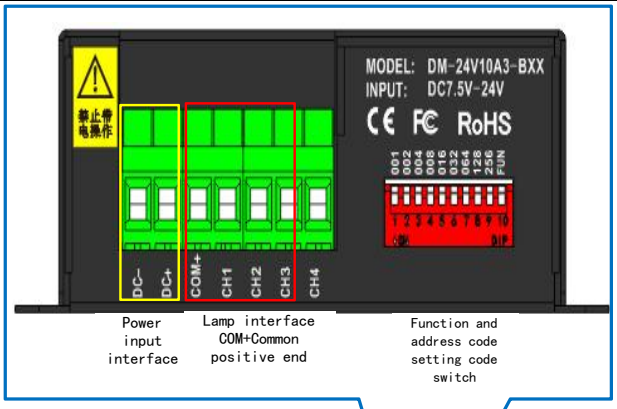
◆ Product characteristics

- The decoder complies with DMX512 international standard protocol
- With lamp color adjustment mechanism, RGB 3 primary color lamps can be controlled
- RS485 signal conversion circuit with protection
- Overtemperature protection
- Calibrate level 256 gray to level 65536, correction coefficient: gamma 2.4
- The port refresh frequency is up to 4K
- Decoder channel address is set freely
- Modular design, flexible combination
- Can be used offline as the main control
- Enhanced low ash change smooth

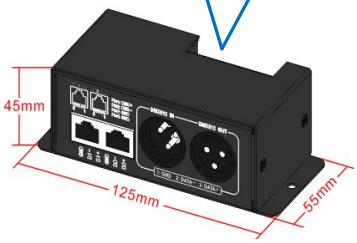


※ Matters needing attention:

1. For fire safety, please use V0 flame retardant grade housing and Potting glue is used with bare plate!
2. Please connect the power cable and lamp cable before turning on the power switch. Live operation may damage the product。
3. Do not reverse connect the positive and negative terminals of the power input!

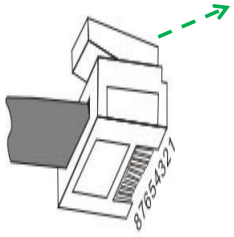
◆ Technical parameter

- **Module channel:** Each decoder occupies 3 continuous channels, providing a total of 1~512 address code optional
- **Output gray scale:** Level 256 correction to level 65536, correction coefficient : gamma 2.4
- **Power output:** MAX 10A/channel
- **Power supply:** Dc 7.5V ~ 24V (depending on load)
- **Module size:** 125L*55W*45H(mm)
- **Module net weight:** 270g



◆Environmental specification

- **Operating temperature:** -25℃~65℃
- **Storage temperature:** -40℃~ 80℃
- **Ambient humidity:** 10% ~ 95%RH
- **Cooling method:** Natural air cooling heat dissipation



RJ45 plug

◆ Wiring diagram

DMX Signal connection:

standard: The first kind: 3P Canon interpolation, Pin1 connected to ground, Pin2 connected to D-, Pin3 connected to D+。

The second kind: 8-core network cable base, Pin1 connected to D+, Pin2 connected to D-, Pin7、Pin8 connected to ground。

※ Network cable interface and Canon interface are the same signal (choose one of two)

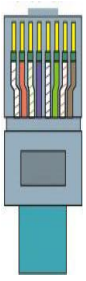
3P Canon interpolation:

* The male port (DMX512 IN) is the receiving end, which receives the DMX signal from the console.
* The female port (DMX512 OUT) is the transmitting end and connects to the male port of other decoders.

8-core network cable base:

* The left side is the receiving end (DMX IN), the right side is the transmitting end (DMX OUT),

12345678



RJ45 network cable plug T568B wire sequence of

Drive output connection:

standard: Use Positive terminal drive togethe, One V+ interface and 3 channels;

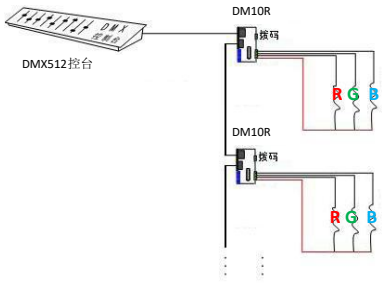
Connection method: The main line of the lamp module and the lamp control line are connected to the corresponding pin position of the decoder (as shown in the picture on the right);

identification: COM+Use Positive terminal drive togethe, CH1 is R, CH2 is G, CH3 is B, and CH4 is not connected.

Power supply connection:

Connection method: Dc power supply positive and negative connections to the decoder corresponding positive and negative pins.

identification: DC- indicates GND, and DC+ indicates VCC



◆ Module address setting

1、The address range is from 1 to 512. A maximum of 170 modules with different addresses can be configured;

2、When the 9th and 10th positions of the dip switch are ON simultaneously (▼), the control mode is entered;

3、No more than two masters exist on the same network;

4、Dip switches are combined into different addresses in binary mode。

example:

1	2	4	8	16	32	64	128	256	512	Binary value	
No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	Address code	Binary algorithm
△	▼	△	▼	△	△	△	△	△	△	**10**	2+8
▼	△	△	△	△	▼	▼	△	△	△	**97**	1+32+64

Note: The pull out switch is △ in the horizontal direction (i.e. OFF), and ▼ in the downward direction (i.e. ON).

5、Module address setting reference list: (Dip switch status: The number indicates that the corresponding position is turned down, and x indicates that the corresponding position is not turned down horizontally)

The status of the dial switch in the left figure is：

1xxxxxxxxx

module number	Address code	binary	Dip switch status(The number indicates that the corresponding position is dialed downward)
1	1	0000000001	1xxxxxxxxx
2	4	0000000100	xx3xxxxxxx
3	7	0000000111	123xxxxxxx
4	10	0000001010	x2x4xxxxxx
5	13	0000001101	1x34xxxxxx
6	16	0000010000	xxxx5xxxxx
7	19	0000010011	12xx5xxxxx
8	22	0000010110	x23x5xxxxx
9	25	0000011001	1xx45xxxxx
10	28	0000011100	xx345xxxxx
11	31	0000011111	12345xxxxx
12	34	0000100010	x2xxx6xxxx
13	37	0000100101	1x3xx6xxxx
14	40	0000101000	xxx4x6xxxx
15	43	0000101011	12x4x6xxxx
16	46	0000101110	x234x6xxxx
17	49	0000110001	1xxx56xxxx
18	52	0000110100	xx3x56xxxx
19	55	0000110111	123x56xxxx
20	58	0000111010	x2x456xxxx
21	61	0000111101	1x3456xxxx
22	64	0001000000	xxxxxx7xxx
23	67	0001000011	12xxxx7xxx
24	70	0001000110	x23xxx7xxx
25	73	0001001001	1xx4xx7xxx
26	76	0001001100	xx34xx7xxx
27	79	0001001111	1234xx7xxx
28	82	0001010010	x2xx5x7xxx
29	85	0001010101	1x3x5x7xxx
30	88	0001011000	xxx45x7xxx
31	91	0001011011	12x45x7xxx
32	94	0001011110	x2345x7xxx
33	97	0001100001	1xxxx67xxx
34	100	0001100100	xx3xx67xxx
35	103	0001100111	123xx67xxx
36	106	0001101010	x2x4x67xxx
37	109	0001101101	1x34x67xxx
38	112	0001110000	xxxx567xxx
39	115	0001110011	12xx567xxx
40	118	0001110110	x23x567xxx
41	121	0001111001	1xx4567xxx
42	124	0001111100	xx34567xxx
43	127	0001111111	1234567xxx
44	130	0010000010	x2xxxxx8xx
45	133	0010000101	1x3xxxx8xx
46	136	0010001000	xxx4xxx8xx
47	139	0010001011	12x4xxx8xx
48	142	0010001110	x234xxx8xx
49	145	0010010001	1xxx5xx8xx
50	148	0010010100	xx3x5xx8xx
51	151	0010010111	123x5xx8xx
52	154	0010011010	x2x45xx8xx
53	157	0010011101	1x345xx8xx
54	160	0010100000	xxxxx6x8xx
55	163	0010100011	12xxx6x8xx
56	166	0010100110	x23xx6x8xx
57	169	0010101001	1xx4x6x8xx
58	172	0010101100	xx34x6x8xx
59	175	0010101111	1234x6x8xx
60	178	0010110010	x2xx56x8xx
61	181	0010110101	1x3x56x8xx
62	184	0010111000	xxx456x8xx
63	187	0010111011	12x456x8xx
64	190	0010111110	x23456x8xx
65	193	0011000001	1xxxxx78xx
66	196	0011000100	xx3xxx78xx
67	199	0011000111	123xxx78xx
68	202	0011001010	x2x4xx78xx
69	205	0011001101	1x34xx78xx
70	208	0011010000	xxxx5x78xx
71	211	0011010011	12xx5x78xx
72	214	0011010110	x23x5x78xx
73	217	0011011001	1xx45x78xx
74	220	0011011100	xx345x78xx
75	223	0011011111	12345x78xx
76	226	0011100010	x2xxx678xx
77	229	0011100101	1x3xx678xx
78	232	0011101000	xxx4x678xx
79	235	0011101011	12x4x678xx
80	238	0011101110	x234x678xx
81	241	0011110001	1xxx5678xx
82	244	0011110100	xx3x5678xx
83	247	0011110111	123x5678xx
84	250	0011111010	x2x45678xx
85	253	0011111101	1x345678xx
86	256	0100000000	xxxxxxxx9x
87	259	0100000011	12xxxxxx9x
88	262	0100000110	x23xxxxx9x
89	265	0100001001	1xx4xxxx9x
90	268	0100001100	xx34xxxx9x
91	271	0100001111	1234xxxx9x
92	274	0100010010	x2xx5xxx9x
93	277	0100010101	1x3x5xxx9x
94	280	0100011000	xxx45xxx9x
95	283	0100011011	12x45xxx9x
96	286	0100011110	x2345xxx9x
97	289	0100100001	1xxxx6xx9x
98	292	0100100100	xx3xx6xx9x
99	295	0100100111	123xx6xx9x
100	298	0100101010	x2x4x6xx9x
101	301	0100101101	1x34x6xx9x
102	304	0100110000	xxxx56xx9x
103	307	0100110011	12xx56xx9x
104	310	0100110110	x23x56xx9x
105	313	0100111001	1xx456xx9x
106	316	0100111100	xx3456xx9x
107	319	0100111111	123456xx9x
108	322	0101000010	x2xxxx7x9x
109	325	0101000101	1x3xxx7x9x
110	328	0101001000	xxx4xx7x9x
111	331	0101001011	12x4xx7x9x
112	334	0101001110	x234xx7x9x
113	337	0101010001	1xxx5x7x9x
114	340	0101010100	xx3x5x7x9x
115	343	0101010111	123x5x7x9x
116	346	0101011010	x2x45x7x9x
117	349	0101011101	1x345x7x9x
118	352	0101100000	xxxxx67x9x
119	355	0101100011	12xxx67x9x
120	358	0101100110	x23xx67x9x
121	361	0101101001	1xx4x67x9x
122	364	0101101100	xx34x67x9x
123	367	0101101111	1234x67x9x
124	370	0101110010	x2xx567x9x
125	373	0101110101	1x3x567x9x
126	376	0101111000	xxx4567x9x
127	379	0101111011	12x4567x9x
128	382	0101111110	x234567x9x
129	385	0110000001	1xxxxxx89x
130	388	0110000100	xx3xxxx89x
131	391	0110000111	123xxxx89x
132	394	0110001010	x2x4xxx89x
133	397	0110001101	1x34xxx89x
134	400	0110010000	xxxx5xx89x
135	403	0110010011	12xx5xx89x
136	406	0110010110	x23x5xx89x
137	409	0110011001	1xx45xx89x
138	412	0110011100	xx345xx89x
139	415	0110011111	12345xx89x
140	418	0110100010	x2xxx6x89x
141	421	0110100101	1x3xx6x89x
142	424	0110101000	xxx4x6x89x
143	427	0110101011	12x4x6x89x
144	430	0110101110	x234x6x89x
145	433	0110110001	1xxx56x89x
146	436	0110110100	xx3x56x89x
147	439	0110110111	123x56x89x
148	442	0110111010	x2x456x89x
149	445	0110111101	1x3456x89x
150	448	0111000000	xxxxxx789x
151	451	0111000011	12xxxx789x
152	454	0111000110	x23xxx789x
153	457	0111001001	1xx4xx789x
154	460	0111001100	xx34xx789x
155	463	0111001111	1234xx789x
156	466	0111010010	x2xx5x789x
157	469	0111010101	1x3x5x789x
158	472	0111011000	xxx45x789x
159	475	0111011011	12x45x789x
160	478	0111011110	x2345x789x
161	481	0111100001	1xxxx6789x
162	484	0111100100	xx3xx6789x
163	487	0111100111	123xx6789x
164	490	0111101010	x2x4x6789x
165	493	0111101101	1x34x6789x
166	496	0111110000	xxxx56789x
167	499	0111110011	12xx56789x
168	502	0111110110	x23x56789x
169	505	0111111001	1xx456789x
170	508	0111111100	xx3456789x

◆ Operation method

Controlled mode

1、 When the module sets the address range from 1 to 512, it enters the controlled mode. The module is controlled by the main control of DMX512, and various effects can be set through the main control console.

2、 Since each module occupies three channels, pay attention to the allocation of addresses.
example: If the first module address is 10, then the next one is 10+3=13, the one after that is 13+3=16, and so on.

Master control mode

1、 When the 9th and 10th positions of the dip switch are ON at the same time, they enter the main control mode.

No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	effect
								▼	▼	**black**

2、 * The main control mode can choose from a variety of effects such as 7-color fixed, ststrobe, jump, gradient, full-color water, 7-color trailing, 8-color water or fading.
* The main control mode can output 192 channels, that is, it can control 64 DM10Rs at different addresses, because the effect of flow or tailing is based on 48 points.
* For projects with more than 64 points, you can repeatedly set the address to a unit every 48 points, so that the flow effect can be smoothly connected.
* As the main control, in order to increase the driving capacity, need to add DMX512 amplifier.

3、 Master mode status, dip switch NO.7 and No.8 used to select the effect.

The first, second and third position of the dip switch is the color selection R, G, B, respectively.
You can choose the desired color in the fixed color, stroboscopic and dimming state.

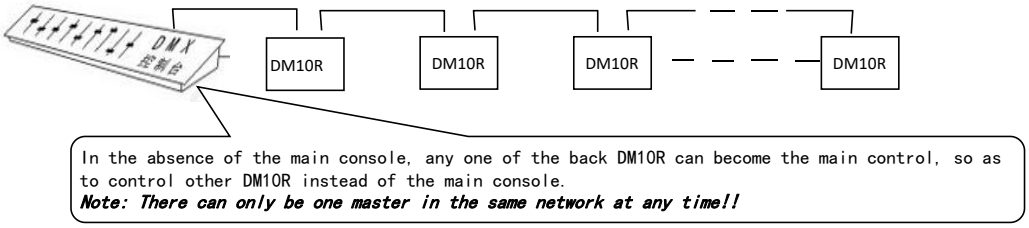
No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	effect
▼	△	△	△	△		△	△	▼	▼	The red light stayed on.
△	▼	△	△	△		△	△	▼	▼	The Green light stayed on.
△	△	▼	△	△		△	△	▼	▼	The blue light stayed on.
▼	▼	△	△	△		△	△	▼	▼	The yellow light stayed on.
△	▼	▼	△	△		△	△	▼	▼	The cyan light stayed on.
▼	△	▼	△	△		△	△	▼	▼	The purple light stayed on.
▼	▼	▼	△	△		△	△	▼	▼	The white light stayed on.
▼	△	△	△	▼		△	△	▼	▼	The Red light flashing
△	▼	△	△	▼		△	△	▼	▼	The Green light flashing
△	△	▼	△	▼		△	△	▼	▼	The blue light flashing
▼	▼	△	△	▼		△	△	▼	▼	The yellow light flashing
△	▼	▼	△	▼		△	△	▼	▼	The cyan light flashing
▼	△	▼	△	▼		△	△	▼	▼	The purple light flashing
▼	▼	▼	△	▼		△	△	▼	▼	The white light flashing
△	△	△	△	▼		△	▼	▼	▼	All lights slow change
▼	△	△	△	▼		△	▼	▼	▼	Full color flowing water
△	▼	△	△	▼		△	▼	▼	▼	7-color tails
△	△	▼	△	▼		△	▼	▼	▼	8-color Flowing water
▼	△	△	△	▼		▼	▼	▼	▼	The red light slowly brightens and darks again and again
△	▼	△	△	▼		▼	▼	▼	▼	The green light slowly brightens and darks again and again
△	△	▼	△	▼		▼	▼	▼	▼	The blue light slowly brightens and darks again and again
▼	▼	△	△	▼		▼	▼	▼	▼	The yellow light slowly brightens and darks again and again
△	▼	▼	△	▼		▼	▼	▼	▼	The cyan light slowly brightens and darks again and again
▼	△	▼	△	▼		▼	▼	▼	▼	The purple light slowly brightens and darks again and again
▼	▼	▼	△	▼		▼	▼	▼	▼	The white light slowly brightens and darks again and again
Switch ignore				▼		▼	△	▼	▼	All the lights were flashing fast

The fourth dip switch is ignored

5、The fifth and sixth bits of the dip switch are used to select the time, and there are three speed options.

	No.5	No.6	time	description
Time control display	△	△	fast ∨ slow	stop
	▼	△		1
	△	▼		2
	▼	▼		3

6、The first, second and third position of the dip switch is the color selection R, G, B, respectively. You can choose the desired color in the fixed color, stroboscopic and dimming state.



In the absence of the main console, any one of the back DM10R can become the main control, so as to control other DM10R instead of the main console.
Note: There can only be one master in the same network at any time!!

◆ Matters needing attention

1、This product must be commissioned and installed by qualified personnel.
2、The diameter of the wire used must be sufficient to load the connected LED lamps and ensure that the wiring is strong.
3、The total length of the cable between the switching power supply and this product and this product to the lamp should be less than 10 meters to avoid damage to this product.
4、Live operation is prohibited. Before power commissioning, ensure that all wiring is correct to avoid damage to the product and the lamp due to wiring errors.
5、This product can not be waterproof, to avoid the sun and rain, if installed outdoors, please use waterproof water tank.
6、Good heat dissipation conditions will extend the service life of the LED controller, please install the product in a well-ventilated environment.
7、Please use a high-quality switching power supply to check whether the output voltage of the LED power supply used meets the requirements of the product voltage range.
8、If your found a fault, please don't repair it.If in doubt, pless contact the supplier
9、For fire safety, use a fire-retardant grade V0 housing and potting adhesive with the bare plate.