mXion LSS-RhB Signal with Decoder User Manual

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mXion LSS-RhB Signal with Decoder

Introduction

Dear customer, we strongly recommend that you read these manuals and the warning notes thoroughly before installing and operating your device. The device is not a toy (15+).
NOTE: Make sure that the outputs are set to the appropriate value before hooking up any other device. We can't be responsible For any damage if this is disregarded.

General information

- We recommend studying this manual thoroughly before installing and operating your new device.
- Place the decoder in a protected location. The unit must not be exposed to moisture.

NOTE: Some functions are only available with the latest firmware. Please make sure that your device is programmed with the latest firmware.

Summary of Funktions

- DC/AC/DCC operation
- Compatible NMRA-DCC module
- Real light signals
- Defined start switching
- Outputs invertible
- Automatic switch-back functions
- Function outputs dimmable
- Reset function for all CV values
- Easy function mapping addresses, 2048 switch addresses
- DCCext possible from V. 1.1
- Multiple programming options
- (Bitwise, CV, POM accessoire decoder, register) Needs no programming load

Scope of supply

- Manual
- mXion LSS-RhB

Hook-Up

- Install your device in compliance with the connecting diagrams in this manual. The device is protected against shorts and excessive loads. However, in case of a connection error e.g. a short this safety feature can’t work and the device will be destroyed subsequently.
- Make sure that there is no short circuit caused by the mounting screws or metal.

NOTE: Please note the CV basic settings in the delivery state.

Connectors

- This typical switch signal is for everyone RhB, swiss train company. It can due to the small dimensions optimally in the station area be accommodated. The signal works digitally as well as analog. Simply close the 2 cables to the track or a DC voltage source e.g. EPL®.
- Weatherproff: Cover the PCB with „Plastik70“.

Product Description

- The mXion LSS-RhB is a modern light signal or dwarf signal of the swiss railways (e.g. also the RhB). Here these light signals are large quantities of routes, and switches and used next to the railway line for shunting as well as free or hold. Exemplary true-to-scale
- RhB dwarf signal with an integrated decoder can prototypically “stop”, “drive” and also “drive with caution”.
- The integrated decoder for analog and digital operation allows all images of the signal to be given in an exemplary way. In addition, will be a series of switching and additional functions allow, which are separately activated (e.g. automatic switching back to timing when a train has passed).

Programming lock

- To prevent accidental programming to prevent CV 15/16 one programming lock. Only if CV 15 = CV 16 is programming possible. Changing CV 16 changes automatically also CV 15.
- With CV 7 = 16 can the programming lock reset?
- STANDARD VALUE CV 15/16 = 215

Programming options

- This decoder supports the following programming types: bitwise, POM and CV read & write and register-mode.
- There will be no extra load for programming.
- In POM (programming on the main track) the programming lock is also supported. The decoder can also be on

the main track programmed without the other decoder to be influenced. Thus, when programming the decoder can not be removed.
- **NOTE:** To use POM without another decoder must affect your digital center POM to specific decoder addresses.

Programming binary values

- Some CV's (e.g. 29) consist of so-called binary values. The means that several settings in a value. Each function has a bit position and a value. For programming such a CV must have all the significance can be added. A disabled function has always the value 0.

EXAMPLE: You want 28 drive steps and long loco address. To do this, you must set the value in CV 29 2 + 32 = 34 programmed.
Programming switch address

- Switch addresses consist of 2 values.
- For addresses < 256 the value can be directly in the address low. The high address is 0. If the address is > 255 this is as follows (for example address 2000):
- 2000 / 256 = 7,81, address high is 7
- 2000 – (7 x 256) = 208, address low is then 208.
- Program these values into the SW1, SW2, and so on CVs.

DCCext Commands

- DCCext commands are supported by the decoder from version 1.2. This makes it possible that the signal commands be sent directly to and address. The decoder thereby receives the command (e.g. Sh0 or Sh1) directly as a switching command. You need so only one address. This address is separately adjustable via CV. Ist up to the user whether the manual turnout addresses are all deactivated (set to 0). or run in parallel. The DCCext commands are for the individual commands listed next to the signal images.
- DCCext is supported by our headquarters only ours 30Z with Z21® app. There you choose the Z21® signals that match the model and mode are.

DCCext Befehle

- 0 = Halt / Stop
- 1, 4, 48 = Fahrt / Drive
- 71 = Fahrt mit Vorsicht / Drive with caution 66 = Dunkelschaltung / Dark

Reset functions
The decoder can be reset via CV 7. Various areas can be used for this purpose. Write with the following values:

- 11 (basic functions)
- 16 (programming lock CV 15/16)
- 33 (switch outputs)

CV-Tabelle

S = Default, L = Loco address, S = Switch address, LS = Loco and switch address usable

CV	Description	S	L/S	Range	Note
7	Software version	–		–	read-only (10 = 1.1)
7	**Decoder reset functions**				
	3 ranges available			11 16 33	basic settings (CV 1,11-13 ,17-19,29-119) programming lock (CV 15/16) switch outputs (from CV 1 20)
8	Manufacturer ID	160		–	read-only
7+ 8	**Register programming mode**				
	Reg8 = CV-Address Reg7 = CV-Value				CV 7/8 doesn't change his real value CV 8 write first with cv-number, then CV 7 writes with value or read (e.g.: CV 49 should have 3) ➔ CV 8 = 49, CV 7 = 3 writing
15	Programming lock (key)	215	LS	0 – 255	to lock only change this value
16	Programming lock (lock)	215	LS	0 – 255	changes in CV 16 will change CV 15
48	Switch address calculation	0	S	0/1	0 = Switch address like the norm 1 = Switch adress like Roco, Fleischmann
49	**mXion configuration**	**0**	**S**		**bitwise programming**
	Bit	**Value**	**OFF (Value 0)**		**ON**
	0	1	stop/drive normal function		stop/drive invert function
	4	16	stop/caution normal function		stop/caution invert function

	6	64	not save position		save position
118	Automatic switch back function to last state	0	S	0 – 255	0 = off 1 – 255 = time base 0,25 sec. each Value
120	Stop/go address low	0	W	1 – 2048	Switching address, if the address is less than 256 simply CV121 = desired address!
121	Stop/go address high	1	W		
122	dimming value	100	W	1 – 100	Dimming value in % (1% approx. 0.2 V)
125	Stop/go w. caution address low	0	W	1 – 2048	Switching address, if the address is less than 256 simply CV126 = desired address!
126	Stop/go w. caution address high	2	W		
127	dimming value	100	W	1 – 100	Dimming value in % (1% approx. 0.2 V)
130	DCCext address high	0	W	1 – 2048	Switching address for DCCext commands. The default is address 0 (deactivated)
131	DCCext address low	0	W		

Technical data

- **Power supply:** 7-27V DC/DCC 5-18V AC
- **Current:** 5mA (without functions)
- **Maximum function current:** LSS 0.1 Amps.
- **Maximum current:** 0.2 Amps.
- **Temperature range:** -20 up to 85°C
- **Dimensions L*B*H (cm):** RhB-Signal 3*3*5

NOTE: In case you intend to utilize this device below freezing temperatures, make sure it was stored in a heated environment before operation to prevent the generation of condensed water. During operation is sufficient to prevent condensed water.

Warranty, Service, Support

micron-dynamics warrants this product against defects in materials and workmanship for one year from the original date of purchase. Other countries might have different legal warranty situations. Normal wear and tear, consumer modifications as well as improper use or installation are not covered. Peripheral component damage is not covered by this warranty. Valid warrants claims will be serviced without charge within the warranty period. For warranty service please return the product to the manufacturer. Return shipping charges are not covered by micron-dynamics. Please include your proof of purchase with the returned goods. Please check our website for up-to-date brochures, product information, documentation and software updates. Software updates you can do

with our updater or you can send us the product, we update for you for free. Errors and changes excepted.

EC declaration of conformity

- This product meets the requirements of the following EC directives and bears the CE mark for this. 2014/30/EU on electromagnetic compatibility. Underlying standards: EN 55014-1 and
- EN 61000-6-3. To the electromagnetic compatibility during operation to maintain, follow the instructions in this guide.
- EN IEC 63000:2018 to limit the use of certain hazardous substances in electrical and electronic equipment (RoHS).

WEEE Directive

- This product meets the requirements of
- EU Directive 2012/19/EC on electrical and waste electronic equipment (WEEE). Dispose of this product does not have the (unsorted) household waste, but run it the recycling to. WEEE: DE69511269

Hotline

- For technical support and schematics for application examples contact:
- micron-dynamics
- info@micron-dynamics.de.
- service@micron-dynamics.de.
- www.micron-dynamics.de.
- https://www.youtube.com/@micron-dynamics.

Documents / Resources

	mXion LSS-RhB Signal with Decoder [pdf] User Manual None mentioned in the provided text, LSS-RhB, LSS-RhB Signal with Decoder, Signal with Decoder, Decoder

References

- Top Fahrradbekleidung für Damen & Herren - Ride your Style
- micron-dynamics
- micron-dynamics