8am–Noon	2569 East Highway 97 Pleasanton, TX 78064	Justin 210-882-2755

PROSPER #163 PHONE: 469-899-3981 FAX: 469-899-3982

			24/7 CONTACTS
Dalton Ledford ..... DaltonLedford@elliottelectric.com ..... Operations Manager Host Store: **DFW (RDC), TX #034**	M–F: 7am–5:30pm Sat: 8am–Noon	700 Industry Way Suite 10 Prosper, TX 75078	Dalton 817-403-9477

ROCKWALL #077 PHONE: 469-913-1945 FAX: 469-913-1946

			24/7 CONTACTS
Lance Knight ..... LanceKnight@elliottelectric.com ..... Branch Manager Ryan Belden ..... RyanBelden@elliottelectric.com ..... Operations Manager Host Store: **DFW (RDC), TX #034**	M–F: 7am–5:30pm Sat: 8am–Noon	1510 East Interstate 30 Rockwall, TX 75087	Lance.....972-333-8618 Ryan 903-456-6423

Texas (cont.)

ROUND ROCK #029 PHONE: 512-246-8001 FAX: 512-246-8002

Kody King ..... KodyKing@elliottelectric.com ..... Branch Manager
Steve Winters ..... StevenWinters@elliottelectric.com ..... Operations Manager
Host Store: **Austin (RDC), TX #064**

M–F: 6am–5:30pm
Sat: 8am–Noon

445 Texas Avenue
Round Rock, TX 78664

24/7 CONTACTS
Kody 512-567-2927
Steve 505-315-8090

SAN ANGELO #063 PHONE: 325-944-7321 FAX: 325-944-1579

Brent Ogden ..... BrentOgden@elliottelectric.com ..... Branch Manager
Host Store: **Abilene, TX #058**

M–F: 7am–5:30pm
Sat: Closed

3448 Sherwood Way
San Angelo, TX 76901

24/7 CONTACTS
Brent.....325-277-5487

SAN ANTONIO (NORTH) #129 PHONE: 210-646-6950 FAX: 210-826-1197

Danny Rodriguez ..... DannyRodriguez@elliottelectric.com ..... Branch Manager
Host Store: **San Antonio RDC, TX #073**

M–F: 7am–5:30pm
Sat: 8am–Noon

9707 Broadway Street
San Antonio, TX 78217

24/7 CONTACTS
Danny 210-863-7997

SAN ANTONIO (RDC) #073 PHONE: 210-646-6950 FAX: 210-646-6192

Brandon Hatch ..... BrandonHatch@elliottelectric.com ..... Operations Manager
Chris Petty ..... ChrisPetty@elliottelectric.com ..... Regional Manager

M–F: 7am–5:30pm
Sat: 8am–Noon

9707 Broadway Street
San Antonio, TX 78217

24/7 CONTACTS
Brandon 210-204-9983
Chris 512-789-2679

SAN ANTONIO (SOUTH) #061 PHONE: 210-522-0146 FAX: 210-522-0732

Jason Pintirsch ..... JasonPintirsch@elliottelectric.com ..... Branch Manager
Host Store: **San Antonio RDC, TX #073**

M–F: 7am–5:30pm
Sat: 8am–Noon

5300 Bandera Road
Leon Valley, TX 78238

24/7 CONTACTS
Jason 210-421-2804

SAN MARCOS #098 PHONE: 512-392-4310 FAX: 512-392-4390

Adam Parker ..... AdamParker@elliottelectric.com ..... Branch Manager
Host Store: **Austin (RDC), TX #064**

M–F: 7am–5:30pm
Sat: 8am–Noon

1904 Dutton Drive
San Marcos, TX 78666

24/7 CONTACTS
Adam 512-999-8383

SHERMAN #097 PHONE: 903-892-8041 FAX: 903-892-8907

Jenny Martin ..... JenniferMartin@elliottelectric.com ..... Branch Manager
Kenda Flowers ..... KendaFlowers@elliottelectric.com ..... Operations Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 7am–5:30pm
Sat: 8am–Noon

4509 Texoma Parkway
Sherman, TX 75090

24/7 CONTACTS
Jenny 214-725-4983
Kenda 903-357-3076

SPRING #157 PHONE: 832-626-1994 FAX: 832-626-1995

Mike Baumann ..... MikeBaumann@elliottelectric.com ..... Branch Manager
Host Store: **Houston (RDC), TX #049**

M–F: 7am–5:30pm
Sat: 8am–Noon

21330 Inverness Forest Blvd.
Houston, TX 77073

24/7 CONTACTS
Mike 281-851-2482

STAFFORD #065 PHONE: 281-879-4911 FAX: 281-879-8596

Raul Gutierrez ..... RaulGutierrez@elliottelectric.com ..... Branch Manager
Mando Rodarte ..... MandoRodarte@elliottelectric.com ..... Operations Manager
Host Store: **Houston (RDC), TX #049**

M–F: 7am–5:30pm
Sat: 8am–Noon

10650 West Airport, Suite 100
Stafford, TX 77477

24/7 CONTACTS
Raul 832-287-0511
Mando.....281-961-2633

STEPHENVILLE #084 PHONE: 254-965-8083 FAX: 254-968-2662

Ross Neel ..... RossNeel@elliottelectric.com ..... Branch Manager
Trae Dowell ..... Traedowell@elliottelectric.com ..... Operations Manager
Host Store: **Dallas/Fort Worth (RDC), TX #034**

M–F: 7am–5:30pm
Sat: 8am–Noon

1035 South Graham Street
Stephenville, TX 76401

24/7 CONTACTS
Ross 325-660-4658
Trae 817-304-7620

SULPHUR SPRINGS #004 PHONE: 903-885-0024 FAX: 903-885-0352

Brian Monk ..... BrianMonk@elliottelectric.com ..... Branch Manager
Brian Singleton ..... BSingleton@elliottelectric.com ..... Operations Manager
Host Store: **Tyler, TX #002**

M–F: 7am–5:30pm
Sat: 8am–Noon

1220 Elm Street
Sulphur Springs, TX 75482

24/7 CONTACTS
Brian M 903-348-3524
Brian S.....903-348-7300

SWEETWATER #093 PHONE: 325-236-6381 FAX: 325-236-6186

James Meazell ..... JamesMeazell@elliottelectric.com ..... Area Manager
Host Store: **Abilene, TX #058**

M–F: 7am–5:30pm
Sat: Closed

2311 East Broadway Street
Sweetwater, TX 79556

24/7 CONTACTS
James.....325-660-1730

TEMPLE #072 PHONE: 254-899-2800 FAX: 254-899-2805

Kellen Ducey ..... KellenDucey@elliottelectric.com ..... Branch Manager
Jimmy Shanks ..... JimmyShanks@elliottelectric.com ..... Operations Manager
Host Store: **Austin (RDC), TX #064**

M–F: 7am–5:30pm
Sat: 8am–Noon

2703 Hancock Drive
Temple, TX 76504

24/7 CONTACTS
Kellen.....254-458-2204
Jimmy 254-228-6982

TERRELL #026 PHONE: 972-563-2224 FAX: 972-563-2227

Chad Oats ..... ChadOats@elliottelectric.com ..... Branch Manager
Ryan Hamilton ..... RyanHamilton@elliottelectric.com ..... Operations Manager
Host Store: **Tyler, TX #002**

M–F: 7am–5:30pm
Sat: 8am–Noon

1300 Highway 34 South
Terrell, TX 75160

24/7 CONTACTS
Chad 214-908-7716
Ryan 469-628-7985

Texas (cont.)

TEXARKANA #030 PHONE: 903-223-6400 FAX: 903-223-6700

Brad Lloyd ... BradLloyd@elliottelectric.com ... Host Manager Kirk Echols ... KirkEchols@elliottelectric.com ... Area Operations Manager	M–F: 7am–5:30pm Sat: 8am–Noon	800 Old Boston Road Texarkana, TX 75501	24/7 CONTACTS Brad ... 870-904-5469 Kirk ... 870-557-1955

TOMBALL #028 PHONE: 281-357-5300 FAX: 281-357-5005

Mike Baumann ... MikeBaumann@elliottelectric.com ... Branch Manager Fred Tristan ... FredTristan@elliottelectric.com ... Operations Manager Host Store: **Houston (RDC), TX #049**	M–F: 7am–5:30pm Sat: 8am–Noon	201 South Persimmon Street Tomball, TX 77375	24/7 CONTACTS Mike ... 281-851-2482 Fred ... 713-562-6626

TYLER #002 PHONE: 903-509-9882 FAX: 903-509-9832

Jerry Camp ... JerryCamp@elliottelectric.com ... Area Manager Dean Ogden ... RichardOgden@elliottelectric.com ... Operations Manager	M–F: 7am–5:30pm Sat: 8am–Noon	3706 Frankston Highway Tyler, TX 75701	24/7 CONTACTS Jerry ... 903-557-0963 Dean ... 903-714-4203

UVALDE #103 PHONE: 830-278-1938 FAX: 830-278-1395

Shane Davenport ... ShaneDavenport@elliottelectric.com ... Branch Manager Host Store: **San Antonio RDC, TX #073**	M–F: 7am–5:30pm Sat: 8am–Noon	17 Lou Stroup Drive Uvalde, TX 78801	24/7 CONTACTS Shane ... 830-591-8555

WACO #042 PHONE: 254-752-3331 FAX: 254-752-3460

Kellen Ducey ... KellenDucey@elliottelectric.com ... Branch Manager Brandon Carter ... BrandonCarter@elliottelectric.com ... Operations Manager Host Store: **Austin (RDC), TX #064**	M–F: 7am–5:30pm Sat: 8am–Noon	3325 Clay Avenue Waco, TX 76711	24/7 CONTACTS Kellen ... 254-458-2204 Brandon ... 254-722-5969

WAXAHACHIE #009 PHONE: 972-937-6965 FAX: 972-937-6968

Allan Creamier ... AllanCreamier@elliottelectric.com ... Branch Manager Host Store: **Dallas/Fort Worth (RDC), TX #034**	M–F: 6:30am–5pm Sat: 8am–Noon	706 Solon Road Waxahachie, TX 75165	24/7 CONTACTS Allan ... 210-861-6377

WEATHERFORD #052 PHONE: 817-599-7964 FAX: 817-599-8289

Lee Robinson ... LeeRobinson@elliottelectric.com ... Branch Manager Host Store: **Dallas/Fort Worth (RDC), TX #034**	M–F: 7am–5:30pm Sat: 8am–Noon	1830 Barnett Drive Weatherford, TX 76087	24/7 CONTACTS Lee ... 817-597-0847

WICHITA FALLS #113 PHONE: 940-257-6832 FAX: 940-257-6833

Chris Hillen ... ChrisHillen@elliottelectric.com ... Operations Manager Host Store: **Dallas/Fort Worth (RDC), TX #034**	M–F: 7am–5:30pm Sat: 8am–Noon	903 Mississippi Avenue Wichita Falls, TX 76301	24/7 CONTACTS Chris ... 940-631-5111

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