

150w, 250w, 300w, 600w 12V Remote Multitap Transformers.

- 1 Securely mount transformer to desired location using the mounting tabs located on the top and bottom of the transformer.
- 2 Turn the line voltage power off at the electrical breaker panel.
- 3 Remove the front cover of the remote transformer by loosening the two side Philips screws.
- 4 Remove the desired knockouts on the front or side of the transformer.
- 5 Install conduit and 120VAC wires from the transformer to the desired line voltage circuit.
- 6 Connect the black transformer wire to the line voltage HOT using wire nuts. Do not use crimp style wire nuts.
- 7 Connect the white transformer wire to the line voltage NEUTRAL using wire nuts. Do not use crimp style wire nuts.
- 8 Install conduit and low voltage wires from the transformer to the remote power feed junction box.
- 9 Use the **VOLTAGE DROP TABLE** to determine appropriate wire gauge.
- 10 Connect one of the low voltage wires into to the terminal marked "COM". Securely tighten using a flat head screw.
Important: make sure the low voltage connection is tight to avoid overheating connections.
- 11 Based on the distance and the secondary wire gauge, use the **VOLTAGE DROP TABLE** to determine what terminal tap voltage to use.
- 12 After selecting the appropriate tap voltage in step 8, insert the remaining low voltage secondary wire into the selected terminal. Securely tighten using a flat head screw. Important: make sure the low voltage connection is tight to avoid overheating connections.
- 13 Turn the line voltage power on at the electrical breaker panel.
- 14 Verify the secondary side circuit breaker on the remote transformer front panel is in the on position.
- 15 Install lighting system and connect to remote power feed canopy.
- 16 Verify the lighting system voltage is between 11.2VAC to 11.7VAC (21.6VAC to 23.5VAC).
- 17 Allow the entire system to operate for a minimum of ten minutes. Verify the secondary connections at the remote transformer and on the lighting system itself. The connections should not be excessively hot to the touch. If any connection is hot, than turn the system off and reconnect and tighten connection.
- 18 Replace the transformer front cover and tighten side screws.

12V VOLTAGE DROP TABLE

| OUTPUT CURRENT | 12V TAP 1 | 13V TAP 2 | 14V TAP 3 | 15V TAP 4 |
|----------------|-------------|--------------|---------------|----------------|
| 25 amps | 1ft to 7ft | 1ft to 8ft | 9ft to 16ft | 17ft to 25ft |
| | 1ft to 11ft | 1ft to 13ft | 14ft to 25ft | 26ft to 40ft |
| | 1ft to 18ft | 1ft to 20ft | 22ft to 43ft | 44ft to 64ft |
| 12.5 amps | 1ft to 20ft | 10ft to 25ft | 26ft to 42ft | 43ft to 58ft |
| | 1ft to 32ft | 16ft to 40ft | 41ft to 69ft | 70ft to 92ft |
| | 1ft to 51ft | 25ft to 65ft | 66ft to 109ft | 110ft to 147ft |

LOW-VOLTAGE WIRE SIZE TABLE

Use to determine the correct THHN wire size for a recommended 3 percent drop in voltage at the specified wattage.

The length shown is the length of wire from the transformer to the power feed.

| | | | | | | |
|----------|--------|----------|-----------|-----------|-----------|-----------|
| 12 Volt | 5 ft. | 6-15 ft. | 16-20 ft. | 21-40 ft. | 41-60 ft. | 61-90 ft. |
| 150 Watt | #12 GA | #8 GA | #6 GA | #4 GA | #2 GA | #1 GA |

LOW-VOLTAGE WIRE SIZE TABLE

Use to determine the correct THHN wire size for a recommended 3 percent drop in voltage at the specified wattage.

The length shown is the length of wire from the transformer to the power feed.

| | | | | | | |
|----------|--------|----------|-----------|-----------|-----------|-----------|
| 24 Volt | 5 ft. | 6-15 ft. | 16-20 ft. | 21-40 ft. | 41-60 ft. | 61-90 ft. |
| 300 Watt | #14 GA | #12 GA | #10 GA | #6 GA | #6 GA | #4 GA |

Remote Transformer Selection

Remote mounting the transformer provides a clean minimalist look that will not detract from the beauty of the space. Also, remote mounting the transformer is the only way to guarantee a noise free installation. The transformer should be installed in an accessible remote location such as a closet. Once the transformer is installed, electrical wire is used to connect the transformer to a power feed canopy or power bolts. Using the correct gauge wire to connect the transformer to the track is essential for providing the desired voltage at the fixture. The wire gauge used to supply power to the track should be sized according to the distance between the transformer and the track.

| Voltage Drop Chart 5-15 feet | | | D | % | D | % | D | % |
|-------------------------------------|--------|------|-------------|-----------------|--------------|-----------------|--------------|-----------------|
| D = Distance % = Light Output | | AWG | Volts 5' | Light Output | Volts 10' | Light Output | Volts 15' | Light Output |
| No Dimmer | Tap #1 | # 10 | 12.0 | 100% | 11.7 | 92% | 11.5 | 85% |
| No Dimmer | Tap #1 | # 8 | 12.1 | 103% | 11.9 | 98% | 11.8 | 94% |
| No Dimmer | Tap #2 | # 10 | 12.5 | 116% | 12.3 | 108% | 12.0 | 100% |
| No Dimmer | Tap #2 | # 8 | 12.6 | 120% | 12.5 | 115% | 12.3 | 110% |
| With Dimmer | Tap #2 | # 10 | 12.0 | 100% | 11.7 | 92% | 11.5 | 85% |
| With Dimmer | Tap #2 | # 8 | 12.1 | 103% | 11.9 | 98% | 11.8 | 94% |

Remote Transformer Selection

| Voltage Drop Chart 20-30 feet | | | D | % | D | % | D | % |
|--------------------------------------|--------|------|--------------|-----------------|--------------|-----------------|--------------|-----------------|
| D = Distance % = Light Output | | AWG | Volts 20' | Light Output | Volts 25' | Light Output | Volts 30' | Light Output |
| No Dimmer | Tap #1 | # 10 | 11.2 | 78% | 11.0 | 72% | 10.7 | 66% |
| No Dimmer | Tap #1 | # 8 | 11.6 | 89% | 11.5 | 85% | 11.3 | 81% |
| No Dimmer | Tap #2 | # 10 | 11.7 | 92% | 11.5 | 85% | 11.2 | 79% |
| No Dimmer | Tap #2 | # 8 | 12.2 | 105% | 12.0 | 100% | 11.8 | 95% |
| With Dimmer | Tap #2 | # 10 | 11.2 | 78% | 11.0 | 72% | 10.7 | 66% |
| With Dimmer | Tap #2 | # 8 | 11.6 | 89% | 11.5 | 85% | 11.3 | 81% |

| Voltage Drop Chart 35-45 feet | | | D | % | D | % | D | % |
|--------------------------------------|--------|------|--------------|-----------------|--------------|-----------------|--------------|-----------------|
| D = Distance % = Light Output | | AWG | Volts 35' | Light Output | Volts 40' | Light Output | Volts 45' | Light Output |
| No Dimmer | Tap #1 | # 10 | 10.4 | 60% | 10.2 | 55% | 9.9 | 50% |
| No Dimmer | Tap #1 | # 8 | 11.2 | 77% | 11.0 | 73% | 10.8 | 69% |
| No Dimmer | Tap #2 | # 10 | 11.0 | 72% | 10.7 | 66% | 10.4 | 61% |
| No Dimmer | Tap #2 | # 8 | 11.7 | 91% | 11.5 | 86% | 11.4 | 82% |
| With Dimmer | Tap #2 | # 10 | 10.4 | 60% | 10.2 | 55% | 9.9 | 50% |
| With Dimmer | Tap #2 | # 8 | 11.2 | 77% | 11.0 | 73% | 10.8 | 69% |

| Voltage Drop Chart 50-60 feet | | | D | % | D | % | D | % |
|--------------------------------------|--------|------|--------------|-----------------|--------------|-----------------|--------------|-----------------|
| D = Distance % = Light Output | | AWG | Volts 50' | Light Output | Volts 55' | Light Output | Volts 60' | Light Output |
| No Dimmer | Tap #1 | # 10 | 9.7 | 46% | 9.4 | 41% | 9.1 | 37% |
| No Dimmer | Tap #1 | # 8 | 10.7 | 66% | 10.5 | 62% | 10.4 | 59% |
| No Dimmer | Tap #2 | # 10 | 10.2 | 55% | 9.9 | 50% | 9.7 | 46% |
| No Dimmer | Tap #2 | # 8 | 11.2 | 78% | 11.1 | 74% | 10.9 | 71% |
| With Dimmer | Tap #2 | # 10 | 9.7 | 46% | 9.4 | 41% | 9.1 | 37% |
| With Dimmer | Tap #2 | # 8 | 10.7 | 66% | 10.5 | 62% | 10.4 | 59% |