
































## ELECTRICAL ABBREVIATIONS

1P	SINGLE-PHASE SINGLE POLE	GTB	GROUND TERMINAL BOX
2/C	TWO-CONDUCTOR	HD	HIGH INTENSITY DISCHARGE
3/C	THREE-CONDUCTOR	HOA	HAND-OFF-AUTOMATIC
4/C	THREE-PHASE	HP	HORSEPOWER
4W	FOUR-CONDUCTOR	HT	HEIGHT
	FOUR-WIRE	HZ	HERTZ
A/C UNIT	AIR CONDITIONING UNIT	IESMA	ILLUMINATION ENGINEERING SOCIETY OF NORTH AMERICA
A/E	ARCHITECT/ENGINEER	IMC	INTERMEDIATE METAL CONDUIT
AMP	ALARM/ANNUNCIATOR PANEL	INCAND	INCANDESCENT
	ALTERNATING CURRENT OR ARMORED CABLE	INFR	INFRARED
ACC	ACCESSIBLE	IWH	INSTANTANEOUS WATER HEATER
ADDL	ADDITIONAL	J-BOX	JUNCTION BOX
ADJ	ADJACENT, ADJOINING	KV	KILOVOLT
ADO	AUTOMATIC DOOR OPERATOR	KVA	KILOVOLT AMPERE
AF	AMPERE FRAME OR AMP FUSE	KVAR	KILOVOLT AMPERE REACTIVE
AF	ABOVE FINISHED FLOOR, OR AVAILABLE FREQUENCY COUNTER, OR AVAILABLE FAULT CURRENT	KW	KILOWATT
AF	ABOVE FINISHED FLOOR	KWH	KILOWATT HOUR
AF	ABOVE FINISHED GRADE	KWHM	KILOWATT HOUR METER
AH	AMPERE HOUR		
AHJ	AUTHORITY HAVING JURISDICTION	LED	LIGHT EMITTING DIODE
AI	AMPERE INTERRUPTING CAPACITY	LF	LINEAR FEET (FOOT)
ALT	ALTERNATE	LM	LUMEN
AMB	AMBIENT	LP	LIGHT POLE
AMP	AMPERE	LPS	LOW PRESSURE SODIUM
ARCH	ARCHITECT	LRA	LOCKED ROTARY AMPS
ARCH	AMPS SHORT CIRCUIT	LR	LOCAL TEMPERATURE CONTROL PANEL
AT	AMPERE TRIP	LT	LIGHT
AUTO	AUTOMATIC TRANSFER SWITCH	LTG	LIGHTING
AUTO	AUTOMATIC	LTG PNL	LIGHTING PANEL
AV	AUDIO VISUAL	LTNG	LIGHTNING
		LV	LOW VOLTAGE
BAT	BATTERY		
BC	BEFORE COPPER	MAV	MASTER ANTENNA TELEVISION SYSTEM
BD	BOARD	MAX	MAXIMUM
BFC	BELOW FINISHED FLOOR	MC	METAL-CLAD
BIL	BASIC INSULATION LEVEL	MCA	MINIMUM CIRCUIT AMPS
BLDG	BUILDING	MCB	MAIN CIRCUIT BREAKER
BPBP	BOILER PLANT INSTRUMENTATION PANEL	MCC	MOTOR CONTROL CENTER
BRKR	BREAKER	MDD	MAIN DISTRIBUTION PANEL
BY	BY PASS	MECH	MECHANICAL
		MG	MOTOR GENERATOR
C	CONDUIT	MH	MANHOLE
CAB	CABINET	MIN	MINIMUM
CALC	CALCULATE	MOCP	MAXIMUM OVERCURRENT PROTECTION
CAP	CAPACITY	MLO	MAIN LUGS ONLY
CAT	CATALOG	M	MOUNT
CC	COMMUNITY ANTENNA TELEVISION	M	MOUNTED
CCR	CONTROL CONTACTOR	MTS	MOUNTING
CCTV	CLOSED CIRCUIT TELEVISION	MTS	MANUAL TRANSFER SWITCH
Cd	CANDID	MV	MEDIUM VOLTAGE
CD	CONSTRUCTION DOCUMENTS	MW	MEGAWATT
CF	CONTRACTOR FURNISHED	MW	MEGAWATT MICROWAVE
CF/CI	CONTRACTOR FURNISHED/CONTRACTOR INSTALLED	NA	NOT APPLICABLE
CF/OI	CONTRACTOR FURNISHED/OWNER INSTALLED	NEC	NATIONAL ELECTRICAL CODE
CHW	CHILLED WATER FURNISHED EQUIPMENT	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
CHW	CHILLED WATER PUMP	NEUT	NEUTRAL
CHT	CIRCUIT	NFFA	NATIONAL FIRE PROTECTION ASSOCIATION
CKT BRKR	CIRCUIT BREAKER	NIC	NOT IN COMPLIANCE
CL	CURRENT LIMITING FUSE	NL	NIGHT LIGHT
CLC	CEILING	NO	NORMALLY OPEN
CMU	CONCRETE MASONRY UNIT	NS	NOT TO SCALE
COAX	COAX CABLE	NTS	NOT TO SCALE
COMM	COMMUNICATION		
COMP	COMPARISON	OC	ON CENTER
CONC	CONCRETE	OD	OUTSIDE DIAMETER
CONT	CONTINUE	OL	OVERLOAD
CONTR	CONTRACTOR		
COORD	COORDINATE	P	POLE
CPT	CONTROL POWER TRANSFORMER	PA	PUBLIC ADDRESS
CRC	COLOR RENDERING INDEX	PAN	PANEL, PULL BOX, OR PUSHBUTTON
CT	CURRENT TRANSFORMER	PBP	PREFABRICATED DRESS BUS
CTV	CABLE TELEVISION	PCB	POLYCHLORINATED BIPHENYL
CU	COPPER	PEC	PHOTOELECTRIC CELL
CU FT	CUBIC FEET	PEF	REFLECTED CEILING PLAN
CUR	CURRENT	PEND	PENDANT
		PF	POWER FACTOR
DB	DECIBEL OR DIRECT BURIAL	PH	PHASE
DC	DIRECT CURRENT	PNL	PANEL
DCP	DIMMER CONTROL PANEL	POL	POWER OPERATED DAMPER
DEC C	DEGREES CELSIUS	PT	POTENTIAL TRANSFORMER
DEC F	DEGREES FAHRENHEIT	PTRV	POWER TIE ROD VENTILATION
DEM	DEMO	PVC	POLYVINYL CHLORIDE (PLASTIC)
DIAG	DIAGRAM	PWR	POWER
DISC	DISCONNECT	REC	RECESSED
DISR	DISTRIBUTION BELL	RECP	RECEPTACLE
DISTR	DISTRIBUTION PANEL	RS	ROOM GALVANIZED STEEL
DMR SW	DIMMER SWITCH	RM	ROOM
DN	DOWN	RMS	ROOM MEAN SQUARE
DPDT	DOUBLE POLE, DOUBLE THROW	REQD	REQUIRED
DPST	DOUBLE POLE, SINGLE THROW		
DRSW	DOOR SWITCH	SCC	SHORT CIRCUIT CAPACITY
DWG	DRAWING	SEC	SECTION, SECTION
		SD	SMOKE DETECTOR
EC	EMPTY CONDUIT	SF	SQUARE FOOT (FEET)
EG	EQUIPMENT GROUND	SHT	SHEET
ELEV	ELEVATION	SI	INTERNATIONAL SYSTEM OF UNITS
ELEC	ELECTRIC OR ELECTRICAL	SPEC	SPECIFICATION
ELEV	ELEVATOR	SPST	SINGLE POLE, SINGLE THROW
EMCP	EMERGENCY MONITORING CONTROL PANEL	SURF	SURFACE
EMER	EMERGENCY	SW	SWITCH
EMI	ELECTROMAGNETIC INTERFERENCE	SWBD	SWITCHBOARD
ENC	ENCLOSURE	SWGR	SWITCHGEAR
EPO	EMERGENCY POWER OFF	TC	TIME CLOCK
ERF	EXPLOSION PROOF	TEL	TELEPHONE
ESM	EASEMENT	TP	TWISTED PAIR
EW	ELECTRIC WATER COOLER	TPS	TWISTED PAIR SHIELDED
EW	ELECTRIC WATER HEATER	TB	TELEPHONE TERMINAL BOARD
EXIST	EXISTING	TV	TELEVISION
FA	FIRE ALARM	TYP	TYPICAL
FAP	FIRE ALARM ANNUNCIATOR PANEL	UDF	UNDERFLOOR DUCT
FABL	FIRE ALARM	UGND	UNDERGROUND
FABX	FIRE ALARM BOX	UL	UNDERWRITERS LABORATORY
FACP	FIRE ALARM CONTROL PANEL	UN	UNLESS OTHERWISE NOTED
FAC	FACILITY	UPS	UNINTERRUPTIBLE POWER SUPPLY
FI	FIRE ILLUMINATION	UTIL	UTILITY
FIXT	FIXTURE		
FLA	FULL LOAD AMPS	V	VOLT
FLX	FLEXIBLE METALLIC CONDUIT	V	VOLT AMPERE

## ELECTRICAL SYMBOLS – DIAGRAM

	EARTH GROUND
	PULL BOX
	FUSE WITH RATING
	MOLDED CASE CIRCUIT BREAKER
	DISCONNECT SWITCH, FUSED
	DISCONNECT SWITCH, UNFUSED
	STARTER, COMBINATION WITH DISCONNECT SWITCH
	STARTER OR MOTOR CONTROLLER
VFD 	VARIABLE FREQUENCY DRIVE
	TIME CLOCK
	LIGHTING CONTACTOR
	GENERATOR, POWER
	METER
	WYE CONNECTION
	MOTOR, SINGLE-PHASE
	MOTOR, THREE-PHASE
SE 	WATT-HOUR DIGITAL METER WITH KYZ HARDWARE AND INTERFACED WITH DDC PANEL VIA CAT-5e CABLING






















## ELECTRICAL SYMBOLS – LIGHTING PLAN

S <sub>2</sub>	SWITCH BLANK = SINGLE POLE 3 = THREE-WAY D = DIMMER LV = LOW VOLTAGE LVH = LOW VOLTAGE MASTER PBH = PUSH BUTTON STATION T = TIMER OPERATED X = EXPLOSION PROOF	2 = DOUBLE POLE 4 = FOUR-WAY K = KEY OPERATED L = LOCK P = WITH PILOT LIGHT RC = REMOTE CONTROL WP = WEATHER PROOF No = OCCUPANCY SENSOR
	MOUNTED, OCCUPANCY SENSOR	
	PE PHOTOELECTRIC CELL, LIGHTING CONTROLS	
	○ FIXTURE, DOWNLIGHT, RECESSED	
	○ FIXTURE, DOWNLIGHT, RECESSED, EMERGENCY BATTERY BACKUP	
	○ FIXTURE, WALL MOUNTED	
	FIXTURE, 2'x4' LAY-IN, RECESSED	
	FIXTURE, 2'x4' LAY-IN, RECESSED, EMERGENCY BATTERY BACKUP	
	FIXTURE, 4' STRIP, PENDANT; /E INCLUDE WITH EMERGENCY BATTERY BACKUP	
	FIXTURE, 4' LINEAR, PENDANT; /E INCLUDE WITH EMERGENCY BATTERY BACKUP	
	FIXTURE, 4' LINEAR, WALL MOUNTED	
	FIXTURE, 2'x4'	
	FIXTURE, 1'x2' SURFACE MOUNTED	
	EXIT SIGN, WALL MOUNTED WITH DIRECTIONAL ARROWS AND FACES AS SHOWN	
	EXIT SIGN, CEILING MOUNTED WITH DIRECTIONAL ARROWS AND FACES AS SHOWN	

GENERAL NOTES

- A. ALL FINAL LOCATIONS AND ARRANGEMENTS OF LIGHTING FIXTURES SHALL BE OBTAINED FROM THE ARCHITECTURAL REFLECTED CEILING PLAN.
- B. LIGHTING FIXTURES WITH MORE THAN TWO LAMPS SHALL HAVE TWO OUTER LAMPS CONTROLLED WITH ONE SWITCH AND INNER LAMP(S) CONTROLLED BY A SECOND SWITCH.
- C. EACH HOMERUN CONDUIT SHALL CONTAIN NO MORE THAN THREE CIRCUITS. PROVIDE A NEUTRAL AND GROUND FOR EACH HOMERUN CIRCUIT. IF THE HOMERUN EXCEEDS 100 FEET, USE #10 THIN GJ WIRE.
- D. MULTI-GANG BACKBOXES FOR DIFFERENT VOLTAGES AND TYPES OF EMERGENCY AND NORMAL BRANCH WIRING DEVICES SHALL HAVE DIVIDERS BETWEEN DEVICES.

## ELECTRICAL SYMBOLS – POWER PLAN

	RECEPTACLE, DUPLEX, 120VAC, 20A, 18" A.F.F.
	RECEPTACLE, DUPLEX, 120VAC, 20A, GFCI, WITH COUNTER
	RECEPTACLE, DUPLEX, 120VAC, 20A, GFCI, COORD. WITH COUNTER
	RECEPTACLE, DUPLEX, 120VAC, 20A, GFCI, WP COVER
	RECEPTACLE, DUPLEX, 120VAC, 20A, EMERGENCY POWER
	RECEPTACLE, DUPLEX, 120VAC, 20A, TAMPER RESISTANT
	RECEPTACLE, DUPLEX, 120VAC, 20A, ISOLATED GROUND
	RECEPTACLE, SIMPLEX, 120VAC, 20A, COORD. WITH EQUIPMENT
	RECEPTACLE, QUADPLEX, 120VAC, 20A, 18" A.F.F. U.N.O.
	RECEPTACLE, SPECIAL PURPOSE
	A = 120V, 20A, 1 PHASE, 2-POLE, 3W, NEMA 5-20R.
	B = 208V, 20A, 1 PHASE, 2-POLE, 3W, NEMA 6-20R.
	C = 120V, 30A, 1 PHASE, 2-POLE, 3W, NEMA 5-30R.
	D = 208V, 30A, 1 PHASE, 2-POLE, 3W, NEMA 6-30R.
	E = 208V, 60A, 1 PHASE, 3-POLE, 4W, NEMA 14-60R.
	F = 208V, 30A, 3 PHASE, 3-POLE, 4W, NEMA 15-30R.
	G = 208V, 50A, 3 PHASE, 3-POLE, 4W, NEMA 15-30R.
	H = 208V, 60A, 3 PHASE, 3-POLE, 4W, NEMA 15-60R.
	JUNCTION BOX
	PANELBOARD, SURFACE MOUNTED
	PANELBOARD, RECESSED MOUNTED
	TRANSFORMER = "TA"
	DISCONNECT SWITCH
	MAIN GROUNDING BUSBAR
	CONDUIT TERMINATED 6" [152mm] AFF IN STANDARD BOX FOR EXTENSION TO EQUIPMENT AS DIRECTED.
	CONDUIT TERMINATED W/COUPLING (FLUSH W/FINISHED FLOOR) FOR EXTENSION TO EQUIPMENT AS DIRECTED.
	BRANCH CIRCUIT HOMERUN: LINES INDICATE NUMBER OF CIRCUITS, NEUTRAL, AND SWITCH LEG CONDUCTORS. ONE SEPARATE GREEN GROUNDING CONDUCTOR SHALL BE PROVIDED FOR EACH HOMERUN; NOT SHOWN
	LIGHT POLE, ONE LUMINAIRE
	LIGHTING, EXTERIOR BUILDING

## ELECTRICAL GENERAL NOTES

4. REFER TO ARCHITECTURAL DRAWINGS FOR ALL ROOF PENETRATIONS AND DETAILS.
5. THIS SCHEDULE IS A STANDARD SCHEDULE. CERTAIN SYMBOLS & ABBREVIATIONS INDICATED ON THIS SCHEDULE MAY NOT APPEAR ON THE DRAWINGS.
6. EQUIPMENT SYMBOLS SHOWN DASHED ON THE DRAWINGS INDICATE EXISTING EQUIPMENT.
7. IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS THAT A COMPLETE AND WORKABLE ELECTRICAL INSTALLATION BE PROVIDED FOR ALL THE EQUIPMENT DESCRIBED OR SHOWN AS BEING IN THIS CONTRACT.
8. FURNISH ALL LABOR AND TOOLS NECESSARY, AND FURNISH AND INSTALL ALL MATERIALS AND EQUIPMENT IN A FASHION COMPLYING WITH ALL APPLICABLE CODES, RULES AND ORDINANCES OF ANY JURISDICTION REQUIREMENTS. INCLUDING ITEMS REQUIRED BUT NOT NECESSARILY SHOWN SUCH AS LAMPS, COUPLINGS, HANGERS, BRACKETS, CLAMPS, BOXES, CONNECTORS AND HARDWARE.
9. BEFORE SUBMITTING THE JOB PROPOSAL, VISIT THE JOB SITE AND BECOME FULLY ACCQUAINTED WITH THE JOB CONDITIONS. VERIFY THE SERVICE REQUIREMENTS, INCLUDING THE EXISTING PHASE, VOLTAGE, TYPE OF CONDUIT AND CONDUCTORS, PANELS, SWITCHBOARDS, DISCONNECT SWITCHES, CABLES, ETC., WHETHER SHOWN ON DRAWINGS OR NOT, BUT REQUIRED FOR PROVIDING A COMPLETE AND OPERABLE ELECTRICAL SYSTEM.
10. ALL EXTERIOR ENCLOSED DISCONNECT SWITCHES AND CIRCUIT BREAKERS SHALL BE NEMA 4X, UNLESS OTHERWISE NOTED.
11. ALL INTERIOR ENCLOSED DISCONNECT SWITCHES AND CIRCUIT BREAKERS SHALL BE NEMA 1, UNLESS OTHERWISE NOTED.

[illegible]