

DIM/CT/RGB/RGBW/RGBCW LED Controller

- Small size and light weight. The housing is made from V0 flame retardant PC materials from SAMSUNG/COVESTRO.
- Soft-on and fade-in dimming function enhances your visual comfort.
- 2.4GHz wireless signal , eliminating the need for signal wiring.
- 1-5 channel constant voltage output.
- Control DIM, CT, RGB, RGBW, RGBCW light.
- Work with a MINI series RF 2.4GHz remote.
- P3, P4 and P5 have 9 built-in dynamic modes.
- One controller can be paired up with 10 remotes .
- Sync dynamic effects between controllers in the same group/zone.

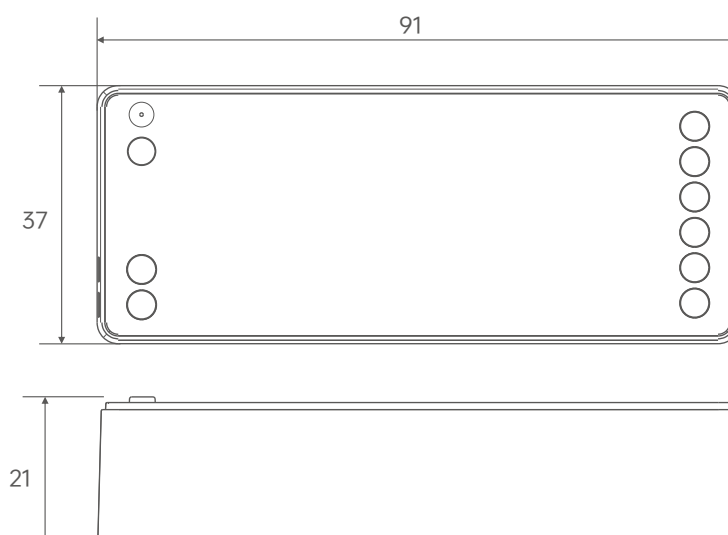


Technical Specs

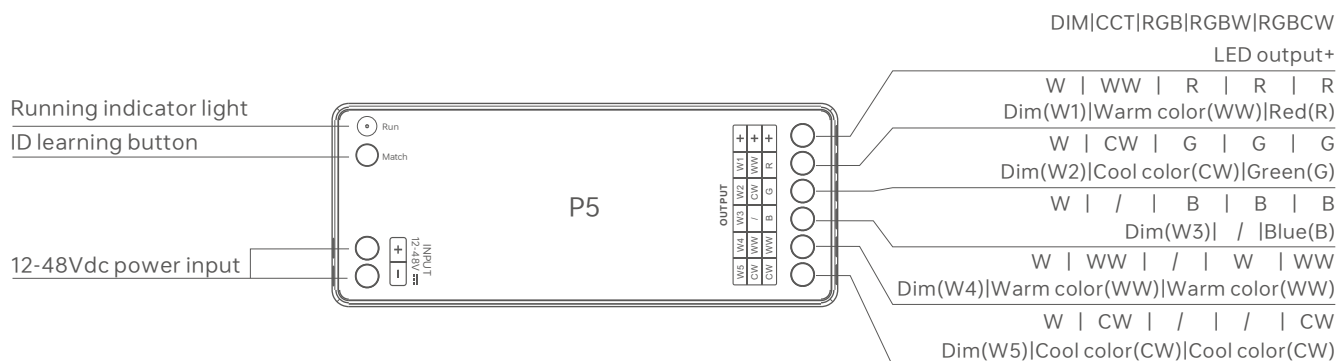
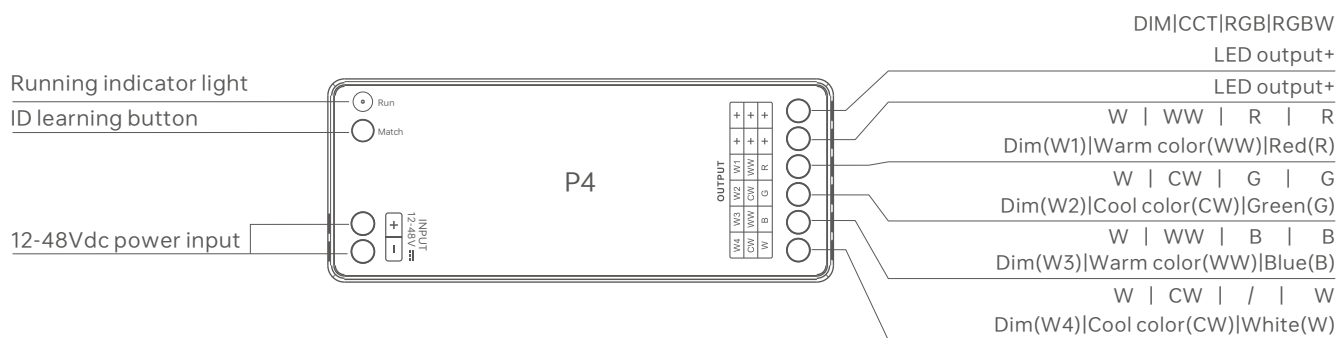
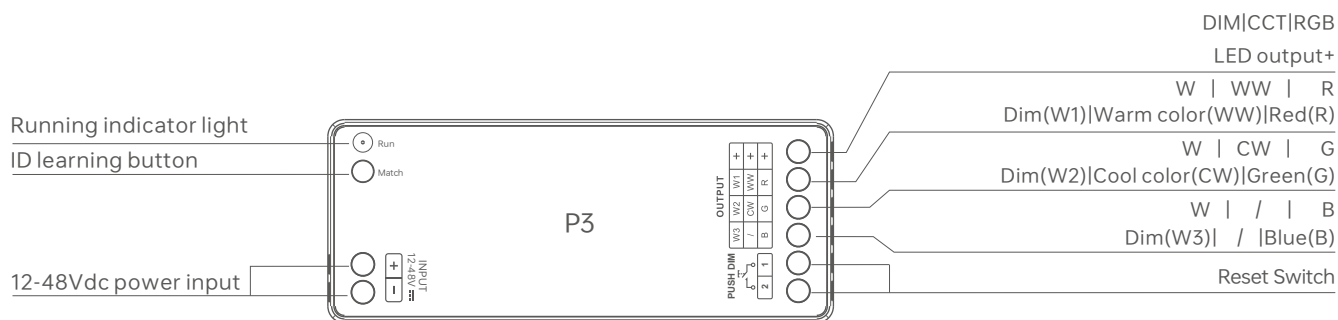
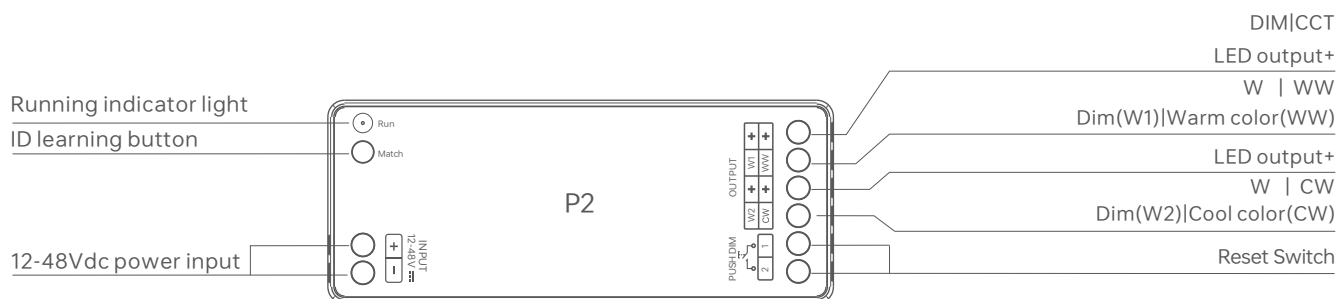
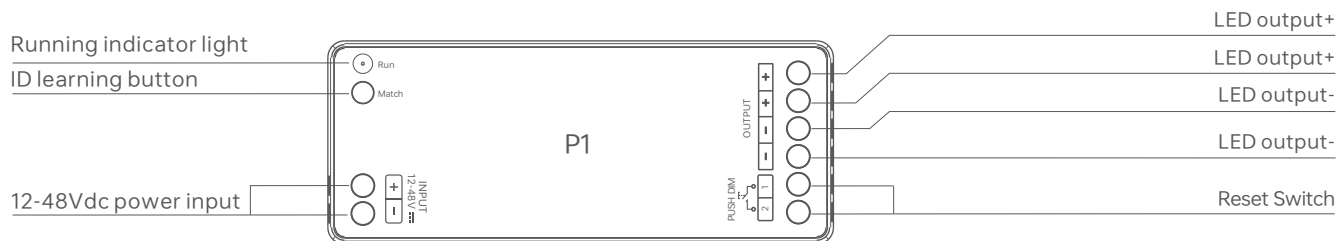
Model	P1	P2	P3	P4	P5
Input Signal	RF2.4GHz				
Input Voltage	12-48V ---				
Output Voltage	12-48V ---				
Channels	1 CH	2 CH	3 CH	4 CH	5 CH
Reset Switch	Yes	Yes	Yes	No	No
Load Current	Max. 11A	Max. 12A	Max. 15A	Max. 15A	Max. 15A
Load Power	132W@12V 240W@24V 288W@36V 384W@48V	144W@12V 240W@24V 288W@36V 384W@48V	180W@12V 360W@24V 432W@36V 432W@48V	180W@12V 288W@24V 360W@36V 480W@48V	180W@12V 360W@24V 450W@36V 600W@48V
Compatible Remote Control Models	Single-zone: M1A/M1B Multi-zone: M1C/M1D Programmable: M9	Single-zone: M1A/M1B/M2A/M2B Multi-zone: M1C/M1D/M2C/M2D Programmable: M9	Single-zone: M1A/M1B/M2A/M2B/ M4A/M4B Multi-zone: M1C/M1D/M2C/M2D/ M4C/M4D Programmable: M9	Single-zone: M1A/M1B/M2A/M2B/ M4A/M4B Multi-zone: M1C/M1D/M2C/M2D/ M4C/M4D Programmable: M9	Single-zone: M1A/M1B/M2A/M2B/ M4A/M4B/M5A/M5B Multi-zone: M1C/M1D/M2C/M2D/ M4C/M4D/M5C/M5D Programmable: M9
Protection	Short circuit protection, over-temperature protection, over-current protection, and reverse connection prevention protection				
Working Temp.	-25°C ~ 50°C				
Dimension	L91×W37×H21(mm)				
Package Size	L94×W39×H22(mm)				
Weight(G.W.)	46g				

Product Size

Unit: mm

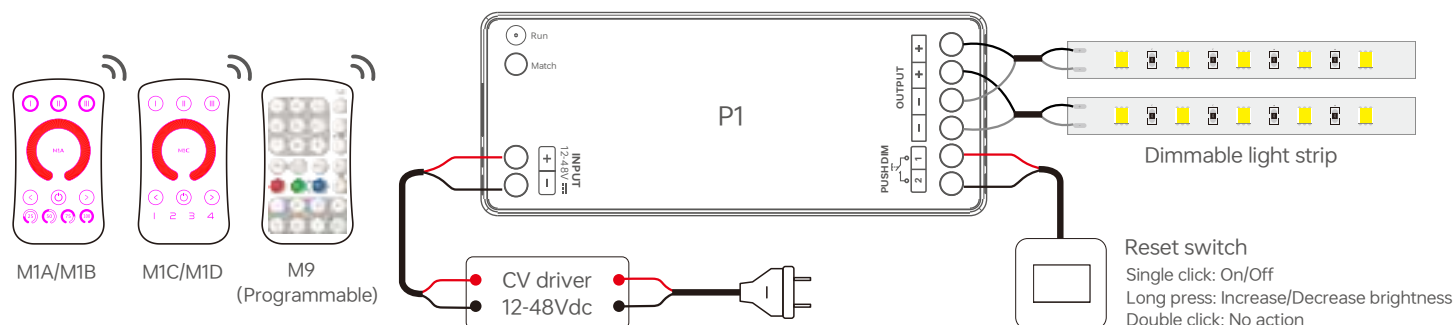


Terminal Description

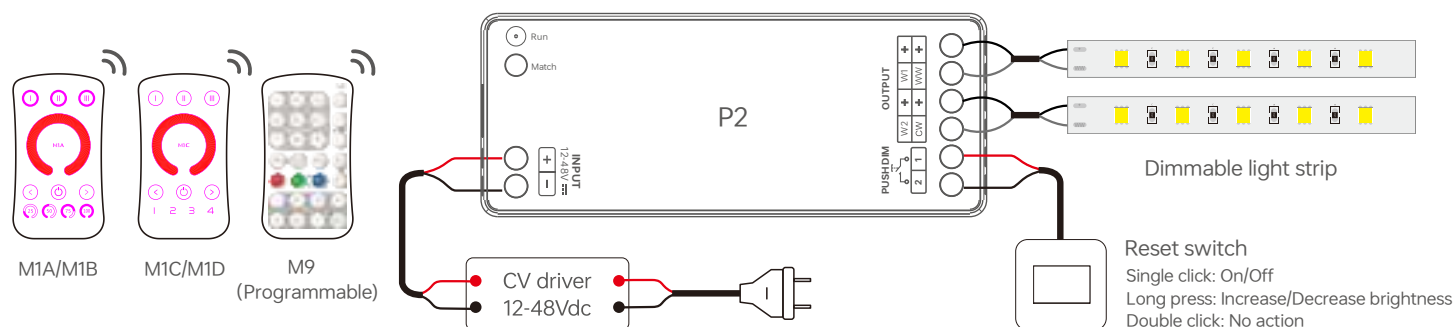


Wiring Diagram

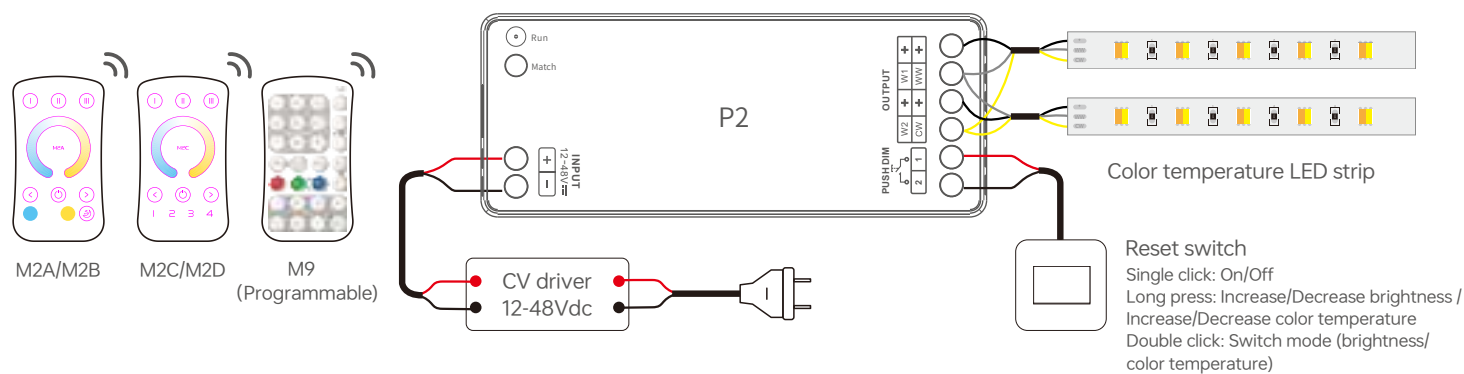
When P1 is connected to the dimmable light strip



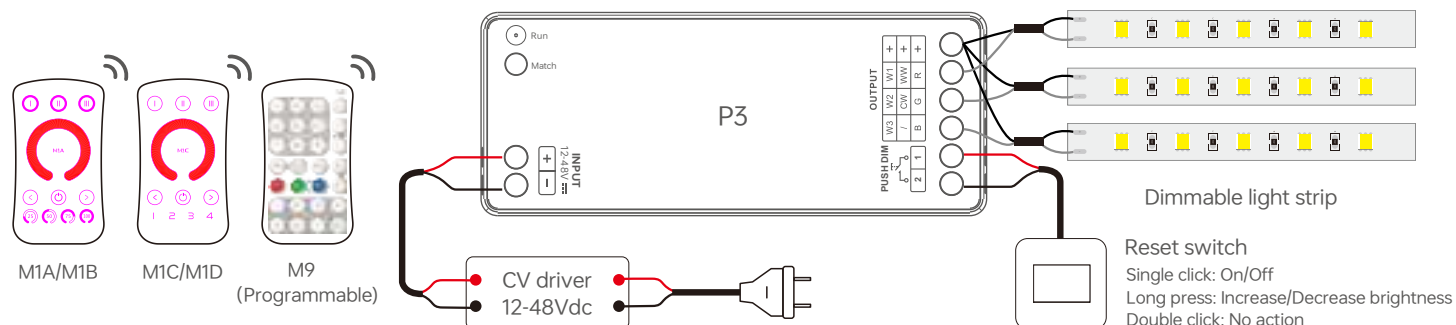
When P2 is connected to the dimmable light strip



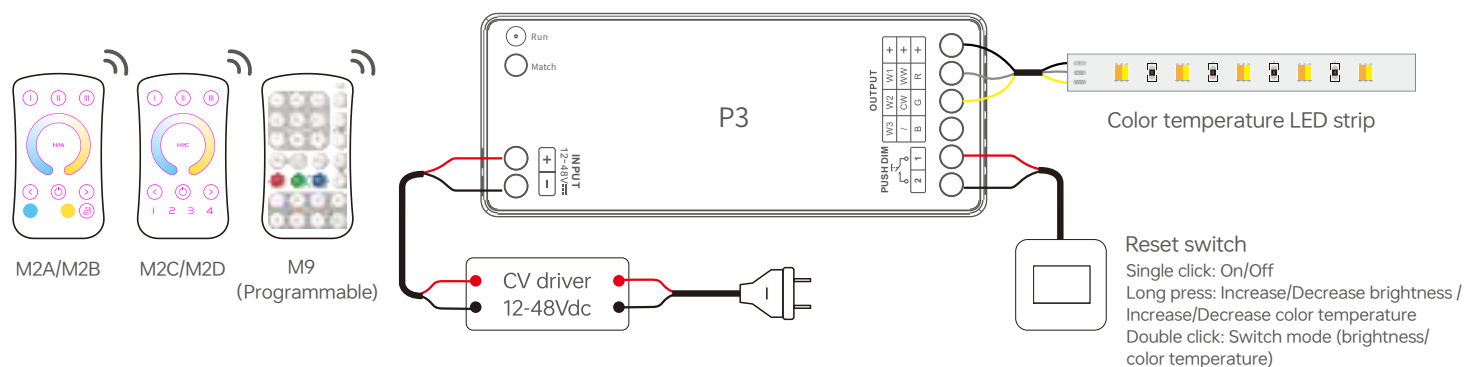
When P2 is connected to the color temperature light strip



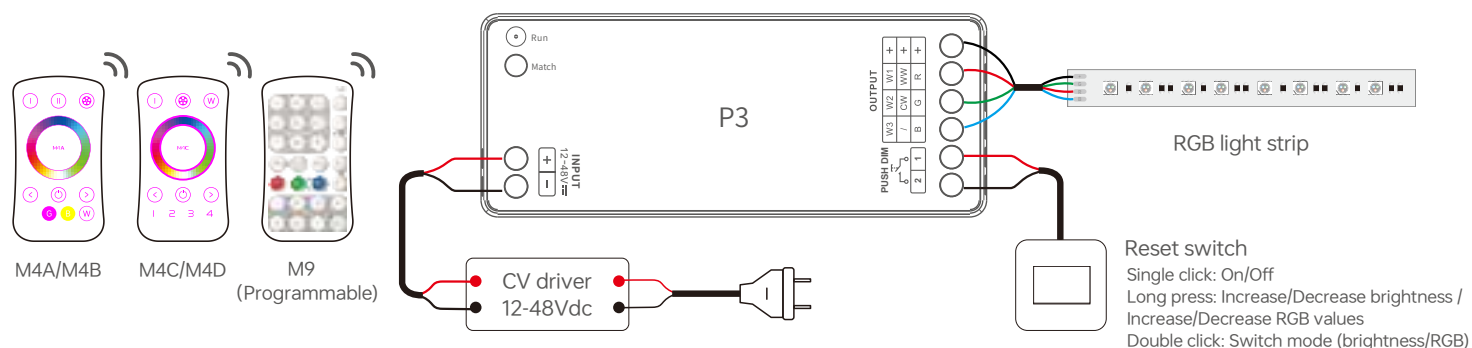
When P3 is connected to the dimmable light strip



When P3 is connected to the color temperature light strip



When P3 is connected to the RGB light strip



Note: The control type of PUSH DIM will switch according to the type of the remote control.

Diagram illustrating the P4 LED controller system components and connections:

- Remote Controls:** M2A/M2B, M2C/M2D, and M9 (Programmable).
- P4 Controller:** Features a 'Run' button, a 'Match' button, and an 'INPUT 12-48Vdc' terminal. It also has an 'OUTPUT' section with a table of output voltages and a 10-pin header.
- CV driver:** Labeled 'CV driver 12-48Vdc', it receives power from a source and provides input to the P4 controller.
- Color temperature LED strip:** Two strips are connected to the P4 controller's output header.

[illegible]

Diagram illustrating the connection of the P4 module to various controllers and an RGBW light strip.

The P4 module has an INPUT (12-48Vdc) and an OUTPUT (12V, 5V, 3V, 1V, 0V, 1V, 3V, 5V, 12V). It is connected to a CV driver (12-48Vdc) and an RGBW light strip.

The P4 module also has a Run button and a Match button.

The diagram shows three different controllers: M4A/M4B, M4C/M4D, and M9 (Programmable).

The diagram illustrates the P5 power supply unit and its connections. On the left, three remote controls are shown: M1A/M1B, M1C/M1D, and M9 (Programmable). The P5 unit features an 'INPUT' section with a 12-48Vdc range and a 'CV driver' section. It also has an 'OUTPUT' section with a table of connections:

+	+	+	+
1W1	1W2	1W3	1W4
2W1	2W2	2W3	2W4
3W1	3W2	3W3	3W4
4W1	4W2	4W3	4W4
5W1	5W2	5W3	5W4
6W1	6W2	6W3	6W4
7W1	7W2	7W3	7W4
8W1	8W2	8W3	8W4
9W1	9W2	9W3	9W4
10W1	10W2	10W3	10W4
11W1	11W2	11W3	11W4
12W1	12W2	12W3	12W4
13W1	13W2	13W3	13W4
14W1	14W2	14W3	14W4
15W1	15W2	15W3	15W4
16W1	16W2	16W3	16W4
17W1	17W2	17W3	17W4
18W1	18W2	18W3	18W4
19W1	19W2	19W3	19W4
20W1	20W2	20W3	20W4
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22W1	22W2	22W3	22W4
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24W1	24W2	24W3	24W4
25W1	25W2	25W3	25W4
26W1	26W2	26W3	26W4
27W1	27W2	27W3	27W4
28W1	28W2	28W3	28W4
29W1	29W2	29W3	29W4
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82W1	82W2	82W3	82W4
83W1	83W2	83W3	83W4
84W1	84W2	84W3	84W4
85W1	85W2	85W3	

The diagram illustrates the components and connections for the P5 LED display system:

- Control Units:** Three units are shown: M2A/M2B, M2C/M2D, and M9 (Programmable). Each unit features a color wheel and buttons for power, mode, and channel selection.
- Display Panel:** A large rectangular panel labeled "P5" with "Run" and "Match" buttons. It has an "INPUT" section with terminals for "12-16Vdc" and a "CV driver 12-48Vdc" connection point.
- Output Connections:** The "OUTPUT" section of the P5 panel shows a grid of terminals labeled with letters (L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ).
- LED Strips:** Two "Color temperature LED strip" units are connected to the output terminals of the P5 panel.
- Power Supply:** A "CV driver 12-48Vdc" is connected to the input terminals of the P5 panel and to a power source (represented by a plug icon).

Diagram illustrating the connection of the P5 LED strip light to a power source and control devices.

The P5 strip features an **INPUT** section with a 12-48Vdc CV driver and a Run/Match switch. It also has an **OUTPUT** section with 16 pins labeled V+, V-, G, R, B, W, and 1V1 through 1V16.

The strip is connected to a power source (CV driver, 12-48Vdc) and a control device (M4A/M4B, M4C/M4D, or M9 Programmable). The output section is connected to an RGB light strip.

Diagram illustrating the connection of the P5 module to various sensors and an RGBCW light strip.

The P5 module features an input section with a 12-48Vdc CV driver and a Run/Match switch. It also has an output section with 12 pins labeled M1-M4, W1-W4, B1-B4, and R1-R4.

The sensors shown are M5A/M5B, M5C/M5D, and M9 (Programmable). The RGBCW light strip is connected to the output pins.

Pair the remote

Pair the remote by using the button

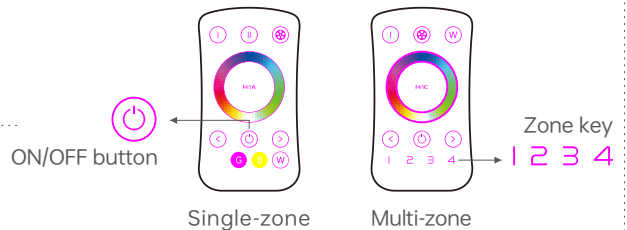
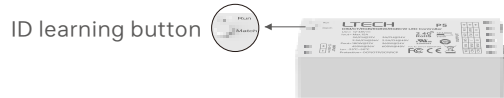
1.Short press the ID learning button on the controller and the indicator light flashes. Please complete the following steps within 10 seconds.

2.Pair the MINI series remote:

Single-zone MINI remote: Long press the ON/OFF button until the controller's indicator light flashes fast.

Multi-zone MINI remote: Long press zone button until the controller's indicator light flashes fast.

3.When the load light of the controller flashes slowly and then stays on constantly, the learning is successful.



Pair the remote by powering on the controller

1. Power off the controller first.

2.Pair the MINI series remote:

Single-zone MINI remote: Long press the ON/OFF button and power on the controller at the same time until the controller's indicator light flashes fast.

Multi-zone MINI remote: Long press zone button and power on the controller at the same time until the controller's indicator light flashes fast.

3.When the load light of the controller flashes slowly and then stays on constantly, the learning is successful.

Note: A controller can be paired with a maximum of 10 remotes. Pairing more than 10 remotes will automatically delete the earliest remote ID codes.

Unpair the remote

Unpair the remote by using the button:

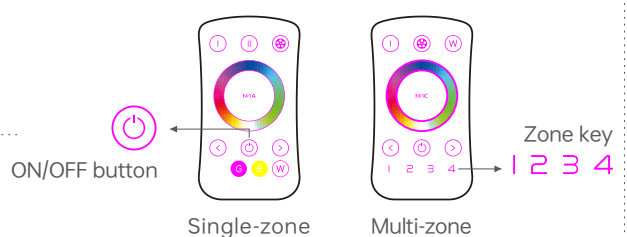
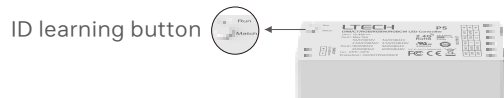
1. Delete all remote parings

Long press the ID learning button on the controller for 10 seconds, and then short press it for 6 times. When controller's indicator light flashes and then stays on, pairing removal is successful.

2. Delete a single remote paring

Single-zone Mini: Press and hold the ID learning key of the controller for 5 seconds. Within 10 seconds, press the on/off key three times briefly. When the load light flashes slowly and then stays on constantly, the code clearing is successful.

Multi-zone Mini: Press and hold the ID learning key of the controller for 5 seconds. Within 10 seconds, press the zone key three times briefly. When the load light flashes slowly and then stays on constantly, the code clearing is successful.



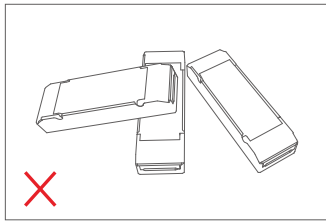
Unpair the remote by powering on the controller

Delete a single remote paring

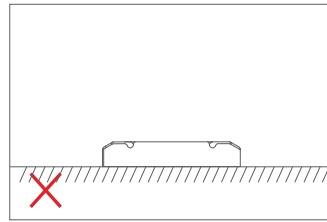
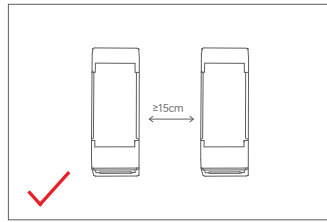
Single-zone Mini: Power on the controller for 2 seconds, then power it off for 2 seconds, and power it on again. Press the on/off key three times briefly within 3 seconds. When the load light flashes slowly and then stays on constantly, the code clearing is successful.

Multi-zone Mini: Power on the controller for 2 seconds, then power it off for 2 seconds, and power it on again. Press the zone key three times briefly within 3 seconds. When the load light flashes slowly and then stays on constantly, the code clearing is successful.

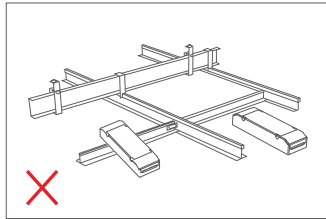
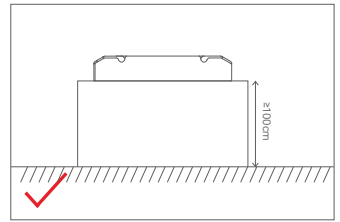
Installation Precautions



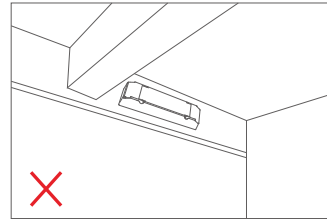
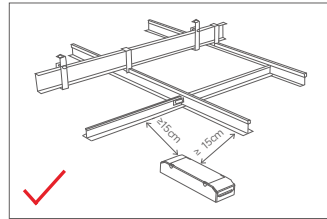
Please do not stack the products. The distance between two products should be $\geq 15\text{cm}$ so as not to affect heat dissipation and the lifespan of the products.



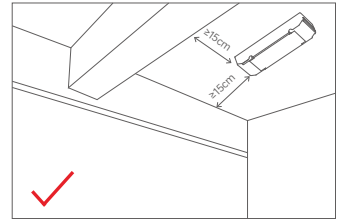
Please do not place the products on the floor. The distance between the product and the floor should be $\geq 100\text{cm}$ so as to avoid signal interference.



Please do not place the products near a large area of metal objects (such as metal stud ceilings). The distance between the product and the metal object should be $\geq 15\text{cm}$ so as to avoid signal interference.



Please do not install the products on beams or near the corners. The distance between the product and the beam or the corner should be $\geq 15\text{cm}$ so as to avoid signal interference.



Note: The temperature within the installation area should be within the working temperature range of the products. Please do not install products inside LED fixtures to avoid temperature exceeding the working temperature that may affect the product lifetime.

- Product installation and commissioning should be done by a qualified professional.
- LTECH products are and not lightningproof non-waterproof (special models excepted). Please avoid the sun and rain. When installed outdoors, please ensure they are mounted in a water proof enclosure or in an area equipped with lightning protection devices.
- Good heat dissipation will extend the life the product. Please install the product in a environment with good ventilation.
- During installation, avoid being close to large-area metallic objects or stacking the devices, so as to prevent signal interference from affecting the usage.
- Avoid installing in thunderstorm-prone areas, areas with strong magnetic fields, and high-voltage areas.
- When you install this product, please avoid being near a large area of metal objects or stacking them to prevent signal interference.
- Please check whether the working voltage used complies with the parameter requirements of the product.
- Before you power on the product, please make sure all the wiring is correct in case of incorrect connection that may cause a short circuit and damage the components, or trigger a accident.
- If a fault occurs, please do not attempt to fix the product by yourself. If you have any question, please contact the supplier.

This manual is subject to changes without further notice. Product functions depend on the goods. Please feel free to contact our official distributors if you have any question.

Warranty periods from the date of delivery : 5 years.

Free repair or replacement services for quality problems are provided within warranty periods.

Warranty exclusions below:

- Beyond warranty periods.
- Any artificial damage caused by high voltage, overload, or improper operations.
- Products with severe physical damage.
- Damage caused by natural disasters and force majeure.
- Warranty labels and barcodes have been damaged.
- No any contract signed by LTECH.

1. Repair or replacement provided is the only remedy for customers. LTECH is not liable for any incidental or consequential damage unless it is within the law.
2. LTECH has the right to amend or adjust the terms of this warranty, and release in written form shall prevail.