



NMRA Technical Information	
Sources for Connectors for DCC	
November 19, 2021	TI-9.1.1

1 General

1.1 Introduction and Intended Use (Informative)

1.2 References

This standard should be interpreted in the context of the following NMRA Standards.

5 1.2.1 Normative

- S-9.1.1 Decoder Interfaces
- S-9.1.1.2 JST 9 Pin Interface
- S-9.1.1.3 21MTC Interface
- S-9.1.1.4 PluX Interface
- 10 • S-9.1.1.5 Next18 and Next18-S Decoder Interface

1.3 Terminology

Term	Definition
Vehicle	Mobile model railroad device. This includes locomotives and other rolling stock.
Decoder	DCC receiver for controlling vehicle animation.
System Board	Electronic circuit board that is considered part of the vehicle with a decoder is intended to be plugged into.

2 Connector Sources

These are known valid connector sources for the various DCC decoder interface standards. Other sources may also be valid.

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2.1 JST 9 Pin Interface

20 JST offer two series of connectors: ZH series uses crimped wires while ZR series are insulation displacement. The decoder socket is the same in both cases. Datasheets for both series listing options may be found at:

ZR Series: https://order.jst-mfg.com/InternetShop/app/pdf_show?kbn=1&key=eZR.pdf

ZH Series: https://order.jst-mfg.com/InternetShop/app/pdf_show?kbn=1&key=eZH.pdf

2.1.1 Decoder

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Manufacturer	Part Number	Notes
JST	S9B-ZR-SM2-TF	Shrouded header.

2.1.2 System Board (Wire Harness)

Manufacturer	Part Number	Notes
JST	09ZR-3H-P ZHR-9	Insulation displacement. Housing for crimped contacts. See datasheet for contact details.

2.2 21MTC Interface

2.2.1 Decoder

Manufacturer	Part Number	Notes
Samtec	CLP-111-02-F-D	
Aptos Technology	SPNBF-22-X-X-X-FG	Unverified.

30 **2.2.2 System Board**

Manufacturer	Part Number	Notes
Samtec	FTSH-111-01-F-DV	Surface mount
Samtec	FTS-111-01-F-D	through hole

2.3 PluX22 Interface

2.3.1 Decoder

Manufacturer	Part Number	Notes
Samtec	FTSH-111-01-F-DV	Surface mount
Samtec	FTS-111-01-F-D	Through hole

2.3.2 System Board

Manufacturer	Part Number	Notes
Samtec	CLP-111-02-F-D	
Aptos Technology	SPNBF-22-X-X-X-FG	

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2.4 Next18 and Next18-S Interface

Notes:

- The Panasonic AXK6 series is not a valid connector. It is a close friction fit, but does not have the required positive mating “snap” when mated to the other valid connector options.
- Morethanall connectors have been flagged to the NMRA as having some manufacturing quality issues in 2020 and 2021.
- LXWCONN components are added following recommendations in November 2021. Datasheets can be found at <http://www.lxwconn.com/upload/product/20180315153219522174.pdf>.

2.4.1 Decoder

Manufacturer	Part Number	Notes
Morethanall Co, LTD	NP0519-P05P-018-LF	
Coratec GmbH & Co. KG	CT0519P-05-2x09P-TR	Not verified. MoreThanAll part.
Degson Electronics Co., Ltd.	CT0519P-05-2x09P	Not verified, MoreThanAll part.
Ningbo Yensen	YSC05-M-1.5-09-G0-R	Not verified
CSCONN	CBT-51018M-15	Not verified
LXWCONN	LB615-G18P	

2.4.2 System Board

Manufacturer	Part Number	Notes
Morethanall Co, LTD	NP0519-S10P-018-LF	
Coratec GmbH & Co. KG	CT0519S-10-2x09P-TR	Not verified, MoreThanAll part.
Degson Electronics Co., Ltd.	CT0519S-10-2x09P	Not verified, MoreThanAll part.
Ningbo Yensen	YSC05-M-1.5-09-G0-R	Not verified
CSCONN	CBT-51018F-15	Not verified.
LXWCONN	LB615-G18S	

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2.5 Manufacturer/Distributor Websites

Manufacturer	Web Address	Notes
JST Manufacturing	https://order.jst-mfg.com/InternetShop/app/	Searchable.
Samtec	www.samtec.com	Searchable.
Aptos Technology	www.aptostechnology.com	Reported dangerous by some web browser addins.
Morethanall Co., LTD	m.morthanall.com	Not an HTTPS site.
CSCONN Precise Electronics	https://www.csconn.com/Index.aspx	
Ningbo Yensen	Purchase via Coratec.	
Coratec GmbH & Co. KG	www.coratec.de	Not searchable and not HTTPS. Coratec are a distributor.
Degson Electronics Co., Ltd.	www.degson.com	Searchable. Degson are a distributor.
LXWConn Electronics (Shenzen) Co Ltd	www.lxwconn.com/en/	

Note: many of these items are also available from distributors such as Digikey, and others.

55 3 Document History

Date	Description
Jan 2008	First Revision
	Updated with improved formatting, updated known part numbers, added JST 9 Pin options, added Next18(-S) options.
May 2021	Revisions to suppliers and web sites. Corrections and additional information.
Nov 2021	Revision to Next-18 interface component suppliers; addition of LXWCONN as a source.

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