

# Decoder Comparison Matrix (See explanation of terms on the back)

June 2007



Scale	Mfg	Model Name	Wired	JST Header	Board 8-pin Plug	NMRA 8-pin Plug	PnP	Max Motor Current	Peak Motor Current	# Functions	Special FX	Silent	Back EMF	Length	Width	Height	MSRP
Z/N/HO	Digitrax	DZ123	X					1	2	2	X	X		0.57	0.38	0.13	\$15.95
Z/N/HO	Digitrax	DZ123PS				X		1	2	2	X	X		0.57	0.38	0.13	\$19.50
Z/N/HO	Digitrax	DZ143	X					1	15	4	X	X	X	.36"	.55"	.13"	\$34.95
Z/N/HO	Digitrax	DZ143PS	X			X		1	15	4	X	X	X	.36"	.55"	.13"	\$37.95
N	Digitrax	DN12K2 (Kato RDC)	X					1	15	2	X	X					\$44.99
N	Digitrax	DN163	X					15	2	6	X	X	X				\$34.95
N	Digitrax	DN163A0 (Atl 4 Axle)					X	1	15	6	X	X	X	.374"	3.0015"	0.16	\$34.95
N	Digitrax	DN163A1 (Atl 6 Axle)					X	1	15	6	X	X	X	.374"	3.0015"	0.157"	\$34.95
N	Digitrax	DN163I0					X	1	2	6	X	X	X	3.5"	.367"	0.135"	\$34.99
N	Digitrax	DN163I1A					X	15	2	6	X	X	X	12mm	55mm	2.5mm	\$34.99
N	Digitrax	DN163I1B					X	15	2	6	X	X	X	12mm	55mm	2.5mm	\$34.99
N	Digitrax	DN163K0a (Kato P42)					X	1	15	6	X	X	X	.5485"	2.2165"	.1015"	\$34.99
N	Digitrax	DN163K0b (Kato F3 A+B)					X	1	15	6	X	X	X	.5485"	2.2165"	0.1	\$34.95
N	Digitrax	DN163K1b (Kato AC44)					X	1	15	6	X	X	X	.426"	3.11"	.195"	\$34.95
N	Digitrax	DN163K1c (Kato SD40-2)					X	1	15	6	X	X	X	.426"	3.11"	.195"	\$35.95
N	Digitrax	DN163K2 (SD80/90)					X	1	15	6	X	X	X	3.11"	.426"	.195"	\$29.75
N	Digitrax	DN163M0					X	1	15	6	X	X	X	2.158"	.58"	0.135"	\$34.99
N	Digitrax	DN163P/PS				X	X	15	2	6	X	X	X				\$37.95
HO	Digitrax	DH123AT (Old Athearn)	X	X				15	2	2	X	X		.66"	1.2"	.25"	\$24.99
HO	Digitrax	DH123D	X	X				15	2	2	X	X		.66"	1.2"	.25"	\$19.95
HO	Digitrax	DH123P/PS	X	X		X		15	2	2	X	X		.66"	1.2"	.25"	\$22.99
HO	Digitrax	DH163A0 (Atlas, Ath Gen)					X	15	2	6	X	X	X				\$29.99
HO	Digitrax	DH163D	X	X				15	2	6	X	X	X	.66"	1.2"	.25"	\$29.99
HO	Digitrax	DH163IP			X		X	15	2	6	X	X	X	.67"	1.05"	.25"	\$29.99
HO	Digitrax	DH163K0					X	15	2	6	X	X	X	2.877"	.667"	.173"	\$29.99
HO	Digitrax	DH163L0 (LL GP/SD 7/30/60)			X		X	15	2	6	X	X	X				\$29.99
HO	Digitrax	DH163P/PS	X	X		X		15	2	6	X	X	X	.66"	1.2"	.25"	\$32.99
GO	Digitrax	DG383AR			X		X	3	5	8	X	X	X	1.45"	2.23"		\$59.99
GO	Digitrax	DG583AR			X		X	5	10	8	X	X	X	1.45"	2.23"		\$64.99
GO	Digitrax	DG583S	X					5	10	8	X	X	X	1.45"	2.23"		\$66.99
HO	Lenz	LE1014-WH	X					1	na	4	X	X		1.3"	.63"	.14"	\$22.95
HO	Lenz	LE1014-MP	X			X		1	na	4	X	X		1.3"	.63"	.14"	\$22.95
HO	Lenz	GOLDJST-W	X	X				1	1.8	4	X	X	X	0.91"	0.62"	0.2"	\$39.95
HO	Lenz	GOLDJST-MP		X		X		1	1.8	4	X	X	X	0.91"	0.62"	0.2"	\$39.95
GO	Lenz	GOLDMaxi	X					25	5	6		X	X				\$79.95
Z/N/HO	Lenz	GOLDMini-W	X					0.5	0.8	4	X	X	X	0.43"	0.35"	0.11"	\$54.95
HO/G	Lenz	LE1835-W	X					1.8	na	4	X	X	X	1.5"	.69"	.16"	\$39.95
HO	Lenz	SILVER-MP				X	X	1	1.8	4	X	X	X	0.91	0.66	0.12	\$31.95
HO	NCE	AtlasS1-2					X	1.3	2	2	X						\$29.95
HO	NCE	P2KSR (LL GP/SD 7/30/60)			X		X	1.3	2	4	X	X		1.9"	.63"	.12"	\$29.95
HO	NCE	KRSR (Kato RS2/Others)			X		X	1.3	2	4	X	X		1.9"	.65"	.12"	\$29.95
HO	NCE	SW9/12 (LL SW's)					X	1.3	2	2	X	X					\$29.95
N	NCE	N12A1					X	1.3	2	2	X	X		2.65"	.37"	.12"	\$25.95
N	NCE	N12A0					X	1.3	2	2	X	X		2.65"	.37"	.12"	\$25.95
N	NCE	N12SR	X					1	1.25	2	X	X		.34"	.70"	.12"	\$34.95
N	NCE	N12A0e					X	1	1.25	2	X	X		2.65"	.370"	.120"	\$29.95
N	NCE	N12SRP				X		1	1.25	2	X	X		.34"	.70"	.12"	\$29.95
N	NCE	N14IP			X		X	1.3	2	4	X	X		1.0"	.38"	.13"	\$29.95
N	NCE	N14SR	X					1	1.25	4	X	X		1.15"	0.4"	0.12"	\$29.95
N	NCE	N14SRP				X	X	1	1.25	4	X	X		1.15"	0.4"	0.12"	\$34.95
N	NCE	NIMFA/B					X	1	1.25	2	X	X		2.20"	.48"	.10"	\$29.95

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Z/N/HO	NCE	Z14SR	X					13	2	4	X	X		0.57"	0.34"	.13"	\$34.95
Z/N/HO	NCE	Z14SRP				X		13	2	4	X	X		0.57"	0.34"	.13"	\$39.95
HO	NCE	D13SR	X					13	2	3	X	X		1.6"	.67"	.13"	\$19.95
HO	NCE	D13SRP				X		13	2	3	X	X		1.6"	.67"	.13"	\$24.95
HO	NCE	D13SRJ	X	X				13	2	4	X	X		1.68"	.63"	.25"	\$19.95
HO	NCE	D14SRP			X			13	2	6	X	X		.90"	.63"	.13"	\$29.95
HO	NCE	D15SR	X	X				13	2	5	X	X		1.08"	.63"	.27"	\$29.95
HO	NCE	D18SR		X			X	13	2	8	X	X		1"	0.63"	0.25"	\$29.95
HO	NCE	DASR (Atl,Ath, Kato Dsl)					X	13	2	4	X	X					\$24.95
O/S/G	NCE	D408SR	X	X				4	8	8	X	X		2.25"	1.20"	.35"	\$69.95
O/S/G	NCE	D808SR (USA Trains)	X	X				8	30	8	X	X		3.75"	1.45"	.063"	\$129.95
N	TCS	AMD1					X	1	2	2	X	X		3.03"	.355"	.135"	\$34.95
Z/N/HO	TCS	M1	X					1	2	2	X	X		.565"	.35"	.125"	\$29.95
Z/N/HO	TCS	M1P-MH				X		1	2	2	X	X		.565"	.35"	.125"	\$25.95
Z/N/HO	TCS	M8	X					1	2	3	X	X		.570"	.355"	.132"	\$32.95
Z/N/HO	TCS	M3P-MH		X		X	X	1	2	3	X	X		.570"	.355"	.132"	\$37.95
Z/N/HO	TCS	M4	X					1	2	4	X	X		.570"	.355"	.132"	\$34.95
Z/N/HO	TCS	M4P-MH		X		X	X	1	2	4	X	X		.570"	.355"	.132"	\$41.95
Z/N/HO	TCS	MC2	X					1	2	2	X	X		.71"	.41"	.19"	\$26.95
Z/N/HO	TCS	MC2P-MH		X(7)		X	X	1	2	2	X	X		.71"	.41"	.19"	\$31.95
Z/N/HO	TCS	MC4	X					1	2	4	X	X		.71"	.41"	.19"	\$32.95
Z/N/HO	TCS	MC4P-MH		X(7)		X	X	1	2	4	X	X		.71"	.41"	.19"	\$32.95
Z/N/HO	TCS	MC6	X					1	2	6	X	X		.71"	.41"	.19"	\$36.95
Z/N/HO	TCS	MC6P-MH		X(7)		X	X	1	2	6	X	X		.71"	.41"	.19"	\$41.95
HO	TCS	A4X (Atl, Ath Dsl)					X	13	2	4	X	X		2.86"	.680"	.145"	\$24.95
HO	TCS	A6X (Atls, Ath Dsl w/Res)					X	13	2	6	X	X					\$25.95
HO	TCS	DP5X (LL GP7,30)					X	13	2	5	X	X		.85"	.68"	.165"	\$29.95
HO	TCS	T1	X	X				13	2	2	X	X		1.0"	.68"	.25"	\$19.95
HO	TCS	T1P-MH		X		X		13	2	2	X	X		1.0"	.68"	.25"	\$19.95
HO	TCS	T4XP-MH		X		X		13	2	4	X	X		1.0"	.68"	.25"	\$35.95

## Explanation of Decoder Terms

**Scale**  
The Size of the locomotive the decoder is designed for, HO, Z, N, O/G/S.

**Mfg**  
Name of the manufacture for the specific Decoder, Tony's, Digitrax, North Coast Eng, Lenz, TCS, Zimo.

**Model Name (PnP Loco)**  
The manufacturer's identification for the decoder. The parenthesis indicate Plug and Play locomotive application, see below.

**Wired**  
Indicates wires from the decoder to be soldered to motor contacts, pick-up and lites.

**JST Header**  
A small female straight 9 pin micro connector mounted to the decoder circuit board. This connector accepts various wire harnesses that have the JST male connector like the Digitrax DHWHP.

**Internal Plug**  
Indicates the decoder has an 8 pin NMRA plug mounted directly on the board.

**NMRA Plug**  
Indicates the decoder has NMRA plug either on the board itself or at the end of the wire harness.

**PnP (Plug and Play)**  
Indicates the decoder can be installed by simple plug-in play steps.

**Max Motor Current**  
Indicates the maximum motor amperage allowed for safe operation of the decoders. Range is from .5 Amps to 5+ Amps! The industry does not provide a standard for

measuring max motor current and practices differ according to mfg.

**Peak Motor Current**  
Indicates the maximum motor peak draw amperage before the decoder is "smoked". Range is from is from .75 Amps to 5+ Amps! The industry does not provide a standard for peak max motor current and practices differ according to mfg.

**#Functions**  
Indicates the number of user programmable functions for the decoder. Functions can be used to operate smoke units, lights, and other on/off devices. Range is from 2 to 12 different functions.

**Special FX**  
Indicates the number of special effects functions that can be programmed into the decoder. These features include, but are not limited to, ditch lites, mars lites, beacon lites and other flashy/prototypical features.

**Standard Motor Drive (P)**  
Indicates the decoder is capable of powering a locomotive comparable to DC performance. Precision glide, (P), indicates smooth low speed performance.

**Silent**  
Indicates the decoder is capable of running the locomotive's motor without the low speed hum associated with typical decoders.

**Back EMF**  
Also known as Load Compensated & Speed Stabilization, Indicates the decoder is capable of running at a constant speed regardless of load. Provides great

performance with constant speed on grades or hills and creates superior low speed control.

**Length, Width, and Height**  
Provides the physical dimensions of the decoder in fractions of inches. Please note Zimo decoders are listed in millimeters. Range is from .1" to 2.5"

**Factory Reset**  
Indicates the decoder has the capability of being returned to the programmed condition it was in upon leaving the factory.

**NMRA Compliant**  
Indicates the decoder's mfg has made every attempt to insure the decoder meets all applicable DCC standards. Does not imply NMRA conforming.

**NMRA Conformance**  
This decoder was submitted to the NMRA C&I Testing and has received a NMRA Conformance Warrant, indicating that the product completely adheres to all NMRA DCC Standards and applicable Recommended Practices.

**Manufacturer warranty**  
A- Lenz Warranty  
Year 1- "goof Proof" no cost  
Year 2-3 \$3.00 shipping and handling  
Year 4+ service charge plus \$3.00 S&H  
B- Lenz rates their decoders on long term maximum continuous current for the model the decoder is installed in. The short term peak or stall current can be several times the maximum continuous current.  
C: Dimming and blinking only  
D: Dimming, blinking, and Ditch