

Rotary LED Dimmer

Model No.: 20AILDIM

Rotary dimming/Numeric display/Max 20A/Four PWM frequency/Linear or logarithmic dimming/Multiple protection

Features

- Rotary dimmer with digital numeric display, visible dimming level.
- Match with RF 2.4G single zone or multiple zone dimming remote control optional.
- 0-100% dimming smoothly without any flash.
- High load current up to 20A.
- Logarithmic or linear dimming curve selectable.
- PWM frequency 500Hz, 2kHz, 8kHz or 16kHz selectable.
- Over-heat / Over-load / Short circuit protection, recover automatically.
- Light on/off fade time 3s selectable.

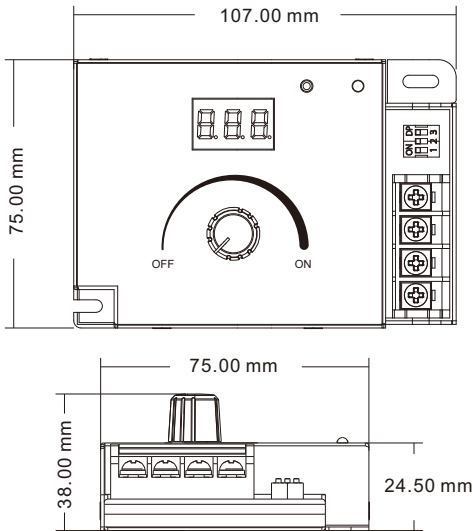
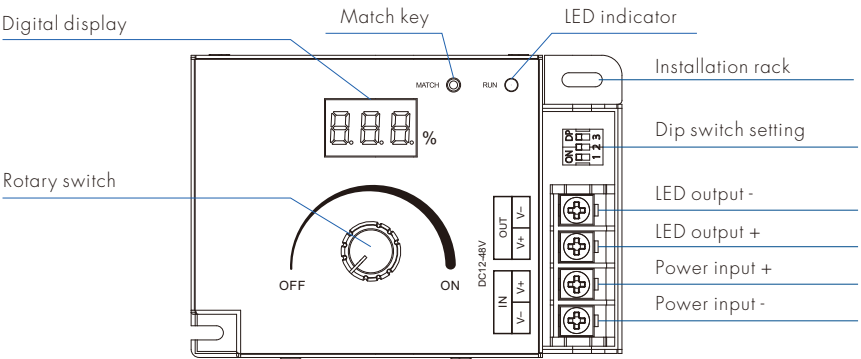


CE RoHS

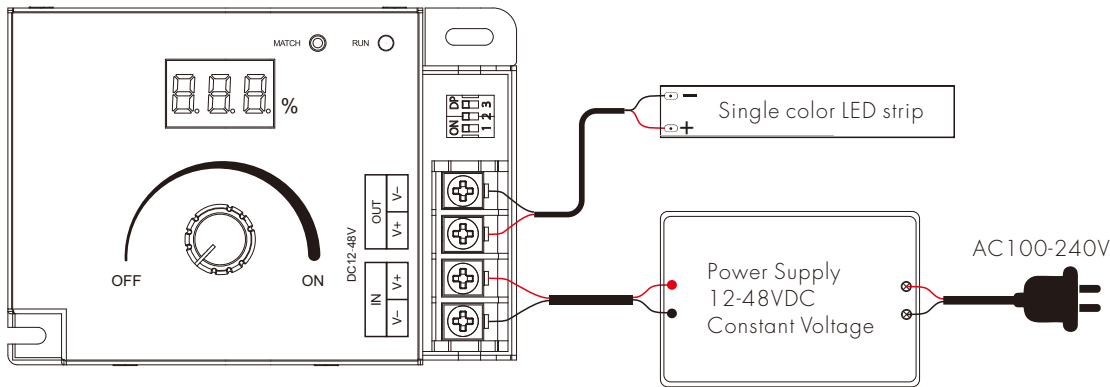
Technical Parameters

Input and Output		Safety and EMC		Dimming data	
Input voltage	12-48VDC	EMC standard (EMC)	ETSI EN 301 489-1 V2.2.3 ETSI EN 301 489-17 V3.2.4	Input signal	Rotary knob + RF 2.4GHz
Input current	20A	Safety standard(LVD)	EN 62368-1:2020+A11:2020	Control distance	15m[Barrier-free space]
Output voltage	12-48VDC	Radio Equipment(RED)	ETSI EN 300 328 V2.2.2	Dimming gray scale	100levels
Output current	1CH,20A Max.	Certification	CE,EMC,LVD,RED	Dimming range	0-100%
Output power	240W/480W@ (12V/24V) 500Hz	Package		Dimming curve	Logarithmic or linear
Output type	Constant voltage	Size	L112x W80 x H45mm	PWM Frequency	500Hz, 2kHz, 8kHz, 16kHz
Warranty		Gross weight	0.165kg	Environment	
Warranty	5 years			Operation temperature	Ta: -30℃ ~ +55℃
				Case temperature (Max.)	Tc: +85℃

Mechanical Structures and Installations



Wiring Diagram



Match Remote Control (two match ways)

End user can choose the suitable match/delete ways. Two options are offered for selection:

Use Match key

Match:

Short press match key, immediately press on/off key (single zone remote) or zone key (multiple zone remote) on the remote.
The LED indicator fast flash a few times means match is successful.

Delete:

Press and hold match key for 5s to delete all match,
The LED indicator fast flash a few times means all matched remotes were deleted.

Use Power Restart

Match:

Switch off the power, then switch on power, repeat again.
Immediately short press on/off key (single zone remote) or zone key (multiple zone remote) 3 times on the remote.
The light blinks 3 times means match is successful.

Delete:

Switch off the power, then switch on power, repeat again.
Immediately short press on/off key (single zone remote) or zone key (multiple zone remote) 5 times on the remote.
The light blinks 5 times means all matched remotes were deleted.

PWM frequency setting

16KHz

10A

8A

1 2

8KHz

10A

8A

1 2

2KHz

15A

12A

1 2

500Hz

20A

15A

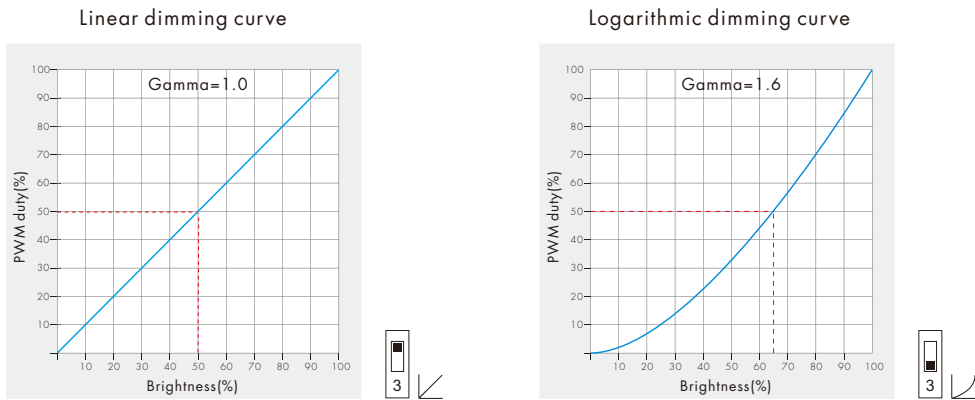
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(12-24V)

(36-48V)

We can select four PWM frequency: 500Hz, 2kHz, 8kHz or 16kHz.
Higher PWM frequency, will cause lower output current, higher power noise,
but more suitable for camera(No flickers for video).

Dimming curve setting



Light on/off fade time

Long press match key 5s, then short press match key 3 times, the light on/off time will be set to 3s, the indicator light blink 3 times.
Long press match key 10s, restore factory default parameter, the light on/off time also restore to 0.5s.

Malfunctions Analysis & Troubleshooting

Malfunctions	Causes	Troubleshooting
No light	1. No power. 2. Wrong connection or insecure.	1. Check the power. 2. Check the connection.
Uneven intensity between front and rear,with voltage drop	1. Output cable is too long. 2. Wire diameter is too small. 3. Overload beyond power supply capability. 4. Overload beyond controller capability.	1. Reduce cable or loop supply. 2. Change wider wire. 3. Replace higher power supply. 4. Add power repeater.

Installation Precautions

- The products shall not be stacked, the distance should be $\geq 20\text{cm}$, so as not to affect lifespan of the products due to poor heat dissipation.
- The product shall not be installed close to the switching power supply with an interval of $\geq 20\text{cm}$ to avoid the radiation interference of the switching power supply.
- The installation height shall be $\geq 1\text{m}$ from the floor to avoid shortening the remote control distance due to too weak reception signal.
- The products are not allowed to be close to or covered by metal objects, with an interval of $\geq 20\text{cm}$ to avoid signal attenuation and shorten the remote control distance.
- Avoid installation at the corner of the wall or the corner of the beam, with an interval of $\geq 20\text{cm}$ to avoid signal interference.