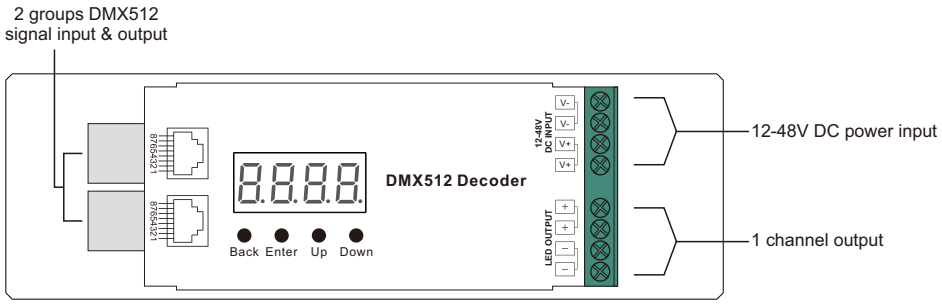
Ultra-Pro 1CH RDM DMX512 Decoder

Important: *Read All Instructions Prior to Installation*

Function introduction



Product Data

Input Voltage	Output Current	Output Power	Remarks	Size(LxWxH)
12-48VDC	20A@12-24V 10A@36-48V	480W Max.	Constant voltage	170x53.4x28mm

- DMX decoder & Master mode
- RDM function
- Digital display to show data directly, easily to set and show DMX address.
- 1 PWM output channel
- PWM output resolution ratio 8bit , 16bit settable.
- Output PWM frequency from 500HZ ~ 35K HZ settable.
- Output dimming curve gamma value from 0.1 ~ 9.9 settable.
- Short circuit protection, recover automatically
- IP20

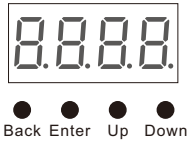
Safety & Warnings

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

Operation

Before you do other settings, please set the device to be Master or Decoder mode.
run1 = DMX Decoder mode , run2 = DMX Master mode(stand alone).

Keep on clicking Down button, to get run1 or run2, then click Enter, then click Down button to choose 1 or 2, then click Back button.
After choose run1 or run2, please power off and power on again the device.



I. For run2 DMX Master mode: After power on the device, if keep on clicking Up button, you will find below menu on display:

1.01 Means brightness for each output PWM channel. First 1 means PWM output channel 1 and it is selectable from 1 to 4 by clicking “UP” or “Down” button. Second 01 means brightness level, click “Enter” button, the display flashes, then click “UP” or “Down” button to select from 00-99-FL, which means 0%-99%-100% brightness, then click “Back” button to confirm.

2.00 No function 3.00 No function 4.00 No function

P.XXX Means programs , total 1~31 programs.(Some programs are designed for 3/4 channels decoder, so it may not show any effect in this 1 channel decoder)

b-.XX Means running effect’s brightness, total 1~8 levels brightness

SP.-X Means effect play speed. total 1~9 levels speed.

II. For run1 DMX decoder mode: After power on the decoder, if keep on clicking Up button, you will find below menu on display:

DMX signal indicator ● :: When DMX signal input is detected, the indicator on the display following after A turns on red A.XXX .

APP you will get this after power on the decoder, it means this decoder supports firmware OTA update function.

A.XXX Means DMX address. factory defaults setting is 001.

CH.XX Means DMX channels quantity. This decoder only support CH01

bt.XX Means Bit (8bit or 16bit). factory defaults setting is 16bit

PF.XX Means output PWM frequency. factory defaults setting is 10K HZ

GA.XX Means output dimming curve gamma value, factory defaults setting is ga 1.5

dP.XX Means Decoding mode, factory defaults setting is dp1.1

By holding button Back + Enter together at the same time over 5 seconds until the display go off, it will restore default settings .

1. DMX address setting:

select menu A.XXX , click button “Enter”, display flashes,then click or hold button “Up” / “Down” to set DMX address (click is slow, hold is fast.), then click button“Back” to confirm.

2. DMX channel quantity setting:

Select menu CH.XX , click button “Enter”, display flashes, then click button “Up” / “Down” to set DMX channel quantity , then click button“Back” to confirm.
CH01=Only support this parameter .
CH02: No function
CH03: No function
CH04: No function

3. PWM output resolution Bit setting:

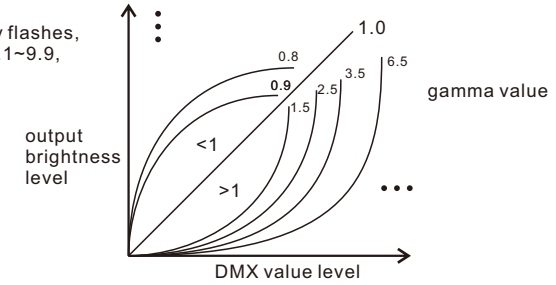
select menu bt.XX , click button “Enter”,display flashes, then click button “Up” / “Down” to choose 08 or 16 bit, then click button“Back” to confirm.

4. output PWM frequency setting:

select menu PF.XX , click button “Enter”, display flashes,then click button “Up” / “Down” to choose 00~35, then click button“Back” to confirm. 00=500HZ, 01=1kHZ, 02=2kHZ.....25=25kHZ, 35=35kHZ.

5. output dimming curve gamma value setting:

select menu GA.XX , click button “Enter”, display flashes, then click or hold button “Up” / “Down” to choose 0.1~9.9, then click button“Back” to confirm.



6. DMX decoding mode setting:

Select menu dP XX, click button “Enter”, display flashes, then click or hold button “Up” / “Down”to choose the decoding mode, then click button“Back” to confirm. ″dPxx” means the DMX address quantity used for control of corresponding PWM output channel quantity. 1st “x” is DMX address quantity, 2nd “x” is PWM channel quantity.

Fine dimming: the fine dimming effect can only be visible when the dimming curve gamma value is set 1.4, and the lower the value is, the more visible the fine dimming effect will be.

DMX address is 001, CH01

dP Setting	Describe	Example
dp1.1	Use 1 console slider to control 1 DMX address	Slider 1= All output dimming
dp2.1	Use 2 console sliders to control 1 DMX address	Slider 1= All output dimming, Slider 2= All output fine dimming

7. Firmware OTA update:

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 APP . 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 APP , which means firmware updated successfully.

The data definitions for strobe channel are as follows:

{0, 7},//undefined
{8, 65},//slow strobe-->fast strobe
{66, 71},//undefined
{72, 127},//slow push fast close
{128, 133},//undefined
{134, 189},//slow close fast push
{190, 195},//undefined
{196, 250},//random strobe
{251, 255},//undefined

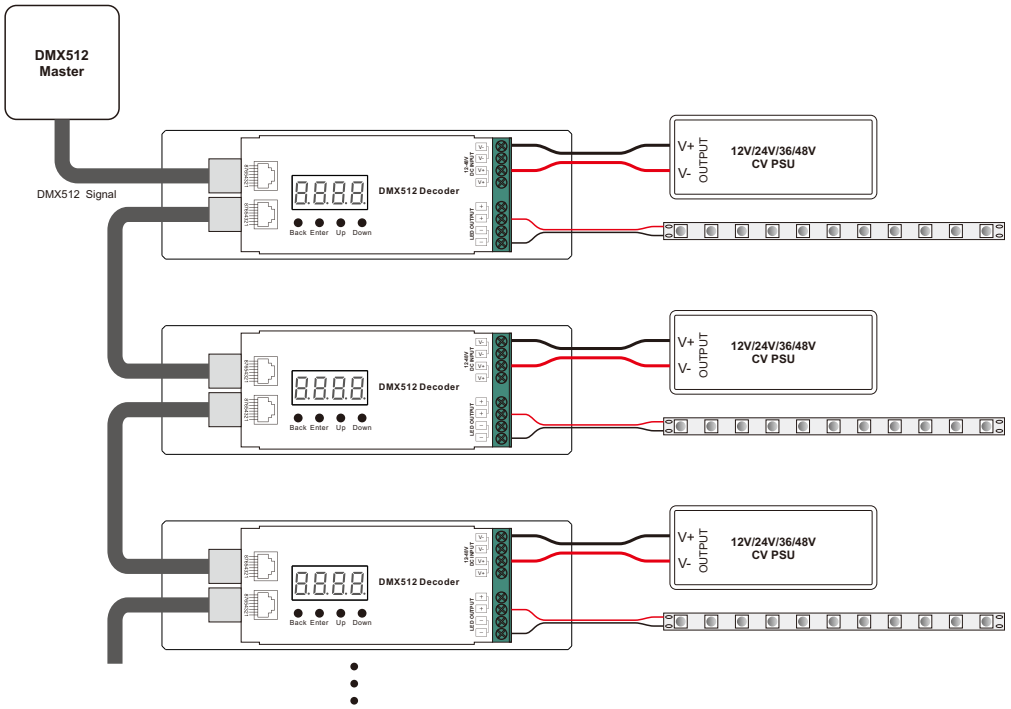
The supported RDM PIDs are as follows:

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
MODULATION_FREQUENCY
MODULATION_FREQUENCY_DESCRIPTION
CURVE
CURVE_DESCRIPTION

Restore to Factory Default Setting

Press and hold down both “Back” and “Enter” keys until the digital display turns off, then release the keys, system will reset and the digital display will turn on again, all settings will be restored to factory default.
Default settings are as follows:
DMX Address Code: a001
DMX Address Quantity: SW1=0: ch04, SW1=1: ch03
PWM Resolution Mode: bt16
PWM Frequency: pf01
Gamma: ga1.5
Decoding Mode: dp1.1

Wiring Diagram



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.

Product Dimension

