AUSGABEN:
1998 07 15
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Operating instructions

ACCESSORY DECODER MX81/N

green label

I N H A L T :

1. Introduction

Accessory decoders (in contrast to ZIMO accessory modules) are connected to the track. They receive accessory commands which are sent together with the loco commands. The MX81/N can be used within the ***ZIMO system***, but also with ***DCC systems form other manufacturers*** if conforming to NMRA standards.

MX81/N controls ***one turnout*** ore one signal with ***two paired signal-lights (red-green)***. Twin-coil machines as well as motor machines (including EPL from LGB) are allowed. Because its small size the MX81/N can be installed under the track or into the case of a switch machine in many cases.

Feedback information is sent by the MX81/N using the ZIMO loco number identification technique.

Operating the turnouts and other accessories is done by the cab (handheld, controller, ...) or by the computer (e.g. STP software).

2. Specifications

Track voltage ..... 12 - 24 V
Accessory outputs - short-time current (5 sec) ..... 2 A
- contineous current ..... 0,6 A
Time on for accessory outputs .....0,1 to 15 sec
Dimensions ..... 20 x 10 x 4,5 mm

3. Adressing and programming

Each accessory decoder MX81/N needs an ***address*** and a ***subaddress.***. The subaddress is necessary because the main address is for 4 turnouts (conforming to NMRA standards), but the MX81/N controlls only one turnout.

The ***addressing*** must take place ***before installation*** ! After the installation all accessory decoders are parallel connected to the track and receive the same commands.

For ***"service mode"*** addressing and programming the MX81/N must be connected to the ***programming track*** of the command station. It is done from the cab of the DCC system (in case of the ZIMO system: MX2) or from the computer (***ZIMO software P.F.u.Sch.***) !

CV number	Name	Range	Default	Description
# 513 **# 521** or # 1,9	Decoder address	1 - 511	3	Address (9 bit) contained in 2 CV's. NOTE: For full specification you need also the subaddress !
# 545 or # 33	Subaddress	0, 1, 2, 3	0	The subaddress specifies, which of the four functions (keys on the cab) operates the turnout. "0" is NMRA function F0 (key "1" on ZIMO cab), "1" is NMRA function F1 (key "2" on ZIMO cab), etc.
# 515 **# 516** **# 517** **# 518** or # 3-6	Time on	0 - 255	2	Determines the pulse for switching the turnout. Divided by 10 it gives the time in sec (the default value "2" means 0,2 sec, which is sufficient for most twin-coil machines). "0" means contineous current (makes sense for signal lights, not for turnouts). Only this one of the four CV's is valid, which belongs to the subaddress definded in CV # 545 ! (e.g. subaddr. 2: # 516 valid).
# 519 or # 7	manufacturer version No.	read-only		Informs about the decoder's version.
# 520 or # 8	Manufacturer ID	read-only		"145" ("10010001"). This is the id for ZIMO assigned by NMRA.
# 541 or # 29	Decoder configurations	read-only		Bit 7 = "0" means, that this is an accessory decoder.
# 546 or # 34	Illummination time	0 - 255	0	Determines the time (in tenth of sec) from darkness to full brightness.
# 547 or # 35	Illumination delay	0 - 255	0	Determines the time (in tenth of sec) until starting illumination after switch-on.
# 548 or # 36	Dimming time	0 - 255	0	Determines the time (in tenth of sec) from full illumination to complete darkness.
# 549 or # 37	Power-on-pulse-delay	0 - 255	0	An automatic switching pulse on the accessory output comes the specified time (in tenth of sec) after power-on. This is to bring the turnout in the correct position after starting the layout. By specifying different values for each of the accessory decoders in a layout you can avoid ovlerload of the power station. "0" means no power-on pulse.
# 550 or # 38	Feedback deactivation	0 - 1	1	You can deactivate the position feesback in order to eliminate eventual noise or disturbances.

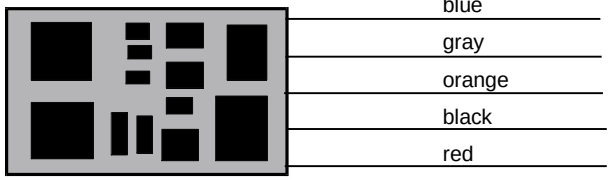
4. Connecting the MX81 to the track

The MX81 is to be connected to the track by its ***black and red wires***; the polarity is irrelevant. As already mentioned, the MX81 must be addressed (and subaddressed) before !

The piece of track, where the MX81 is connected, should be connected directly to the command station. If it would be connected to a track which is monitored by an occupancy detector, it would simulate a permanent occupancy state because of its own power consumption.

5. Connecting turnouts and signals

MX81 Top view



6. Operating turnouts and signals

. . . by MX2 or MX2IF cab:

The address is typed in and is activated by "A" or "W" ("A" is possible, if this address was in use for accessories before). The LCD-display becomes red.

NOTE: The MX81/N can be used for paired functions only (turnouts, red/green-signals, etc.); it is not possible to control 2 independent single functions.

See operating instructions of the cab MX2, chapter 9 !

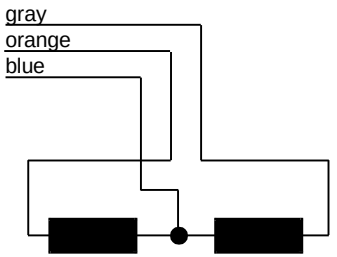
...by external computer:

See "STP" manual !

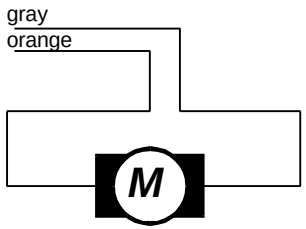
7. Position feedback

The accessory decoder MX81/N is equipped with feedback for the turnout positions, which works similar as the loco number identification of the ZIMO loco decoders. The information is transported on the track; no additional wiring is necessary !

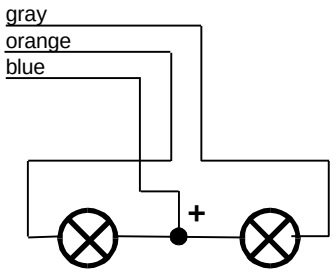
At this time (when this operating instructions are written) the necessary hardware (plug-in) and software for the command station MX1 to evaluate the position feedback, is yet not available.



twin-coil



motor or EPL



red light SIGNAL green light

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