



LD100 coach lights manual  
Ver. 701

## 1. Features

- I. The LED provides seven groups of outputs. The main light has 10 LEDs built in 5 groups. Each group has 2 LEDs. Each group can be individually lit by the Fx. In addition, it provides the front and rear taillight LED connection points.
- II. LED brightness can be divided into 40 steps, each group can adjust the brightness alone.
- III. There are two types of LED lighting in the compartment. Simulate fluorescent lamp and tungsten lamp.
- IV. Taillight LED provides tungsten light and warning flash.
- V. Support address number 1~9999.
- VI. Support DC and DCC digital system control lights (1).
- VII. Reserve a large capacitor interface can be directly connected to the capacitor. To prevent poor contact with the wheel.
- VIII. Supports N , HO scale.
- IX. Size 240mm x 9.4mm x 3mm. Length can be cut to 19cm, 10cm according to the length of the vehicle.

Note (1). The use of DC system control will directly light the LED. It cannot be controlled separately.

## 2. Connection method

- I. PIN1 (dark red) LED negative terminal, PIN5 (purple) LED positive terminal, PIN 2, 3 (violet, orange) track power input, PIN4 (black) capacitor negative terminal, PIN5 (red) capacitor positive terminal.

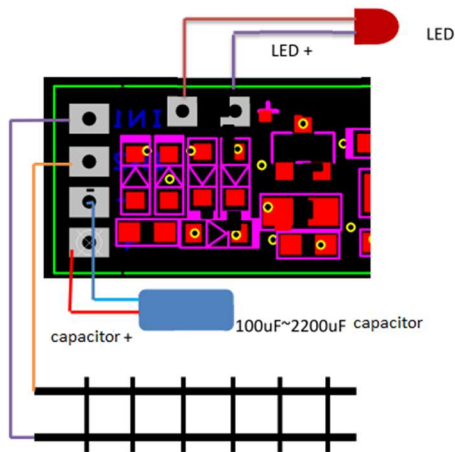
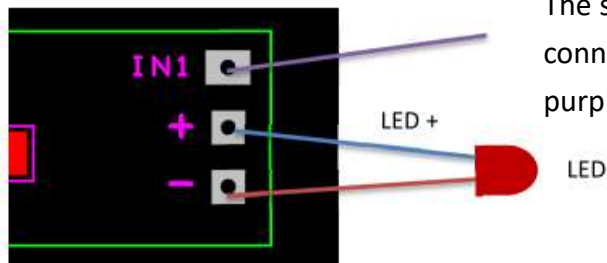


圖 1

II. Taillight LED wiring, LED negative (blue), LED positive (red).



The same track power supply can be connected to the PIN in Figure 1 with the purple line.

III. Front and rear tail lights can be connected in series with 2 LEDs.

### 3. Fx Features

Fx	Instructions
F0	The taillights are turned on. The front and rear taillights are switched according to the direction.
F1	The first group of lights turns on.
F2	The second group of lights turns on.
F3	The third group of lights turns on.
F4	The fourth group of lights turns on.
F5	The fifth group of lights turns on.
F6	The first group to the fifth group open at the same time.
F7	Randomly light the first group to the fifth group.

## 4. CV

CV	Instructions	Range	Reset
1	Short address	1~127	3
7	Version		4
8	Reset the decoder	8	164(drM number)
17	Extension Address hi	-	192
18	Extension Address low	-	127
29	Bit0 Switch taillight direction Bit 5 Select short address or extension address	Bit0 0 :Normal.1 :Reverse Bit5 0 :short.1 :extension	2
33 ~ 46	Refer to function mapping description		33: 1 34: 2 35: 4 36: 8 37: 16 38: 4 39: 8 40: 16 41: 32 42: 0 43: 0 44: 0 45: 0 46: 0
57	Lights mode	1(tungsten lamp) 2(fluorescent lamp) The single digits are for the light effect selection of the compartment lights. The ten digits are for the light effect selection of the front and rear lights	12

58	The first group of lamp brightness. The higher the number, the brighter the brightness. 0 can turn off the LED.	0~15	15
59	The second group of lamp brightness. The higher the number, the brighter the brightness. 0 can turn off the LED.	0~15	15
60	The third group of lamp brightness. The higher the number, the brighter the brightness. 0 can turn off the LED.	0~15	15
61	The fourth group of lamp brightness. The higher the number, the brighter the brightness. 0 can turn off the LED.	0~15	15
62	The fifth group of lamp brightness. The higher the number, the brighter the brightness. 0 can turn off the LED.	0~15	15
63	Header light, The higher the number, the brighter the brightness. 0 can turn off the LED.	0~15	15
64	Trail light, The higher the number, the brighter the brightness. 0 can turn off the LED.	0~15	15
105	User defined CV1	0~255	0
106	User defined CV2	0~255	0
107	Ack	1:Enable Ack,0:Disable	1

		Ack	
108	Header/Trail light	0: Trail 1: Extension(F0) 2: Extension(F5)	0

Table 1

### 5. function mapping description

CV							All 2	All 1	AUX 5	AUX 4	AUX 3	AUX 2	AUX 1	FR	FF
33								0	0	0	0	0	0	0	1
34								0	0	0	0	0	0	1	0
35								0	0	0	0	0	1	0	0
36								0	0	0	0	1	0	0	0
37								0	0	0	1	0	0	0	0
38				0	0	0	0	0	0	1	0	0			
39				0	0	0	0	0	1	0	0	0			
40				0	0	0	1	0	0	0	0	0			
41				0	0	1	0	0	0	0	0	0			
42		0	0	0	0	0	0	0	0						
43		0	0	0	0	0	0	0	0						
44		0	0	0	0	0	0	0	0						
45		0	0	0	0	0	0	0	0						
46		0	0	0	0	0	0	0	0						

- I. CV33 corresponds to F0 forward, CV34 corresponds to F0 retrograde, CV35 corresponds to F1, CV36 corresponds to F2, CV37 corresponds to F3, CV38 corresponds to F4, CV39 corresponds to F5, CV40 corresponds to F6, and CV41 corresponds to F7.
- II. FF corresponds to the front light output, FR corresponds to the tail light output, AUX1 corresponds to the first group output, AUX2 corresponds to the second group output, AUX3 corresponds to the third group output, AUX4 corresponds to the fourth group output, AUX5 corresponds to the fifth group output. All 1 means 1~5 groups light up, full light. All 2 means

- 1~5 groups light up randomly.
- III. Fx mapping needs to be adjusted, first find the corresponding CV value, and set the required output cross point to 1.
  - IV. For example, when you press F1, the headlight and the first group of lights are on, you need to fill in 5 in CV35 (the table corresponds to 00000101)
  - V. V. The conversion method of the corresponding value in the table is 1, 2, 4, 8, 16, 32, 64, 128 from the right to the left. The sum of the positions where 1 appears is the decimal value to be filled.  $+4=5$ .
  - VI. VI. The colored areas represent valid and can correspond.

## 6. CV write

- I. Direct Mode
  - i. Write CV value, please select Direct mode or Page mode on the controller to write CV value.
  - ii. When writing different CV values, please wait 2 seconds.
  - iii. Please refer to Table 1 for the range of CV value.
  - iv. POM mode not supported.

## 7. Reset decoder

- I. I. To restore the original factory settings, please write the value 8 at CV address 8, the chip will reply to the original factory settings after completion, please refer to Table 1.

## 8. Precautions

- I. Do not short-circuit any wire when wiring, so as not to burn the decoder.
- II. Do not exceed DC20V DC power supply.
- III. DCC Digital System Support N, HO scale. Please do not connect to the 1 and G scale.
- IV. Do not replace the parts on the PCB.
- V. Use 100uF~2200uF for the external capacitor. Use a capacitor with a withstand voltage of 35V or more. The capacitance will be modified according to the condition of the vehicle.
- VI. Do not use more than 20mA of external LED.

VII. This product is not a toy. Do not use it under the age of 14.