Kato Digitrax DCC Decoder

29-352 Decoder for the control of head & tail lights On end cars

The FL12 decoder can be installed in head & end cars so lighting can be controlled by DCC

Please read this instruction sheet carefully prior to the use.

Basic Information on the FL12 Decoder:

The purpose of FL12 decoder is for turning on/off head/tail lights in Kato N scale passenger models that are equipped for quick installation of a DCC function decoder.

- Default address: 03 (address can be changed from 01-9983)
- Function Circuits: 2 circuits (head/tail lights): F0 key toggles lights ON/OFF
- Maximum Current: 125mA for each circuit
- Automatic switching to head or tail light corresponding to the direction the train is operating in, complete with transponding (train position detecting) function.

How to install the Decoder

1. Remove the floor board cover near the top of the car on the bottom side while pressing it in the direction indicated by the arrow.
2. Remove the switch if pre-installed (Some models do not have this plastic slide switch installed.)
3. Note the orientation of the decoder. The notch in decoder indicates orientation direction.
4. Place the decoder into the opening where the floor board cover was removed. Now slide the decoder towards the end of the car.
5. Be sure that decoder is inserted firmly to the very end.
    - How the decoder is inserted will dictate how the lighting effects operate. If the lighting effects are opposite of anticipated operation (ie, backup lights going forward, forward in backup mode), remove decoder, turn 180 degrees and reinsert.
6. After installation of the decoder in the car, replace the floor board cover. This part is integral in locking the decoder in place. Without the cover fitted, positive contact between the decoder and the car cannot be assured.

Customization and Programming of the FL12 Decoder:

The decoder can be customized in the function by changing the following program values:

Program items and their values:

CV	Default value	Function Value	Range Example
CV01	03	2 digit address	01~127
CV61	02		
CV64	00		

Default (initial) setting is “F0”. With “F0” Key, the light can be toggled on and off.

In case of changing the function No. (key) from the default of F0, along with toggling transponding on and off, change the following values of CV61 and 63 per the table below:

CV61	CV64	Function No. for turning on/off light	Transponding
00	00	F0	OFF
02	00	F0	ON (Default value)
02	01	F3	ON
02	02	F5	ON
00	01	F3	OFF
00	02	F5	OFF

PLEASE NOTE: The CV values in this function decoder can be written in, however, there is no read back capability, so it may appear in programming that your decoder is not responding.

A model with this DCC decoder installed can be run on DC operated track as well, however depending on CV changes made may not function correctly.

Compliance, Warnings & Handling:

- Please use this decoder in combination with other devices complying with NMRA DCC rules.
- Rough handling, water or static electricity may damage the FL12 decoder.
- This product contains small parts and is not intended for children under the age of 14.
- Due to constant product improvements, specifications are subject to change without notice.