Manuals+ — User Manuals Simplified.

SUNRICHER DMX512 RDM Enabled Decoder Instruction Manual

Contents

SUNRICHER DMX512 RDM Enabled Decoder

Product Information

Product Name	Universal Series RDM Enabled DMX512 Decoder
Model Number	70060001
Input Voltage	12-48VDC
Output Current	4x5A@12-36VDC, 4×2.5A@48VDC
Output Power	4x(60-180)W@12-36VDC, 4x120W@48VDC
Remarks	Constant voltage
Size (LxWxH)	178x46x22mm

Product Usage Instructions

1. To set the desired DMX512 address:
   - Press and hold down any of the 3 buttons (A, B, or C) for over 3 seconds.
   - The digital display will flash to enter address setting mode.
   - Keep short pressing button A to set the hundreds position, button B to set the tens position, and button C to set the units position.
   - Press and hold down any button for more than 3 seconds to confirm the setting.
2. To choose the DMX channel:
   - Press and hold down both buttons B and C simultaneously for over 3 seconds.
   - The CH digital display will flash.
   - Keep short pressing button A to choose 1/2/3/4 channels.
   - Press and hold down button A for more than 3 seconds to confirm the setting.
3. To choose the dimming curve gamma value:
   - Press and hold down all buttons A, B, and C simultaneously for over 3 seconds.
   - The digital display will flash g1.0, where 1.0 represents the dimming curve gamma value.
   - Use buttons B and C to select the corresponding digits.
   - Press and hold down both buttons B and C for more than 3 seconds to confirm the setting.
4. Firmware OTA update:
   - This decoder supports firmware OTA update function.
   - The update can be executed through a Windows computer and a USB to serial port converter, connecting the computer and the decoder's hard wire DMX port.
   - Use the software RS485-OTW on the computer to push the firmware to the decoder.

Important: Read All Instructions Prior to Installation

Function introduction

DC Power input — Digital display

DMX512 Decoder

CH 1:R/WW output
CH 2:G/CW output
CH 3:B/WW output
CH4:W/CW output

2 groups DMX512 signal input & output

Manual set button
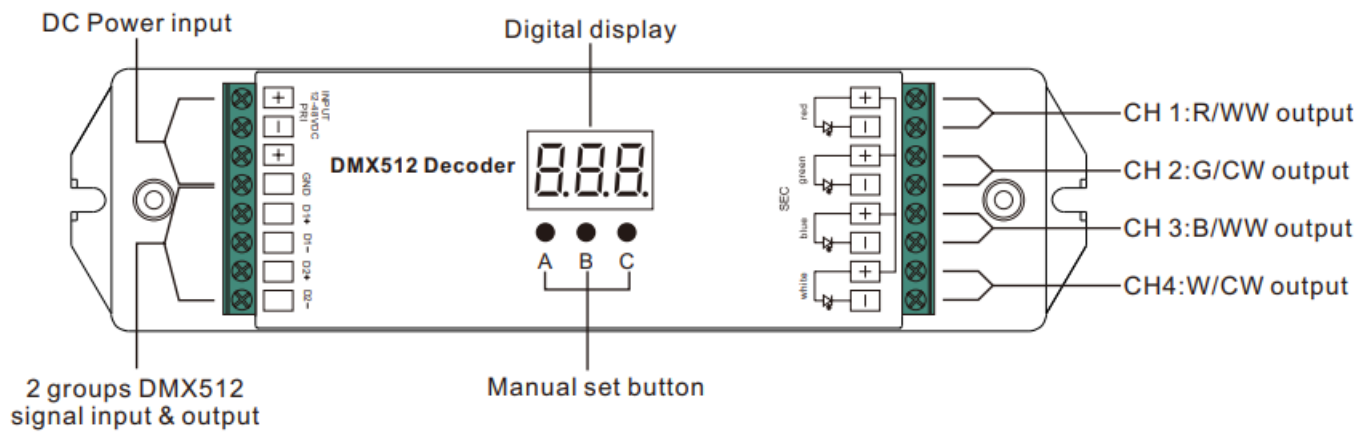
Product Data

| No.	Input Voltage	Output Current	Output Power	Remarks	Size(LxWxH)
1	12-48VDC	4x5A@12-36VDC 4×2.5A@48VDC	4x(60-180)W@12-36VDC 4x120W@48VDC	Constant voltage	178x46x22mm
2	12-48VDC	4x350mA	4x(4.2-16.8)W	Constant current	178x46x22mm
3	12-48VDC	4x700mA	4x(8.4-33.6)W	Constant current	178x46x22mm

- Standard DMX512 compliant control interface.
- Supports RDM function.
- 4 PWM output channels.
- DMX address manually settable.
- DMX channel quantity from 1CH~4CH settable.
- Output PWM frequency from 200HZ ~ 35K HZ settable.
- Output dimming curve gamma value from 0.1 ~ 9.9 settable.
- To work with power repeater to expand output power unlimitedly.
- Waterproof grade:IP20.

Safety & Warnings

- DO NOT install with power applied to device.
- DO NOT expose the device to moisture.

Operation

- To set desired DMX512 address through buttons,
- button A is to set "hundreds" position,
- button B is to set "tens" position,
- button C is to set "unit" position.
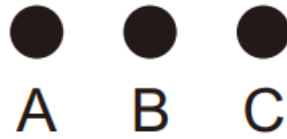
Set DMX address (Factory default DMX address is 001)
Press and hold down any of the 3 buttons for over 3 seconds, digital display flashes to enter into address setting, then keep short pressing button A to set "hundreds" position, button B to set "tens" position, button C to set "units" position, then press and hold down any button for >3 seconds to confirm the setting.

DMX signal indicator ⬤ : When DMX signal input is detected, the indicator on the display following after the

digit of "hundreds" position of DMX address turns on red [0.0.1.]. If there is no signal input, the dot indicator will not turn on, and the "hundreds" position of DMX address will flash.

Choose DMX Channel (Factory default DMX channel is 4CH)
Press and hold down both buttons B+C simultaneously for over 3 seconds, CH digital display flashes, then keep short pressing button A to choose 1/2/3/4, which means total 1/2/3/4 channels. Press and hold down button A for >3 seconds to confirm the setting. Factory default is 4 DMX channels.

For example the DMX address is already set as 001.

1. CH=1 DMX address for all the output channels, which all will be address 001.

2. CH=2 DMX addresses , output 1&3 will be address 001, output 2&4 will be address 002

3. CH=3 DMX addresses, output 1, 2 will be address 001, 002 respectively, output 3&4 will be address 003

4. CH=4 DMX addresses, output 1, 2, 3, 4 will be address 001, 002, 003, 004 respectively

Choose PWM frequency (Factory default PWM frequency is PF1 1KHz)

Press and hold down both buttons A+B simultaneously for over 3 seconds, digital display will show PF1, PF means output PWM frequency, the digit 1 will flash, which means frequency, then keep short pressing button C to select a frequency from 0-9 and A-L, which stand for following frequencies:

0=500Hz, 1=1KHz, 2=2KHz, …, 9=9KHz, A=10KHz, B=12KHz, C=14KHz, D=16KHz, E=18KHz, F=20KHz, H=25KHz, J=35KHz, L=200Hz.
Then press and hold down button C for >3 seconds to confirm the setting.

Choose Dimming Curve Gamma Value (Factory default dimming curve value is g1.0)
Press and hold down all buttons A+B+C simultaneously for over 3 seconds, digital display flashes g1.0, 1.0 means the dimming curve gamma value, the value is selectable from 0.1-9.9, then keep short pressing button B and button C to select corresponding digits, then press and hold down both buttons B+C for >3 seconds to confirm the setting.
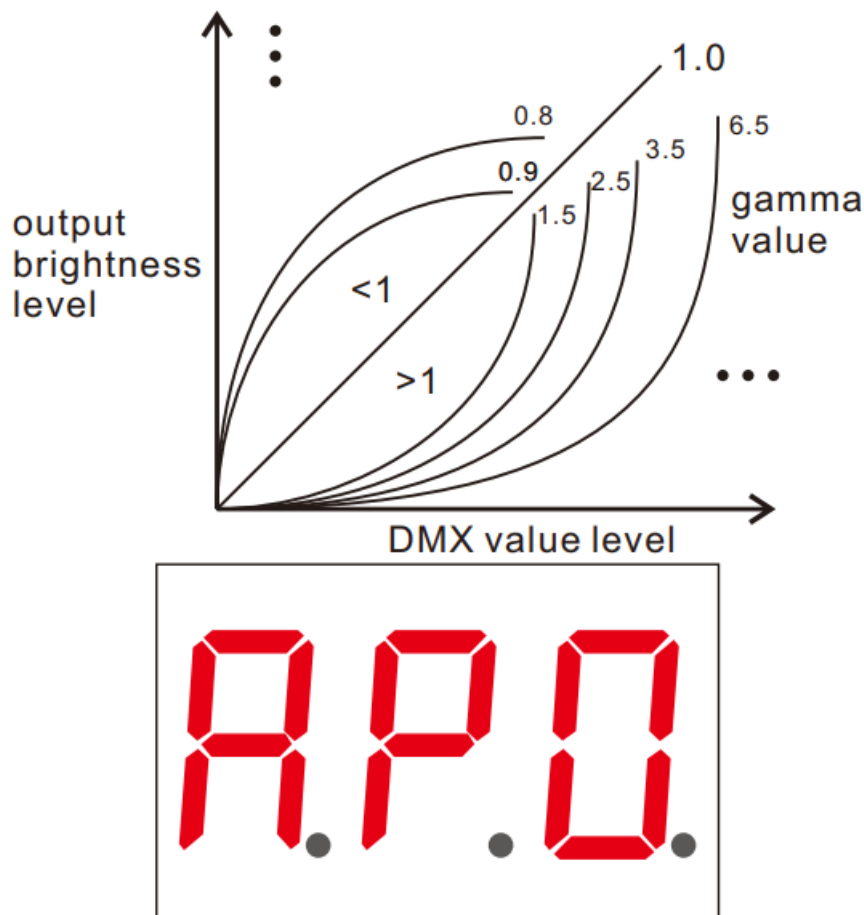
Firmware OTA update

You will get this after power on the decoder, it means this decoder supports firmware OTA update function. This function can be used when there is a firmware update from the manufacturer, the update can be executed through a Windows computer and an USB to serial port converter, the converter will connect the computer and the decoder's hard wire DMX port. A software RS485-OTW on the computer will be used to push the firmware to the decoder.

Connect the computer and the decoder through the USB to serial port converter, if you need to update multiple decoders' firmware, connect the converter to first decoder's DMX port, then connect other decoders to the first decoder in daisy chain through the DMX port. Please do not power on the decoders.

Run the OTA tool RS485-OTW on the computer, select the correct communication port "USB-SERIAL" , baudrate "250000", and data bit "9", use default settings for other configurations. Then click "file" button to select the new firmware from the computer, then click "Open Port", the firmware will be loaded. Then click "Download Firmware", the right side state column of the OTA tool will show "send link". Then power on the decoders before "wait erase" displaying on the state column, the digital display of the decoders will show **RP.1** . Then "wait erase" will show on the state column, which means the updating starts. Then the OTA tool starts writing data to the decoders, the state column will show the progress, once writing data finishes, the digital display of the decoders will flash **RP.1** , which means firmware updated successfully.

Restore to Factory Default Setting

Press and hold down both buttons A+C for over 3 seconds until the digital display turns off and then turns on again, all settings will be restored to factory default.

Default settings are as follows:

- **DMX Address:** 001
- **DMX Address Quantity:** 4CH
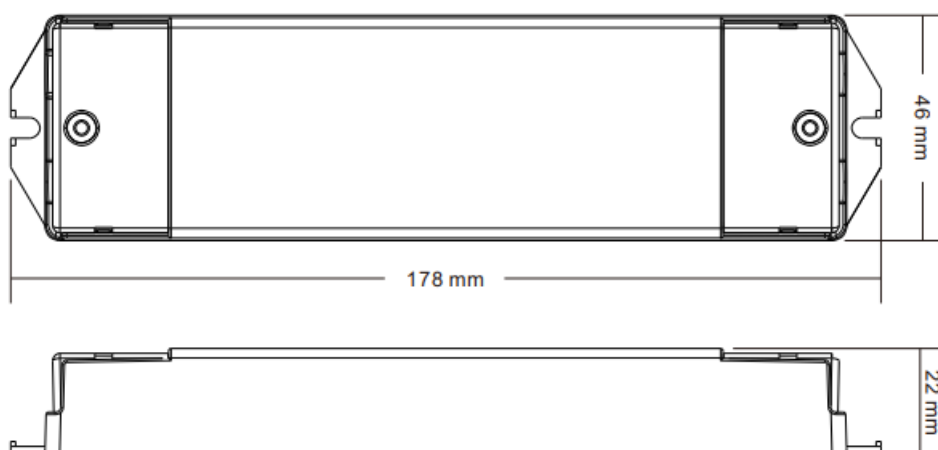- **PWM Frequency:** PF1
- **Gamma:** g1.0

RDM Discovery Indication

When using RDM to discover the device, the digital display will flash and the connected lights will also flash at the same frequency to indicate. Once the display stops flashing, the connected light also stops flashing.

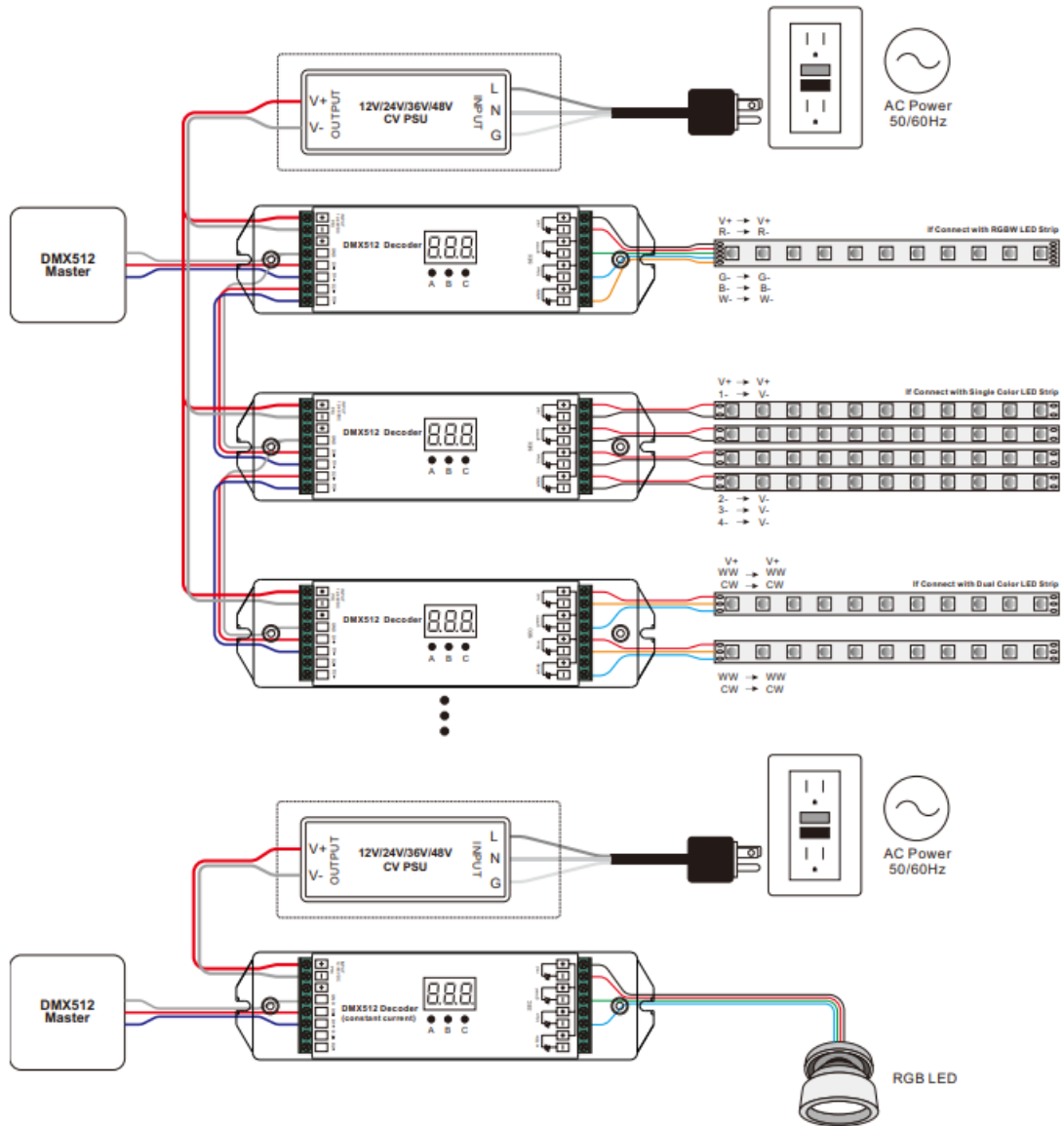**The supported RDM PIDs are as follows:**

- DISC_UNIQUE_BRANCH
- DISC_MUTE
- DISC_UN_MUTE
- DEVICE_INFO
- DMX_START_ADDRESS
- IDENTIFY_DEVICE
- SOFTWARE_VERSION_LABEL
- DMX_PERSONALITY
- DMX_PERSONALITY_DESCRIPTION
- SLOT_INFO
- SLOT_DESCRIPTION
- MANUFACTURER_LABEL
- SUPPORTED_PARAMETERS

Product Dimension

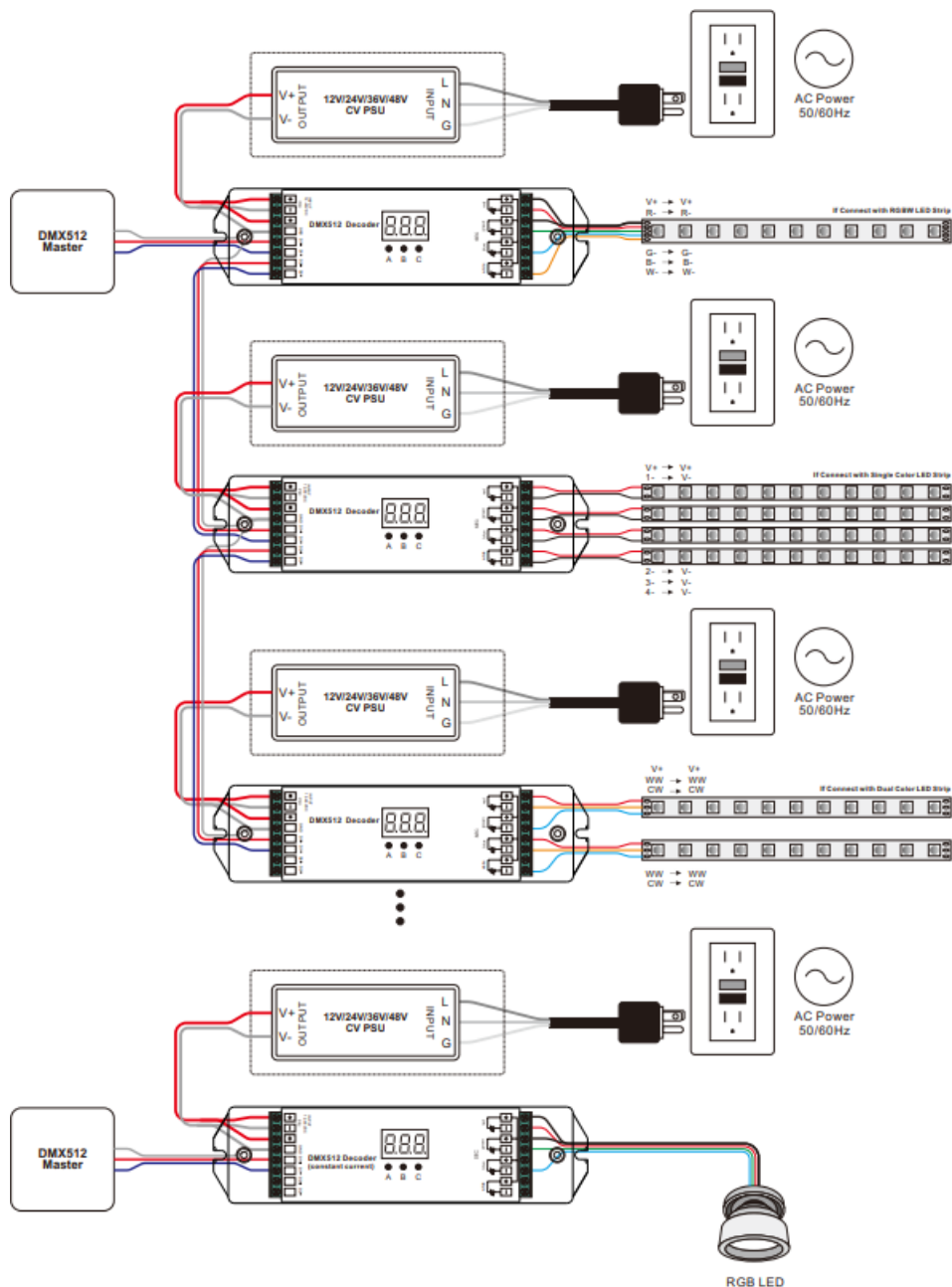## Wiring diagram

1. When total load of each receiver is not over 10A

12V/24V/36V/48V CV PSU

OUTPUT V+ V-

INPUT L N G

AC Power 50/60Hz

DMX512 Master

DMX512 Decoder A B C

V+ → V+
R- → R-
G- → G-
B- → B-
W- → W-

If Connect with RGBW LED Strip

V+ → V+
1- → V-

If Connect with Single Color LED Strip

2- → V-
3- → V-
4- → V-

V+ → V+
WW → WW
CW → CW

If Connect with Dual Color LED Strip

WW → WW
CW → CW

12V/24V/36V/48V CV PSU

OUTPUT V+ V-

INPUT L N G

AC Power 50/60Hz

DMX512 Master

DMX512 Decoder (constant current) A B C

RGB LED

If Connect with RGBW LED Strip

V+ → V+
R- → R-
G- → G-
B- → B-
W- → W-

If Connect with Single Color LED Strip

V+ → V+
1- → V-
2- → V-
3- → V-
4- → V-

If Connect with Dual Color LED Strip

V+ → V+
WW → WW
CW → CW

WW → WW
CW → CW

RGB LED

Documents / Resources

| | **[SUNRICHER DMX512 RDM Enabled Decoder](#)** [pdf] Instruction Manual
SR-2102B, SR-2112B, SR-2114B, DMX512, DMX512 RDM Enabled Decoder, RDM Enabled Decoder, Enabled Decoder, Decoder |

References

- **[User Manual](#)**