



## LC202 LocoCruiser™ Standard decoder

Easy to Install : Without NMRA 8 pin plug

Easy to control : Accept each DCC command station control

Easy to Programming : Use separate track to program your locomotive number.

Dimensions : Length: 1.1 "(28 mm) Width: 0.6" (15 mm) Thickness: 0.2" (5 mm)

DCC standard decoder suitable size for HO scale locomotives.

Motor current 1.5 Amp continuous and 2 Amp peak

Motor overload protect adjustable.

6x 100mA function outputs.

Back-EMF with silent motor control

28 step adjustable speed table / Support long address

Advanced consist address setting

Supports running also in DC environment

Function remapping for each output

Braking function adjustable

### CV adjustment instructions

CV	Function	Default	Range	Record your number in here
1	Primary Address	3	1-127	
2	Start Voltage	1	1-255	
3	Acceleration	5	0-255	
4	Deceleration	5	0-255	
5	Maximum Speed	0	0-255	
6	Medium Speed	0	0-255	
7	Version Number	201	<b>Read Only</b>	
8	Manufacturer ID	45	<b>Read Only</b> (CV8=8 is reset)	
10	EMF Feedback Cutout	128	1-128	
11	Packet time-out Value	25	0-255	
17	Extended Address Low byte	192	192-231	

18	Extended Address High byte	0	0-255	
19	Consist address	0	0-255	
21	Consist Address Active for F1-F8	0	0-255	
22	Consist Address Active for FL and F9-F12	0	0-255	
29	Configurations Supported	6	0-255	

### CV29 Decoder Configuration

Bit	Function	Default	Range	Record your number in here
Bit 0	Locomotive Direction	0	0,1	
Bit 1	FL location	2	0,2	
Bit 2	14 or 28/128 speed steps	4	0,4	
Bit 4	Speed Table	0	0,16	
Bit 5	Long address	0	0,32	

### Adjustable 28 step Speed table

CV	Function	Default
67	Speed Table 1	1
68	Speed Table 2	6
69	Speed Table 3	12
70	Speed Table 4	16
71	Speed Table 5	20
72	Speed Table 6	24
73	Speed Table 7	28
74	Speed Table 8	32
75	Speed Table 9	36
76	Speed Table 10	42
77	Speed Table 11	48
78	Speed Table 12	54
79	Speed Table 13	60
80	Speed Table 14	68

81	Speed Table 15	76
82	Speed Table 16	84
83	Speed Table 17	92
84	Speed Table 18	102
85	Speed Table 19	112
86	Speed Table 20	124
87	Speed Table 21	136
88	Speed Table 22	152
89	Speed Table 23	168
90	Speed Table 24	188
91	Speed Table 25	208
92	Speed Table 26	230
93	Speed Table 27	252
94	Speed Table 28	255

CV8=8 is reset. It will go back to factory default value for all CV.

## Function output mapping

33	F0F (on/off)	1	1, 2, 4, 8, 16, 32, 128	
34	F0R(on/off)	2		
35	F1(on/off)	4		
36	F2(on/off)	8		
37	F3(on/off)	16		
38	F4(on/off)	4		This value is different with F1

Value =4 control by F1  
 Value =8 control by F2  
 Value =16 control by F3

Value =1 control by F0  
 Value =128, always light on.

## Light effect

49	FOF light effect	16	0-255	
50	FOR light effect	8	0-255	
51	F1 light effect	0	0-255	
52	F2 light effect	0	0-255	
53	F3 light effect	0	0-255	
54	F4 light effect	0	0-255	

CV=0 Light on

CV=2 Strobe

CV=4 Mars Light

CV=8 Reverse direction

CV=16 Forward direction

CV=32 1/4 sec flashing **(A)** *(this two effect design for ditch light)*

CV=64 1/4 sec flashing **(B)**

CV=36 firebox

CV=69 warning light

CV=128 1/2 sec flashing

Other value always light off

***These effects can be added together. (See below)***

When you connect two function outputs to become ditch light, please use CV=32 and CV64 in different output. It will become a ditch light with a prototypical flashing effect.

## Special function

Function	Function Key	CV	Default value
Motor braking	F7	63	5
Motor overload protect	---	64	60 (1.2 Amp)

CV63 adjusts motor braking time  
CV64 adjusts motor overload amp

### **Wiring**

The decoder is supplied without an 8-pin DCC plug. NMRA DCC Standard Colours and Connections

<b>Pin No.</b>	<b>Colour</b>	<b>Details</b>
1	Orange	Motor +
2	Yellow	Rear Light -
3	Empty	Empty
4	Black	Left Rail
5	Gray	Motor -
6	White	Front light -
7	Blue	Function Common +
8	Red	Right Rail

We have a special design for modeller function output. You can connect LED directly to F1 ~ F4 function output. It will save having to add extra resistors.

You can get more installation detail and description about this decoder on the ANE website - [www.anemodel.com](http://www.anemodel.com).

### **Warranty & Repair Information**

At ANE Model we value our customers. Customer satisfaction is our primary goal. This is why every decoder has been tried and tested thoroughly. ANE Model will also replace any control board for free within 90 days after purchasing. If there is any problem, please see our website [www.anemodel.com](http://www.anemodel.com) for more information about warranty and repair policies and procedures.

At ANE Model's sole discretion, it will repair, replace or refund the purchase price.

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