Complete Train Control
Run Your Trains, Not Your Track!

DN147K1C

Fits many Kato N-locomotives

N Scale
Mobile Decoder
1.0 Amp/2 Amps Peak
4 FX³ Functions, 200ma output

Features:

- Drop-in light board replacement decoder for Kato "K1" 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 0-28 to function output leads.
- Firmware may be user updated using a Digitrax USB equipped Command Station with Sound Loader software in decoder IPL mode.
- 4 Digitrax FX3 Functions-Control lights and functions for prototypical lighting effects and on/off control.
- Configurable FX3 Pulse Function available on all function outputs.
- On board white leds for headlights.
- 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.
- 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 typical 9V minimum. to 22V maximum.

Parts List:

1 DN147K1C Kato "K1" light board replacement decoder,
2 Straight Kato motor tabs,
1 Instruction Sheet

CAUTION: This "K1" form factor decoder fits many older legacy Kato N-locomotives. More recent versions of the same shell/locomotive type may require a different decoder. Check before purchasing. This K1C uses the included straight tabs. An older K1D style factory board must reuse shorter stepped motor tabs from the original Kato factory light board.

Installation Instructions:

Visit www.digitrax.com for the latest information and technical updates. Refer to Figure 1 for the decoder layout.

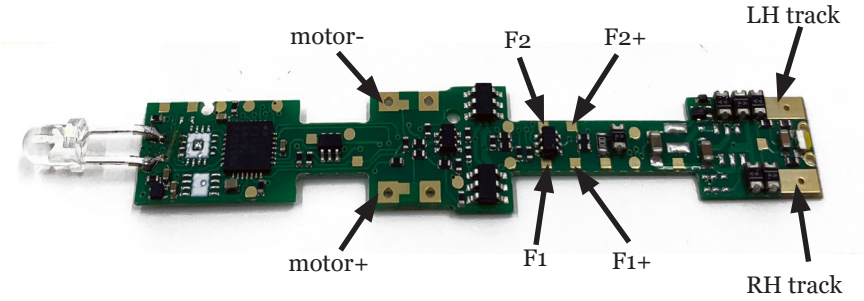


Figure 1: DN147K1C Decoder *showing Track/Motor, Function pads*

To install, follow these steps:

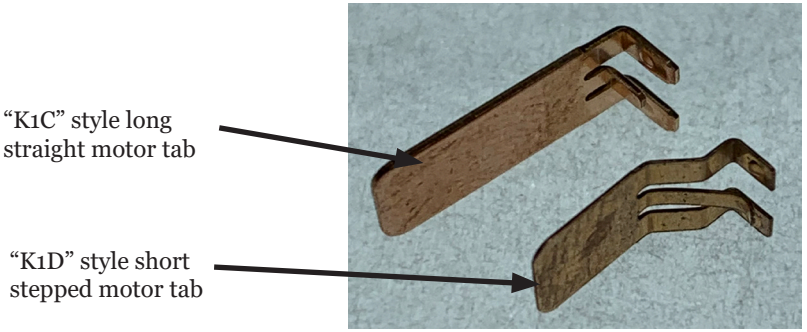
1. Carefully remove the Locomotive shell.
2. Slide the factory light board to the rear of the locomotive frame, then lift up gently to disengage motor tabs and track pads.
3. If your factory board uses the K1C style straight tabs, you can slide these off the factory board and clip these on the decoder motor+ and motor- pads, or use the two provided straight tabs.
4. If your factory board uses the stepped shorter motor tabs, transfer these from the factory board to the decoder motor+ and motor- pads. *On models with short stepped tabs do not use provided K1C long tabs. See figure 2.* This version previously used the DN163K2 decoder.
5. Align and place the decoder in to the top of the frames, in the reverse of removal steps and slide the decoder forward until it stops. Be sure the two motor leads go to the inside of the motor tabs, so they are retained and do not short to frame, and will not catch on the replaced shell.
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/F0 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 and nothing shorts to powered frames.

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 and XF 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- N-K1 light board		3
253	IPL download version		>5

For F1/F2 function pads, the positive F1+ and F2+ pads are provided with current setting resistors to connect to e.g. white leds.

Figure 2: K1 factory motor tab styles:



Warranty & Repair

Digitrax gives a one year *Warranty* against manufacturing defects for this product. Visit 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.

Made in the USA

2443 Transmitter Road
Panama City, FL 32404
www.digitrax.com

Need Support?
helpdesk.digitrax.com

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