



## DN167KoD

Fits many Kato N-locomotives

### N Scale

Mobile Decoder

1.0 Amp/2 Amps Peak

6 FX<sup>3</sup> Functions, 200ma output

### Features:

- Drop-in light board replacement decoder for Kato “Ko” form-factor boards, allows decoder to be moved between different locomotives.
- Series 7 Enhanced Decoder Features.
- XF expanded function capability, allows user remap of function keys FO to F28 to function output leads.
- Firmware may be user updated using a Digitrax USB equipped Command Station with Sound Loader software in decoder IPL mode.
- 6 Digitrax FX<sup>3</sup> Functions-Control lights and functions for prototypical lighting effects and on/off control.
- Two onboard white leds for headlights.
- Configurable FX<sup>3</sup> Pulse Function available on all function outputs.
- Digitrax LocoMotion® System – Lets your trains run like the real thing!
- 2 Digit and 4 Digit Addressing.
- Basic, Advanced & UniVersal Consisting.
- SuperSonic motor drive for silent operation.
- Direct and Operations Mode programming.
- Program CVs using any Digitrax Compatible Control system without having to buy any extra equipment. Decoder Reset by CV8, with or without speed table reset.
- Transponder Equipped ready for transponding ID on your layout.
- Power-on Motor Isolation Protection, helps prevent damage to your decoder.
- DCC Compatible.
- FCC Part 15, Class B RFI compliant.
- Operates on DCC track voltage 9V minimum. to 22V maximum.

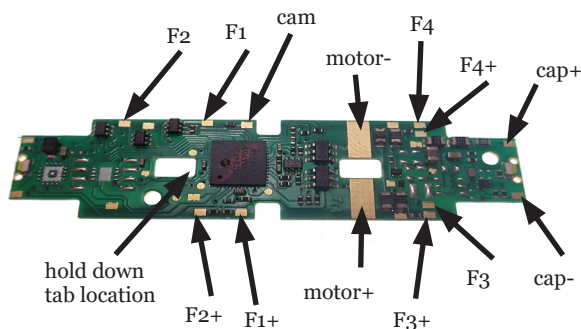
### Parts List:

1 DN167KoD Kato N light board Mobile Decoder

1 Instruction Sheet

**CAUTION:** This “Ko” form factor decoder fits many older legacy Kato locomotives. More recent versions of the same shell/locomotive type may require a different decoder or modifications, such as LED positions. Check before purchasing this version.

**Installation Instructions:** Visit [www.digitrax.com](http://www.digitrax.com) for the latest information and technical updates. Refer to Figure 1 for the decoder layout.



**Figure 1: DN167KoD Decoder** showing Track/Motor, Function wires,

To install, follow these steps:

1. Carefully remove the Locomotive shell.
2. Gently lift up the small motor clip holding the motor leads onto the light board, and lift these leads up vertically. Slide the light board forward to disengage the hold down tab. Lift the light board free of the locomotive. The track power springs will now be free.
3. Wrap a piece of insulating Kapton tape around each of the two track power springs at the motor lead position. This must isolate the track power from the motor leads. Put the two track springs back into position on the plastic frame grooves.
4. Place the DN167Ko decoder in alignment with the motor leads and then move slightly to rear to engage the plastic hold down tab. The motor leads should still be vertical. Once the decoder is held down, you can fold the motor leads back on top and center of the motor tabs of the decoder. Press down the motor clip to retain the motor leads onto the decoder motor pads.
5. Inspect to be sure the track springs under the decoder are correct position and do not short to motor leads, and connect with pickups on truck towers front and rear. *This decoder picks up the track power from the two springs onto pads on the board bottom.*
6. Place the loco on an active DCC track powered by a compatible DCC system and set to the factory default address 03 to select for testing. Turn on and off the lights/Fo and ensure the leds respond. Test the motor runs.
7. After confirming the decoder is functional, carefully replace the locomotive shell, making sure that the decoder and parts are not damaged.

## Customizing Your Decoder:

This decoder will initially operate at factory default address 03. For customizing, the following CV table gives the common CVs used by this decoder. Reading CV8 on a programming track, or Digitrax Mainline Operations mode will return CV8 = 129, confirming the decoder is functional.

See the Digitrax web site for more information on programming Series7 CVs.

CV#	Control Usage	Range	Default
1	2 Digit Address	1-127	03
2	Vstart	0-255	0
3	Acceleration Rate	0-32	0
4	Deceleration Rate	0-32	0
5	Vhigh	0-255	255
6	Vmid	0-255	128
7	Product ID- Series7 standard mobile decoder		204
8	Manufacturer ID- Digitrax		129
9	Motor Drive frequency in KHz	4-50	0->16
10	Motor feedback voltage trim	32-127	0->64
11	Packet timeout, in seconds. 0= Off	0-60	6
17/18	4 Digit Address		0000
19	Consist 2 digit Address	1-127	0
29	Decoder Primary Configuration		6
33-46	Function to Output Lead mapping		
49	FX setting White/FoF lead	0-255	0
50	FX setting Yellow/FoR lead	0-255	0
65	Kick Start	0-255	0
66	Forward Trim	0-255	127
67-94	Speed Table	0-255	
95	Reverse Trim	0-255	127
120	Decoder type- Ko light board for N wide body diesels		2
253	IPL download version		>5

## Warranty & Repair

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Digitrax gives a one year *Warranty* against manufacturing defects for this product. Visit [www.digitrax.com](http://www.digitrax.com) for instructions for tech support and returning items for repair.

**Please return warranty items directly to Digitrax - DO NOT** return items to place of purchase. errors and omissions excepted.



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**Need Support?**

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