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CORD CONNECTOR

A cord connector is a portable receptacle which is provided with means for attachment to a flexible cord and which is not intended for permanent mounting.

GROUNDING CONDUCTOR (SYSTEM GROUND)

A grounded conductor is a circuit conductor (normally current carrying) which is intentionally connected to earth ground. (It is identified as the white conductor.)

GROUNDING CONDUCTOR (EQUIPMENT GROUND)

A grounding conductor is a conductor which connects noncurrent-carrying metal parts of equipment to earth ground to provide an intentional path for fault current to ground. (It is bare or, when covered, is identified as the green or green with yellow stripes conductor.)

LAMPHOLDER

A lampholder is a device which is intended to support an electric lamp mechanically and to connect it electrically to a circuit.

MALE BASE (INLET)

A male base is a plug which is intended for flush or surface mounting on an appliance or equipment and which serves to connect utilization equipment to a connector.

OUTLET

An outlet is a point on the wiring system at which current is taken to supply utilization equipment.

PLUG

A plug is a device with male blades which, when inserted into a receptacle, establishes connection between the conductors of the attached flexible cord and the conductors connected to the receptacle

POLARIZATION (PLUGS AND RECEPTACLES)

Polarization is a means of assuring the mating of plugs and receptacles of the same rating in only the correct position.

POLE

The term "pole" as used in designating plugs and receptacles refers to a terminal to which a circuit conductor (normally current carrying) is connected. In switches, the number of poles indicates the number of conductors being controlled.

RECEPTACLE

A receptacle is a device with female contacts which is primarily installed at an outlet or on equipment and which is intended to establish electrical connection with an inserted plug.

SLANT SYMBOL (/)

The "slant" line (/) as used in wiring device ratings indicates that two or more voltage potentials are present simultaneously between different terminals of a wiring device.

SWITCH

A switch is a device for making, breaking, or changing the connections in an electric circuit.

A. Single-pole Switch (Single-pole Single-throw)

A switch which makes or breaks the connection of one conductor.

B. Double-pole Switch (Double-pole Single-throw)

A switch which makes or breaks the connection of two conductors of a single branch circuit.

C. Three-way Switch (Single-pole Double-throw)

A switch which changes the connection of one conductor and which is normally used in pairs to control one utilization equipment from two locations.

D. Four-way Switch (Double-pole Double-throw Reversing)

A form of double-pole switch which is used in conjunction with two three-way switches to control one utilization equipment from three or more locations.

TERMINAL (ON A WIRING DEVICE)

A terminal is a fixed location on a wiring device where a conductor is intended to be connected.

WIRE (PLUGS AND RECEPTACLES)

The term "wire" as used in designating plugs and receptacles indicates the number of either normally current-carrying or equipment grounding connected conductors.

BRYANT WIRING DEVICES QUALIFIED UNDER FED. SPEC. W-C-596

GOV'T. DESIG. W-C-596/	BRYANT CATALOG NUMBER	GOV'T. DESIG. W-C-596/	BRYANT CATALOG NUMBER	GOV'T. DESIG. W-C-596/	BRYANT CATALOG NUMBER	GOV'T. DESIG. W-C-596/	BRYANT CATALOG NUMBER	GOV'T. DESIG. W-C-596/	BRYANT CATALOG NUMBER	GOV'T. DESIG. W-C-596/	BRYANT CATALOG NUMBER	GOV'T. DESIG. W-C-596/	BRYANT CATALOG NUMBER
11-1	5251I	15-1	5661RED	40-2	BRY8300	64-1	5461BLK	77-1	70630FR	117-1	71430NP	143-1	5369NSY
11-1	5261I	15-1	5661W	40-2	5342	64-1	5461CR	81-1	70620FR	118-1	71430NC	143-1	5369NCR
11-1	8210I	16-1	5642	40-2	5352	64-1	5461GRY	82-1	70620NP	119-1	71430MB	143-1	8369N
11-2	5251	16-1	5642I	41-1	5351I	64-1	5461I	83-1	70620NC	120-1	71420FR	143-1	8369T
11-2	5261	16-1	5642RED	41-1	5361I	64-1	5461RED	84-1	70620MB	121-1	71420NP	145-1	BRY8200IG
11-2	8210	16-1	BRY5662	41-2	5351	64-1	5461W	85-1	70615FR	122-1	71420NC	145-1	8210IG
12-1	BRY5262I	16-1	BRY5662BLK	41-2	5361	65-1	BRY5462	90-1	70530FR	123-1	71420MB	148-1	FSL1FR
12-1	BRY5262CR	16-1	BRY5662CR	41-3	8310I	65-1	BRY5462BLK	91-1	70530NP	124-1	71520FR	149-1	FSL1NP
12-1	5242I	16-1	BRY5662GRY	41-3	8310	65-1	BRY5462CR	92-1	70530NC	125-1	71520NP	150-1	FSL1NC
12-1	5252I	16-1	BRY5662I	42-1	5366N	65-1	BRY5462GRY	93-1	70530MB	126-1	71520NC	151-1	FSL2FR
12-2	BRY5262	16-1	BRY5662RED	42-1	5366NSY	65-1	BRY5462I	94-1	70520FR	127-1	71520MB	152-1	FSL2NP
12-2	BRY5262CR	17-1	5666B	42-1	5366NCR	65-1	BRY5462RED	95-1	70520NP	128-1	71530FR	153-1	FSL2NC
12-2	5242	17-1	5666N	42-1	5364B	65-1	BRY5462W	96-1	70520NC	129-1	71530NP	154-1	FSL3FR
12-2	5252	17-1	5666NSY	42-1	8366N	65-1	5442	97-1	70520MB	130-1	71530NC	155-1	FSL3NP
12-3	BRY8200I	17-1	8666TSP	42-1	8366T	65-1	5442BLK	98-1	4760	131-1	71530MB	156-1	FSL3NC
12-4	BRY8200	17-2	8695T	42-1	8366TSP	65-1	5442I	103-1	70730FR	132-1	72130FR	157-1	FSL4FR
13-3	8266TSP	18-1	5669B	42-2	8395T	65-1	5442RED	104-1	70730NP	133-1	72130NP	158-1	FSL4NP
13-3	8266N	18-1	5669N	43-1	71020FR	66-1	5464B	105-1	70730NC	134-1	72130NC	159-1	FSL4NC
13-3	8266T	18-1	5669NSY	44-1	71020NP	66-1	5466N	106-1	70730MB	135-1	72130MB	212-1	GF82IA
13-4	8295T	40-1	BRY5362I	45-1	71020NC	66-1	5466NSY	107-1	70720FR	136-1	72120FR	212-2	GF82A
14-2	8269N	40-1	BRY8300I	59-1	71820FR	66-1	8466TSP	108-1	70720NP	137-1	72120NP		
14-2	8269T	40-1	5342I	60-1	71820NP	66-2	8495T	109-1	70720NC	138-1	72120NC		
15-1	5661	40-1	5352I	61-1	71820NC	67-1	5469B	110-1	70720MB	139-1	72120MB		
15-1	5661GRY	40-2	BRY5362	64-1	5451	67-1	5469N	111-1	4710	143-1	5369B		
15-1	5661I	40-2	BRY5362CR	64-1	5461	67-1	5469NSY	116-1	71430FR	143-1	5369N		

1. LIGHTING OUTLETS

- | | <i>Ceiling</i> | <i>Wall</i> |
|---|----------------|-------------|
| 1.1 Surface or Pendant Incandescent, Mercury-Vapor, or Similar Lamp Fixture | | |
| 1.2 Recessed Incandescent, Mercury-Vapor, or Similar Lamp Fixture | | |
| 1.3 Surface or Pendant Individual Fluorescent Fixture | | |
| 1.4 Recessed Individual Fluorescent Fixture | | |
| 1.5 Surface or Pendant Continuous-Row Fluorescent Fixture | | |
| 1.6 Recessed Continuous-Row Fluorescent Fixture | | |
| 1.7 Bare-Lamp Fluorescent Strip | | |
| 1.8 Surface or Pendant Exit Light | | |
| 1.9 Recessed Exit Light | | |
| 1.10 Blanked Outlet | | |
| 1.11 Junction Box | | |
| 1.12 Outlet Controlled by Low-Voltage Switching When Relay Is Installed in Outlet Box | | |

2. RECEPTACLE OUTLETS

- | | <i>Grounded</i> | <i>Ungrounded</i> |
|---|-----------------|-------------------|
| 2.1 Single Receptacle Outlet | | |
| 2.2 Duplex Receptacle Outlet | | |
| 2.3 Triplex Receptacle Outlet | | |
| 2.4 Quadruplex Receptacle Outlet | | |
| 2.5 Duplex Receptacle Outlet - Split Wired | | |
| 2.6 Triplex Receptacle Outlet - Split Wired | | |
| 2.7 Single Special-Purpose Receptacle Outlet | | |
| 2.8 Duplex Special-Purpose Receptacle Outlet | | |
| 2.9 Range Outlet (typical) | | |
| 2.10 Special-Purpose Connection or Provision for Connection | | |

- | | <i>Grounded</i> | <i>Ungrounded</i> |
|-------------------------------------|-----------------|-------------------|
| 2.11 Multioutlet Assembly | | |
| 2.12 Clock Hanger Receptacle | | |
| 2.13 Fan Hanger Receptacle | | |
| 2.14 Floor Single Receptacle Outlet | | |
| 2.15 Floor Duplex Receptacle Outlet | | |
| 2.16 Floor Special-Purpose Outlet | | |

3. SWITCH OUTLETS

- | | |
|---|------------|
| 3.1 Single-Pole Switch | S |
| 3.2 Double-Pole Switch | S2 |
| 3.3 Three-Way Switch | S3 |
| 3.4 Four-Way Switch | S4 |
| 3.5 Key-Operated Switch | SK |
| 3.6 Switch and Pilot Lamp | SP |
| 3.7 Switch for Low-Voltage Switching System | SL |
| 3.8 Master Switch for Low-Voltage Switching System | SLM |
| 3.9 Switch and Single Receptacle | |
| 3.10 Switch and Double Receptacle | |
| 3.11 Door Switch | SD |
| 3.12 Time Switch | ST |
| 3.13 Circuit Breaker Switch | SCB |
| 3.14 Momentary Contact Switch or Pushbutton for Other Than Signaling System | SMC |
| 3.15 Ceiling Pull Switch | |

5. RESIDENTIAL OCCUPANCIES

- | | |
|--------------------------------|-----------|
| 5.1 Pushbutton | |
| 5.2 Buzzer | |
| 5.3 Bell | |
| 5.4 Combination Bell-Buzzer | |
| 5.5 Chime | CH |
| 5.6 Annunciator | |
| 5.7 Electric Door Opener | D |
| 5.8 Maid's Signal Plug | M |
| 5.9 Interconnection Box | |
| 5.10 Bell-Ringing Transformer | BT |
| 5.11 Outside Telephone | |
| 5.12 Interconnecting Telephone | |
| 5.13 Radio Outlet | R |
| 5.14 Television Outlet | TV |

Mechanical, Electrical and Chemical Properties of Materials Commonly Used in Wiring Devices/Horsepower Rating Chart

TABLE I - Mechanical and Electrical Properties of Materials Commonly Used in Wiring Devices

PROPERTIES	6/6 NYLON	6 NYLON	POLYCARBONATE	PC/PET	PHENOLIC	UREA
Tensile Strength (PSI)	11,200 ^①	6000+ ^①	9,000	6,000	6,500-10,000	5,500-13,000
Elongation (%)	300+ ^①	300 ^①	130	120	0.4-0.8	.5-1.0
Flex. Mod. (Stiffness) (PSI)	175,000 ^①	140,000 ^①	340,000	325,000	1,000,000	1,500,000
Izod (Notched) ft.-lb./in.	2.1 ^①	3.0 ^①	15.0	12.0	.3-1.9	.25-.4
Hardness Rockwell	59M ^① 108R ^①	119R	70M 118R	115R	105-120M	110-120-M
Heat Deflection Temp ^b F 66 PSI 264 PSI	464 194	370 185	- 270	265 260	- 400	260-290
UL Thermal Index ^b C Electrical Mechanical w/Impact Mechanical w/o Impact	125 75 85	125 75 85	125 115 125	105 105 105	150 150 150	100 100 100
Flame Class UL 94	V-2	V-2	V-2	V-0	HB-V0	HB-V0
Dielectric V/mil	600	400	380	307	200-400	300-400
Specific Gravity	1.14	1.13	1.2	1.33	1.4	1.5
UL Comparative Tracking Index (Volts)	600+	600+	250+	230	175+	600+

① Conditioned 50% RH

TABLE II - Chemical Resistance of Materials Commonly Used in Wiring Devices

Chemical	Nylon	Phenolic	Urea	Polycarbonate
Acids	C	B	B	A
Alcohol	A	A	A	B
Caustic Bases	A	B	B	C
Gasoline	A	A	C	A
Grease	A	A	A	B
Kerosene	A	A	A	A
Oil	A	A	A	B
Solvents	A	A	A	C
Water	A	A	A	A

A-Completely resistant. Good to Excellent, general use.

B-Resistant. Fair to good, limited service.

C-Slow attack. Not recommended for use.

ADVANTAGES OF NYLON

Bryant nylon wiring devices provide these safety benefits:

EXCELLENT INSULATOR - Shock hazards are minimized by the superior dielectric strength of nylon and the heavy-duty molded interior walls of Bryant's completely-enclosed individual wire pocket areas.

RESISTANT TO CHEMICALS - Nylon provides excellent resistance to chemicals such as alcohol, caustic bases, gasoline, grease, kerosene, oil, solvents and water. See Table II.

HIGH IMPACT RESISTANCE - Bryant nylon devices are designed to withstand high impact in heavy-duty industrial and commercial applications. Each molded piece supports an adjacent molded piece, resulting in unsurpassed resiliency and strength.

Devices housed in vinyl, neoprene, urea or phenolic materials can crack or be damaged under great pressure. Such damage can be invisible and cause direct shorts and other hazards. In the unlikely event that a nylon device is damaged, the damage can be easily detected and the device replaced.

HIGH ARC RESISTANCE - Bryant nylon device housings meet or exceed ASTM (American Society for Testing and Materials) Standard D495, requiring a nylon device to withstand a predetermined voltage for a period of 105 seconds. Individual wire pockets enclosed in heavy-duty wall thicknesses are a significant factor in overall high arc resistance. See Table I.

UNIVERSAL CORD GRIP - Bryant's nylon plugs and connectors have a universal cord grip. One device can be used for most cord size applications. Adapter sleeves are available for flat cord and other small diameter cords. In addition to reducing the cord grip to the desired size, the sleeve helps protect the interior of the device by blocking entry of solvents, oil and other foreign matter.

TABLE-III Horsepower Ratings For NEMA Configurations - Plugs and Receptacles

NEMA CONFIG.	AC HP RATING ^②	NEMA CONFIG.	AC HP RATING ^②
1-15	0.5	L1-15	0.5
2-15	1.5	L2-20	2
2-20	2	L5-15	0.5
2-30	2	L5-20	1
5-15	0.5	L5-30	2
5-20	1	L6-15	1.5
5-30	2	L6-20	2
5-50	2	L6-30	2
6-15	1.5	L7-15	2
6-20	2	L7-20	2
6-30	2	L7-30	3
6-50	3	L8-20	3
7-15	2	L8-30	5
7-20	2	L10-20	2 L-L/1 L-N
7-30	3	L10-30	2 L-L/2 L-N
7-50	5	L11-15	2
10-20	2 L-L/1 L-N	L11-20	3
10-30	2 L-L/2 L-N	L11-30	3
10-50	3 L-L/2 L-N	L12-20	5
11-15	2	L12-30	10
11-20	3	L14-20	2 L-L/1 L-N
11-30	3	L14-30	2 L-L/2 L-N
11-50	7.5	L15-20	3
14-15	1.5 L-L/0.5 L-N	L15-30	3
14-20	2L-L/1 L-N	L16-20	5
14-30	2 L-L/2 L-N	L16-30	10
14-50	3 L-L/2 L-N	L18-20	2
14-60	3 L-L/2 L-N	L18-30	3
15-15	2	L19-20	5
15-20	3	L19-30	10
15-30	3	L21-20	2
15-50	7.5	L21-30	3
15-60	10	L22-20	5
18-15	2	L22-30	10
18-20	2		
18-30	3		
18-50	7.5		
18-60	7.5		

② The phase-to-phase horsepower ratings are noted by "L-L". The phase-to-neutral ratings are identified by "L-N".

Prior to 1950, Underwriters' Laboratories, Inc. listed only AC-DC general use switches. These switches were designed with over-center, snap-acting mechanisms which noisily opened the circuit by widely separating the contacts at a very high rate of speed. This was necessary because the switches were tested on DC which has a steady-state voltage.

With the introduction of AC only general use switches, it was unnecessary to have the high-powered, over-center, snap-acting mechanisms because the contacts did not have to be widely separated at high speed.

Bryant introduced, in the mid 1930's, the first AC only range switch. The experience gained in this development indicated the ideal AC switch should have a positive closing and a slow limited opening.

Positive closing is the closing of the contacts without bounce or chatter, which can occur due to the inertia of a high-speed closing of the contacts.

This is important, especially on the tungsten lamp load where, due to the low resistance of tungsten filament, an inrush current from 8 to 16 times the lighted (high resistance) rated current occurs. This inrush occurs in the first quarter cycle, 1/240 of a second, or when the contacts first close and would be bouncing (rapidly opening and closing of the circuit). This bouncing, at high current, could cause considerable arcing which would dissipate the contact material and result in welding of the contacts.

Slow limited opening is the separation of the contact, under load, at a low rate and limiting the contact separation to a very small fraction of that

required for DC control.

On AC, the voltage passes through zero voltage every 1/2 cycle, on 60 cycle frequency every 1/120 of a second. By opening the contacts slowly, the arc is suppressed by the zero voltage. By limiting the break, the contact gap is not ionized and air insulation prevents arc formation and restriking.

This control of the opening is essential on inductive and motor loads when, due to low power factor, voltage surges occur on opening the circuit.

Bryant AC switches are designed so the contacts are closed with controlled contact closing pressure by utilizing the flexibility of the resilient contact carrying arm.

The contacts, of a special non-oxidizing silver alloy, are opened by a simple cam operation which limits the speed and opening. The indexing of the handle is by a thermoplastic elastomer rocker or simple cantilever steel rod. This provides a minimum of parts, along with a solid & dependable design.

AC TEST REQUIREMENTS

When AC general use switches were considered by the industry and Underwriters' Laboratories, Inc., thought was given to the ratings and it was decided to rate the switches in accordance with NEC branch circuit ratings of 15, 20 and 30 amperes. It was also decided to test the switch for all the loads that could be applied to a branch circuit. Therefore, all AC switches are tested on resistance, tungsten lamp and inductive loads to 100% of switch rating.

Underwriters' Laboratories Test Requirements for AC General Use Switches

In order to be listed by Underwriters' Laboratories, Inc., all 15, 20 and 30 ampere AC 120/277 volt switches must perform, without failure, the following sequence of tests.

1. An overload test of 100 cycles at 4.8 times rated current and 40-50% power factor and rated voltage. This overload test is performed at 144 amps, 277 volts for 30 ampere switches, at 6 cycles per minute.
2. 10,000 cycles on a plain resistance load at full rating of 15, 20 or 30 amperes, at 277 volts at 24 cycles per minute.
3. 10,000 cycles on an inductive load of either 15, 20 or 30 amperes at 277 volts, 80% power factor at 24 cycles per minute.
4. 10,000 cycles at 15, 20 or 30 amperes, 120 volts on a tungsten filament lamp load, at 6 cycles per minute.
5. Heat rise at test-rated load. In this test, temperature rise must not exceed 30 degrees C.
6. A switch shall withstand, without breakdown, 1500V for 1 minute between live parts of opposite polarity and between live parts and dead metal parts, with the switch at the maximum operating temperature reached in intended use.

Performance of Bryant Switches Exceed Underwriters' Laboratories Requirements.

Switches marked with Horsepower Ratings are suitable for controlling the Motor Loads of the H-P ratings shown on the switch as well as for lower H-P ratings.

EXPLANATION OF "HORSEPOWER" RATINGS

To qualify for an H-P rating, a switch is tested at six (6) times the full load Motor Current corresponding to the H-P rating marked on the switch. (For D-C Motor Controllers, the test is made at 10 times the full load Motor Current corresponding to the D.C. H-P rating marked on the switch). The test consists of 50 on-off operations at this load and the test is conducted on six (6) samples. For 3/4 H-P 120 volts-240 volts AC rating, two (2) sets of six (6) samples each are tested in addition to the regular overload endurance, heating and insulation tests. The test circuit characteristics are:

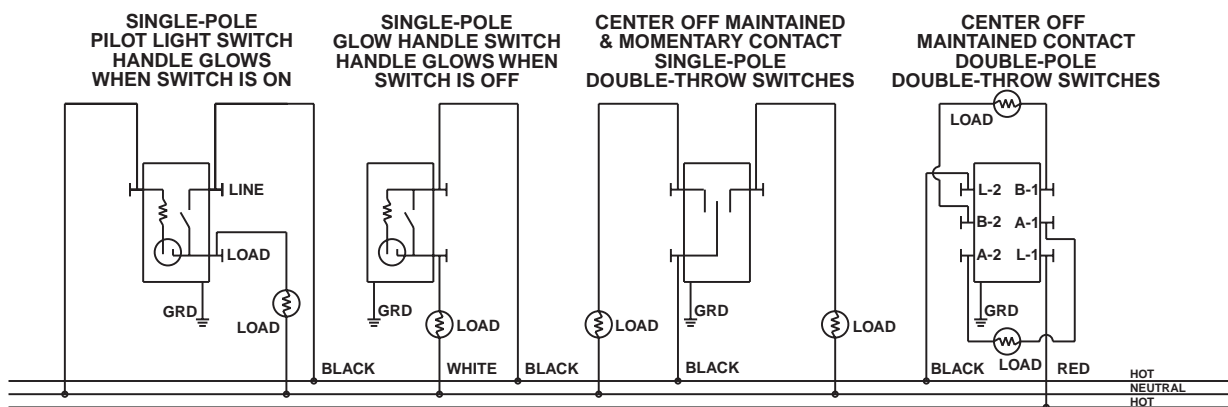
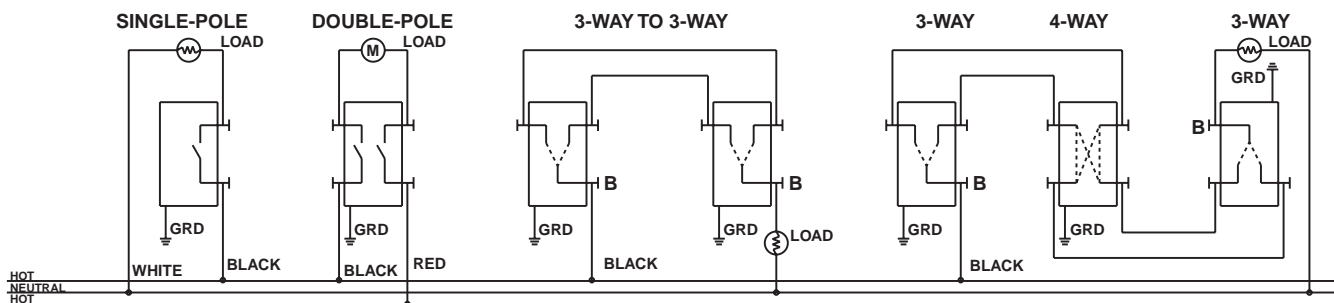
	For 3/4 H-P 120 Volts AC	For 3/4 H-P 240 Volts AC
Closed Circuit Volts	120 volts AC	240 volts AC
Current	82.8 amps	41.4 amps
Power-Factor	0.40-0.50	0.40-0.50

Note: Current at 240V AC is 1/2 that at 120V AC

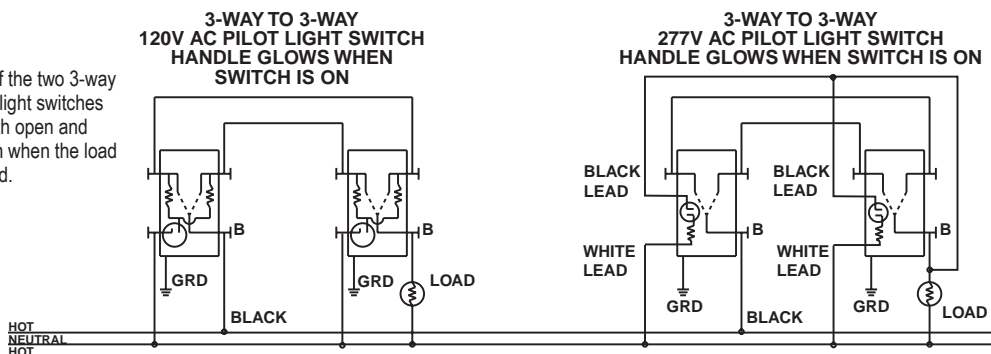
All switches must be in good operating condition after the tests have been completed. There must be no excessive arcing, welding or burning of the contacts nor arc-over to ground (the switch frames are grounded during the stalled rotor test).

Switches Wiring Diagrams

AC SWITCHES

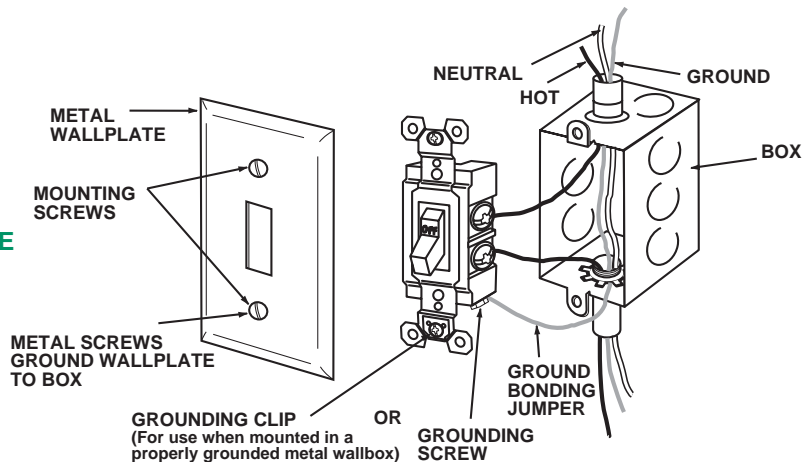


The handles of the two 3-way 120V AC pilot light switches will glow in both open and closed position when the load is disconnected.



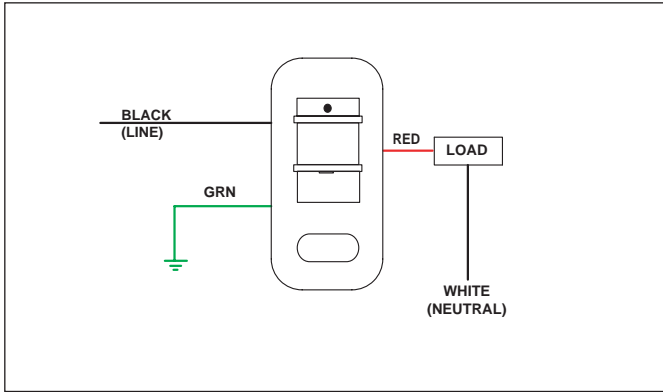
277V AC pilot light switches require a third "runner" wire between the two switches. These pilot light switches operate on either 120 or 277V AC.

IN ACCORDANCE WITH THE NEC

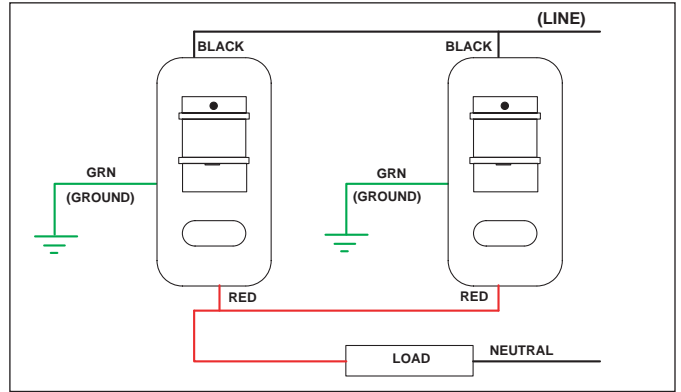


Motion Switch Wiring Diagrams

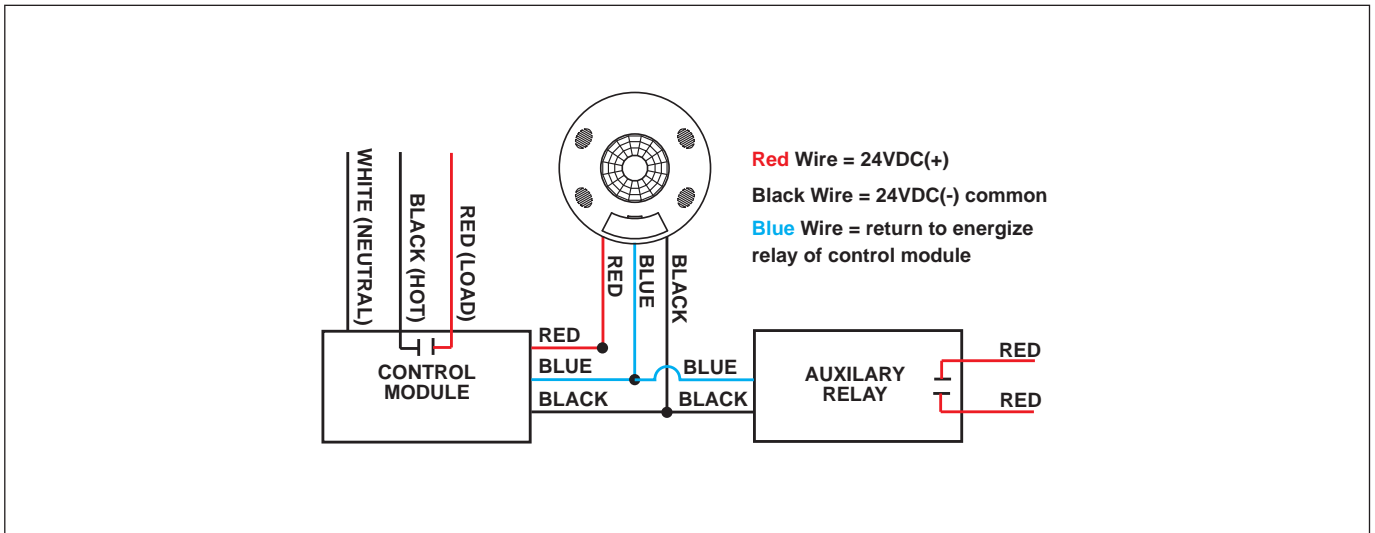
WIRING DIAGRAM - SINGLE POLE



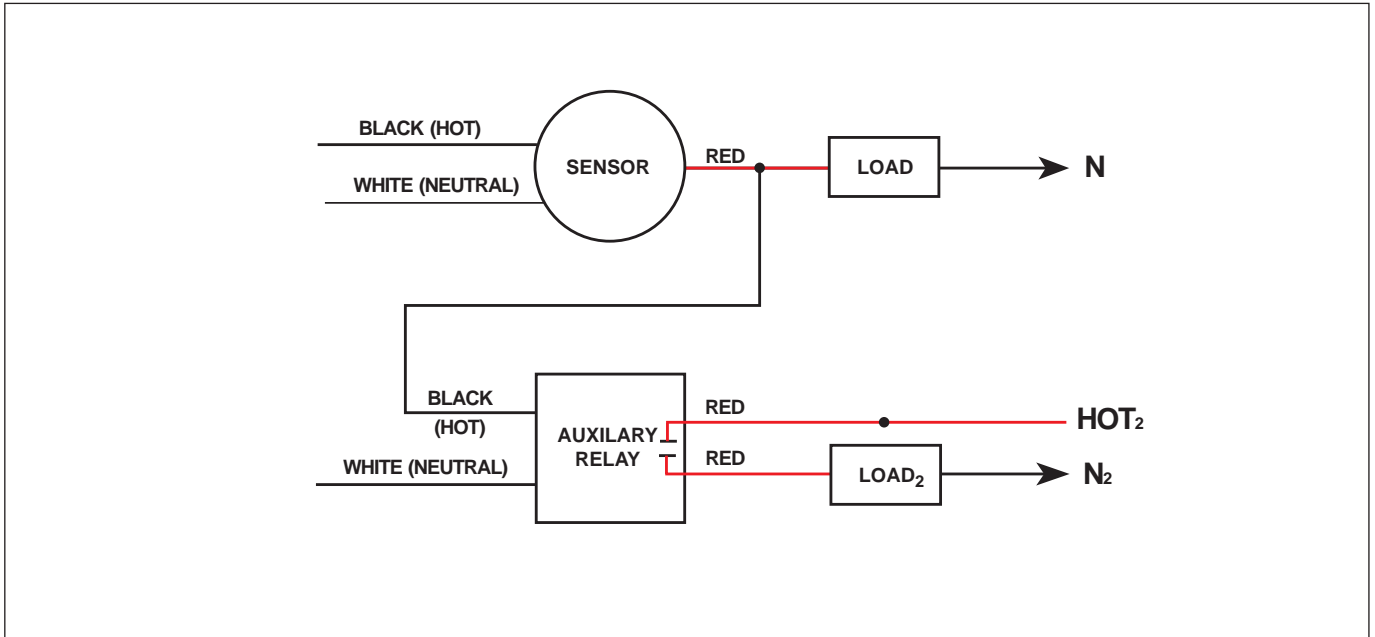
WIRING DIAGRAM - 3-WAY



LOW VOLTAGE SENSOR WIRING

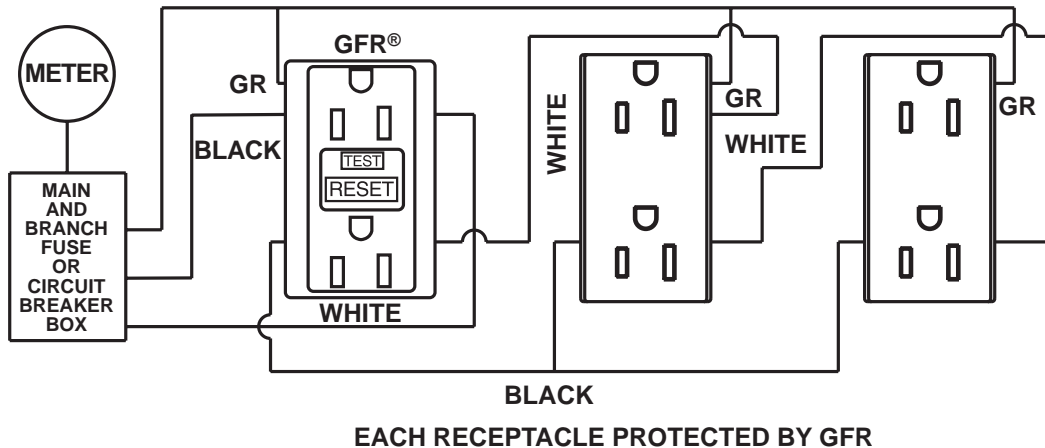


LINE VOLTAGE SENSOR WIRING



Specifications are subject to change without notice.

GREEN OR UNINSULATED GROUND WIRE

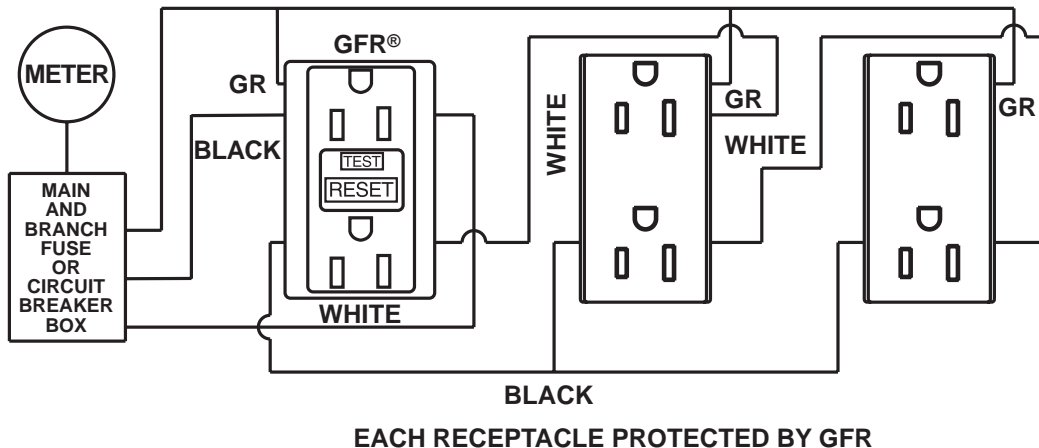


NOTE: LINE FEED TERMINALS NOT RELATED TO FRONT COVER VIEWS OF GFR

WIRING DIAGRAM GFR FEED-THRU INSTALLATION

To protect the entire branch circuit, the GFR must be the first receptacle from the fuse or circuit breaker box. Receptacles on the circuit between the GFR and the box will not be protected, but the receptacles downstream from the GFR will have protection.

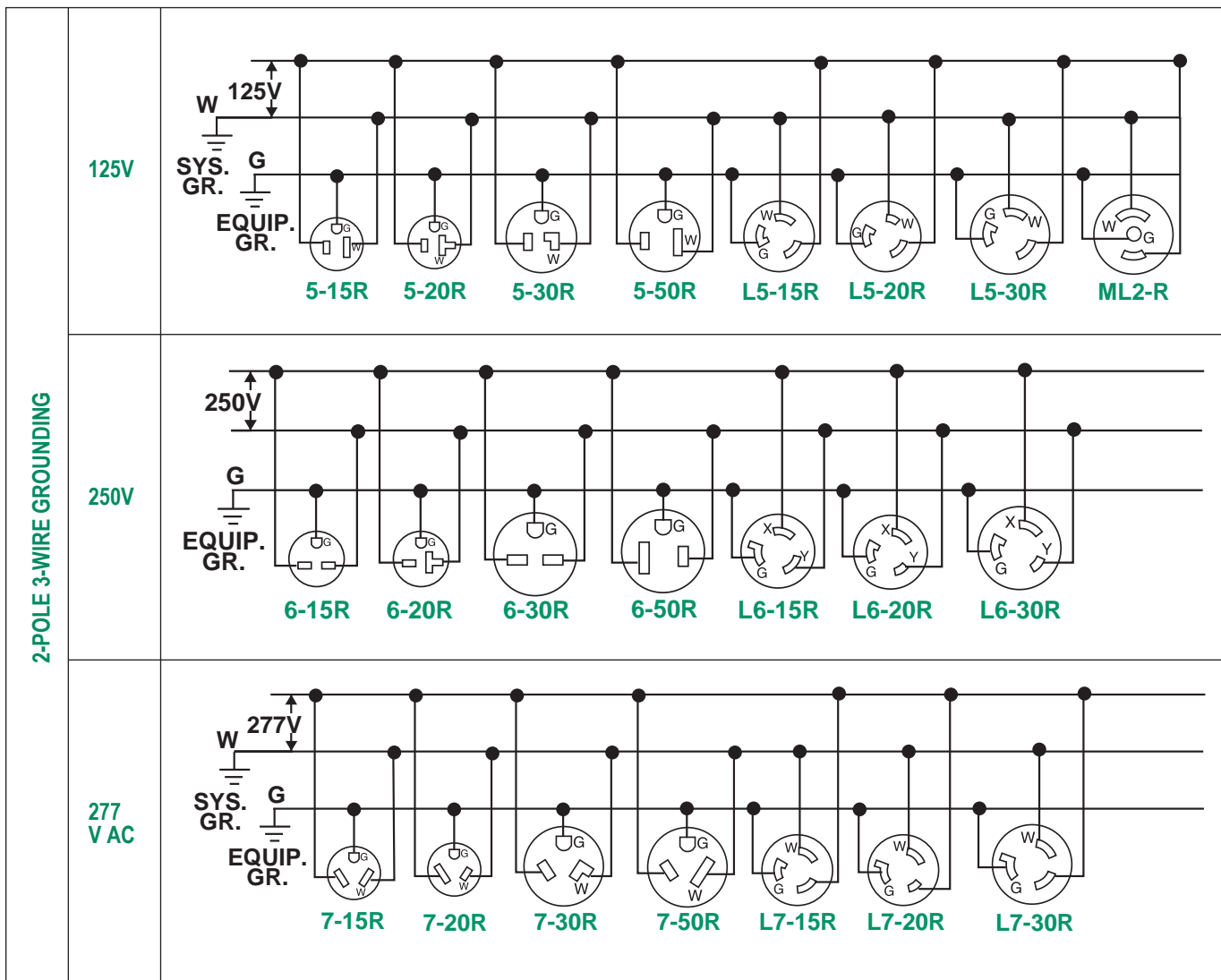
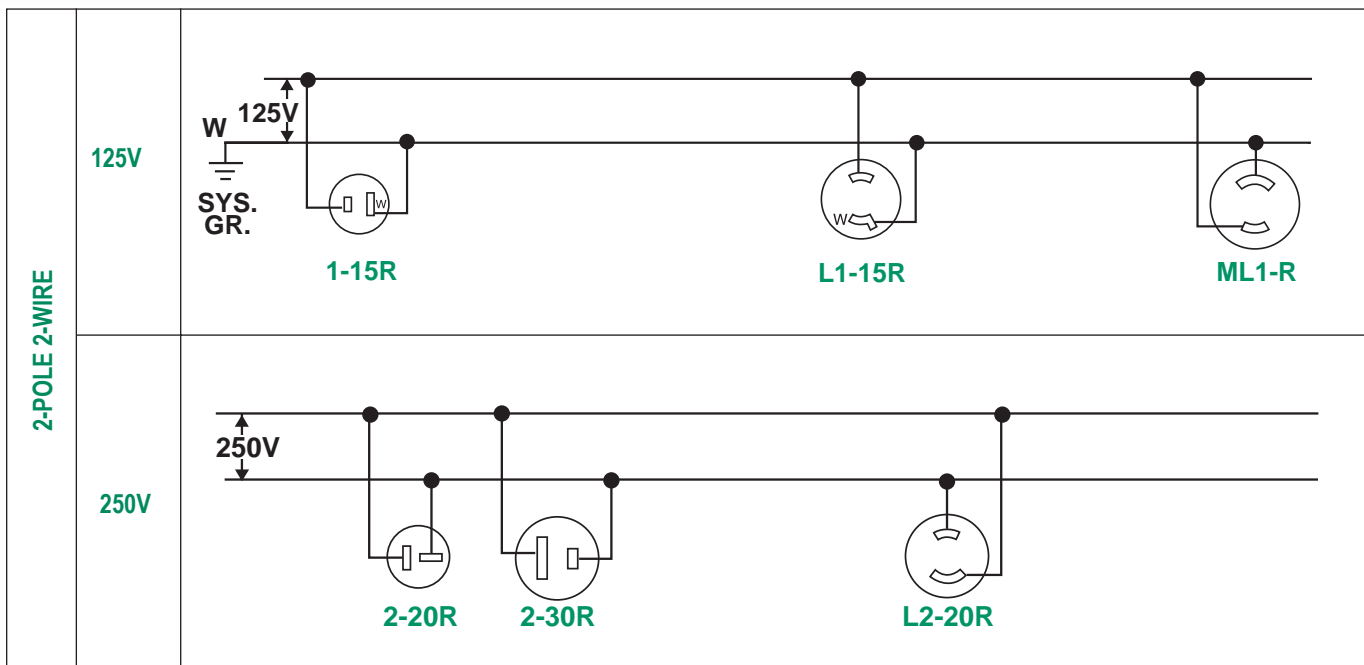
GREEN OR UNINSULATED GROUND WIRE



NOTE: LINE FEED TERMINALS NOT RELATED TO FRONT COVER VIEWS OF GFR

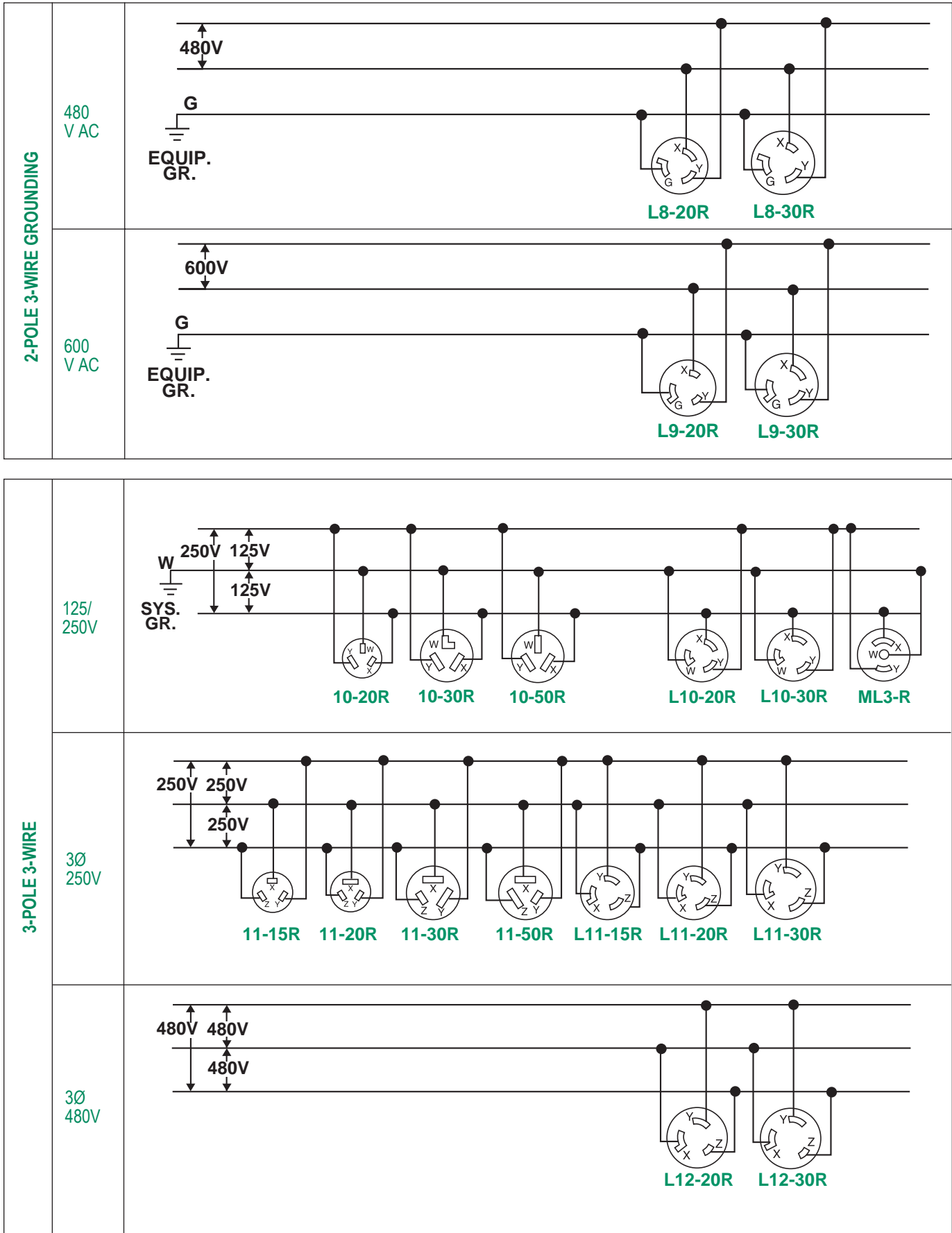
WIRING DIAGRAM GFR NON-FEED-THRU INSTALLATION

Terminal, or one-outlet-only protection, can be achieved on a multi-wire circuit by connecting the hot and neutral line conductors to the corresponding line side terminals of the GFR. Only the GFR receptacle will be protected.



Specifications are subject to change without notice.

Wiring Diagrams

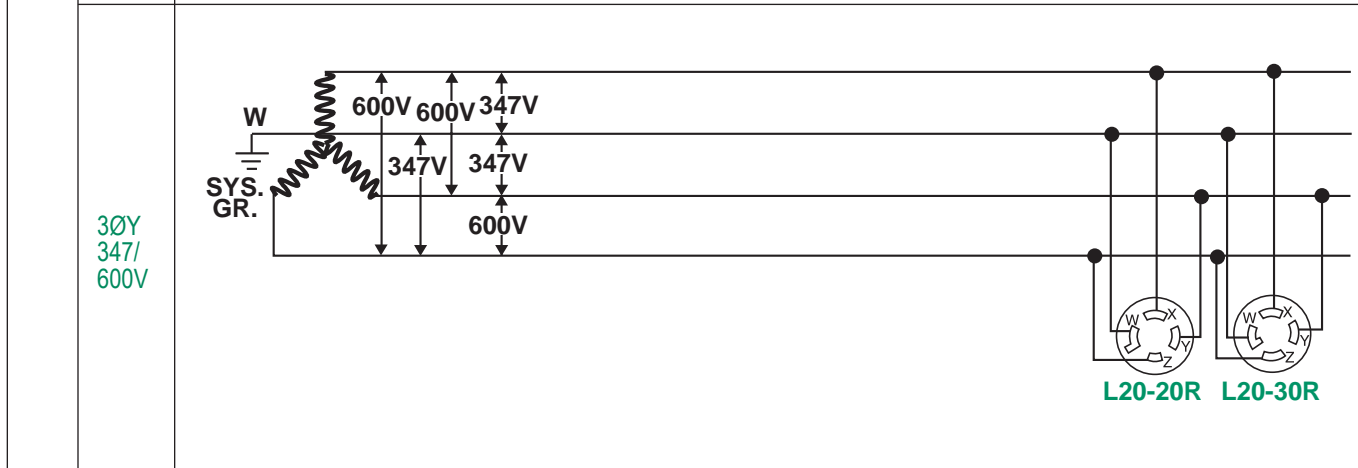
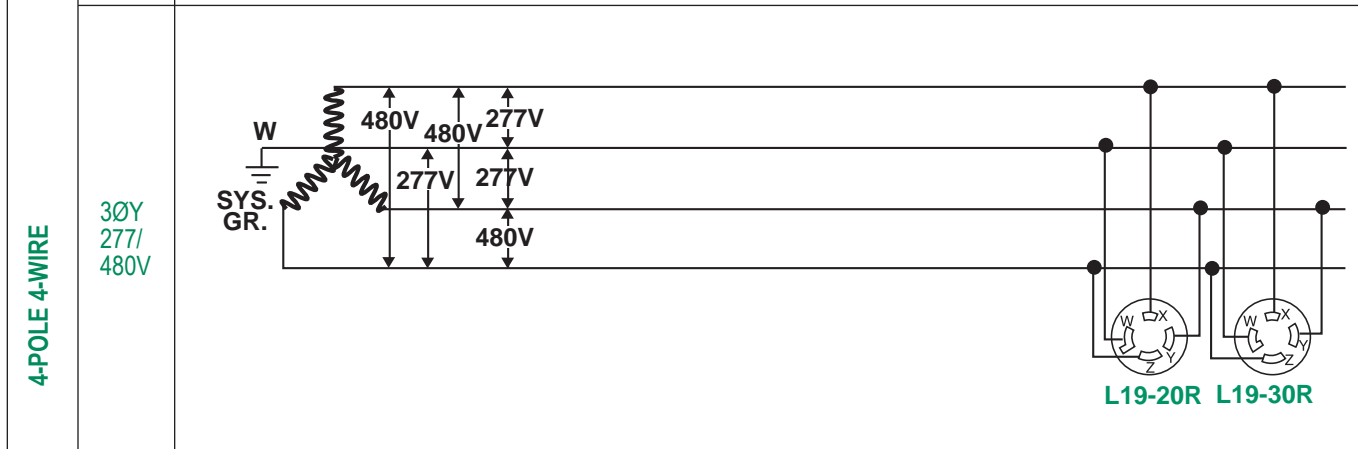
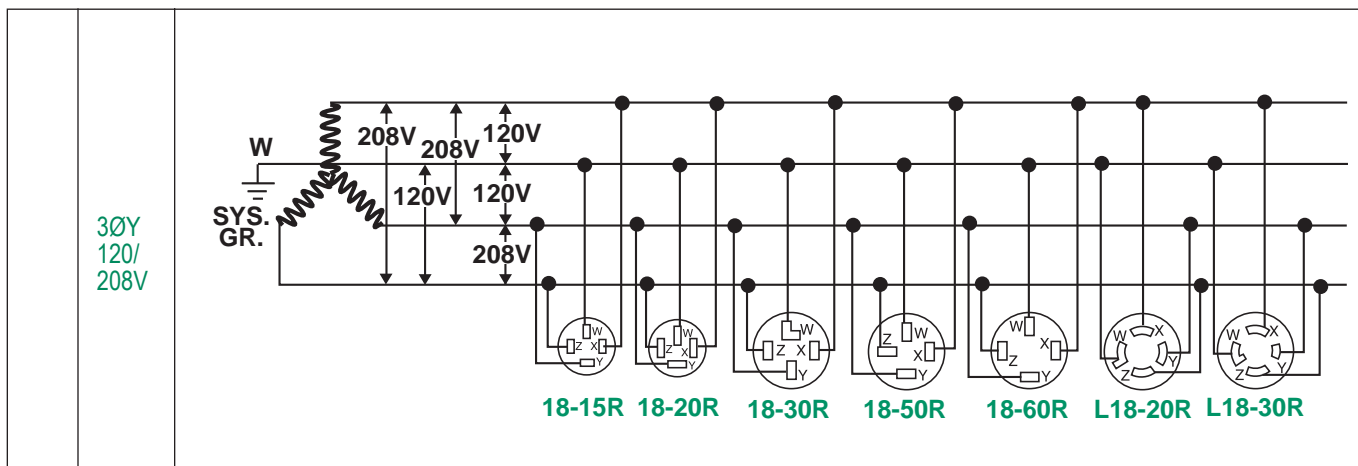
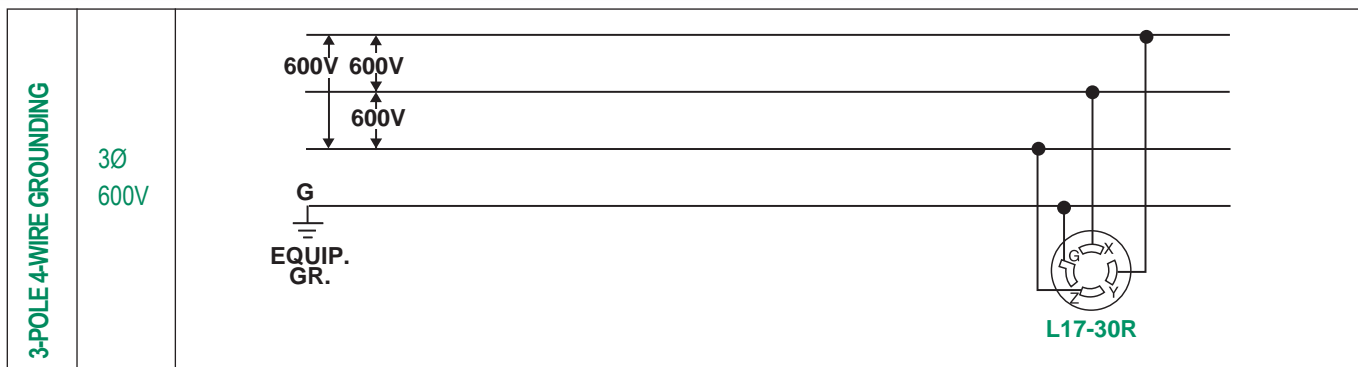


Specifications are subject to change without notice.

3-POLE 3-WIRE	3Ø 600V	<p style="text-align: right;">L13-30R</p>
3-POLE 4-WIRE GROUNDING	125/ 250V	<p style="text-align: center;">14-15R 14-20R 14-30R 14-50R 14-60R L14-20R L14-30R</p>
	3Ø 250V	<p style="text-align: center;">15-15R 15-20R 15-30R 15-50R 15-60R L15-20R L15-30R</p>
	3Ø 480V	<p style="text-align: center;">L16-20R L16-30R</p>

Specifications are subject to change without notice.

Wiring Diagrams



Specifications are subject to change without notice.

Wiring Diagrams

4-POLE 5-WIRE GROUNDING	<p>3ØY 120/ 208V</p>	
	<p>3ØY 277/ 480V</p>	
	<p>3ØY 347/ 600V</p>	

Specifications are subject to change without notice.

CATEGORIES OF TRANSMISSION PERFORMANCE

ANSI/TIA/EIA-568-B	ISO/IEC 11801	Frequency (MHz)	Applications	Comments
Category 3	Class C	Characterized up to 16 MHz	802.3 - 10BASE-T	Typically used to support voice
Category 4	-	For TIA/EIA only Characterized up to 20 MHz	802.5 - 4 Mbps Token Ring 802.5 - 16 Mbps Token Ring	No longer recognized by TIA/EIA
Category 5	Class D	Characterized up to 100 MHz	155 Mbps ATM 1000BASE-T	No longer recognized by TIA/EIA
Category 5e	Class D	Characterized up to 100 MHz	155 Mbps ATM 1000BASE-T VoIP	Recommended as the minimum for all future installations by: TIA/EIA, IEEE, Active Equipment Manufacturers
Category 6	Class E	Characterized up to 250 MHz	All applications listed above emerging technologies 1000BASE-TX	Applications are currently being developed within various standards organizations for Category 6 - future-proofing (5+ years)
Category 7	Class F	For ISO/IEC only Characterized up to 600 MHz	All applications listed above and future emerging technologies	Fully shielded, non-standard RJ-45 interface, primarily for European market place

INSTALLATION PRACTICES

- Strip back only as much cable jacket as is required for termination And maintain pair twists as close as possible to the point of mechanical termination
- At a minimum, never allow untwisting of pairs as specified:
Category 5e and 6: 0.5" max.

DO'S

Maintain a maximum bend radius of 4x the cable diameter (4-pair cables)

Apply cable ties loosely and at random intervals

Try to minimize the amount of jacket twisting

Avoid stretching the cable

DON'TS

Never exceed a 90 degree bend

Don't over-tighten cable ties

Don't over-twist cable, it can lead to torn jackets

Don't exceed 25 lbs. of pulling tension

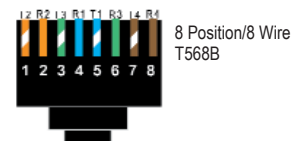
Use appropriate methods for dressing and securing cables:

- Cable ties
- Cable support bar
- Wire management panels
- Releasable straps

Don't use a staple gun to position cable.

RJ45 - TIA/EIA-568-B CONFIGURATIONS

Two standards were adopted. Both utilize pin/pair assignments that provide superior transmission performance over other 4-pair wiring configurations.

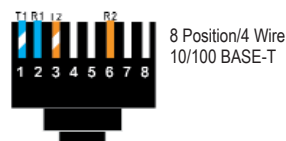


- Preferred method
- Directly compatible with 2-pair voice and Token Ring systems utilizing 6-position connectors

- Optional method
- AT&T's standard
- Directly compatible with AT&T phone systems

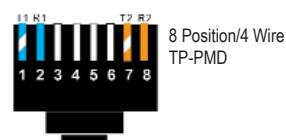
LAN CONFIGURATIONS

Local Area Network Standards designed to operate over UTP designate pin/pair assignments on modular connectors for signal transmission. While the TIA/EIA configurations (T568A and T568B) support all of these designations, there are some cases where the user chooses to cable only the number of pairs required to support the applications.



- 10 Mbps Ethernet over UTP
- Uses only two pairs
- 100 Mbps Ethernet

- 4/16 Mbps Token Ring over copper
- Uses only two pairs



- 100 Mbps FDDI over copper (pending)
- Uses only two pairs

- 1000 Mbps Ethernet over UTP
- Uses all four pairs

① Provided the link/channel meets transmission performance outline in TSB-95.
② Pending category of transmission performance..

Specifications are subject to change without notice.

Metric Conversion Chart (Fraction Inch to Decimal Inch and Millimeters)

Fraction In.	Two Place Decimal In.	Three Place Decimal In.	Four Place Decimal mm	±1% Rounded mm
1/64	0.02	0.016	0.3969	0.395
1/32	.03	.031	.7938	.79
3/64	.05	.047	1.1906	1.19
1/16	.06	.062	1.5875	1.59
5/64	.08	.078	1.9344	1.98
3/32	.09	.094	2.3812	2.38
7/64	.11	.100	2.7781	2.80
1/8	.12	.125	3.1750	3.15
9/64	.14	.141	3.5719	3.55
5/32	.18	.156	3.9688	3.95
11/64	.17	.172	4.3656	4.35
3/16	.19	.188	4.7625	4.75
13/64	.20	.203	5.1594	5.2
7/32	.22	.219	5.5562	5.6
15/64	.23	.234	5.9531	6.0
1/4	.25	.250	6.3500	6.4
17/64	.27	.266	6.7469	6.7
9/32	.28	.281	7.1438	7.1
19/64	.30	.297	7.5406	7.5
5/16	.31	.312	7.9375	7.9
21/64	.33	.328	8.3344	8.3
11/32	.34	.344	8.7312	8.7
23/64	.36	.359	9.1281	9.1
3/8	.38	.375	9.5250	9.5
25/64	.39	.391	9.9219	9.9
13/32	.41	.406	10.3188	10.3
27/64	.42	.422	10.7156	10.7
7/16	.44	.438	11.1125	11.1
29/64	.45	.453	11.5094	11.5
15/32	.47	.469	11.9062	11.9
31/64	.48	.484	12.3031	12.3
1/2	.50	.500	12.7000	12.7

Fraction In.	Two Place Decimal In.	Three Place Decimal In.	Four Place Decimal mm	±1% Rounded mm
33/64	.52	.516	13.0969	13.1
17/32	.53	.531	13.4938	13.5
35/64	.55	.547	13.8906	13.9
9/16	.56	.562	14.2875	14.3
37/64	.58	.578	14.6844	14.7
19/32	.59	.594	15.0812	15.1
39/64	.61	.609	15.4781	15.5
5/8	.62	.625	15.8750	15.9
41/64	.64	.641	16.2719	16.3
21/32	.66	.656	16.6688	16.7
43/64	.67	.672	17.0656	17.1
11/16	.69	.688	17.4625	17.5
45/64	.70	.703	17.8594	17.9
23/32	.72	.719	18.2562	18.3
47/64	.73	.734	18.6531	18.7
3/4	.75	.750	19.0500	19.1
49/64	.77	.766	19.4469	19.4
25/32	.79	.781	19.8438	19.8
51/64	.80	.797	20.2406	20.2
13/16	.81	.812	20.6375	20.6
53/64	.83	.828	21.0344	21.0
27/32	.84	.844	21.4312	21.4
55/64	.86	.859	21.8281	21.8
7/8	.88	.875	22.2250	22.2
57/64	.89	.891	22.6219	22.6
29/32	.91	.906	23.0188	23.0
59/64	.92	.922	23.4155	23.4
15/16	.94	.938	23.8125	23.8
61/64	.95	.953	24.2094	24.2
31/32	.97	.969	24.6062	24.6
63/64	.98	.984	25.0031	25.0
1	1.00	1.000	25.4000	25.5

Diameter Ranges of Jacketed Cord in Accordance with Standard "UL 62"

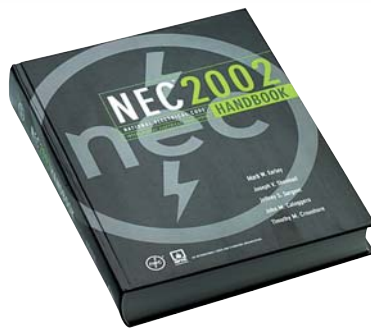
TYPE	AWG SIZE	2 COND.	3 COND.
SV,SVO,SVT,SVTO	18	.220-.255 (5.6-6.5)	.230-.265 (5.8-6.7)

TYPE	AWG SIZE	2 COND.	3 COND.	4 COND.
SJ,SJO,SJT,SJTO	18	.280-.315 (7.1-8.0)	.300-.335 (7.6-8.5)	.325-.365 (8.3-9.3)
	16	.305-.340 (7.7-8.6)	.325-.360 (8.3-9.1)	.350-.395 (8.9-10.0)
	14	.335-.375 (8.5-9.5)	.360-.395 (9.1-10.0)	.390-.435 (9.9-11.0)
	12	.405-.455 (10.3-11.6)	.425-.475 (10.8-12.1)	.465-.520 (11.8-13.2)
	10	.540-.605 (13.7-15.4)	.565-.635 (14.4-16.1)	.625-.700 (15.9-17.8)

TYPE	AWG SIZE	2 COND.	3 COND.	4 COND.	5 COND.
S,SO, ST,STO	18	.340-.385 (8.6-9.8)	.360-.400 (9.1-101.6)	.385-.430 (9.8-10.9)	.460-.510 (11.7-13.0)
	16	.365-.410 (9.3-10.4)	.385-.430 (9.77-10.9)	.410-.460 (10.4-11.7)	.490-.550 (12.5-14.0)
	14	.495-.550 (12.6-14.0)	.520-.575 (13.2-16.6)	.560-.620 (14.2-15.7)	.630-.705 (16.0-17.9)
	12	.565-.625 (14.4-15.9)	.590-.655 (14.9-16.6)	.640-.710 (16.3-18.0)	.700-.770 (18.0-19.6)
	10	.615-.685 (15.6-17.4)	.650-.720 (16.5-18.3)	.700-.775 (17.8-19.7)	.760-.840 (19.3-21.3)
	8	.780-.880 (19.8-22.4)	.830-.930 (21.0-23.6)	.925-1.050 (23.5-27.0)	1.000-1.150 (25.4-29.2)
	6	.920-1.050 (23.4-26.7)	.970-1.100 (24.6-27.9)	1.050-1.200 (27.0-30.0)	1.180-1.330 (30.0-33.8)
	4	1.060-1.210 (26.9-30.7)	1.130-1.280 (29.0-32.5)	1.250-1.450 (31.8-37.0)	
	2	1.210-1.400 (30.7-35.6)	1.300-1.500 (33.0-38.1)	1.450-1.650 (37.0-42.0)	

() Indicates mm dimensions.
Specifications are subject to change without notice.

2002 National Electrical Code Requirements for Wiring Devices



NATIONAL ELECTRICAL CODE NFPA NO. 70HB02

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110.21 Marking

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200.10 Identification of Terminals

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404.15 Marking

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680.62(a) Ground Fault Circuit Interrupter

680.62(c) Methods of Bonding

WIRING DEVICE STANDARD AND REGULATORY AGENCIES

NEMA

National Electrical Manufacturers' Association
1300 North 17th, Suite 1847, Rosslyn, VA 22209

ANSI

American National Standards Institute, Inc.
1430 Broadway, New York, NY 10018

UL

Underwriters' Laboratories, Inc.
Chicago, Northbrook, IL; Melville, NY; Santa Clara, CA

CSA

Canadian Standards Association
178 Rexdale Boulevard, Rexdale, Ontario, Canada M9W 1R3

GSA

General Services Administration, Federal Supply Service
Crystal Mall, Bldg. 4, Washington, DC 20406

OSHA

Occupational Safety and Health Administration
(U.S. Department of Labor)
200 Constitution Avenue, N.W., Washington, DC 20210

NFPA

National Fire Protection Association
Batterymarch Park, Quincy, MA

NEC

National Electrical Code
Published by the NFPA

A.C. (Alternating Current) - An electric current that reverses direction in a circuit at regular intervals, such as normal household current.

Adapter - Device that adapts one form or size of connection to another.

Air Gap Switch - A mechanical switch, which is capable of creating a space between two contacts.

Ampacity - The current in amperes that a conductor can carry continuously under the conditions of use without exceeding its temperature rating.

Angle Plug - A plug that allows the attached flexible cord to exit at a right angle to the plug face.

Attachment Plug - Male contact device for the readily detachable connection of a flexible cord or cable to receptacles, connectors, flanged equipment power outlets, etc.

Auto Reset - An in-line GFCI device that resets automatically after loss of neutral and when power is restored.

Bar Choke - A bar choke is constructed of a ferrite bar and is wrapped with copper wire. This device is used to reduce RFI generated by a dimmer or other electronic switching devices.

Bayonet - A lampholder for low-voltage incandescent lamps having an unthreaded metal shell with two diametrically opposite keyways that cooperate with similarly located projections on a mating lamp bulb. Pushing down on the bulb and turning it clockwise in the socket locks the bulb in place.

Bi-Pin Medium - A fluorescent lampholder having two contacts, used in pairs, with Type T-8 tubular fluorescent lamps that are approximately 1" in diameter, having two contacts at each end.

Bi-Pin Miniature - Similar to Medium Bi-Pin lampholder except for use with Type T-5 tubular fluorescent lamps that are 5/8" in diameter.

Bonding - The permanent joining of metallic parts to form an electrically conductive path that will assure electrical continuity and the capacity to conduct safely any current likely to be imposed.

Branch Circuit - The circuit conductors between the final overcurrent device protecting the circuit and the outlet(s).

Branch Circuit, General Purpose - A branch circuit that supplies a number of outlets for lighting and appliances.

Bulb Noise (Filament Hum) - The audible noise which can come from an incandescent lamp controlled by a dimmer.

Candelabra - A small screw-base threaded lampholder accepting a bulb approximately 1/2" in diameter commonly used in night lights, indicator lights and Christmas tree bulbs.

Clamping - The process of restricting voltage to a maximum level above the typical line voltage line. Used in TVSS specifications.

Class A - Rating of GFCI trip level 4-6ma range.

Connector, Pressure (Solderless) - A device that establishes a connection between two or more conductors or between one or more conductors and a terminal by means of mechanical pressure and without the use of solder.

Continuous Load - A load where the maximum current is expected to continue for three hours or more.

Cord Connector - Female contact device used in making a detachable connection to an attachment plug or a flanged equipment power inlet.

Cord Grip - Means by which the flexible cord entering a device is gripped in order to relieve stress on the terminals from tension applied to the cord.

Corrosion Resistant - A device constructed of special materials and/or suitably plated to withstand corrosive environments.

Current - The flow of electrons through an electrical conductor, measured in amperes.

Current Tap - Device for providing two or more contact devices from a single contact device.

D.C. (Direct Current) - An electric current that flows only in one direction through a circuit, such as battery power.

Dedicated Circuit - A circuit established to provide control voltage and current to one load or one type of load, such as an electric range or a computer.

Device - Unit of an electrical system that is intended to carry, but not utilize, electrical energy.

Device Cover Plate - Plate intended to close a device box when used in conjunction with a wiring device, and which may be secured to the device or to the device box. Note: A family of such plates may include a blank plate that may be secured to the device box.

Dimmer - A switch with electronic components that permit control of lighting intensity.

Dustproof - So constructed or protected that dust will not interfere with its successful operation.

Dust-tight - So constructed that dust will not enter the enclosing case under specified test conditions.

Duty - Continuous Duty - Operation at a substantially constant load for

an indefinitely long time.

Intermittent Duty - Operation for alternate intervals of (1) load and no load; or (2) load and rest; or (3) load, no load, and rest.

Periodic Duty - Intermittent operation in which the load conditions are regularly recurrent.

Short-Time Duty - Operation at a substantially constant load for a short and definitely specified time.

Varying Duty - Operation at loads, and for intervals of time, both of which may be subject to wide variation.

DV/DT - The rate of change from voltage over an increment of time. Used to rate some semiconductors.

Edison Base - A lampholder having a threaded internal shell approximately 1" in diameter which accepts lamp bulbs of the size commonly used in domestic illumination.

Elastomer - Macromolecular material that at room temperature returns rapidly to approximately its initial dimensions and shape after substantial deformation by a weak stress and release of that stress.

EMI - Electromagnetic interference or unwanted signal pick-up. One of two types of electrical "noise" caused by varying magnetic fields conducted into branch wiring from inductive load switching.

EMP - Electromagnetic pulse caused by lightning or conductors.

Federal Specification Listed - A device which meets federal government specifications and for use on government quotations.

Feed Through - The practice of wiring a single branch circuit through a device and feeding power to other devices wired downstream. Feeding through a GFCI would provide ground fault protection to downstream receptacles.

Flanged Inlet (Male Base) - A plug which is intended for flush mounting on an appliance or equipment and which serves to connect utilization equipment to a cord connector.

Flanged Outlet (Equipment Receptacle) - A receptacle which is intended for flush mounting on an appliance or on equipment which is intended to establish electrical connection with an inserted plug.

Fluorescent Lamp - A glass housing that contains phosphorus in a sealed vacuum. When the phosphorus is excited from a voltage charge, it becomes ionized and gives off light.

Fluorescent Starter - A device rated in watts having a voltage-sensitive switch and a capacitor whose function is to provide a high-voltage pulse to start a fluorescent lamp.

Gas Diode - A primary component in high rated TVSS in conjunction with M.O.V.

General-Use Snap Switch - A form of general-use switch so constructed that it can be installed in flush device boxes or on outlet box covers, or otherwise used in conjunction with wiring systems recognized by the NEC.

Ground Fault Circuit Interrupter (GFCI) - A device intended for the protection of personnel that functions to de-energize a circuit or portion thereof within an established period of time when a current to ground exceeds some predetermined value that is less than that required to operate the overcurrent protective device of the supply circuit.

Grounding-Conductor Path - A path between the grounding pin, blade, or contact and the grounding terminal or, if the device has no grounding terminal, the point at which the path makes contact with a part of the metal raceway system, such as a box, box cover, or the raceway itself.

Horsepower Rated - A device rating intended for control of motor loads.

Hospital Grade - A device constructed to meet performance requirements of high abuse areas found in hospital locations, tested to "Hospital Grade" requirements of Underwriters' Laboratories Standard UL 498.

Incandescent - Lampholders of the threaded screw shell types for use with standard sizes of incandescent bulbs.

Infrared (I.R.) - The invisible light emitted by all people, animals, and objects. Infrared is measured in terms of micrometers on the wavelength spectrum.

In-Line GFCI - A device used for ground fault protection, indoor or outdoor, with extension cords.

Lampholder - A device with contacts that establishes mechanical electrical connection to an inserted lamp.

Lighted Handle - A switch with an integral lamp in the actuator which lights when switch is in the "OFF" position.

Locking Device - A device designed to lock in place when it is rotated in a clockwise direction. The device can then only be removed when turned in a counterclockwise direction.

Locking Switch - A switch equipped with a mechanism requiring a key to operate the switching function.

Lock-out - A safety device for preventing accidental turn-on of power to load.

Maintained Contact Switch - When the actuator is moved to the "ON" position, this switch makes and retains the circuit contact until the actuator is manually moved to

the "OFF" position.

Manual Controller - A horsepower rated switch without overload protection used for the operation of small A.C. or D.C. motors.

Midget - A device with a body diameter smaller than those of devices of a similar rating.

Miniature - The smallest screw-in type lampholder accepting incandescent lamp bulbs of approximately 3/8" diameter commonly used in games, flashlights and the smallest Christmas tree bulbs.

Mogul - The largest screw-in type of lampholder accepting incandescent lamp bulbs having screw bases approximately 1 1/2" in diameter. Used in street lighting fixtures and industrial high bay fixtures.

Momentary Contact - A switch which establishes circuit contact when its actuator is moved to, and held in the "ON" position. The circuit is broken when the actuator is released and allowed to return, of itself, to the "OFF" position.

M. O. V. - Metal Oxide Varistor, primary component of TVSS.

Narrow - A cover plate designed for flush mounting on narrow partitions have a width dimension of two inches or less.

Outdoor Rating - Describes a listed product usable outdoors or in wet locations.

Outlet - A point in the wiring installation at which current is taken to supply utilization equipment.

Outlet Device - Any device having one or more outlets to supply power to cord-connected equipment.

Panelboard - A single panel or group of panel units designed for assembly in the form of a single panel; including buses, automatic overcurrent devices, and equipped with or without switches for the control of light, heat, or power circuits; designed to be placed in a cabinet or cutout box placed in or against a wall or partition and accessible only from the front.

Passive Infrared (P.I.R.) - Typically this term is used in reference to detecting infrared. A P.I.R. detector functions as a receiver of infrared emitted from a transmitter, such as the human body.

Pilot Light Switch - A switch with an integral lamp in the actuator, which lights when the switch is in the "ON" position.

Pin & Sleeve - Industrial wiring devices utilizing round pin shaped blades and tubular designed sleeve contacts.

Plug Out - A device preventing the plug from being inserted into an outlet during maintenance on equipment.

Polarized Device - A device constructed for connection to a mating device only in the position that connects related poles of an electrical circuit.

Premises Wiring (System) - Interior and exterior wiring, including power, lighting, control, and signal circuit wiring together with all of their associated hardware, fittings, and wiring devices, both permanently and temporarily installed, that extends from the service point of utility conductors or source of a separately derived system to the outlet(s). Such wiring does not include wiring internal to appliances, fixtures, motors, controllers, motor control centers and similar equipment.

Rainproof - So constructed, protected, or treated as to prevent rain from interfering with the successful operation of the apparatus under specified test conditions.

Raintight - So constructed or protected that exposure to a beating rain will not result in the entrance of water under specified test conditions.

Receptacle - One or more female contact devices on the same yoke installed at an outlet for the connection of one or more attachment plugs.

Receptacle, Duplex - Two female contact devices on the same yoke installed at an outlet for the connection of two attachment plugs.

Receptacle, Flush - Receptacle provided with means for its flush mounting on a standard flush device box or outlet box or in a cover plate or wall of an enclosure.

Receptacle, Isolated Ground - Receptacle having the grounding terminal electrically isolated from the means to which it is mounted.

Receptacle, Self-Contained - Receptacle which includes an enclosure and mounting means such that it can be mounted flush to a supporting surface without the use of a flush device, outlet box, raceway, or other enclosure.

Receptacle, Single - One female contact device with no other contact device on the same yoke installed at an outlet for the connection of one attachment plug.

Receptacle, Surface Mounted - Receptacle constructed for installation on a plane surface.

Response Time - Time required to clamp voltage in TVSS or shut off power in GFCI faults.

RFI - Radio Frequency Interference (electrical noise).

RMS (Root Means Square) - Used as an A.C. value of voltage or current. Expressed, for example, as 120 volts AC RMS.

Rocker Switch - A switch that is operated by a paddle type actuator, such as a fashion switch.

Rotary Dimming - Achieved through the rotation of a knob of any style to control the lighting level components.

Rotary Switch - A switch having an actuating member that when turned in a clockwise direction completes the switch circuit and breaks the switch circuit when turned in the same or opposite direction.

RTL Listing - A Recognized Testing Laboratory has performed safety test on listed

products.

Safety - A receptacle which by its construction limits improper access to its energized contacts.

Service - The conductors and equipment for delivering energy from the electricity supply system to the wiring system.

Service Equipment - The necessary equipment, usually consisting of a circuit breaker or switch and fuses, and their accessories, located near the point of entrance of supply conductors to a building or other structure, or an otherwise defined area, and intended to constitute the main control and means of cutoff of the supply.

Show Window - Any window used or designed to be used for the display of goods or advertising material, whether it is fully or partly enclosed or entirely open at the rear and whether or not it has a platform raised higher than the street floor level.

Slide Dimming - Achieved through the linear movement up and down or horizontally of a slide mechanism to control the lighting level.

Slide Switch - A switch having a sliding actuating member which makes or breaks the switch contact mechanism.

Split Circuit - A duplex receptacle that can be wired for switch control of two separate circuits.

Surge Suppression - The use of a device containing electronic components which limits peak voltage to a predetermined value when voltage spikes or surges appear on the connected line.

Terminal - Accessible conductive element provided on a device for making a connection to a supply, load, or grounding conductor.

Terminal, Clamp-Type or Pressure Wire - Terminal in which the conductor is clamped under a pressure plate or saddle by one or more screws or nuts.

Terminal, Pin Type - Terminal having a contact pin that penetrates the conductor insulation in order to make contact with the current-carrying conductor.

Terminal, Push-in - Terminal where the stripped end of a conductor is pushed into the terminal and connection is maintained by spring pressure without the use of screws.

Terminal, Set Screw - Terminal where the pressure is applied by the end of the screw bearing directly on the conductor.

Terminal, Wire Binding Screw - Terminal in which the conductor is clamped under the head of the screw and the clamping pressure is applied directly by the head of the screw.

Thermoplastic - A plastic that repeatedly can be softened by heating and hardened by cooling through a temperature range characteristic of the plastic.

Thermoset - A material that, after having been cured by heat or other means, is substantially infusible and insoluble.

Three Position Center "OFF" - A two-circuit, three-position switch of either the maintained or momentary type, in which the "OFF" position is indicated by the centered position of the actuator.

Touch Dimming - The ability of a dimmer to control lighting levels by sensing the touch of a hand to its sensor plate.

Trip Free - When mechanism disconnects power and cannot be stopped by externally holding handle of switch.

Trip Time - A measure of time to disconnect a source of power from a load. Common in GFCI testing.

TVSS - Transient Voltage Surge Suppressor.

UL Listed - Indicates an item has been tested and approved to the safety standards established by Underwriters' Laboratories.

UL Recognized - Refers to products that have been tested and approved for use as component parts of equipment or products that are to be UL Listed.

UL Standards - Documents used to test product for listing. Available for purchase by contacting Underwriters' Laboratories.

Wall Plate - A plate designed to enclose a device box, with or without a device installed in the box.

Watertight - So constructed that moisture will not enter the enclosure under specified test conditions.

Weatherproof - So constructed or protected that exposure to the weather will not interfere with safe operation.

Wire Mesh Grip - Woven wire mesh holding devices used to support, pull, or relieve strain exerted upon cables, conduit, tubing, and various other items.

Elements of the IP Code and Their Meanings Technical Specifications

IP SUITABILITY RATING

IP suitability ratings are a system for classifying the degree of protection provided by enclosures of electrical equipment. The higher the number, the greater the degree of protection; they apply ONLY to properly installed equipment. The numerals stand for the following:

1. First Numeral: degree of protection for persons against access to hazardous parts inside the enclosure and/or against the ingress of solid foreign objects.
2. Second Numeral: degree of protection of equipment inside enclosures against damage from the ingress of water.

IP67 SUITABILITY

Example: IP67 = Ingress Protection/Dust-Tight/Temporary Immersion

Meaning for the Protection of Equipment		
Code Letters	First Number	Second Number
Ingress Protection	Against Ingress of Solid Foreign Objects	Against Ingress of Water with Harmful Effects
IP	<ul style="list-style-type: none"> 0 - Non-protected 1 - ≥ 50 mm diameter 2 - ≥ 12.5 mm diameter 3 - ≥ 2.5 mm diameter 4 - ≥ 1.0 mm 5 - Dust-protected 6 - Dust-tight 	<ul style="list-style-type: none"> 0 - Non-protected 1 - Vertically dripping 2 - Dripping (15° Tilted) 3 - Spraying 4 - Splashing 5 - Jetting 6 - Power jetting 7 - Temporary immersion 8 - Continuous immersion

NOTE: \geq denotes Greater than or equal to. Specifications are subject to change without notice.