DMG electech
DMG Technical Limited

ET201 - 6

Easy to install: With NMRA 8 pin plug
Easy to control: Accepts NMRA DCC command station control
Easy to Program: Use separate track to program your locomotive number

Dimensions: Length 1.1” (28mm) Width 0.6” (15.5mm) Thickness 0.2” (5mm)
DCC standard decoder suitable size for HO / OO scale locomotives
Motor current 1.5 Amp continuous and 2 Amp peak
Motor overload protection is adjustable
6 x 100mA function outputs (including front light and rear light 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 Number 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	***Read Only***	
**8	Manufacturer ID	45	***Read Only*** (CV8=8 is reset)	
10	EMF Feedback Cut-out	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 – 127	
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	

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

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CV29 Decoder Configuration

Bit	Function	Default	Range	Record Number Here
Bit 0	Locomotive Direction	0	0,1	
Bit 1	14 or 28/128 speed steps	2	0,2	
Bit 2	Analog Operation	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

CV	Function	Default
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

Function output mapping

33	FOF (on/off)	1	1, 2, 4, 8, 16, 32, 128	
34	FOR (on/off)	2		
35	F1 (on/off)	4		
36	F2 (on/off)	8		

Value = 1 control by F1
Value = 2 control by F2
Value = 16 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	

CV = 0 Light on
CV = 2 Strobe
CV = 4 Mars light
CV = 8 Reverse Direction
CV = 16 Forward direction
CV = 32 ¼ sec flashing *(A) (this two-effect design for ditch light)*
CV = 64 ¼ sec flashing *(B)*
CV = 36 firebox
CV = 69 warning light
CV = 128 ½ sec flashing
Other value always lights 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 outputs. It will become 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 with an 8-pin DCC plug.
If your locomotive has the DCC-standard socket, plug the pins into the socket according to the marks on the decoder and those of the circuit board of the locomotive

If your locomotive does not have the DCC-standard medium socket, please use our decoder version without 8 pin plugs. It will explain to you how to hard wire it into the locomotive correctly.

F1 (green)
F2 (violet)
F3 – no wiring
F4 – no wiring

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.

Warranty and Repair Information:

At DMG Electech we value our customers and customer satisfaction is our primary goal, this is why every decoder has been tried and tested thoroughly. DMG Electech will replace any control board with manufacturing defects for free within 12 months of purchase.

All warranties on DMG Electech products are limited to refund for purchase price / repair / replacement of the products at our discretion.

In the event of DMG Electech products not being installed or used in accordance with manufacturer's instructions, any and all warranties will become void.

DMG Electech reserves the right to make changes in design and specification, and / or to make additions or improvements in its products. It doesn't impose any obligations upon itself to install these changes, additions or improvements on previously manufactured products.

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