

LISSY/RailCom[®] Transmitter 68 330

Description

LISSY/RailCom[®] - transmitters are used in all vehicles, independent of gauge, which are to be employed in a LISSY or MARCo System. They send locomotive addresses in the 1 to 9999 range, and wagon addresses in the 10000 to 16382 range.

In LISSY mode it transmits the configured address and one of four train categories via two Infrared-LEDs. The LISSY/RailCom[®] transmitter is used for train identification in an automation system that employs LISSY and operates with DCC and Motorola.

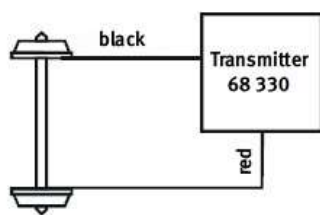
In RailCom[®] mode, there are small RailCom transmitters for retro-fitting to DCC Locomotives without a RailCom-Decoder and for wagons without RailCom Decoder (e.g. driving wagon). They transmit the configured address to the track of a DCC-RailCom System via the power pickup. The LISSY/RailCom[®] transmitter is used for train identification when automating with a MARCo system.

Installing the LISSY/RailCom[®] transmitter in LISSY operations

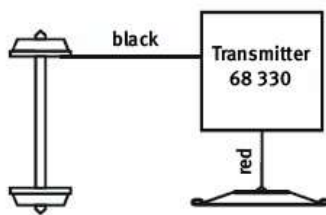
Fasten the LISSY/RailCom[®] transmitter under your digitised locomotive with the enclosed adhesive pad. The adhesive is attached to the plain side (no electronic components) of the LISSY/RailCom[®] transmitter. The component side of the LISSY/RailCom[®] transmitter must face down towards the track. If there is no room under the locomotive for the LISSY/RailCom[®] transmitter (especially in N-Scale), the LISSY/RailCom[®] transmitter can be installed under a wagon, which must then always be used with the same locomotive.

The **installation height** is important: Ensure that the lowest point of the LISSY/RailCom[®] transmitter is not lower than the top of the rails or elements that are higher than the rail top or that reach above the rail top, as for example a switching track. On the other hand the LISSY/RailCom[®] transmitter must not be further away from the sensor than 12 mm. Also ensure that the LISSY/RailCom[®] transmitter can radiate in all directions, i.e., that the surrounding vehicle components do not form a shaft.

The **install location** is important: Essentially it must mount the LISSY/RailCom[®] transmitter under the locomotive or wagon, so it is on the centreline of the vehicle, so it irradiates the centre of the track. Realise though, that, for example, with long wagons, the overhang in curves when mounted in the middle of the wagon, is no longer in the middle of the track! In this case the LISSY/RailCom[®] transmitter is mounted in or near the bogie.



Installation in 2-Rail



Installation in 3-Rail



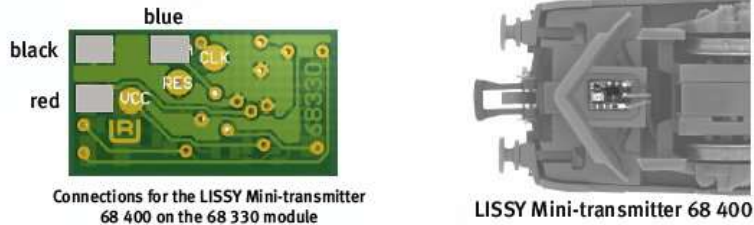
Positioning a 68 330 under a locomotive

Ensure that the LISSY/RailCom[®] transmitter fitted under the vehicle operates like a torch that always irradiates the sensors between the rails so that the transfer functions.

Connect the wires from the LISSY/RailCom[®] transmitter to the power pickups of your locomotive: the red wire to the right (insulated) pickup of your locomotive, the black wire to the left (non insulated) power pickup.

Connecting the LISSY Mini-transmitter 68 400 in LISSY operations

If there is not enough space under the locomotive to fit the LISSY/RailCom[®] transmitter, a LISSY Mini-transmitter can be mounted under the locomotive. Connect the three coloured wires (blue, red, black) from the LISSY Mini-transmitter to the LISSY/RailCom[®] transmitter as shown in the image below.



Installing the LISSY/RailCom[®] transmitter in RailCom[®] operation

Fasten the LISSY/RailCom[®] transmitter using the enclosed adhesive pad in your digitised locomotive. The adhesive pad is attached to the smooth side of the LISSY/RailCom[®] transmitter (without electronic components).

Connect the red wire of the LISSY/RailCom[®] transmitter to the right wheel power pickup and the black wire to the left wheel power pickup.

Selecting the operating mode LISSY and RailCom[®]

If the LISSY/RailCom[®] transmitter 68 330 sends RailCom[®] Data or LISSY Data, it is configured in the transmitter's CVs 29 and 115. If Bit 3 in CV 29 is set, the transmitter sends RailCom[®] Data. If CV 115 is programmed with a value of 0 (Factory setting), it sends no LISSY Data. If CV 115 has a value greater than 0 (see CV Table), it sends LISSY Data.

LISSY Configuration CV 115

If CV 115 is programmed with a value 1-4, the transmitter sends LISSY-Data, train categories 1-4, with its own IR-LEDs. If a LISSY Mini-transmitter is connected and a value of 129-132 is programmed in die CV 115, the transmitter only transmits LISSY Data with the LISSY Mini-transmitter. Its own IR-LEDs are switched off in this configuration. This has the advantage that the LISSY/RailCom[®] transmitter installed in the locomotive generates no heat which could eventually damage the locomotive body.

Programming and Reading

The LISSY/RailCom[®] transmitter 68 330 can be programmed by CV-Programming on the Programming track, or by Mainline programming (POM).

The LISSY/RailCom[®] transmitter saves its CVs according to the following CV-Table:

CVs Loco	CVs Transmitter	Description	Value Range	Factory Default
1	116	Short Address	0-127	3
17	117	Long Address High byte	192-231	199
18	118	Long Address Low byte	0-255	208
29	129	Configuration in DCC Standard Bit 3=0 RailCom off Bit 3=1 RailCom on Bit 5=0 Short Address (CV 1) Bit 5=1 Long Address (CV 17/18)	Value 0 8* 0* 32	8
7	7	Software Version	-	-
8	8	Manufacturer ID	-	85
-	115	LISSY Configuration 0 = LISSY switched off 1-4 = Train categories 1-4, transmitter sends via its own IR-LEDs 129-132 = Train categories 1-4, transmitter sens via LISSY Mini-transmitter, own IR-LEDs switched off	0-132	0

If the LISSY/RailCom[®] transmitter is installed, it is programmed together with the locomotive via CV programming. Attention must be paid so that the programming method uses the same method as the locomotive decoder. It can of course be programmed individually, or separated from the locomotive decoder with CV programming.

ATTENTION: *There are also locomotive decoders that can be programmed in CV programming mode, but with a totally different meaning. In this case the LISSY/RailCom[®] transmitter can only be programmed separately from the locomotive.*

The LISSY/RailCom[®] transmitter CVs can be read with the Intellibox (see Intellibox Handbook). If installed in a locomotive with a decoder it is always read together with the decoder. This can lead to error reporting especially if the locomotive decoder and LISSY/RailCom[®] transmitter have different values in the CVs. In this case one of the feed wires must be disconnected, that is, the locomotive decoder is unplugged from its socket. Reading of LISSY/RailCom[®] transmitters installed in wagons is also possible.

NOTE

- *For programming the decoder the vehicle must always be alone on the Intellibox programming track. If multiple vehicles are on the programming track then all locomotive decoders and LISSY/RailCom[®] transmitters are programmed the same!*
- *For programming long addresses use the corresponding Menu in the Intellibox. Since this Menu uses the locomotive decoders programming method, the LISSY/RailCom[®] transmitter, when it is in a DCC locomotive, is always programmed together with the locomotive decoder. Separated programming is then not possible.*

Programming with a Motorola Centre (only LISSY operation)

For programming the LISSY/RailCom[®] transmitter with a Märklin Digital Center use the following procedure.

Overall Programming with the Märklin Control Unit 6021 by Example

1. Position the locomotive with the IR-transmitter directly over a LISSY receiver 68 610 sensor, so that the Control-LED on the receiver is permanently lit and therefore confirms receipt of the IR-Signal. During the programming the LISSY Receiver's LED must always be in sight, because the LISSY/RailCom[®] transmitter can only report via this LED.
2. Reset the Märklin Digital Center by simultaneously pressing the [stop] and [go] keys for approximately 3 seconds. The center display turns dark and shortly after the locomotive address 99 is displayed. The center is then reset.
3. After the reset enter the address 80 and turn the track power off with the [stop]-key.
4. Turn the speed control to the reversing position and hold it there. Now turn the track power back on with the [go]-key.
5. Bring speed to zero with the speed control. The Control-LED on the receiver module blinks for an instant.

NOTE: *If you monitor the LISSY receiver being used with a LocoNet-Display 63 450 or with an IB-Control 65 400 (from Software version 1.550), you can see address and train category of the LISSY/RailCom[®] transmitter. How to monitor the LISSY-Receiver with mentioned devices is described in corresponding manual.*

CVs Loco	Description	Value Range	Factory Default
1	Short address	0-127	3
29	0=Short address effective, 32=Long address effective	0, 32	0
15	Train category 1-4 (2 Bit)	1-4	0

6. Enter the number of the CV you want to program as you would a locomotive address and switch the direction for a short time. The Control-LED on the LISSY-Receiver blinks twice and the monitoring display shows the contents of the CV as with a locomotive address. The train category now shows a value of 1 in the display.

NOTE: If an invalid CV number is entered the LISSY receiver's Control-LED only blinks once and the monitoring display shows 9999. After a incorrect entry a new valid number can be entered directly.

7. Now enter the desired value for the CV as with a locomotive address and switch the direction quickly. The LISSY Receiver's Control-LED blinks quickly once and the monitoring display will show the new contents of the CV. The train category in the monitoring display now shows a value of 2.

8. Additional CV can then be programmed by repeating steps 6 and 7 as often as necessary.

9. When you have programmed all the CVs, switch the track power off with the Control Center [stop]-Key. With the next activation of the track power with the [go]-Key the LISSY/RailCom® transmitter operates with the new values.

Important: If you wish to program a CV to a value of 0 with a Märklin Center, you must enter the address 80. All CVs can only be programmed to a value of 0 (=80) to 79.

Since a Märklin Center can accept a value range 0-79, you cannot program all addresses.

Technical Data

Addresses: 1-9999 (long DCC Address)

Dimensions: 13 x 7.5 x 1.8 mm



Our contact Details:

We are available if you have any questions!

Internet: FAQs can be found at www.uhlenbrock.de

E-Mail: service@uhlenbrock.de

Hotline: +49 (0)2045 8583-27, Wed from 16:00 to 18:00 and Mon-Tue-Thu-Fri from 14:00 to 16:00

Service: In the event of a defect or failure send the unit together with the invoice and a short description of the fault back to us for repair.

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Electronic devices do not
belong in household rubbish



Part No. 68 320