

Omni Decoder CV Values and Useful Information

CV#	Description	Default Value	CV Setting Range
1	Primary Address	3	1 - 127
2	Start Voltage	9	1 - 255
3	Acceleration	3	1 - 255
4	Deceleration	3	1 - 255
5	V High	0	1 - 255
6	V Mid	0	1 - 255
7	Manufacturer Version	34	(Varies)
8	Manufacturer ID	36	36
8	Decoder Reset	Set CV8 - 8 to Reset	
10	Back EMF Feedback Cut-Off	85	85
13	Alternate Mode Fn Status F1 - F8	3	3
14	Alternate Mode Fn Status F9 - F12	3	3
15	Decoder Lock Number	0	0 - 7
16	Decoder Unlock Number	1	1 - 7
17	Upper Byte Extended Address	0	Set By Controller
18	Lower Byte Extended Address	0	Set By Controller
19	Consist Address	0	Set By Controller
21	Consist Address Active F1 - F8	0	Set By Controller
22	Consist Address Active F9 - F12	0	Set By Controller
23	Acceleration Adjustment (Trim)	0	0
24	Deceleration Adjustment (Trim)	0	0
29	Decoder Primary Configuration	6	Set By Controller
30	Impulse (Stimulation Frequency)	3	1 - 12
31	Impulse (Stimulation Level)	10	1 - 36
33	Front Light / F1 (White Wire)	1	
34	Reverse Light / F2 (Yellow Wire)	2	
35	Aux Function 1 / F3 (Green Wire) This Function is for F0 - F6 only. However if CV37 is used, Aux1 (Green) can be allocated to F7 - F12	4	
36	Aux Function 2 / F4 (Purple Wire) This Function is for F0 - F6 only. However if CV38 is used, Aux1 (Green) can be allocated to F7 - F12	8	
37	Aux1 / F3 extended functional location (Green) This CV will allow CV35 to be allocated to F7 - F12	16	
38	Aux2 / F4 extended functional location (Purple) This CV will allow CV36 to be allocated to F7 - F12	32	
39	Function 3 Map (Brown 0 - 6)	16	
40	Function 4 Map (Pink 0 - 6)	32	
41	Function 5 Map (Brown 7 - 12)	0	

42	Function 4 Map (Pink 7 - 12)	0	
43	Function 5 Map (Pink / Purple 0 - 6)	0	
44	Function 6 Map (Green / Brown 0 - 6)	0	
45	Function 5 Map (Pink / Purple 7 - 12)	0	
46	Function 6 Map (Green / Brown 7 - 12)	0	
47	Fluorescent Light Effects. 0 = Disabled 1 = only Aux1 and 2 flicker (Front and Rear Stay at Default 2 = All Light Flicker	0	0, 1, 2
49	Forward Light Feature (White)	0	
50	Forward Light Feature (Yellow)	16	
51	Function 1 Feature (Green)	32	
52	Function 2 Feature (Purple)	32	
60	Year and Month of Manufacture	32 (xx)	Varies
61	BEMF on / off Dimming Effect	1	
63	Ditch Light Blink Rate Timing	64	
64	Constant Dimming Light Level	64	
67	Step 1 Speed Table	8	8
68	Step 2 Speed Table	16	16
69	Step 3 Speed Table	24	24
70	Step 4 Speed Table	32	32
71	Step 5 Speed Table	40	40
72	Step 6 Speed Table	48	48
73	Step 7 Speed Table	56	56
74	Step 8 Speed Table	64	64
75	Step 9 Speed Table	72	72
76	Step 10 Speed Table	80	80
77	Step 11 Speed Table	88	88
78	Step 12 Speed Table	96	96
79	Step 13 Speed Table	104	104
80	Step 14 Speed Table	114	114
81	Step 15 Speed Table	124	124
82	Step 16 Speed Table	134	134
83	Step 17 Speed Table	144	144
84	Step 18 Speed Table	154	154
85	Step 19 Speed Table	164	164
86	Step 20 Speed Table	174	174
87	Step 21 Speed Table	184	184
88	Step 22 Speed Table	194	194
89	Step 23 Speed Table	204	204
90	Step 24 Speed Table	214	214
91	Step 25 Speed Table	224	224
92	Step 26 Speed Table	234	234
93	Step 27 Speed Table	244	244
94	Step 28 Speed Table	255	255
112	Mars Light, Lowest Level	1	
113	Mars Light, Time at Bright Level	9	
114	Mars Light, Total Cycle Time	1	1 - 3

115	Mars Light, Mid Light Level	6	1 - 24
116	Mars Light, Brightest Light Level	22	1 - 24
117	Ditch Light Blink Rate Frequency	3	1 - 128
118	Rotary Beacon Lowest Light Level	1	1 - 24
119	Rotary Beacon Time at Bright Level	5	1 - 24
120	Rotary Total Light Cycle	1	1 - 3
121	Rotary Mid Brightness	15	1 - 24
122	Rotary Max Brightness	24	1 - 24
123	On / Off Rule 17 Dimming	32	32
124	Ditch Light Blink	8	8
125	Rate 2 Starting Point	0	
126	Acceleration Rate 2	0	
127	Rate 3 Starting Point	0	
128	Acceleration Rate 3	0	
129	Rate 5 Ending Point	0	
130	Deceleration Rate 5	0	
131	Rate 4 Ending Point	0	
132	Deceleration Rate 4	0	
133	Power Level (drive voltage) for button control of the motor circuit	0	
134	Button Control of Motor Circuit	0	
135	Random Flicker (Adjusting this CV can make firebox work differently to simulate gas or oil lamps)	16	
136	BEMF ctrl / other	2	

Useful CV Information

- **Reset the Decoder:** To reset the decoder back to factory default settings need to change the value of CV8 to number 8. This will change all the settings of the decoder back to the default value.
- **Flicker Effect:** This is controlled by CV47. This CV function is useful for EMU's and passenger sets as it adds another level of realism to the coaches. This feature is controlled by F0 (Lighting Button)
- **Decoder Lock:** This is a useful feature as it allows for the decoder settings to be locked avoiding unwanted changes. The decoder can be locked with CV15 and unlocked with CV16.