LIGHTING LEAF

24V DC RECESSED DOWNLIGHT WIRING

MT-CLR1042420 tunable white (3-wire) • MT-CLR942420 3000K (2-wire)

INSTALL RULES

Install only as part of a UL 2108 24V DC low-voltage lighting system. All wiring must be Class 2 and kept separate from higher-voltage circuits. Using non-Class 2 constant voltage power supplies can lead to serious injury or death.

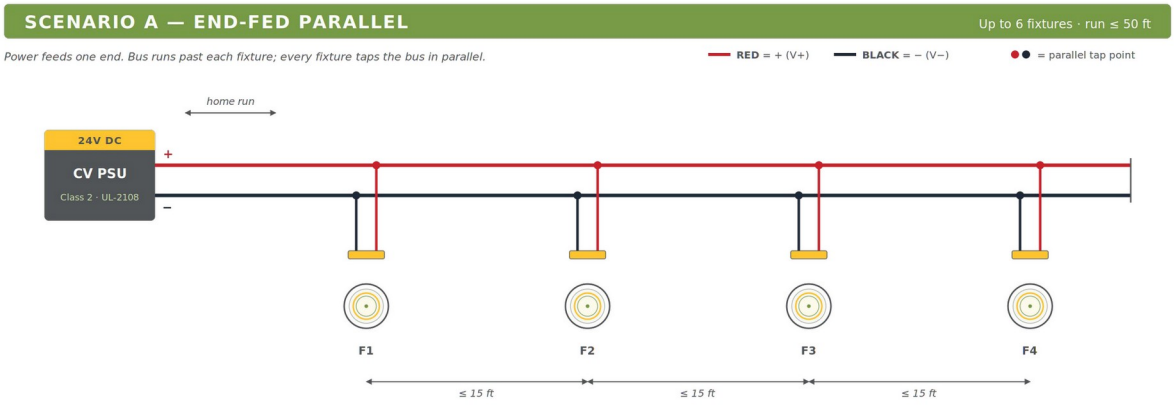
Use 16 AWG wire minimum and do not exceed the DC voltage rating. Keep the voltage at every fixture within ±4% of rated, and size the power supply at least 20% above the total fixture wattage. See the installation manual for full instructions.

WIRING SCENARIOS

SCENARIO A — END-FED PARALLEL

Up to 6 fixtures · run ≤ 50 ft

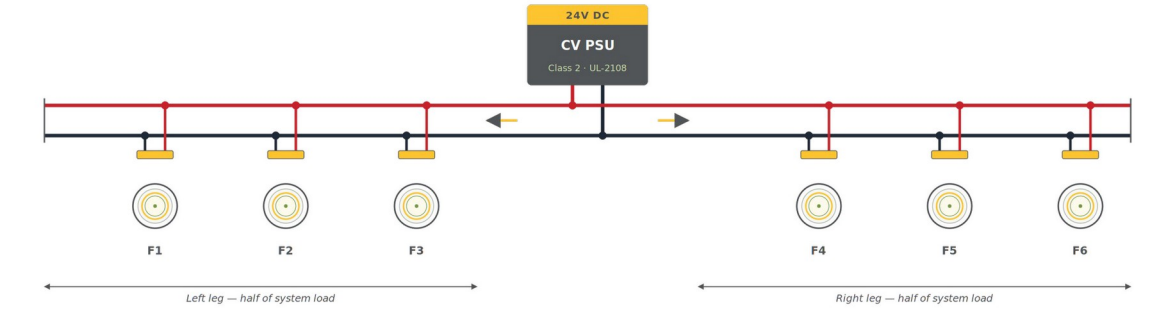
Power feeds one end. Bus runs past each fixture; every fixture taps the bus in parallel.



SCENARIO B — CENTER-FED PARALLEL

Use when > 6 fixtures OR run > 50 ft

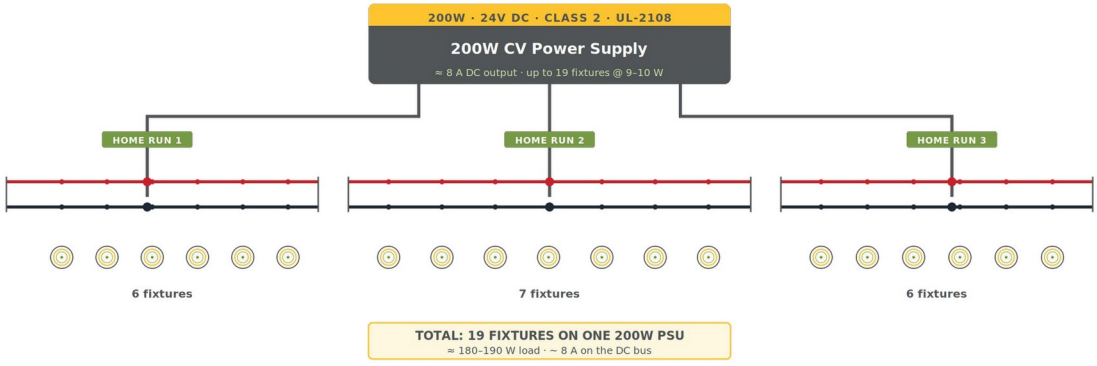
Power feeds the center. Each leg carries half the load, halving voltage drop on the longest fixture from the supply.



SCENARIO C — MULTI-BRANCH HOME RUNS

Up to 19 fixtures on one 200W PSU

One PSU, multiple parallel home runs. Each branch is its own circuit — size each leg like Scenario A or B.



DO NOT WIRE IN SERIES

Every fixture must tap the V+ / V− bus in parallel. Current must not pass through one fixture to reach the next — series wiring drops voltage at every fixture and dims or kills downstream lights.

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LIGHTING LEAF

24V DC RECESSED DOWNLIGHT WIRING

Application and sales notes • where they fit, why specifiers choose them

SUGGESTED SALES APPLICATIONS

1 Pre-wired speaker locations

Home is pre-wired for sound but no speakers are installed. Add lights at the wired speaker positions.

2 Panel and circuits maxed out

The load center and lighting circuits are full. Plug a 24V DC power supply into any open outlet to add lighting.

3 Half-hot outlet conversion

Builders often provide only a switched half-hot outlet for lamps. It converts easily to low-voltage recessed.

EXAMPLE: SYSTEM SCALE

200 W
24V DC CV power supply
Class 2 • UL 2108

19
fixtures
at 9-10 W each

8 A
single outlet
vs. multiple 15 A circuits

An average kitchen or living area uses 5-6 fixtures. One 200 W power supply covers an entire main level.

WHY 24V DC OVER LINE VOLTAGE

High efficacy

Efficient DC systems save about 20% energy versus traditional AC-to-DC conversion losses.

Load reduction

One 8 A 24V DC circuit replaces multiple 15 A line-voltage circuits for the same lighting load.

Premium light quality

Full-spectrum LEDs, CRI 95+, deliver a better and healthier lighting experience.

Low profile, IC-rated

Under 2 inches deep to fit tight ceiling spaces. Rated for direct insulation contact.

BUILD THE SYSTEM

Part number	Use
MT-CLR942420	4" 3000K downlight, 9 W, 785 lm, 2-wire
MT-CLR1042420	4" tunable white downlight, 10 W, 928 lm, 3-wire
PS-24V200WND	24V DC 200 W Class 2 power supply
RF-WIFI-CNTRL-5CH-4A	RF + Wi-Fi controller for dimming and tunable white

FOR PROFESSIONAL INSTALLERS AND AUTHORIZED DEALERS

Sold only through authorized Lighting Leaf partners. Not for DIY installation. Datasheets and installer resources: lightingleaf.com/resources • sales@lightingleaf.com

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