

BLOCK SECTION CONTROL

TRAIN RECOGNITION



SET THE LEAVER ...

FOR THE RAILCOM®-AUTOMATION

STATION CONTROL

SHUTTLE OPERATION

Train Influence in the Bundesbahn

The Train has two influencing systems in use. On one hand Point sensing control (PZB) and on the other continuous sensing control (LZB).

In the PZB system the data transmission and point monitoring is done at a particular point on the track. A well known PZB system is the inductive train protection is INDUSI. In the model railway LISSY emulates this system.

The LZB system operates on the track network continuously. In this system a cable is installed between the rails. In a model railway this is offered by MARCo.



Train Influence on a Model Railway

There are different systems for influencing trains.

All are triggered by a train and release various switching sequences and running commands.

Switch or reed contacts

are the simplest components for triggering switching sequences on a model railway. Without additional components these are only suitable for analogue layouts.

Feedback units

are electronic components that are connected to a section of track. They report when a locomotive or wagon with a current load is in the section. Our LocoNet Feedback Modules 63320 and 63330 can also execute switching functions. These Feedback modules are a cost effective option for a simple automatic control.

LISSY – the Individual Locomotive Control System*

In the LISSY system an infrared transmitter, which constantly transmits the locomotive address and train category (1-4), is fitted under the vehicle. Small infrared sensors are fitted into the track. This enables an exact identification and location of a locomotive that is fitted with a LISSY transmitter.

The receivers can, not only send the locomotive address, train category and location to the digital center, but also many switching and locomotive command, such as speed and special functions. The notification occurs at the exact point where the receiver is fitted. It is therefore a Point sensing control (PZB).

Compatibility of Feedback Systems

LocoNet Feedback modules, LISSY and MARCo can all be operated on the one layout. They complement and have no effect on each other.

* For LISSY a special prospectus is available.

RailCom® - the bidirectional Feedback via the track

The RailCom®-System has been in development for many years. Now firm specifications are available. The vehicles on a RailCom®-System are fitted with a RailCom®-transmitter or a RailCom®-enabled decoder. This transmits the data to be transmitted to the track. A MARCo** receiver, which has RailCom® detectors, is fitted to isolated track section.

RailCom makes it possible to send information about a locomotive to the track for further processing. For this an appropriate spot in the track signal is used so that the RailCom® transmitter can transmit the data. For this a cutout must be available in the track signal. This technical condition must be met by all boosters regardless if it is an individual device or a digital center. This is the case with our Power 4 and Power 7 boosters. This technique makes it possible to identify and locate a locomotive that is fitted with a RailCom® transmitter. The MARCo receivers can, not only send the locomotive address, train category and location to the digital center, but also many switching and locomotive command, such as speed and special functions. Decoder CVs can also be read and programmed with RailCom®.

In contrast to LISSY the notification does not happen at a particular location but in a track section. It is therefore continuous sensing control (LZB).

Like all other devices from us, the MARCo receivers are connected to the LocoNet. As special RailCom® bus is not required.

** MARCo = Modular Automation for RailCom

Preparation for installing Feedback Modules

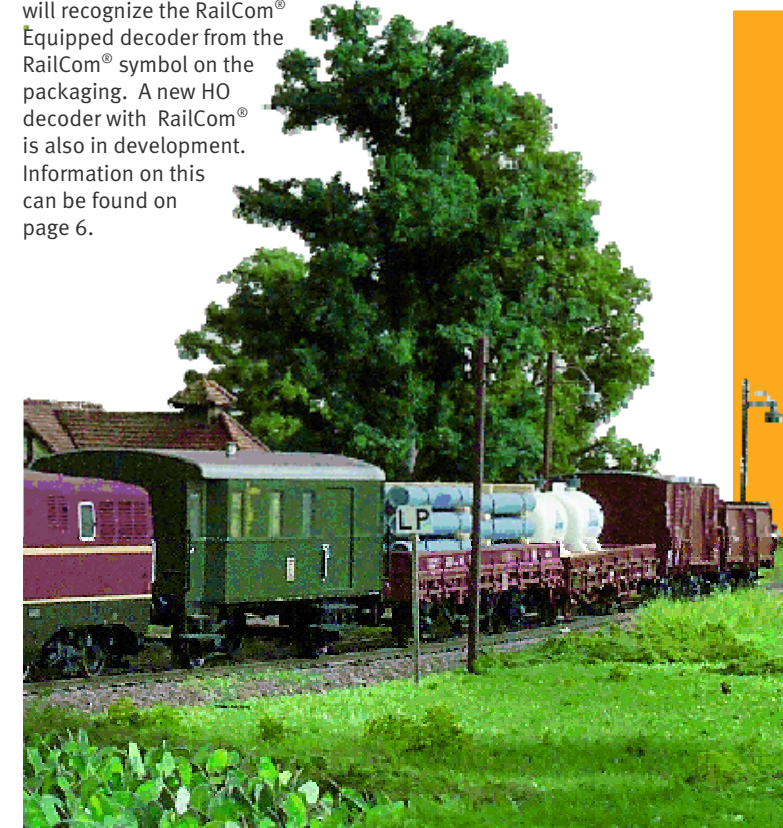
| | 2-Rail Feedback Module | 3-Rail Feedback Module | LISSY | MARCo |
|---|--|---|---|--|
| Special locomotive and wagon installations | Wagons without power pickups need low current conducting axels or resistive lacquer 40 410 | none | Install a LISSY transmitter or LISSY mini-transmitter under the locomotive or wagon | Install a RailCom® transmitter or RailCom® equipped decoder into the locomotive. Wagon fitted with light globes without decoder must be fitted with a rectifier. |
| Required modification to the track | Single sided isolation of the track and connection of the isolated section to the module | Single sided isolation of the outer rail and connection of the isolated section to the module | Drill 3mm holes for fitting the IR sensors in the centre of the track | Single sided isolation of the track and connection of the isolated section to the MARCo receiver |
| Device preparation | none | none | none | Obtain boosters with the “cutout” capability e.g. Power 4 |

Features of the various systems

| | LocoNet Feedback Unit | LISSY | MARCo |
|--|-----------------------|-------|-----------------|
| Train recognition by Locomotive address | - | X | X |
| Train recognition by train category | - | X | - |
| Locomotive position indication LokPosi | - | X | X |
| Indication of locomotive and wagon addresses of a passing train | - | X | Loco address |
| Switching of turnouts and routes | X | X | X |
| Change the speed of a passing locomotive | - | X | X |
| Change special functions of a passing locomotive | - | X | X |
| Switching of routes, changing of locomotive speed and special functions for a specific, programmable, locomotive address | - | X | X |
| Switching functions (Routes, speed, special functions) for a specific train category | - | X | - |
| Shuttle train traffic | - | X | X |
| Intermediate stops | - | X | X |
| Block section control | X | X | X |
| Shadow station control | X | X | X |
| Point accurate stopping at signals | - | X | X ¹⁾ |
| Speed measurement | - | X | - |
| Read and program CVs | - | - | X |

Locomotive Decoder with RailCom®

The Plux 22 decoder 76 560 and the HO Sound decoders 35330, 36320 and 36360 will be shortly be equipped with RailCom®. You will recognize the RailCom® Equipped decoder from the RailCom® symbol on the packaging. A new HO decoder with RailCom® is also in development. Information on this can be found on page 6.



LokPosi

The MARCo receiver delivers information for locomotive position indication on the IntelliBox® II, so that you always know the location of your locomotive.

- Train recognition by locomotive address
- Shuttle train control
- Locomotive dependent shadow station control
- Digital block control
- Automatic control of special functions and locomotive speed
- Precise stopping at a signal
- Reading and programming of CVs

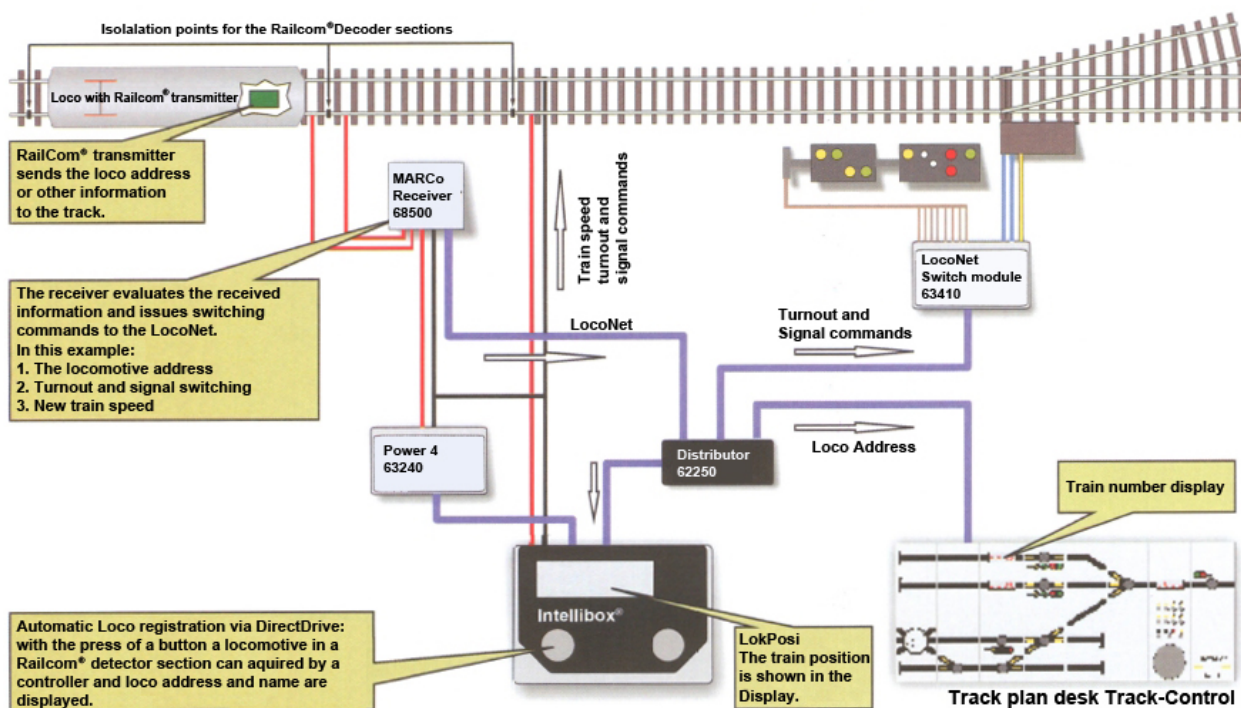
MARCo – the way to Layout Automation with RailCom®

Now all sorts of things can be implemented on a digital layout with MARCo, which till now were only possible on a digital layout that was controlled by LISSY. MARCo also makes simple automatic operations like block control and shuttle services possible and also optimized automatic control of feature rich shadow stations.

MARCo

- » consists of a RailCom® transmitter or a RailCom® equipped decoder in the locomotives and a RailCom® receiver which is connected to a track section. The data sent by the RailCom® transmitter are identified by the receiver and forwarded to the LocoNet. Various automatic controls can also be implemented with the need of a PC.
- » recognises the train and indicates which train has entered track 1 of the station.

- » controls the shuttle traffic in a terminal station of a single track station.
- » manages your shadow station, autonomously finds an individual track for a train and allows the trains to automatically leave the station.
- » is a block system for a digital layout and automatically controls a block section without the need of a computer.
- » slowly brakes every digital locomotive at a red signal using the decoders internal braking inertia.
- » switches locomotive's situation dependent sounds, e.g. the whistle before a tunnel or the signal horn at a level crossing whistle sign.
- » mutes the sound when running in hidden areas (shadow station, tunnel) in locomotives equipped with »IntelliSound« decoders.
- » switches the light of a particular locomotive on or off after a particular time, e.g. when the driver has parked the locomotive.
- » controls the speed of a locomotive, e.g. when entering a station or a slow section.
- » the indication occurs on the IntelliBox®, the LocoNet or TrackControl display or a connected PC.



Automatic notification of Locomotives

With MARCo there is an automatic notification of locomotives at the center. When the locomotive is first placed on the track you can enter its characteristics. Then you can confidently place it back on the shelf. As soon as you place it back on the track the center will recognize the locomotive and all its settings are available again.

MARCo Receiver

- Train recognition
- Reading and programming of CVs
- Affect speed
- Automatic control of special functions and locomotive speed
- Switching of solenoids and routes
- Shuttle train control
- Locomotive dependent shadow station control with passing loop
- The passing loop can be used by individual locomotives or all locomotives with the press of a button.
- Individual locomotive stopping time in automatic operation
- In automatic operation numerous locomotive functions can be separately switched with waiting time.

The MARCo receiver contains 2 RailCom® detectors for monitoring of a track section each with an intelligence to autonomously perform switching sequences. It is connected to the center via the LocoNet.

If simple direction independent switching sequences are to be carried out a single module can monitor two track sections. Then only the address of a passing locomotive is reported and simple switching operations are triggered.

At locations where direction dependent automation is required both track sections are connected then both sections on the one receiver are installed in the track immediately after each other. Then in addition to the address the travel direction is determined and the train in the second section can stop automatically.

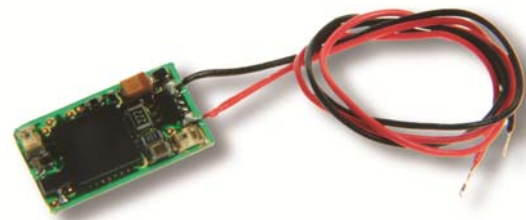
Part No. 68 500 MARCo-Set
Available from 3rd quarter 2012.



RailCom® Transmitter

Every vehicle that is to be used in automatic operation or is to report its address is fitted with a RailCom® transmitter. The transmitter is installed in addition to the locomotive decoder that is installed in the locomotive and is simply connected with power pickups of the locomotive. It can be programmed with all short or long addresses just like a DCC decoder. Additionally it is possible to connect a LISSY mini-transmitter module.

Part No. 68 320 RailCom® transmitter, single
Part No. 68 321 RailCom® transmitter, 5er Pack
Available from 3rd quarter 2012.



MARCo-Set

The quick Entry into the MARCo System

Contains two RailCom® transmitters, a MARCo receiver, a LocoNet cable and a manual.

Part No. 68 100 MARCo-Set
Available from 3rd quarter 2012.

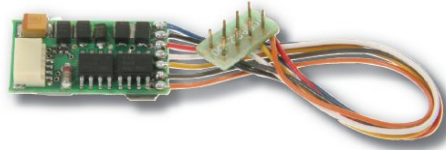
What is required?

For operating a feedback system with RailCom® boosters that can handle a "Cutout" for RailCom® must be used, e.g. our Power 4. For **switching operations** that depend on the locomotive address the two RailCom® detectors of the MARCo receiver can monitor two different track sections. If the travel direction is to be detected the two sections must be installed directly after each other.

For **shuttle routes** each end stop must have its own MARCo receiver.

In **block control** each block has its own MARCo receiver.

For fully automatic **shadow station control** a MARCo receiver is needed for the entry track, a MARCo receiver is needed for the exit track, and one MARCo receiver is needed for each track in the station.



Part No. 76 425 Decoder H0-Scale with 8-pole plug
Available from 3rd quarter 2012.

Decoder H0-Scale with RailCom®

- Data format DCC/Motorola
- For DC and bell armature motors
- With 8-pole NEM 652 compatible plug
- Constant load 1000mA, peak load 2000mA
- High frequency load regulation
- Direction dependent dimmable light outputs
- 2 special function outputs, also time switched
- SUSI interface
- LISSY connection
- Function mapping
- Programmable motor characteristics
- Short circuit and overload protection
- Size 22 x 12.5 x 5 mm

The familiar decoder 76 420 is now also available with RailCom®

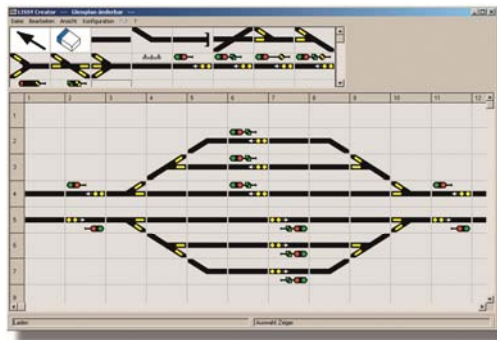
DirectDrive

Forget the locomotive number and name. Now you don't need it any more!

Take over control of a locomotive that has just passed a particular LISSY/MARCo receiver with the simple press of the control knob of a speed control on an Intellibox or Track-Control. The address is not needed to do this.

LISSY/MARCo-Creator

The quick way to a LISSY/MARCo controlled layout



Part No. 19 300 LISSY/MARCo-Creator
Available from 3rd quarter 2012.

- Plan a LISSY/MARCo controlled layouts on a PC
- Easy installation of LISSY and MARCo receiver on the layout
- Routes can be configured on the PC and programmed into the Intellibox® II
- Manage all addresses of the layout
- Save and print the layout configuration

LISSY/MARCo-Creator is the PC-program with which you can simply and easily plan a model railway layout using LISSY/MARCo and all LISSY and MARCo receivers with the required programming.

Shadow station or switching of special locomotive functions, all control sequences with the LISSY/MARCo control can be included in the layout planning with the LISSY/MARCo-Creator.

The program manages all address which are used on the layout, solenoid, feedback units, LISSY and MARCo receivers. Routes needed for station control can also be set and managed by program.

Route in the Intellibox® II, IB-Control II and Track-Control route buffer can be directly programmed with the LISSY/MARCo-Creator. All layout data can be backed up and printed.

Win-Digipet 2012 Small Edition

The cost effective computer version for entry into the world of digital control of model railways. With Win-Digipet Small Edition up to 20 locomotives and 50 solenoids can be controlled.

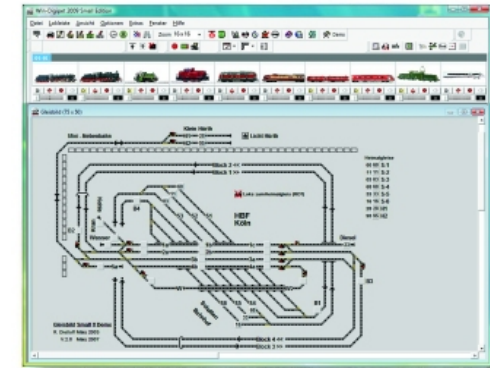
New in the 2012 Version:

- Route navigator
- iZNF = intelligent train number field
- Train composition with a superior train matrix
- Capture of wagons and wagon groups
- Capture of vehicle length
- 28er symbol tables
- New crane control
- Track symbol editor
- Import/Export of individual locomotives
- Locomotive function up to f28

- New operation in train operation
- Automatic transfer of a locomotive in a different digital system
- Supports Gamesontrack

Win-Digipet 2012 Small Edition is available with an online manual or on a CD. An update to the Win-Digipet 2012 Premium Edition is possible anytime.

Installable on Microsoft Window XP SP1+2, VISTA, Windows 7.
For further information about Win-Digipet see www.windigipet.de.



Part No. 19 910 Win-Digipet 2012 Small Edition
available from 2nd quarter 2012.

LocoNet Cable Tester

The quick way to error free LocoNet wiring

- Recognises short circuits
- Test cables for continuity
- Recognises crossed cables
- Testing of single or multiple cables

Contents: Cable tester, protective pouch, 9V battery, operating instructions, spiral LocoNet cable, LocoNet coupling

Part No. 62 000 LocoNet Cable Tester
Available from 2nd quarter 2012.





Gamesontrack®

NEW in our product range is the product Gamesontrack® will be available in Germany from February 2012.

This comprises of the control language GT-Command and the control system GT-Position, which operates in a similar way to a GPS navigation system.

- Rapid assembly
- Plotting the layout with GPS
- Cable saving
- Automatic and manual running
- Safe running
- Running alone or with others

Both products are for rapid and simple construction of the control system, as well as for automatic operation and also for running, playing and gaming. Block control, shadow station control, braking sections etc. can be simultaneously used without feedback or different wiring on the layout.

Both products can be incorporated directly into model railway control system. Installable with Windows PC.

A separate brochure is available for Gamesontrack®. Further information is also on www.gamesontrack.dk.

The products will be available from February 2012.

Would you like comprehensive information on our Products?

On our internet site www.uhlenbrock.de you can find a lot of information about our products, FAQs, articles from magazines and in the download area the original operating manuals in PDF format can still be downloaded, free of charge.

Your Uhlenbrock dealer would also be happy to advise you.

An overview of our dealers with all the contact details is also available on our internet site under the „Dealer“ menu.

Complete Catalogue 2011/2012

Our complete 76 page catalogue with all our products, many Tips and advice can be obtained for 3,50 EUR from your local Uhlenbrock dealer, sending postage stamps to the value of 5.00 EUR directly to us or by ordering online on our internet site.

Part No. 10 100 Catalogue 2011/2012

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