

SECTION 16140 - GENERAL WIRING DEVICES

1.0 GENERAL

1.1 DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION-1 SPECIFICATION SECTIONS, APPLY TO WORK OF THIS SECTION.

1.2 DIVISION-16 BASIC ELECTRICAL MATERIALS AND METHODS SECTIONS APPLY TO WORK OF THIS SECTION.

1.3 SUBMITTALS: SUBMIT THE PRODUCER'S STANDARD DESCRIPTIVE DATA SHEETS FOR EACH TYPE OF PRODUCT BEING PROVIDED. MARK THE DATA SHEET FOR THE PRODUCT BEING PROVIDED WITH AN IDENTIFYING MARK OR ARROW.

1.4 SUBSTITUTIONS - PRIOR APPROVAL REQUIRED.

2.0 PRODUCTS

2.1 ACCEPTABLE PRODUCERS: LEVITON, HUBBELL, OR PASS AND SEYMOUR.

2.2 GENERAL: DEVICES SHALL BE SPECIFICATION GRADE. ARCHITECT SHALL CHOOSE THE DEVICE COLOR FROM THE STANDARD MANUFACTURER'S COLORS. DO NOT ORDER DEVICES UNTIL COLOR HAS BEEN SELECTED. SEE ELECTRICAL DRAWINGS FOR GANG SWITCHES, RECEPTACLES AND NOTES FOR SPECIAL WIRING DEVICES.

2.3 SWITCHES:

2.3.1 SINGLE POLE, 15 AMP, 120/277V SHALL BE HUBBELL 1201 OR APPROVED EQUAL.

2.3.2 DOUBLE POLE, 15 AMP, 120/277V SHALL BE HUBBELL 1202 OR APPROVED EQUAL.

2.3.3 THREE-WAY, 15 AMP, 120/277V SHALL BE HUBBELL 1203 OR APPROVED EQUAL.

2.3.4 FOUR-WAY, 15 AMP, 120/277V SHALL BE HUBBELL 1204 OR APPROVED EQUAL.

2.3.5 SINGLE POLE, 30 AMP, 120/277V SHALL BE HUBBELL 3031 OR APPROVED EQUAL.

2.3.6 LOCK TYPE, SAME HUBBELL CATALOG NUMBERS ABOVE EXCEPT ADD SUFFIX "L". FURNISH ASSOCIATED KEY WITH EACH LOCK TYPE DEVICE.

2.3.7 LIGHTED HANDLE DEVICES WITH HANDLE LIGHTED IN "OFF" POSITION SHALL BE SAME CATALOG NUMBERS AS ABOVE OR APPROVED EQUALS EXCEPT SUFFIXES SHALL BE "IL" FOR 120V AND "IL7" FOR 277V.

2.3.8 LIGHTED HANDLE, TOGGLE TYPE DEVICES WITH HANDLE LIGHTED "ON" POSITION SHALL BE SAME CATALOG NUMBERS AS ABOVE OR APPROVED EQUALS EXCEPT SUFFIXES SHALL BE "PL" FOR 120V AND "PL7" FOR 277V.

2.3.9 NARROW WOOD OR METAL JAMBS AND PARTITIONS: DEVICES FOR INSTALLATION IN NARROW WOOD OR METAL JAMBS AND PARTITIONS SHALL BE PASS AND SEYMOUR CATALOG NUMBERS ACD201-I, ACD203-I OR APPROVED EQUAL.

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- 2.3.10 VAPORPROOF AND WEATHERPROOF SWITCHES: PROVIDE STANDARD TUMBLER SWITCHES IN CAST BOXES WITH GASKETED COVERS AND OPERATING HANDLE. SWITCHES SHALL BE PASS AND SEYMOUR NO. 4521 OR APPROVED EQUAL.

2.4 RECEPTACLES:

- 2.4.1 CATALOG NUMBERS INDICATED BELOW ARE FOR HUBBELL DEVICES. HUBBELL CATALOG NUMBERS ARE USED TO GIVE A STANDARD FOR BIDDING PURPOSES. HOWEVER, APPROVED EQUALS WILL BE ACCEPTED AS INDICATED IN OTHER SECTIONS OF THESE SPECIFICATIONS. COLOR TO BE SELECTED BY THE ARCHITECT.

WHERE INDICATED ON THE DRAWINGS, THE FOLLOWING SUFFIXES SHALL BE ADDED TO THE HUBBELL CATALOG NUMBERS DEPENDING ON THE REQUIRED COLOR FINISH:

I	IVORY
R	RED
GY	GREY
WHI	WHITE

NO SUFFIX INDICATES BLACK OR BROWN COLOR FINISH. ADD PREFIX IG TO INDICATE ISOLATED GROUND DEVICES. ADD PREFIX GF TO INDICATE GROUND FAULT INTERRUPTING DEVICES.

2.4.2 SINGLE RECEPTACLE DEVICES:

20 AMP, 2 POLE, 3 WIRE, 125V, NEMA 5-20R HUBBELL #5361
30 AMP, 2 POLE, 3 WIRE, 125V, NEMA 5-30R HUBBELL #9308
50 AMP, 2 POLE, 3 WIRE, 125V, NEMA 5-50R HUBBELL #9360
20 AMP, 2 POLE, 3 WIRE, 250V, NEMA 6-20R HUBBELL #5461
30 AMP, 2 POLE, 3 WIRE, 250V, NEMA 6-30R HUBBELL #9330
50 AMP, 2 POLE, 3 WIRE, 250V, NEMA 6-50R HUBBELL #9367
30 AMP, 2 POLE, 3 WIRE, 277V, NEMA 7-30R HUBBELL #9315
50 AMP, 2 POLE, 3 WIRE, 277V, NEMA 7-50R HUBBELL #9365
20 AMP, 3 POLE, 4 WIRE, 125/250V, NEMA 14-20R HUBBELL #8410
30 AMP, 3 POLE, 4 WIRE, 125/250V, NEMA 14-30R HUBBELL #9430
50 AMP, 3 POLE, 4 WIRE, 125/250V, NEMA 14-50R HUBBELL #9450
60 AMP, 3 POLE, 4 WIRE, 125/250V, NEMA 14-60R HUBBELL #9460
20 AMP, 3 POLE, 4 WIRE, 250V, 3PH, NO NEUTRAL NEMA 15-20R HUBBELL #8420
30 AMP, 3 POLE, 4 WIRE, 250V, 3PH, NO NEUTRAL NEMA 15-30R HUBBELL #8430
50 AMP, 3 POLE, 4 WIRE, 250V, 3PH, NO NEUTRAL NEMA 15-50R HUBBELL #8450
60 AMP, 3 POLE, 4 WIRE, 250V, 3PH, NO NEUTRAL NEMA 15-60R HUBBELL #8460

2.4.3 DUPLEX RECEPTACLE DEVICES:

20 AMP, 2 POLE, 3 WIRE, 125V, NEMA 5-20R HUBBELL #5352
15 AMP, 2 POLE, 3 WIRE, 125V, NEMA 5-15R HUBBELL #5252

2.4.4 LOCKING TYPE DEVICES: UNLESS NOTED OTHERWISE ON THE DRAWINGS:

20 AMP, 2 POLE, 3 WIRE, 125V, NEMA L5-20R HUBBELL #2310
30 AMP, 2 POLE, 3 WIRE, 125V, NEMA L5-30R HUBBELL #2610
20 AMP, 2 POLE, 3 WIRE, 250V, NEMA L6-20R HUBBELL #2320
30 AMP, 2 POLE, 3 WIRE, 250V, NEMA L6-30R HUBBELL #2620
20 AMP, 2 POLE, 3 WIRE, 277V, NEMA L7-20R HUBBELL #2330
30 AMP, 2 POLE, 3 WIRE, 277V, NEMA L7-30R HUBBELL #2630

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- 20 AMP, 2 POLE, 3 WIRE, 480V, NEMA L8-20R HUBBELL #2340
30 AMP, 2 POLE, 3 WIRE, 480V, NEMA L8-30R HUBBELL #2640
20 AMP, 3 POLE, 4 WIRE, 125/250V, NEMA L14-20R HUBBELL #2410
30 AMP, 3 POLE, 4 WIRE, 125/250V, NEMA L14-30R HUBBELL #2710
20 AMP, 3 POLE, 4 WIRE, 250V, 3PH, NO NEUTRAL NEMA L15-20R
HUBBELL #2420
30 AMP, 3 POLE, 4 WIRE, 250V, 3PH, NO NEUTRAL NEMA L15-30R HUBBELL
#2720
20 AMP, 3 POLE, 4 WIRE, 480V, 3PH, NO NEUTRAL NEMA L16-20R HUBBELL
#2430
30 AMP, 3 POLE, 4 WIRE, 480V, 3PH, NO NEUTRAL NEMA L16-30R HUBBELL
#2730
20 AMP, 4 POLE, 5 WIRE, 120/208V, 3PH, NEMA L21-20R HUBBELL #2510
30 AMP, 4 POLE, 5 WIRE, 120/208V, 3PH, NEMA L21-30R HUBBELL #2810
20 AMP, 4 POLE, 5 WIRE, 277/480V, 3PH, NEMA L22-20R HUBBELL #2520
30 AMP, 4 POLE, 5 WIRE, 277/480V, 3PH, NEMA L22-30R HUBBELL #2820
- 2.4.5 WEATHERPROOF RECEPTACLES SHALL BE INSTALLED IN A CAST METAL BOX WITH GASKETED, WEATHERPROOF, CAST-METAL COVER PLATE AND GASKETED CAP OVER EACH RECEPTACLE OPENING. PROVIDE CAPS WITH A SPRING-HINGED FLAP. PROVIDE UL LISTED RECEPTACLE IN "WET LOCATIONS."
- 2.4.6 GROUND-FAULT CIRCUIT INTERRUPTER (GFCI) RECEPTACLES SHALL BE DUPLEX TYPE FOR MOUNTING IN STANDARD OUTLET BOX. DEVICE SHALL BE CAPABLE OF DETECTING CURRENT LEAK OF 6 MILLIAMPERES OR GREATER AND TRIPPING PER REQUIREMENTS OF UL 943 FOR CLASS A GFCI DEVICES.
- 2.5 MISCELLANEOUS DEVICES:
- 2.5.1 PILOT LIGHT SHALL BE FLUSH MOUNTING, 7.5 WATT, 125 VOLT UNIT WITH RED JEWEL. PROVIDE WITH STAINLESS STEEL PLATE.
- 2.5.2 CLOCK OUTLETS, IF REQUIRED, SHALL BE SINGLE, 15 AMPERE, GROUNDED 125 VOLT, WITH FLUSH MOUNTED STAINLESS STEEL COVER PLATE AND CLOCK HANGER. OUTLET SHALL BE RECESSED FOR ATTACHMENT PLUG.
- 2.5.3 VAPORPROOF OR WEATHERPROOF PILOT LIGHTS SHALL BE FLUSH MOUNTED WITH BULL'S EYE IN GASKETED CAST COVER.
- 2.5.4 PLUGS SHALL BE HEAVY-DUTY, RUBBER-COVERED 3, 4, OR 5 WIRE CORD OF REQUIRED SIZE. PROVIDE PLUGS AND ATTACH TO EQUIPMENT WHEN NOTED ON THE DRAWINGS. PLUGS SHALL BE UL LISTED WITH RECEPTACLES, COMPLETE WITH GROUNDING BLADES.
- 2.6 PLATES: PROVIDE UL LISTED, ONE-PIECE DEVICE PLATES FOR OUTLETS TO SUIT THE DEVICES INSTALLED. EXCEPT AS NOTED BELOW, ALL WIRING DEVICE PLATES SHALL BE STAINLESS STEEL WITH SATIN FINISH "JUMBO" TYPE. SECTIONAL TYPE DEVICE PLATES WILL NOT BE PERMITTED.
- 2.6.1 FOR METAL OUTLETS, PLATES ON UNFINISHED WALLS SHALL BE STAINLESS STEEL HAVING ROUND OR BEVELED EDGES.
- 2.6.2 PLATES INSTALLED IN WET LOCATIONS SHALL BE CAST, GASKETED AND UL LISTED FOR "WET LOCATIONS."

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- 2.6.3 FLOOR OUTLET COVER PLATES AND RACEWAYS SHALL BE SATIN BRONZE OR CHROME PLATED.
- 2.6.4 BOXES IN WHICH NO DEVICES ARE INSTALLED SHALL BE EQUIPPED WITH BLANK STAINLESS STEEL PLATES.
- 3.0 EXECUTION
- 3.1 DETERMINE DOOR SWINGS FROM ARCHITECTURAL DRAWINGS BEFORE INSTALLING ROOM SWITCH BOXES. INSTALL SWITCHES ON LATCH SIDE OF DOOR.
- 3.2 FURNISH TEMPLATE FOR RECEPTACLES, SWITCHES AND OTHER CUTOUTS IN CASEWORK TO THE MILLWORK SUPPLIER.
- 3.3 MOUNT SWITCHES AT STANDARD HEIGHT (46" ABOVE FINISHED FLOOR) EXCEPT WHERE SHOWN OTHERWISE ON DRAWINGS. WHERE SWITCHES ARE LOCATED IN TILE WALL FINISH, INSTALL THEM IN TILE, VARYING STANDARD MOUNTING HEIGHT IF NECESSARY. DO NOT MOUNT OVER 46" ABOVE FINISHED FLOOR UNLESS SO INDICATED ON THE DRAWINGS.
- 3.4 WHERE SEVERAL ROWS OF LIGHTS ARE TO BE CONTROLLED, THE SWITCH NEAREST THE DOOR SHALL CONTROL THE ROW NEAREST THE INTERIOR WALL, AND THE SWITCH FURTHEST FROM THE DOOR SHALL CONTROL THE ROW FURTHEST FROM THE INTERIOR WALL.
- 3.5 SWITCHES THAT CONTROL REMOTE OUTLETS, FANS, ETC., SHALL HAVE ENGRAVED PLASTIC NAME TAGS ATTACHED WITH NON FERROUS POP RIVETS INDICATING THE OUTLETS, FANS, ETC. THAT ARE CONTROLLED.
- 3.6 PRIOR TO ROUGHING-IN WALL OUTLET BOXES, THE CONTRACTOR SHALL VERIFY FROM GENERAL CONSTRUCTION DRAWINGS; DOOR SWINGS, TYPE OF WALL FINISHES AND LOCATIONS FOR COUNTERS AND WORK BENCHES. DO NOT SCALE THE PLANS; LOCATION OF DEVICES IS SHOWN ON PLANS IN DESIRED VICINITY. THE CONTRACTOR SHALL CAREFULLY LOCATE DEVICES SYMMETRICALLY AND IN COORDINATION WITH ARCHITECTURAL FEATURES.
- 3.7 RECEPTACLE OUTLETS: MOUNTING HEIGHTS FOR RECEPTACLE OUTLETS SHALL BE 18" ABOVE FINISHED FLOOR OR AS INDICATED ON THE DRAWINGS. MOUNTING HEIGHTS FOR RECEPTACLES OVER CASEWORK SHALL BE 8" ABOVE COUNTER TOP. VERIFY ALL RECEPTACLE HEIGHTS PRIOR TO ROUGH-IN. PROVIDE A WRITTEN DESCRIPTION TO THE ENGINEER, PRIOR TO ROUGH-IN, ANY CONFLICTS. THE CONTRACTOR SHALL AT HIS EXPENSE, BE RESPONSIBLE FOR THE RELOCATION OF ANY RECEPTACLE NOT INSTALLED ACCORDING TO THESE SPECIFICATIONS. WHERE INDICATED TO BE INSTALLED WITH DATA OUTLET, INSTALL ADJACENT TO DATA OUTLET.
- 3.8 MISCELLANEOUS OUTLETS:
- 3.8.1 INSTALL CLOCK OUTLETS, IF REQUIRED, 96" ABOVE FINISHED FLOOR OR AS INDICATED ON THE DRAWINGS.
- 3.8.2 INSTALL OUTLETS FOR EQUIPMENT AS REQUIRED BY THE PARTICULAR ITEM. VERIFY THAT THE PLUG PROVIDED WITH THE EQUIPMENT IS COMPATIBLE WITH THE RECEPTACLE INSTALLED.

3.9 WIRING DEVICES AND PLATES:

WIRING DEVICES SHALL BE RIGIDLY INSTALLED PROPERLY ALIGNED AND PLUMB WITH WALL AND FLOOR LINES. A DEVICE PLATE SHALL BE FURNISHED FOR EACH DEVICE. PLATES SHALL BE INSTALLED WITH ALL FOUR EDGES IN CONTINUOUS CONTACT WITH THE FINISH. PLATES SHALL NOT SUPPORT THE WIRING DEVICES. GASKETS SHALL BE INSTALLED WHERE NECESSARY TO INSURE WATERTIGHT AND VAPOR TIGHT CONSTRUCTION.

3.10 ARCHITECT SHALL CHOOSE THE COLOR OF THE DEVICES TO BE INSTALLED FROM STANDARD DEVICE COLORS.

3.11 COMPUTER OUTLETS: THE RECEPTACLES SHALL BE BLUE IN COLOR.

END OF SECTION