



DO487

Fits many larger locomotives

HO/S/O/G Scales

High-capacity wired Mobile decoder

4 Amp/5 Amps Peak

8 FX³ Functions, 300ma Output

Features:

- High current motor drive capacity. Suitable for; HO/S/O and G scale locomotives with total motor stall current up to 4 amps, including multiple motors.
- Wired connections for track, motor and function control.
- Series 7 Enhanced Decoder Features.
- Firmware may be user updated using a Digitrax USB equipped Command Station with Sound Loader software in decoder IPL mode.
- Digitrax FX³ Functions-Control lights and functions for prototypical lighting effects and on/off control.
- Configurable FX³ 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.
- Adjustable Over temperature shutdown to protect decoder.
- Flat face allows Heatsink installation option to remove heat, allowing higher ambient temps and current loads before over temp shutdown.
- DCC Compatible.
- FCC Part 15, Class B RFI compliant.
- Operates on DCC track voltage 9V minimum. to 22V maximum.

Parts List:

- 1 DO487 compact 4amp wired Mobile Decoder
- 1 Instruction Sheet
- 1 10-pin auxiliary connector harness

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

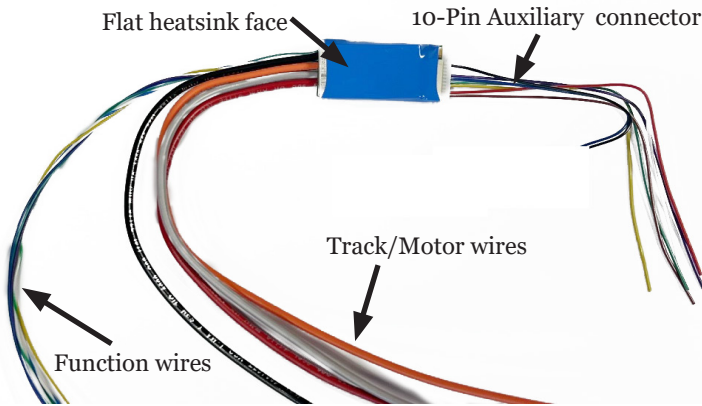


Figure 1: DO487 Decoder showing Track/Motor, Function wires, Auxiliary connector and heatsink face.

To install, follow these steps:

1. Isolate the locomotive motor(s) wires from the track feed wires. *Motor connections must be isolated from the track feed or other voltages.* Refer to figure 2 for decoder connections.
2. Connect the four heavy wires; RED to RH track power, BLACK to LH track power, ORANGE to the isolated motor + lead (was connected to RH track) and GRAY to isolated motor - leads.
3. Connect the function wires that are to be used for e.g. lights. Insulate any unused wires so they cannot short to the locomotive frame or track power. Be sure to use current setting resistors with LED lamps. Refer to locomotive documentation for any lamp requirements.
4. The 10 pin auxiliary connector has F3 and F4 wires, and also connections to other items such as an external power storage capacitor.
5. The DO487 is rated for 4amps when it has adequate cooling adjacent to the flat heatsink face shown in figure 1. You can use a thin double-sided tape to stick this face to e.g. a flat part of the locomotive metal frame. In free-air or outdoors in the sun, if the continuous current draw is over about 3amps the unit will heat up to a temperature limit and stop drawing current until it cools down, and automatically restart. Read CV248 to see the heatsink temp in degrees F, and write between 60 and 195 to set the overtemp trip level in F.

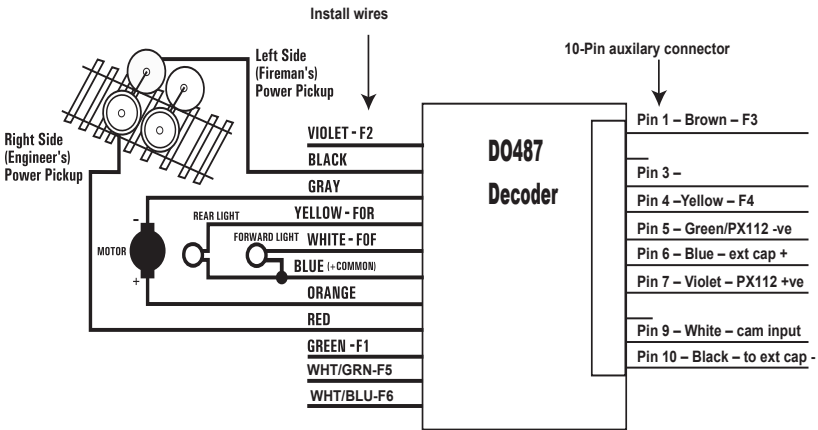
Customizing Your Decoder:

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 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
51	FX setting Green/F1 lead	0-255	0
52	FX setting Violet/F2 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
113	FX setting F3 lead	0-255	0
114	FX setting F4 lead	0-255	0
115	FX setting F5 lead	0-255	0
116	FX setting F6 lead	0-255	0
120	Decoder type- 4amp wired		42
248	Decoder Temp/Shutdown in deg F	100-196	196
253	IPL download version		>4

Figure 2: DO487: connection diagram



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



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Need Support?
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DO487



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