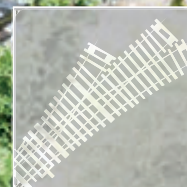
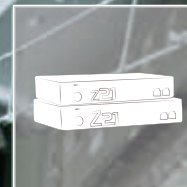


N | HO

# ACCESSORIES

CREATE YOUR PERFECT  
MODEL RAILWAY EXPERIENCE



**FLEISCHMANN**

**TRADITION AND PASSION**

[www.fleischmann.de](http://www.fleischmann.de)





Foto: M. Leidel

## Dear FLEISCHMANN friends,

the FLEISCHMANN programme has everything a railway fan could want. Whether you're looking for an epoch I steam engine, a classic epoch IV diesel locomotive or modern vehicles like the Vectron or ICE, FLEISCHMANN has it all.

The unadulterated fun also includes a reliable range of replacement parts, accessories, platforms and the latest steering technology, such as the Z21 system. The catalogue provides an overview of this wide spectrum.

Our customer service team is available for any questions you might have. Your specialist retailer can always provide you with competent advice about deliveries and technical issues.

Have fun browsing!

Your FLEISCHMANN team





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Foto: M. Leidel



## Digital control centre Z21

The Z21 digital control centre connects your model railway system, your digital locomotives and wagons via WiFi to your tablet, smartphone or the Z21 wlanMAUS. No additional networking knowledge is needed for this. You can extend your Z21 digital control centre easily due to the large number of interfaces. This also makes it the ideal basis for PC-based automation.

The Z21 is a complete Plug & Play System consisting of:

- Digital control centre Z21
- Z21 app for control of all system components
- Power supply
- WiFi router

**Z21**  
www.z21.eu



Art. Nr.: 10820

Art. Nr.: 10822 US version

## Z21 multiMAUS

The Z21 multiMAUS is a digital control centre that enables you to control your trains, use digital functions, switch points and signals and much more. The clear design in combination with easy operation handling makes the multiMAUS a benchmark in the field of digital model train control systems and not just for digital beginners. Digital professionals also can profit from a large variety of advanced functions so that they can drive their locomotives absolutely true to the originals.

### Possibilities:

- ▶ 64 locomotives with 5-character names
- ▶ Up to 29 functions can be activated per locomotive
- ▶ Up to 1024 magnetic items switchable
- ▶ Write and read configuration variables (DCC CVs)



Art. Nr.: 10810

Art. Nr.: 10813

## Z21 wlanMAUS

Control unit with many operation functions. Several Z21 wlanMAUS can be simultaneously operated – possible with all Z21 systems (z21 start combined with WiFi Package 10814, 10818). The Z21 wlanMAUS gives you wireless freedom around your layout.

### The Z21 wlanMAUS also offers:

- ▶ Wireless freedom through WiFi transmission
- ▶ 29 functions per locomotive
- ▶ 100 locomotive addresses can be stored in the database and can be assigned with names (up to 10 digits)
- ▶ Operated with commercially available standard batteries (3 x AAA, not included in the delivery)
- ▶ Up to 2048 magnetic items switchable



Further information:

www.z21.eu



# The Z21 system for novices and experts

**z21 start**  
Available in start set



without WiFi Package

Combination with  
z21 WiFi Package  
10814/10818



**z21**  
Available in start set



incl. WiFi router

**Z21**  
10820



incl. WiFi router

Plug & play system	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2 X Bus connection on the front side	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1 X Bus connection on the backside	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
For digital DC and AC locomotives (DCC and MM)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
POM programming, POM readout, CV programming and CV readout	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B-Bus and R-Bus	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Configurable with Maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Regulation with comfortable Z21 app and diverse hand held controller	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Photorealistic driver's cab on Android table and iPad	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
LocoNet and sniffer Bus connection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
CAN Bus - allows comfortable configuration of new Z21 components	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Adjustment options for track voltage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Separate programming track output with Zimo decoder update procedure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## z21 WiFi Package

FOR **z21 start**

Art. Nr.: 10814

The z21 WiFi package contains a preconfigured router and the activation code for the z21 start. This way the z21 start can accept commands for locomotives and turnouts via the WiFi interface and process them. System requirement is a Windows PC or notebook as well as an existing Internet connection.



## z21 unlock code

FOR **z21 start**

Art. Nr.: 10818

The z21 activation code is required if you already have your own router. Please note that extended network knowledge is necessary for this purpose.







Art. Nr.: 10805

## Z21 light BOOSTER

- ▶ Power 3 A (track output)
- ▶ RailCom\* cutout (allows use of RailCom\* track occupied detector)
- ▶ Terminal loop feature with short-circuit detector
- ▶ Connection via B bus



Art. Nr.: 10806

## Z21 single BOOSTER

- ▶ Power 3 A (track output)
- ▶ Adjustable track voltage (12 V–24 V)
- ▶ RailCom\* global detector
- ▶ Terminal loop feature with short-circuit detector
- ▶ Brake generator feature configurable
- ▶ Connections via CAN bus, B bus, CDE bus
- ▶ Configuration and update simply by app or PC via CAN



Art. Nr.: 10807

## Z21 dual BOOSTER

- ▶ Power 2x 3 A (track outputs)
- ▶ Voltage can be set for both track outputs separately via app or PC via Z21 (12–24 V)
- ▶ RailCom\* global detector
- ▶ Terminal loop feature can be separately configured by means of short-circuit detector
- ▶ Brake generator feature can be separately configured for both track outputs
- ▶ Connections via CAN bus, B bus, CDE bus
- ▶ Configuration and update simply by app or PC via CAN



Photomontage

Art. Nr.: 10804

## Z21 CAN HUB

- ▶ Additional 2 A power supply for CAN BUS
- ▶ 3 CAN outputs
- ▶ 1 Z-CAN output with booster signal amplification
- ▶ Ideal for large track layouts with many CAN users
- ▶ Including a connecting cable for CAN bus

Art. Nr.: 10851

Suitable power supply 54 W (see page 10)

Art. Nr.: 10851

Suitable power supply 54 W (see page 10)

Art. Nr.: 10857

Suitable power supply 120 W (see page 10)

Art. Nr.: 10850

Suitable power supply 36 W (see page 10)

## Z21 DETECTOR

Art. Nr.: 10808



- ▶ Track-occupied detector for 8 sections
- ▶ Occupied message by means of power monitoring of track sections
- ▶ RailCom\* detector for loco identification
- ▶ Connection via CAN bus and R bus
- ▶ Configuration and update simply by app or PC

## Z21 DETECTOR x16

Art. Nr.: 10819



- ▶ Track occupancy sensor for 16 track sections
- ▶ Occupied signal is triggered by the power monitoring of the track sections
- ▶ Connection via R-Bus
- ▶ Configuration via buttons or POM CV programming

## Z21 multi LOOP

Art. Nr.: 10797



- ▶ Ideal for terminal loops, triangular junctions and turntables
- ▶ Compatible with RailCom\*
- ▶ Operated by short-circuit detector, switching contacts or sensor tracks
- ▶ Compatible with DCC, MM and analogue mode





Art. Nr.: 10789

### Z21 CDE Booster Adapter

The Booster Adapter allows to connect up to 15 boosters with CDE interfaces to the booster bus. An X-bus port is provided to supply voltage to the adapter. Status LEDs display the 12-V supply as well as an active CDE end stage; besides, the adapter has an overcurrent or short-circuit protector at the CDE output.

The booster adapter can be used on the following central units or amplifiers:

- ▶ Digital amplifier (10764)
- ▶ multiZENTRALE<sup>pro</sup> (10832)
- ▶ z21 and z21 start
- ▶ Z21 (10820, 10822)



Art. Nr.: 10775

### 8-fold turnout decoder DCC

The turnout decoder can switch up to eight turnouts. If light signals are used, one needs one double-spool relay (Item no.: 10019) per signal. All outputs are short-circuit proof. Overall, the decoder can be loaded with up to 2 Ampere; this also applies to every single connection for the period of one second!

The address range is between 1 and 256.

The connection is made with two cables onto the two rail profiles.

If a high output is required, of course it is possible to create one's own supply network, which is supplied out of a booster of its own.



Art. Nr.: 10851

### Switching power supply 54 Watts

Power supply for the digital control centre Z21 (10820), digital amplifier (10764), multiZENTRALE<sup>pro</sup> (10832) und digital booster 10765).

- ▶ Overload fuse, short circuit proof, back feed protection

#### Technical data:

Input voltage: 230 V ~  
Output voltage: 20 V =  
Output current: 3 A



Art. Nr.: 10857

### Switching power supply 120 Watts

- ▶ Short-circuit protection against overload, overvoltage and overtemperature
- ▶ Perfect with the Z21 dual BOOSTER (10807)

#### Technical data:

Input voltage: 100–240 V ~  
Output voltage: 20 V =  
Output current: 6 A



Art. Nr.: 10850

### Switching power supply 36 Watts

- ▶ Power supply for the Z21 CAN HUB (10804) and z21 start
- ▶ Overload fuse, short circuit proof, back feed protection



Art. Nr.: 96308 US version

### Switching power supply 18V/4A



## Connection cable for digital components

Art. Nr.: 10754



### Highly flexible 6-pole spiral cable

Connection between multiMAUS 10810 and 10820, 10822, 10815, 10764. Suitable for the FLEISCHMANN multiMAUS from the digital Starter Sets. Length approx. 2 m

Art. Nr.: 10756



### 6-pin data bus replacement cable

The cable is a replacement cable for the Lokmaus 10760, 10792, multiMAUS 10810, FLEISCHMANN multiMAUS, turnout keyboard 10770 or RouteControl 10772. Length approx. 2 m

Art. Nr.: 10757



### Booster connection cable

Spare cable for connecting boosters (10765, 10789, 10805, 10806, 10807) with:

- Digital amplifier (10764)
- Digital central power unit (10820, 10822, z21)
- Brake generator (10779)
- Connecting the boosters mentioned above among each other

Art. Nr.: 10758



### 4-pin data bus distributor module

To connect further input units (for example Lokmaus or multiMAUS). This distributor module can also be used as an extension of existing lines to units on the slave output.

Note: The cable of the Master Lokmaus should not be extended in order to avoid impairing the quality of the data transmission.



Art. Nr.: 10764

### Digital amplifier

The amplifier provides two direct connections ('master' & 'slave') for a multiMAUS and, for example, another mouse. The amplifier prepares the 'Master mouse' data for running and switching operation.

50 VA power in combination with transformer 670601, 10851.

The track output delivers 3.2 A. Dimensions 115 x 122 x 40 mm



Art. Nr.: 10765

### Digital booster

Additional amplifier to 10764 for the supply of larger systems. The 10764 amplifier should not be used as a booster for safety reasons. Power max. 3.2 A. A maximum of four boosters are used per system, or more in combination with the brake generator 10779. Power 50 VA in conjunction with transformer 670601 or 10851. Maximum current 3.2 A at the track exit.

Art. Nr.: 10753



### CAN BUS Cable

For connecting Z21 CAN devices.

Art. Nr.: 136100



### Z21 Loconet Slave cable

A special cable that allows to use the Z21 as Loconet Slave on another central control unit.





### All advantages at one glance

- ▶ Wireless controlling via tablet, smartphone, and the wlanMAUS
- ▶ High-capacity administration for a large rolling stock (up to 9999 locomotive and 2048 turnout addresses)
- ▶ Open multi-protocol centre supporting DCC and Motorola® formats
- ▶ Upgrade for already existing digital layouts through downwards-compatibility, i.e. multiMAUS, Lokmaus 2, multiMAUS<sup>pro</sup> etc.
- ▶ Read out values and get feedback of locomotives and switches via RailCom\*
- ▶ Save and reload locomotive data with the import and export function
- ▶ Possibility to update software & sound of ZIMO sound decoders



## Photorealistic driver's cab

Converting or upgrading to digital model railways will reward you with many advantages. To be able to drive the locomotives as the driver himself is just one of the features which will make your eyes light up. As the locomotive driver, be amazed by the photorealistic views of the driver's cabs, which are equipped with original switches, controls from the relevant locomotive model, and interactive functions. Every control-related button and lever can be selected and provides the relevant action for your locomotive model. The Z21 app covers 8 individual driver's cabs starting with the driver's cab of the Re 4/4 up to NS 1200, which are just waiting to be controlled by you. Because digital locomotive driving also needs practice to achieve mastery. Please note that the driver's cabs are only available on iOS and Android devices.

Driver's cab of NS 1200



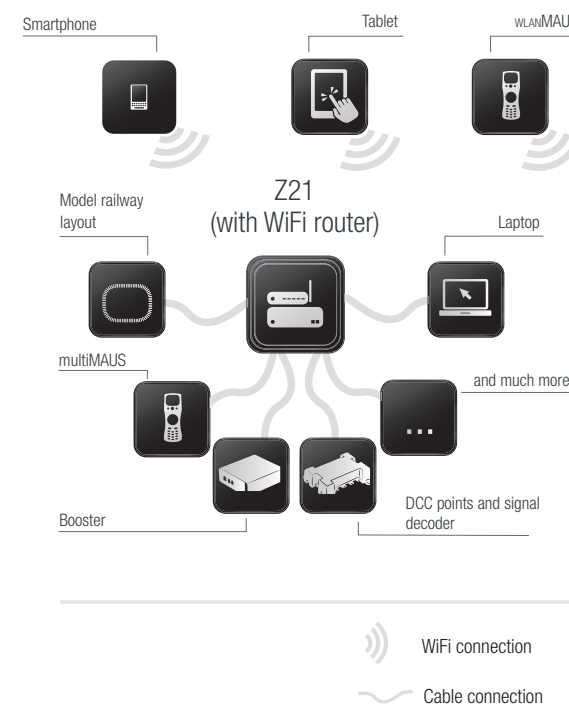
Driver's cab of Re 4/4



- ① Main switch
- ② Locomotive brake
- ③ Car brake
- ④ Direction switch
- ⑤ Whistle
- ⑥ Emergency stop
- ⑦ Train front light
- ⑧ Fan
- ⑨ Pantograph
- ⑩ Brake line pressure

## Z21 operating mode

The Z21 digital control centre connects your railway system and your digital locomotives with your tablet and smartphone via Wifi.



The Z21 system is compatible with many well-established PC-based model railway controllers. Furthermore the system is perfectly suited to control your garden railway.





Just by optimizing and updating the already known and well-proven Z21 app, you will discover many new functions and possibilities, which will allow you to create and experience your digital model railway world in even more exiting ways.

The Z21 app allows you to create a detailed library of locomotives. Here you can easily add all locomotive-specific data, as well as main control information (such as, e.g., locomotive address, speed levels, locomotive functions and maximum speed). In addition the Z21 system also supports automatic synchronisation with multiple input devices (such as, e.g., multiMAUS and Z21 app). This opens up the path to your locomotive and model railway enjoyment.

## Smartphone view



## Tablet view





Data: Basic data of the locomotive such as name, pictures, address and decoder type

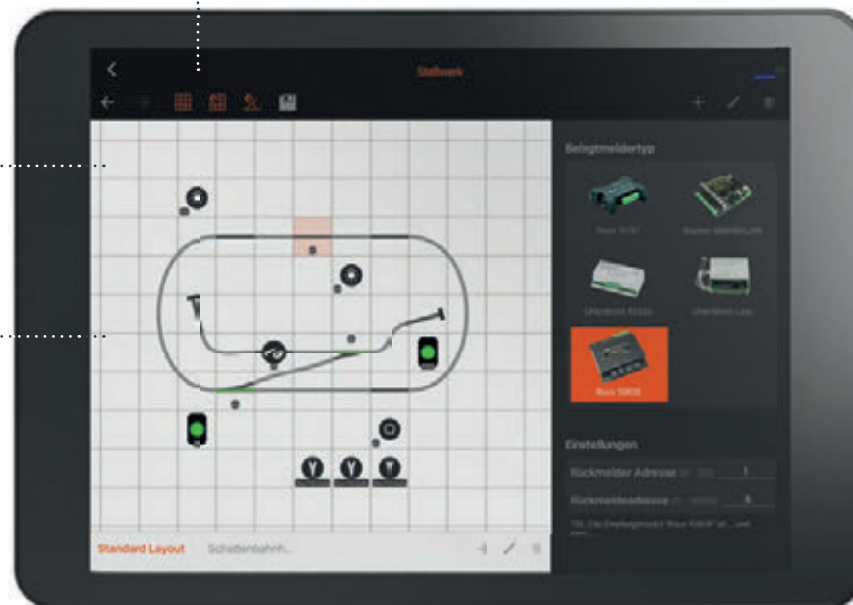
There is a choice of many symbols

Additions are made via the locomotive database: All Roco sound models after 2015 can be imported

Easy customization of the functions and short description

- ▶ DCC and Motorola\*\* formats individually adjustable for each locomotive and magnetic article
- ▶ Read out and get feedback of locomotives via RailCom\*
- ▶ Save and reload database and layout with the import- and export-function
- ▶ Wireless controlling via tablet and smartphone and the WLANMAUS
- ▶ High-capacity administration (up to 9999 locomotive and 2048 turnout addresses)

Create and administer system



Zoomable grid for easy sorting

Simple creation of your platform arrangement

Simple connection/docking of the control centre elements

To make adding your models even easier and more convenient, the Z21 app provides you direct access to the ROCO/FLEISCHMANN locomotive database. Here you can simply enter the article number and automatically import all information, incl. model picture, in your personal Z21 app database.

The Z21 app also makes it very easy for you to create a signal box to suit your model system, and takes into account all relevant accessories (such as, e.g., trade occupied sensors, double-diamond crossings, light signals, etc.). Thanks to the integrated Drag & Drop function, as well as simple connection or docking of the control centre elements, even complex platform configurations are realized easily.





Selection and configuration of accessories

Suitable for the majority of ROCO/FLEISCHMANN decoders



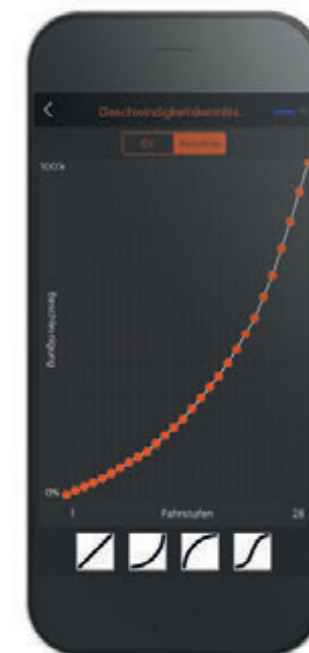
The Z21 app also allows CV programming to optimize the running behaviour of your locomotives.

Models which are already equipped with a RailCom\* compatible ZIMO decoder also allow innovative CV programming using POM. This allows you to directly address the relevant decoder and read out live. The example is especially helpful when customizing the locomotive driving characteristics (such as, e.g., starting voltage, acceleration, and braking behaviour, as well as the sound decoder volume). When doing so, the relevant characteristic curves can be automatically downloaded, evaluated, and processed graphically.



Settings and live data of the Z21

Automatic download of characteristic curves and subsequent evaluation. Graphical representation in plain text



A programming track, as well as the constant repositioning of your locomotives is therefore unnecessary. With decoders or RailCom\* you can of course always revert to traditional CV programming, which the innovative programming help also offers. A new feature for the CV programming is the direct display of the relevant bits, which is a particularly helpful during complex programming, such as, e.g., function mapping.



Foto: M. Leidel





Art. Nr.: 685404



**Decoder with feedback capability, with leads and 6-pole plug (NEM 651)**

**Decoder specifications:**

Dimensions: 14 x 9 x 2,5 mm,  
Lead length approx. 80 mm.  
0,8 A constant current, 1,5 A peak current  
(ca. 20 ms),  
4 function exits,  
current limit for the function exits:  
total: 0,5 A,  
2 logic level exits, SUSI, DCC, MM, RailCom\*  
and much more.

Corresponds to: ZIMO MX622 with leads

Art. Nr.: 685504



**Decoder with feedback capability, with leads and 6-pole plug (NEM 651)**

**Decoder specifications:**

Dimensions: 14 x 9 x 2,5 mm,  
Lead length approx. 35 mm.  
0,8 A constant current, 1,5 A peak current  
(ca. 20 ms),  
4 function exits,  
current limit for the function exits:  
total: 0,5 A,  
2 logic level exits, SUSI, DCC, MM, RailCom\*  
and much more.

Corresponds to: ZIMO MX622 with leads

Art. Nr.: 685305



**Decoder with feedback capability, with integrated 6-pole plug (NEM 651)**

**Decoder specifications:**

Dimensions: 13 x 9 x 2,6 mm,  
0,8 A constant current, 1,5 A peak current  
(ca. 20 ms),  
6 function exits,  
current limit for the function exits:  
total: 0,5 A,  
2 logic level exits, SUSI, DCC, MM, RailCom\*  
and much more.

Corresponds to: ZIMO MX617N

Art. Nr.: 686101



**Decoder with feedback capability, with integrated 6-pole plug (NEM 651)**

**Decoder specifications:**

Dimensions: 14 x 9 x 2,5 mm,  
0,8 A constant current, 1,5 A peak current  
(ca. 20 ms),  
4 function exits,  
current limit for the function exits:  
total: 0,5 A,  
2 logic level exits,  
2 servo control lines SUSI, DCC, MM, Rail-  
Com\* and much more.

Corresponds to: ZIMO MX622N

For further technical data please see data sheet of the article. (Downloads)



Photo: Peter Stoeß

Art. Nr.: 686201



**Decoder with feedback capability, with leads and 8-pole plug (NEM 652)**

**Decoder specifications:**

Dimensions: 14 x 9 x 2,5 mm,  
0,8 A constant current, 1,5 A peak current  
(ca. 20 ms),  
4 function exits,  
current limit for the function exits:  
total: 0,5 A,  
2 logic level exits,  
2 servo control lines SUSI, DCC, MM, RailCom\*  
and much more.

Corresponds to: ZIMO MX622R

Art. Nr.: 685101



**Decoder with feedback capability, with Next18 interface (NEM 662)**

**Decoder specifications:**

Dimensions: 15 x 9,5 x 2,8 mm,  
0,7 A constant current,  
4 function exits,  
4 logic level exits, 2 of them as servo control  
lines or SUSI, equipped with all ZIMO characteris-  
tics: DCC, MM, SUSI, RailCom\*, NMRA,  
ZIMO function mapping  
and much more.

Corresponds to: ZIMO MX618N

Art. Nr.: 685602



**Miniature sound decoder with feedback capability, with Next18 interface (NEM 662)**

**Decoder specifications:**

Dimensions: 25 x 9,5 x 4 mm  
0,8 A - 1W audio,  
4 function exits,  
4 logic level exits, 2 of them as servo control  
lines or SUSI, equipped with all ZIMO characteris-  
tics: DCC, MM, SUSI, RailCom\*, NMRA, ZIMO  
Function mapping and much more.

Corresponds to: ZIMO MX658N18

Art. Nr.: 687701



**Miniature sound decoder with feedback capability, with 6-pole plug (NEM 651)**

**Decoder specifications:**

Dimensions: 23 x 9 x 4 mm,  
0,7 A constant current,  
1,5 A peak current  
4 function exits, current limit for the function  
exits: total: 0,5 A  
2 logic level exits, SUSI, DCC, MM, RailCom\*,  
8 Ohm, 1W, 32 Mbit and much more.

Corresponds to: ZIMO MX649N



## Speaker set

Art. Nr.: 10889



With this speaker set you can retrofit sound feature. Complete set with sound box and connection cables.

Dimensions: 10 x 15 x 9 mm



### The new generation of feedback decoders

The characteristics of the locomotive decoders 10894, 10895 and 10896:

Advanced reset and protection functions; all outputs are short-circuit proof. Overcurrent protection for motor and function outputs by switching off and automatic restart. DC and AC analogue operation, with optional unregulated or load-sensing motor control. Software update capability via Z21 (An update via the z21 from the starter sets is not possible). Low-noise motor control, suitable for all kinds of DC and bell-type armature motors. Full NMRA function mapping with enhancements; Dimming, flashing, high beam / low beam switchover via function key. Time limit of the coupler control for overload protection (ROCO-Digi-coupling). Support of braking distances; Locomotive addresses are programmable; Comfortable change of the operating parameters, so the loco does not have to be opened.

The characteristics of the sound decoders 10890, 10891, 10892 and 10893 (can be used in addition to the loco decoders):

Powerful sound amplifier. Acceleration and load dependency of sound reproduction. Loading of sound projects is possible.

Detailed technical information about the decoders can be found in the operating instructions as well as on:

[www.zimo.at](http://www.zimo.at)

## 6-pole decoder (NEM 651)

Art. Nr.: 10887



NEW

6-pin decoder, angled pins; can be updated; multiprotocol operation possible; motor control; braking tracks supported; locomotive addresses programmable; comfortable change of operating parameters possible: i.e. the locomotive does not have to be opened; overcurrent protection; RailCom\* Suitable for Gauge H0e, TT and N.

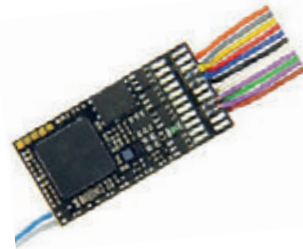
### Decoder specifications:

- ▶ DCC + RailCom\*, DC analogue, MM, AC analogue
- ▶ Dimensions: 13 x 9 x 2.6 mm
- ▶ 0,7 A motor, total (peak 1.5 A)
- ▶ 6 function outputs
- ▶ 4 outputs for additional functions

Corresponds to: ZIMO MX617L

## 8-pole sound decoder (NEM 652)

Art. Nr.: 10890



Sound decoder with feedback capability with wires and 8-pole plug RailCom\* and updatable. multiprotocol operation possible; motor control; braking tracks supported; locomotive addresses programmable; NMRA-compatible; comfortable change of operating parameters possible: i.e. the locomotive does not have to be opened; overcurrent protection; DCC+RailCom\*, DC analogue, MM, AC analogue.

### Decoder specifications:

Motor 1,2 A , total (peak 2,5 A)  
10 function outputs  
2 outputs for additional functions, Servo control cables or SUSI  
Function low voltage 5 V (200 mA)  
External energy storage (16 V) directly connectable  
3 Watt audio, 4–8 Ohm, 32 Mbit, 6 channels  
Dimensions: 30 x 15 x 4 mm

Corresponds to: ZIMO MX645R

## PluX22 sound decoder (NEM 658)

Art. Nr.: 10891



PluX22 sound decoder with feedback capability, with 22-pole plug RailCom\* and updatable. multiprotocol operation possible; motor control; braking tracks supported; locomotive addresses programmable; NMRA-compatible; comfortable change of operating parameters possible: i.e. the locomotive does not have to be opened; overcurrent protection; DCC+RailCom\*, DC analogue, MM, AC analogue.

### Decoder specifications:

Motor 1,2 A , total (peak 2,5 A)  
9 function outputs  
2 outputs for additional functions, Servo control cables or SUSI  
Function low voltage 5 V (200 mA)  
External energy storage (16 V) directly connectable  
3 Watt audio, 4–8 Ohm, 32 Mbit, 6 channels  
Dimensions: 30 x 15 x 4 mm

Corresponds to: ZIMO MX645P22

## 8-pole sound decoder (NEM 652)

Art. Nr.: 10892



Sound decoder with feedback capability with wires and 8-pole plug RailCom\* and updatable. multiprotocol operation possible; motor control; braking tracks supported; locomotive addresses programmable; NMRA-compatible; comfortable change of operating parameters possible: i.e. the locomotive does not have to be opened; overcurrent protection; DCC+RailCom\*, DC analogue, MM, AC analogue.

### Decoder specifications:

Motor 0,8 A , total (peak 1,5 A)  
6 function outputs  
2 logic level outputs for additional functions, Servo control cables or SUSI  
1 Watt audio, 8 Ohm, 32 Mbit, 6 channels  
Dimensions: 20 x 11 x 4 mm

Corresponds to: ZIMO MX648R

## PluX16 sound decoder (NEM 658)

Art. Nr.: 10893



PluX16 sound decoder with feedback capability, with 16-pole plug RailCom\* and updatable. multiprotocol operation possible; motor control; braking tracks supported; locomotive addresses programmable; NMRA-compatible; comfortable change of operating parameters possible: i.e. the locomotive does not have to be opened; overcurrent protection; DCC+RailCom\*, DC analogue, MM, AC analogue.

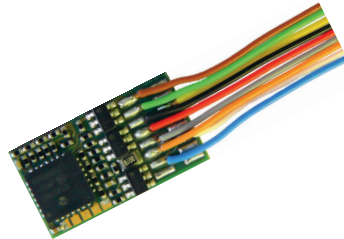
### Decoder specifications:

Motor 0,8 A , total (peak 1,5 A)  
4 function outputs  
2 logic level outputs for additional functions, Servo control cables or SUSI  
1 Watt audio, 8 Ohm, 32 Mbit, 6 channels  
Dimensions: 20 x 11 x 4 mm

Corresponds to: ZIMO MX648P16

## 8 pole decoder (NEM 652)

Art. Nr.: 10894



Decoder with feedback capability with wires and 8-pole plug RailCom\* and updatable. multiprotocol operation possible; motor control; braking tracks supported; locomotive addresses programmable; NMRA-compatible; comfortable change of operating parameters possible: i.e. the locomotive does not have to be opened; overcurrent protection; DCC+RailCom\*, DC analogue, MM, AC analogue

### Decoder specifications:

Motor 1,0 A , total (peak 2,5 A)  
6 function outputs  
2 logic level outputs for additional functions, Servo control cables or SUSI  
Dimensions: 20 x 11 x 3,5 mm

Corresponds to: ZIMO MX630R

## PluX16 decoder (NEM 658)

Art. Nr.: 10895



PluX16 decoder with feedback capability with 16-pole plug RailCom\* and updatable. multiprotocol operation possible; motor control; braking tracks supported; locomotive addresses programmable; NMRA-compatible; comfortable change of operating parameters possible: i.e. the locomotive does not have to be opened; overcurrent protection; DCC+RailCom\*, DC analogue, MM, AC analogue

### Decoder specifications:

Motor 1,0 A , total (peak 2,5 A)  
6 function outputs  
2 logic level outputs for additional functions, Servo control cables or SUSI  
Dimensions: 20 x 11 x 3,5 mm

Corresponds to: ZIMO MX630P16

## PluX22 decoder (NEM 658)

Art. Nr.: 10896



PluX22 decoder with feedback capability with 22-pole plug RailCom\* and updatable. multiprotocol operation possible; motor control; braking tracks supported; locomotive addresses programmable; NMRA-compatible; comfortable change of operating parameters possible: i.e. the locomotive does not have to be opened; overcurrent protection; DCC+RailCom\*, DC analogue, MM, AC analogue

### Decoder specifications:

Motor 1,2 A , total (peak 2,5 A)  
9 function outputs  
2 logic level outputs for additional functions, Servo control cables or SUSI  
Dimensions: 22 x 15 x 3.5 mm

Corresponds to: ZIMO MX633P22



Please select one of the following transformers or controllers most suited for your model layout:

- The controller set 6725 is best suited for smaller layouts, with just one loco, a few wagons, points and signals. (The current requirements of this set should not exceed 850 mA, otherwise the larger transformer 670601 should be used.)
- For a layout with illuminated coaches and lightings, the transformer 6735 would be our recommendation.
- A light transformer 670601, can be used in addition, if you plan to have a large number of points, street lights or similar accessories.

**Please note:** The current consumption of all of the locos, points and lighting which you wish to use, should not be more than that of the power output of the selected transformer, otherwise it can be overloaded and switch itself off, or the accessories (i.e. point motors) will not function properly.

Art. Nr.: 6725



## Controller set

14 V= / 0,6 A (600 mA) Analogue controller set for D.C. operation

Separate output connection for lighting – and/or electrical accessories, i. e. signals or point motors.

Maximum power rating: 850 mA.

This controller set is best suited for beginners and running just one train.

It consists of one controller and plug-in transformer, designed to compliment each other.

- The controller gives a definite forwards and backwards control and speed settings.
- The control knob clicks gently into a zero position.
- Automatic overload protection.
- Easy connection to the layout using the pressure connection clips.

Art. Nr.: 6735



## MSF controller / transformer

14 V= / 0,55 A (550 mA) controllable DC power for track feed.

14 V~ / 0,5A (500 mA) constant AC power for lighting, signals and point motors.

- This controller / transformer guarantees good running qualities with its multisensible speed controller and definite forwards and backwards control.
- The control knob clicks gently into a zero position.
- Automatic overload protection.
- Easy connection to the layout using the pressure connection clips.

Art. Nr.: 670601



## Light transformer for high capacity

Constant AC power 14V~ as well as

16 V~ / 3.2 A for illumination and electromagnetic items.

2 outputs. Dimensions: 140 x 82 x 60 mm

- This transformer is the high capacity power pack for the operation of electromagnetic items such as signals, point machines, relays, illumination and other accessories of the model railway installation.
- It has an integrated thermal protection switch against short circuit and overload
- Easy connection to the layout using the pressure connection clips.

## The FLEISCHMANN finger tip control panel

Simple to plug together, clear indication panels.  
A robust control panel of FLEISCHMANN switches to make up a model railway signal box.

All switches have indicator panels (e. g. to number the points) and are clearly marked to indicate their function.

Dimension approx:  
60 mm length x 33 mm width x 34 mm height

Art. Nr.: 6920

**Point switch.** To operate 2 points or 2 double slips.

Art. Nr.: 6921

**Signal switch.** With train control - to operate colour light signals *without* electric motor.



Art. Nr.: 6928

**Signal switch.** To operate double-arm semaphore signals.

Art. Nr.: 6927

**Signal switch.** To operate single-arm semaphore signals.

Art. Nr.: 6922

**Impulse switch.** I. e. to operate 4 uncoupler tracks.

Art. Nr.: 6923

**On / off switch.** I. e. to turn power on/ off to circuits, isolated sections or lighting, etc.

Art. Nr.: 6924

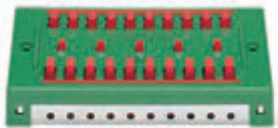
**Reverse switch.** For example to reverse the direction of running.

Art. Nr.: 6925

**Impulse switch.**  
To operate one three-way point.

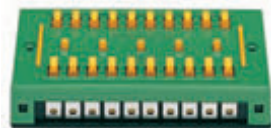
Note: [www.fleischmann.de](http://www.fleischmann.de) >Service > Downloads gives you lots of additional information about the FLEISCHMANN finger tip control panel

Art. Nr.: 6940



**Distributor panel, 2 pole,**  
for 10 connections each side

Art. Nr.: 6941



**Connector panel.**  
To extend and connect up to 10 wires.

Art. Nr.: 6950



### Track rectifier

Track rectifier bridges over isolating connections in just one direction (for running through signaled sections in the opposite direction) low speed settings.

**Not suitable for use with digital layouts.**

Art. Nr.: 6955



### Universal relay

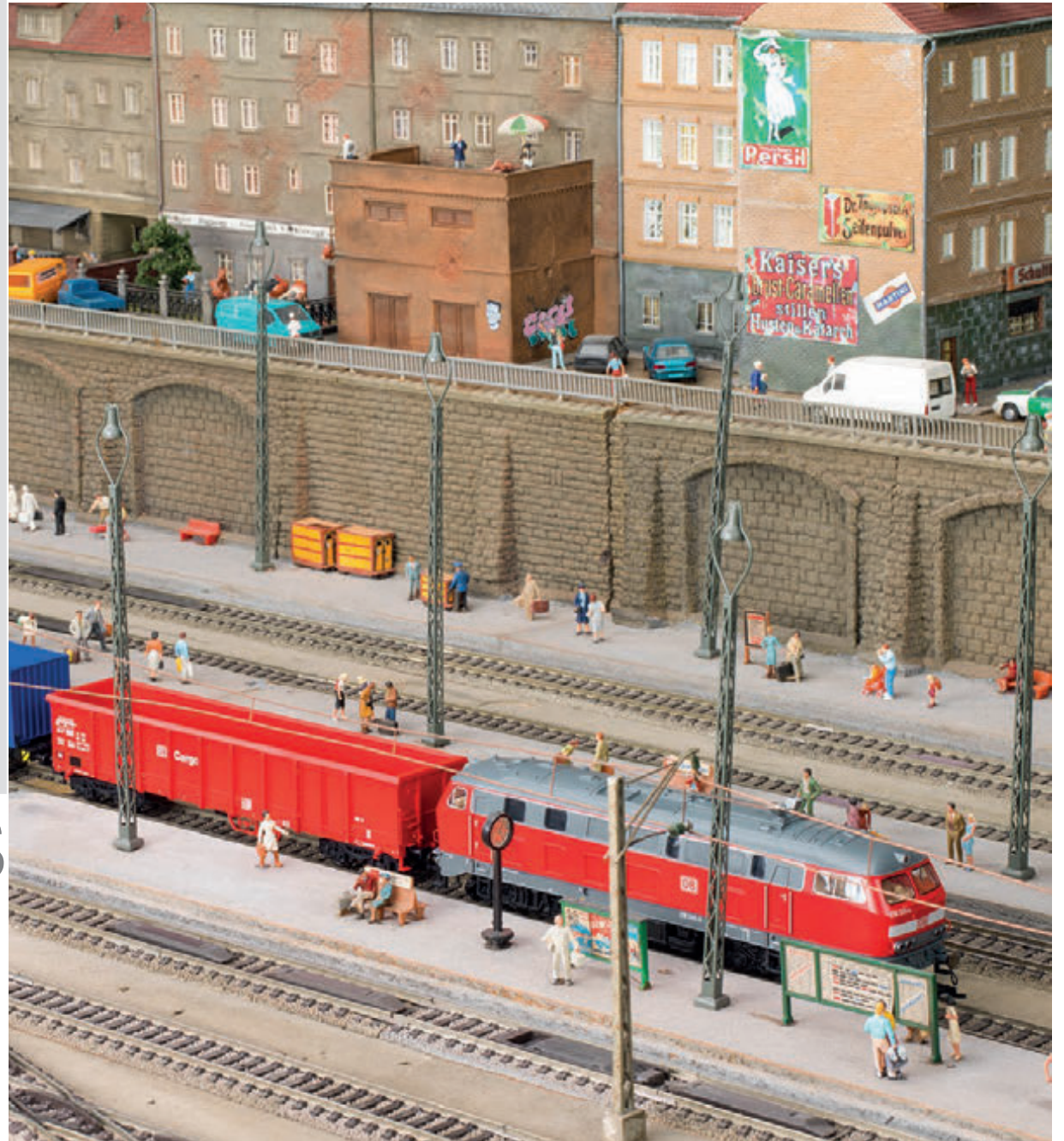
2 separate banks of switches (i.e for automatic switching, light signals, train control etc.)  
Current output up to 3 A at 25 V per switch contact.





# FLEISCHMANN

## TRACK SYSTEMS











### The N gauge track with ballast bed

Technology:

- Running with the internationally widespread 2 rail DC system
- Ideal current carrying capacity even over long distances through solid profile rails made of high quality nickel silver alloy

Visual appearance:

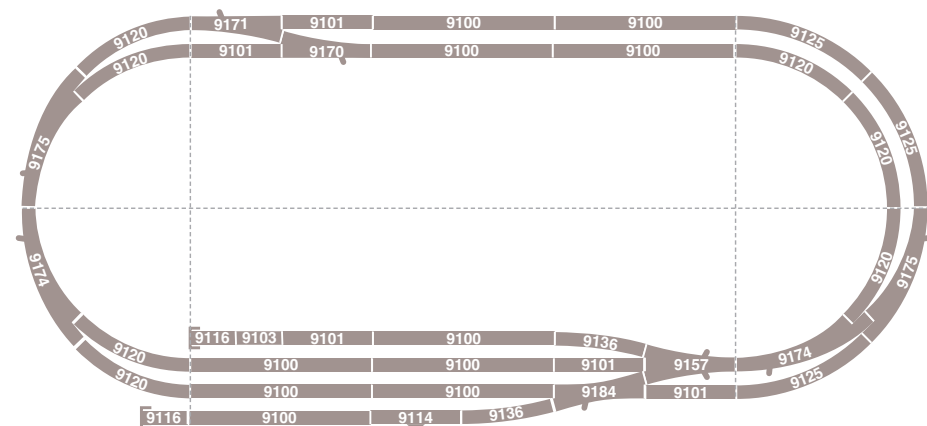
- Realistic appearance with true to the original wood sleepers and ballast bed



Clear track geometry:

- Play and model train layout with many combining track layout alternatives
- Grid with track geometry
- All switches can be upgraded to electrical remote control by plugging in an electric drive

The N gauge track system:





### The trackwork

The perfect reproduction of the ballast with its irregular outer edging, as well as the finely engraved imitation wooden sleepers – even the wood grain is visible – make this trackwork especially realistic. The width and height of the ballast bed has been so selected so that when laying tracks in the station area a closer distance between parallel tracks can be obtained without the ballast getting in the way.

### The track geometry

The basis of the track geometry is the straight „basis“ track 9101. Naturally, all standard points, three-way points, curved points and double slips are set out within the same grid network. Curved tracks with 4 radii, a flexible ballasted track, with which one can „curve“ extremely large radii, straight-, curved-, three-way points and double slips allow for practically all desired track configurations. Operational tracks complete the layout, like uncoupler tracks as well as a buffer stop track, level crossings and a variable extender track.

### The „intelligent“ points

By simply clipping on an electric motor, all manual points can be converted to electrical operation at any time.

All points are constructed as „thinking“ points. A flick of the wrist, and the current will only flow in the direction in which the points are set.

As delivered, all points are live points, which

means that all tracks permanently conduct power.

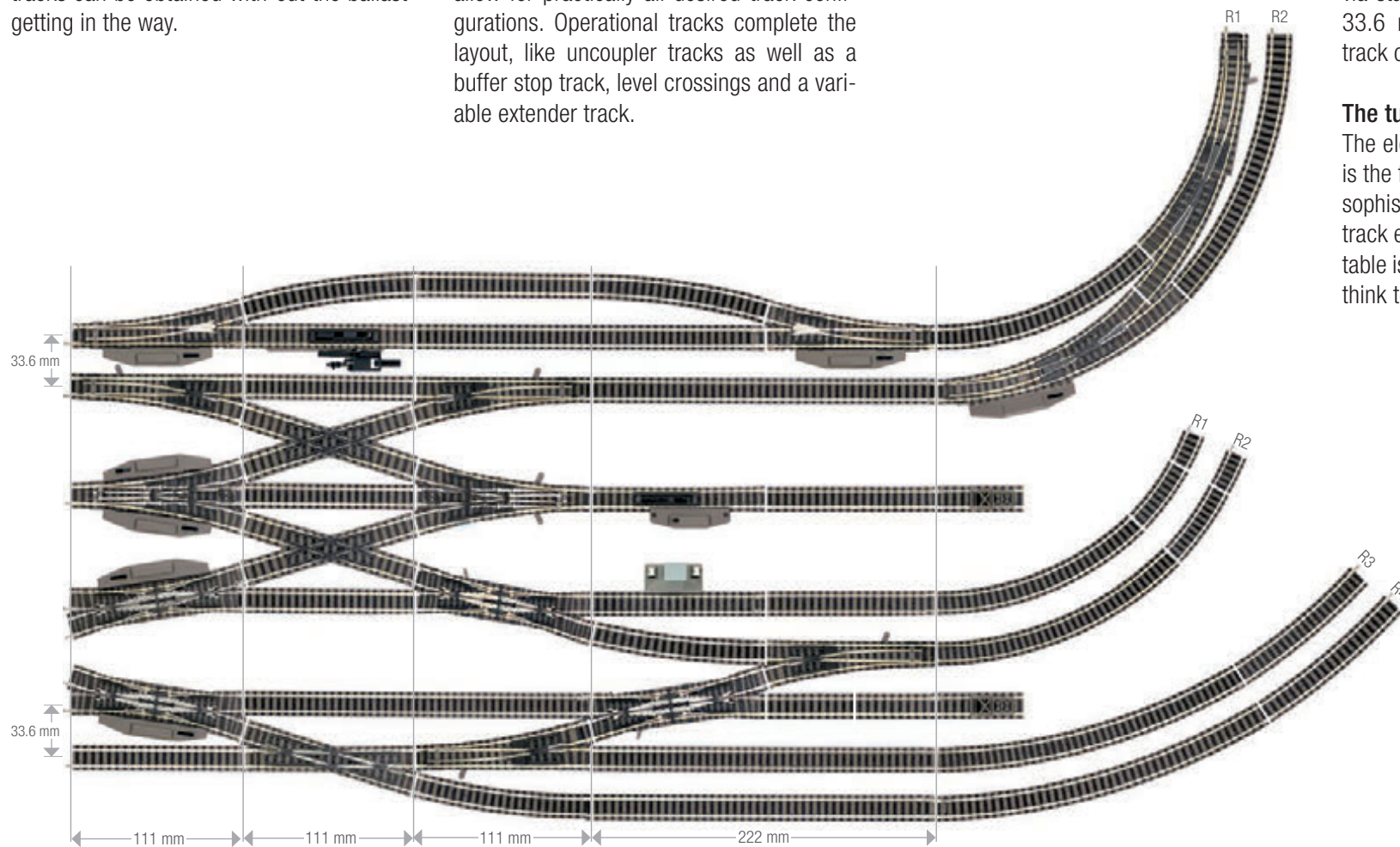
The „thinking“ points allow locos, or loco hauled trains, to be stored in sidings or passing loops without any additional wiring.

### The parallel track distance

Two parallel running tracks, joined together via standard points, have the narrow gap of 33.6 mm (measured from track centre to track centre).

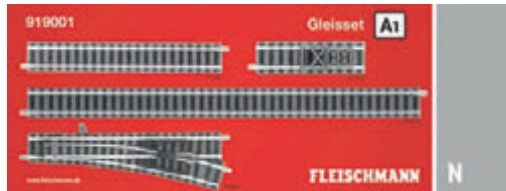
### The turntable

The electrically driven super-model turntable is the focal point of a loco depot. Due to their sophisticated technology concept – each track exit only receives power when the turntable is lined up with it – that means they can think too!





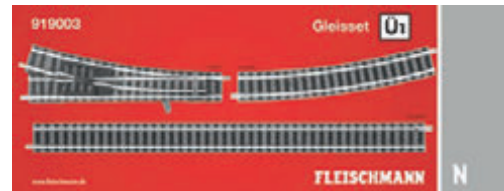
Art. Nr.: 919001



Set A1

Contents: 1 straight track 9100, 1 straight track 9101,  
1 right hand point 9171, 1 buffer stop 9116

Art. Nr.: 919003



Set Ü1

Contents: 2 straight track 9100, 2 curved track 9136  
(opposite curve for points), 1 right hand point 9171

Art. Nr.: 919004



Set Ü2

Contents:  
3 straight tracks 9100, 3 straight tracks 9101,  
2 curved tracks 9136 (opposite curve for points),  
2 manual uncoupler tracks 9114,  
1 left hand point 9170, 1 right hand point 9171

Art. Nr.: 919002



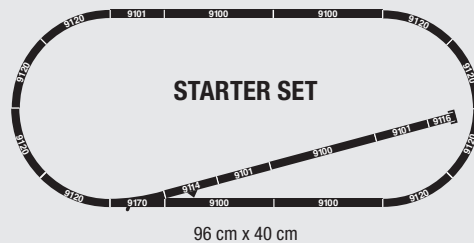
Set BÜ

Contents: 1 straight track 9101, 2 straight tracks 9104,  
1 level crossing 9198

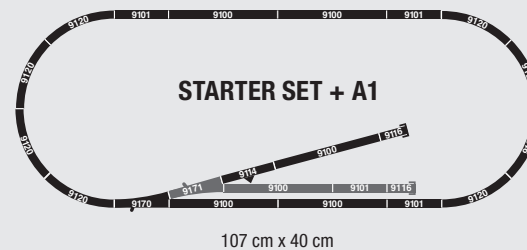


Foto: FLM-Archiv

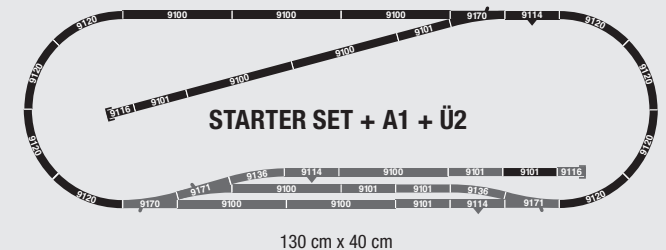
Starter sets:  
[www.fleischmann.de](http://www.fleischmann.de)



96 cm x 40 cm



107 cm x 40 cm



130 cm x 40 cm

Art. Nr.: 919083

DCC digital



Digital set Ü1

#### DCC Digital Track Set Ü1:

Contents:

- 2 straight tracks 9100,
- 2 curved tracks 9136 (opposite curve for points),
- 1 right hand point 9171,
- 2 electric point motors,
- 1 x 9414 (clip-on electric motor for manual uncoupler track 9114),
- 1x 8-fold turnout decoder DCC 10775,
- 1x 3-pole cable 10623,
- 3x 3-pole connector 10603

Art. Nr.: 919084

DCC digital

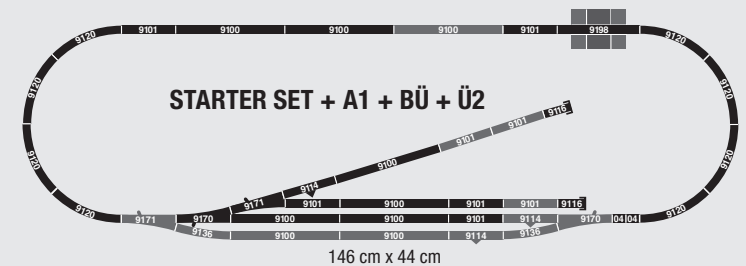
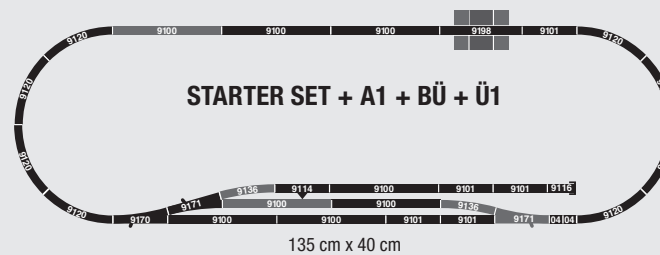
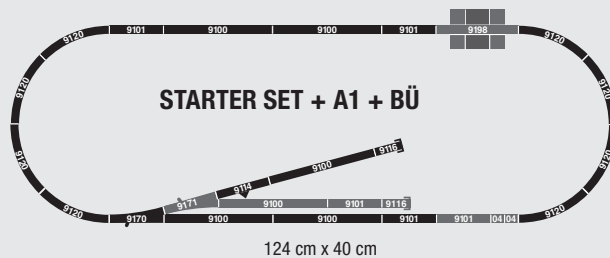


Digital set Ü2

#### DCC Digital Track Set Ü2:

Contents:

- 3 straight tracks 9100,
- 3 straight tracks 9101,
- 2 curved tracks 9136 (opposite curve for points),
- 2 uncoupler tracks with electric motor 9112,
- 1 x 9414 (clip-on electric motor for manual uncoupler track 9114),
- 1 left hand point 9170, 1 right hand point 9171,
- 3 electric point motors
- 1x 8-fold turnout decoder DCC 10775,
- 1x 3-pole cable 10623,
- 6x 3-pole connector 10603





With the combined track sets, you can expand step by step your beginner's layout to a large size and complex model railway layout.

### Station set B

Art. Nr.: 9189



Contents:

4 straight tracks 9100, 2 uncoupler tracks 9114 as well as 1 left hand curved point 9174 and 1 right hand curved point 9175 to create a passing loop of longer „platform tracks“.

### Station set C

Art. Nr.: 9190



Contents:

6 straight tracks 9100, 1 uncoupler track 9114, 2 buffer stops 9116, 2 curved tracks 9136 as well as 1 left hand point 9170 and 1 right hand point 9171.

### Complete set D

Art. Nr.: 9191

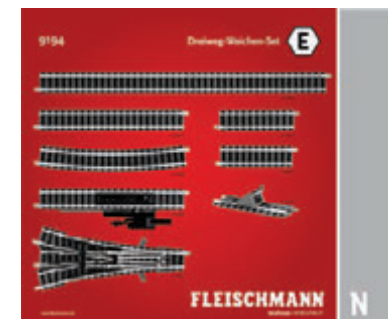


Contents:

12 straight tracks 9100, 8 curved tracks 9125, 1 left hand curved point 9174, 1 right hand curved point 9175 and 1 pair of power feed clips 9400.

### Three-way point set E

Art. Nr.: 9194



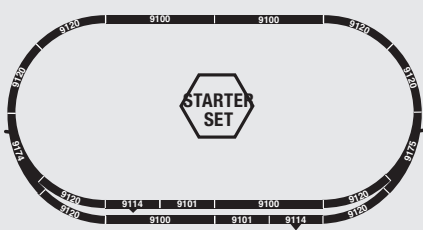
Contents:

1 three-way point 9157, 2 uncoupler tracks 9114, 2 buffer tops 9116, 13 straight tracks (7 x 9100, 3 x 9101, 2 x 9102, 1 x 9103), 2 curved tracks 9136.

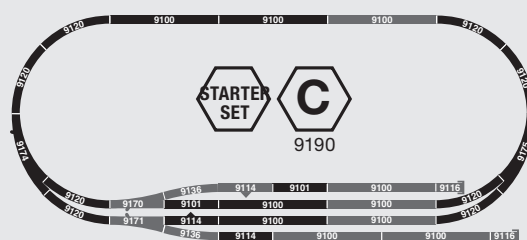
All track sets: Points and uncoupler tracks are adaptable with electric point motors.

## Possibilities of enlargement with track sets

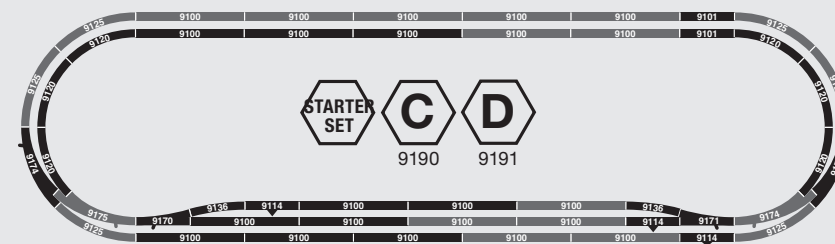
Example 1: Extension of a starter set with passing loop:



85 cm x 45 cm



107 cm x 48 cm

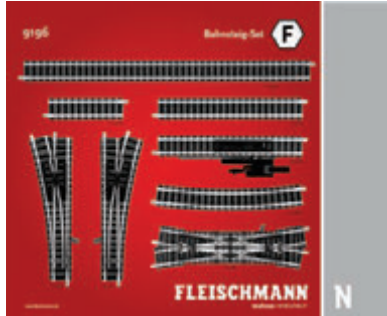


170 cm x 47 cm

Starter sets:  
[www.fleischmann.de](http://www.fleischmann.de)

## Platform set F

Art. Nr.: 9196



### Contents:

1 left hand point 9170, 1 right hand point 9171,  
1 double slip 9184, 13 straight tracks (8 x 9100,  
3 x 9101, 2 x 9102), 2 uncoupler tracks 9114 and  
2 curved tracks 9136.

## Electro set

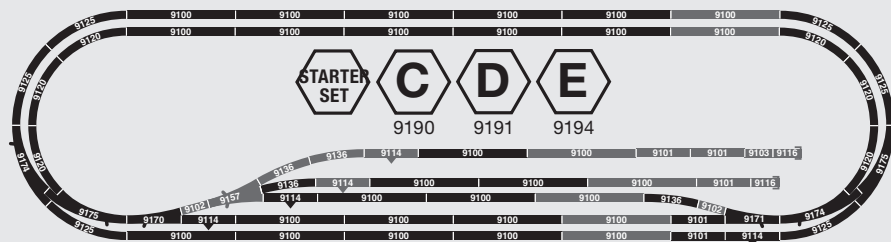
Art. Nr.: 919501



To retrofit manual points with electric drive.

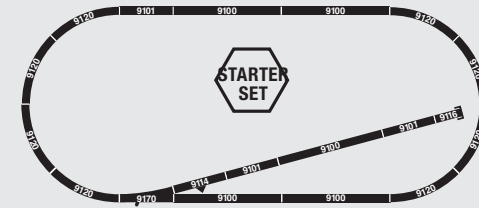
The set can convert manually operated points to electro-magnetic points. Remote control via control switch.  
Can be used for standard, curved, three-way and double slip points.

Contents: 2 electric point motors, 1 control switch 6920.  
One electric set is sufficient for the electrification of each track set 9189, 9190, 9191 and 9194.

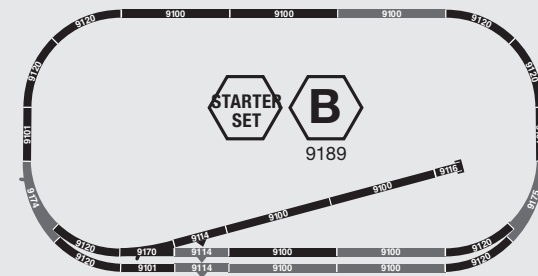


181 cm x 47 cm

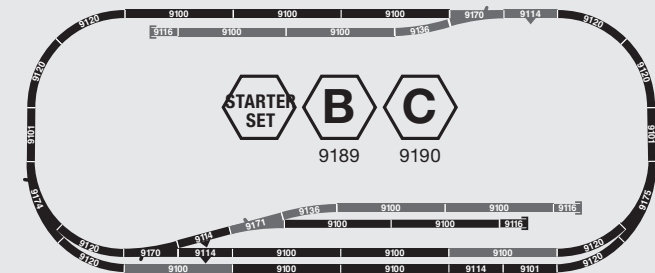
### Example 2: Extension of a starter set with turnout:



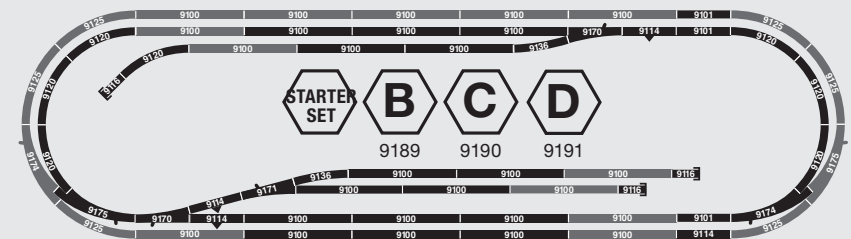
96 cm x 40 cm



107 cm x 56 cm



118 cm x 56 cm



170 cm x 47 cm



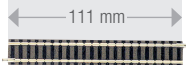
## Straight tracks

Art. Nr.: 9100



Straight track, length: 222 mm.  
(2x basic track). 20 pc./pack.

Art. Nr.: 9101



Straight track, length 111 mm (basic track).  
20 pc./pack.

Art. Nr.: 9102



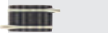
Straight track („diagonal“ track), length: 57.5 mm.  
20 pc./pack.

Art. Nr.: 9103



Straight track, length 55,5 mm (1/2 length of basic track 9101).  
20 pc./pack.

Art. Nr.: 9104



Straight track, length 27.75 mm (1/4 length of basic track 9101).  
20 pc./pack.

Art. Nr.: 9110



Straight extendable track, length 83 mm to 111 mm.  
5 pc./pack.

Art. Nr.: 9112



Uncoupler track with electric motor, length 111 mm.

Art. Nr.: 9114



Manual uncoupler track, length 111 mm.  
5 pc./pack.

Art. Nr.: 9414



Clip-on electric motor for the manual uncoupler track 9114.

Art. Nr.: 9115



Track with built in switch contact, length 55.5 mm.  
2 pc./pack.  
The switching impulse (max. 800 mA) is activated  
by the passage of the magnets 942601 or 942701.

Art. Nr.: 9108



2-pole power feed track, length 111 mm,  
with interference suppressor.

9108: The suppressor is concealed inside the lineside hut.  
**Not suitable for use with digital operation.**

Art. Nr.: 9116



Buffer stop, length 57.5 mm. 5 pc./pack.

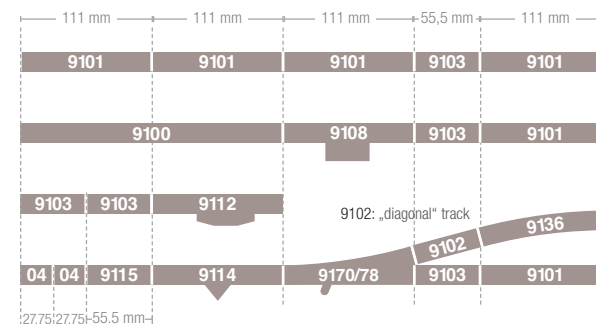
## TRACK SETS WITH BALLAST BED

### The basic track:

Basis of the track geometry is the 111 mm track piece 9101.

The straight section of the normal switch, the three-way switches and the double slip switches are also based on this track.

For longer straight distances the track 9100 with double length is suitable.



### Flexible tracks

Art. Nr.: 9106



Flexible track, length 777 mm.

Due to its flexibility, this track is ideal for gentle, flowing curves to show off the trains. Ideally suited for long straight lengths. 20 pc./pack.

Art. Nr.: 9119



Flexible rack track, length 222 mm. 10 pc./pack..

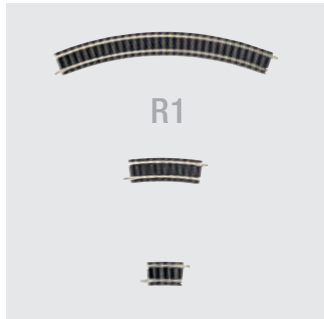
This track can be curved to the desired radius, even down to the minimum radius R1 (9120). The rack section always remains the same length, although the rail section will need to be trimmed to length accordingly. - Can be joined using the rail joiners 9403 or 9404.



Photo: FLM-Archiv

## Curved tracks

Art. Nr.: 9120



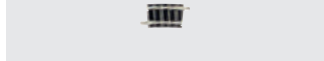
Curved track, 45°, radius R1: 192 mm.  
Outer diameter: 401 mm. 8 tracks make up a circle.  
20 pc./pack.

Art. Nr.: 9122



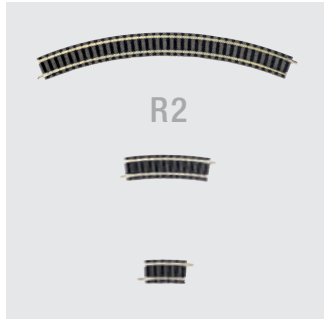
Curved track, 15°, radius R1: 192 mm.  
20 pc./pack.

Art. Nr.: 9123



Curved track, 7.5°, radius R1: 192 mm.  
20 pc./pack.

Art. Nr.: 9125



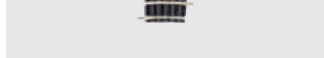
Curved track, 45°, radius R2: 225.6 mm.  
Outer diameter: 468 mm. 8 tracks make up a circle.  
20 pc./pack.

Art. Nr.: 9127



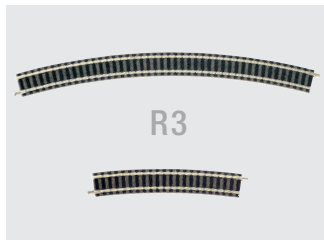
Curved track, 15°, radius R2: 225,6 mm.  
20 pc./pack.

Art. Nr.: 9128



Curved track, 7.5°, radius R2: 225,6 mm.  
20 pc./pack.

Art. Nr.: 9130



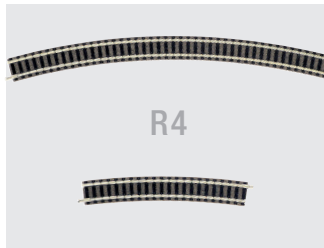
Curved track, 30°, radius R3: 396.4 mm.  
Outer diameter: 810 mm, 12 tracks make up a circle.  
20 pc./pack.

Art. Nr.: 9131



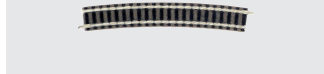
Curved track, 15°, radius R3: 396.4 mm.  
20 pc./pack.

Art. Nr.: 9135



Curved track, 30°, radius R4: 430 mm.  
Outer diameter: 877 mm. 12 tracks make up a circle.  
20 pc./pack.

Art. Nr.: 9136

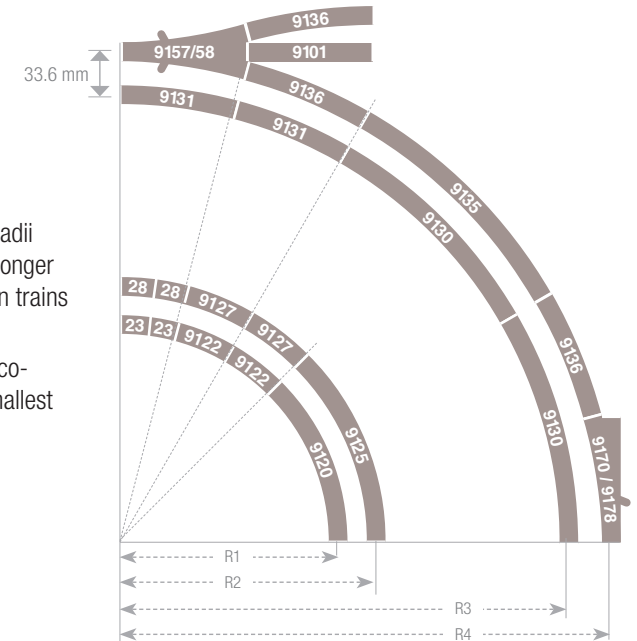


Curved track, 15°, radius R4: 430 mm.  
20 pc./pack.  
Opposite curve for points.

### The track radii:

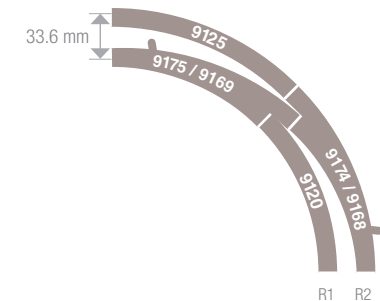
The distance of the track radii is 33.6 mm, so that even longer vehicles do not touch when trains meet and enter the curve.

Even the longest tender locomotives can run on the smallest radius R1!



### Curved points

to change from radius R1 to radius R2 and viceversa.



### Opposite curve 9136

for straight points, three-way-points, double-slips and crossings 15°.





## Points

Art. Nr.: 9170



Left hand standard point for manual operation,  
length 111 mm

Art. Nr.: 9171



Right hand standard point for manual operation,  
length 111 mm

Art. Nr.: 9174



Left hand curved point for manual operation

Art. Nr.: 9175



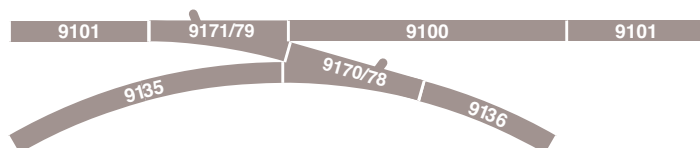
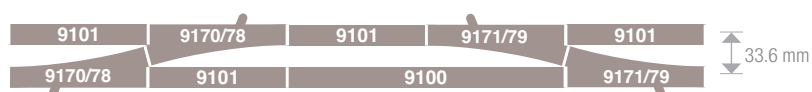
Right hand curved point for manual operation

## Straight points (standard and three-way points, double slips):

Length 111 mm (standard length), branch-off angle 15°, branch-off radius 430 mm.

The branch-off tracks correspond to track 9136 (15°).

The track 9136 serves as opposite curve and leads to the parallel track distance of 33.6 mm.



All points are adaptable with electric point motors.

## TRACK SETS WITH BALLAST BED

## Points with current-conducting frog

Art. Nr.: 9178



Left hand standard point for manual operation,  
with current-conducting frog, length 111 mm

Art. Nr.: 9179



Right hand standard point for manual operation,  
with current-conducting frog, length 111 mm

Art. Nr.: 9168

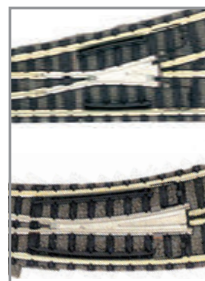


Left hand curved point for manual operation,  
with current-conducting frog

Art. Nr.: 9169



Right hand curved point for manual operation,  
with current-conducting frog



## The current-conducting frog

On several points, the current-conducting frog ensures good electrical contact when running through frog area of the points.

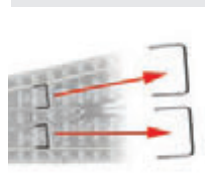
These points cannot be „slipped“ through whilst set in the wrong direction, otherwise this can cause a short circuit. Therefore, the points must always be set in the right direction.

The polarisation of the frog, in other words, the changing from „positive“ to „negative“, which is essential as the points are set, is carried out automatically when setting the point.

As delivered, **all** points are so-called live points, i.e. all track exits conduct electricity and can be run over by any powered vehicle.

If the two wire bridge clips are taken out of the point, then the current only flows in the track exit for which the point is set.

This makes it possible to store trains without power, without any additional wiring. For example, a fast express can pass a stored goods train on a parallel track.



Point set to "straight on"

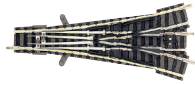


Point set to "branch-off"



## Three-way point and crossings

Art. Nr.: 9157



Three-way point for manual operation, length: 111 mm

Art. Nr.: 9161



Crossover track 30°, length: 115 mm  
(= 2 x „diagonal track“ 9102).  
Fitted with guard-rails and frogs.  
The two routes are insulated from one another.

Art. Nr.: 9162



Crossover track 15°, left hand crossing, length: 111 mm

Art. Nr.: 9163



Crossover track 15°, right hand crossing, length: 111 mm

### 9162 / 9163:

The two tracks which cross over each other are electrically separated, so that two different track circuits can cross.

Art. Nr.: 9184



Double slip for manual operation, 15°, left hand crossing, length: 111 mm

Art. Nr.: 9185



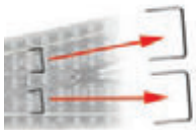
Double slip for manual operation, 15°, right hand crossing, length: 111 mm

### 9184 / 9185:

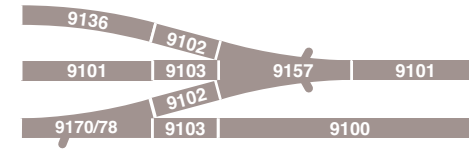
As delivered, all track exits deliver power into one circuit. By removing the wire bridge clips the crossing tracks become electrically isolated from each other.

On the „crossover“ setting, another track circuit can be traversed.

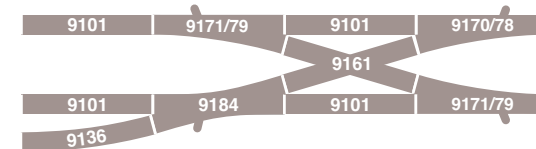
On the „branch-off“ setting, the current is separated at the centre of the points.



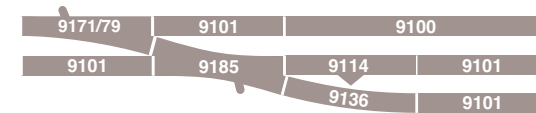
Three-way point:



Crossover track:

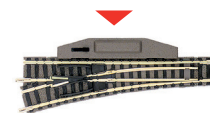


Double slip:



## Ponit accessories

Art. Nr.: 640000



**Electromagnetic universal point motor with end-off switching\*. For all points.**

Prepared to accept the clip-in illuminated point lantern 944001.

This point motor can be either plugged onto the railway layout board or underneath the railway layout board. For this purpose, a slot is cut into the railway layout where the point motor comes to rest.

\* The universal point motor 640000 replaces the items 942101 and 942201.

**All points are adaptable with electric point motors.**

Art. Nr.: 944001



Illuminated point lantern signal for N tracks with ballast bed. Clip onto the point motor 640000.

Connecting pieces to the point motor are included.





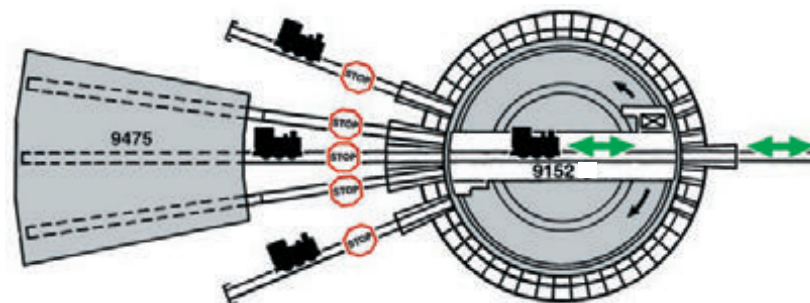
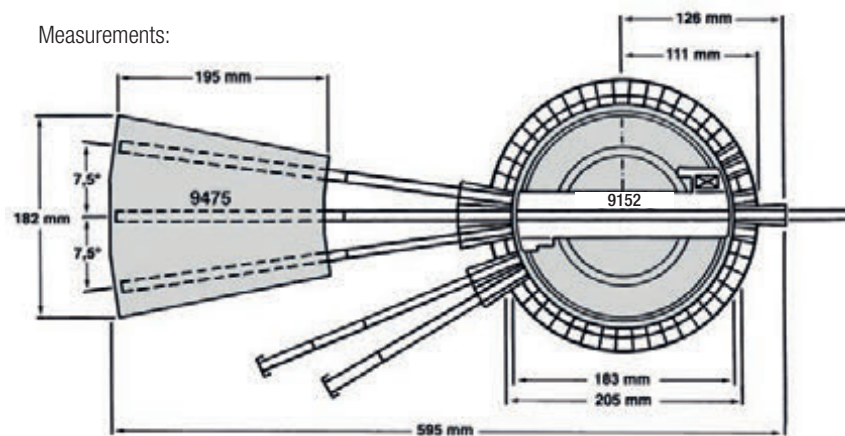
Art. Nr.: 9152

**Electrically operated turntable with individual electrically switchable track exits, with turntable switch 6910. Length of the turning bridge: 183 mm.**

The turntable is prototypically mounted in a recess and fitted with accurate details. As delivered, there are 6 exit tracks and 4 over-run ends.

The exit tracks can be unclipped and repositioned as desired, or extended using the turntable extension set 9153 right up to the complete 48 exits.

Measurements:



The „thinking“ turntable

**Note:**

Control your turntable easily – with TURN-CONTROL, the electronic turntable control (item no. 6915).

Art. Nr.: 9153

**Extension set for turntable 9152**

Containing 3 exit tracks and 3 over-run ends.

**The „thinking“ turntable:**

Using the switch 6910, will determine the rotation direction in order to access the desired exit. The power feed is activated within the turning bridge. The power to the track exit with which the turntable is lined up, either left or right, can be fed with power using the switch 6910. All other track exits remain isolated (even those opposite each other).

A maximum of 48 track exits can be controlled and electrically operated without the need for any additional wiring.

Art. Nr.: 6915



## TURN-CONTROL

### Turntable Controller with track pre-selection

#### For analogue and digital operation

For use in conjunction with the FLEISCHMANN turntable 9152.

Suitable for operation with 2-rail DC operation and with the digital systems – DCC and FMZ.

**To put into operation, no changes or alterations to the turntable are necessary.**

#### Advantages:

- An LCD display gives a visual indication of the setting of the turntable bridge, the location of the track exits and shows the active track exit, together with additional functions.
- Symbols of the active functions give it a simple, user-friendly operation. Each track exit can be individually controlled.
- By pressing a button, a comfortable turning of a locomotive is possible.
- Because the polarity control is catered for by the switch, when rotating through 360°, the turntable is protected against short circuit.

Art. Nr.: 6910



### Turntable switch

To operate the electric turntable 9152 with electrically switchable track exits  
Ø 63 mm

Art. Nr.: 9475



### Locomotive roundhouse (kit).

Suitable for use with turntable 9152.

3 locomotive stalls set at 7.5° track exits, with 8 operating doors. Outstanding plastic detailing with several individual pieces for individual decoration are included. The doors work independently of each other and are automatically closed and opened by entering and exiting locomotives.

Several roundhouse kits can be assembled alongside each other.

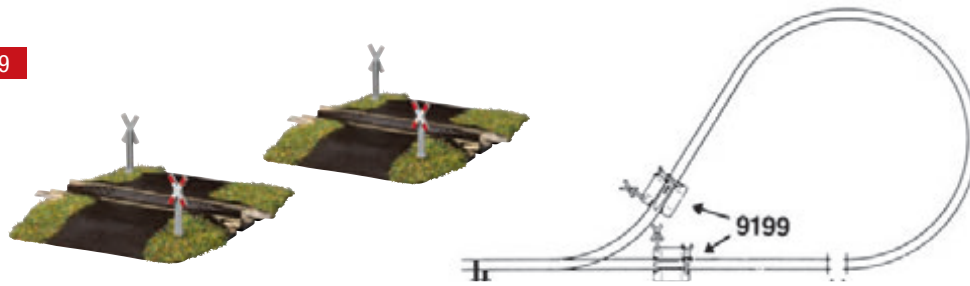
Foto: M. Leidel



On the rear of the shed, one set of doors can be opened for running through.



Art. Nr.: 9199

**Reverse loop set**

2 x 55.5 mm lengths of track looking like unguarded crossings.  
With warning crosses, re-railing section and isolating rail joiners.

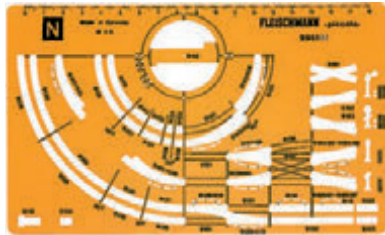
Not suitable for digital operation.

Art. Nr.: 9499

**Ungated level crossing**

With warning crosses, re-railing section and isolating rail joiners.  
Length 55.5 mm (1/2 length of the basic track 9101)

Art. Nr.: 995101

**Track Stencil**

The track stencil is handy for designing layouts.  
Suitable for N tracks with ballast bed.  
Scale 1:5.

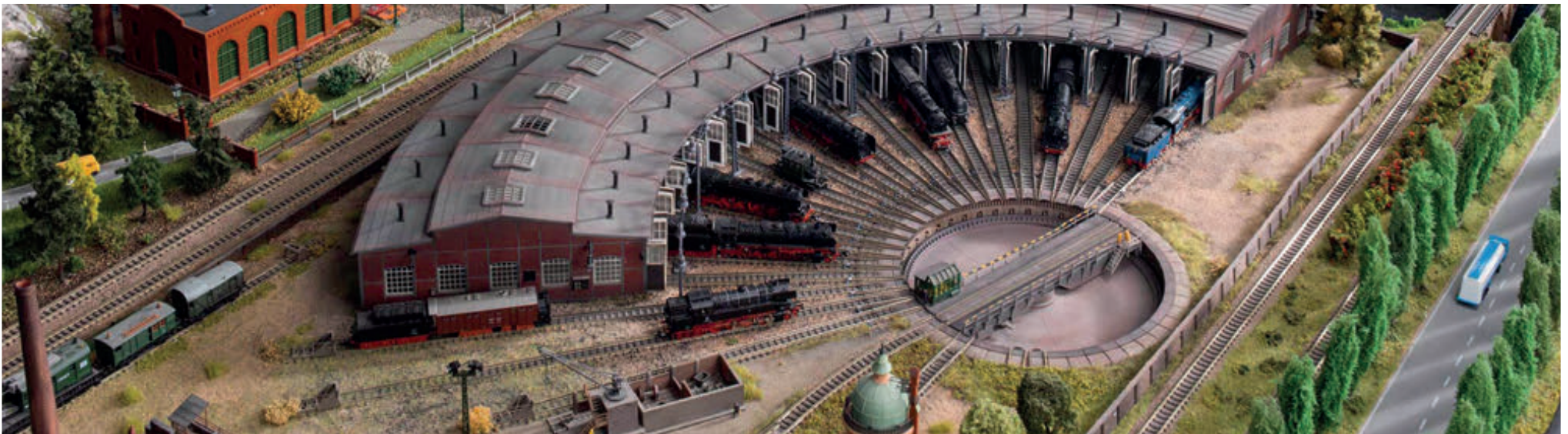






Foto: M. Leidel





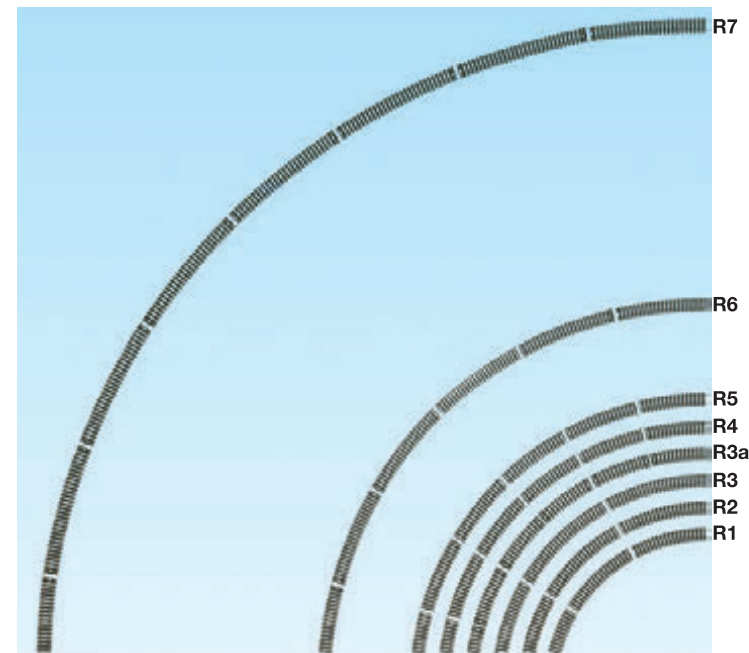
## The N gauge track without ballast bed – the great value track system

The basis of every model railway layout is the trackwork. A large selection of N tracks is now at your disposal, which will fulfil all your requirements as a railway modeller.

There is virtually no limit to your imagination by using the vast array of various track radii, standard points, crossovers, double-slips, the space-saving three-way

points, or the slim angles of the model points. Flexible tracks allow you to create your own trackwork on your model layout to suit your own design.

The tracks are made using nickel silver rails, thus giving you the maximum current carrying capacity, mounted on finely detailed sleepers.



### Flexible tracks

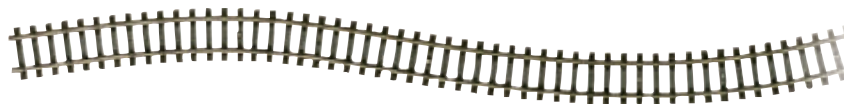
You can choose which of two tracks to use:

the **extra flexible track (22200)** can be curved as desired. It is especially suitable for gentle, winding curves.

However, for making up long straight stretches, the rather **more rigid flexible track (22201)** would be more suitable.

Both tracks have a length of 730 mm, approximately 7x length of the standard straight track 22203. You need rail joiners 22213 for both flexible tracks.

Art. Nr.: 22200



Flexible track, length: 730 mm, especially flexible.  
12 pc. per pack.

Art. Nr.: 22201



Flexible track, length: 730 mm, less flexible, more rigid.  
12 pc. per pack.

## Straight tracks

Art. Nr.: 22202



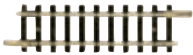
Length: 312.6 mm = 3 x 22203 (standard track). 12 pc./pack.

Art. Nr.: 22203



Length 104.2 mm (standard length). 12 pc./pack.

Art. Nr.: 22204



Length: 54,2 mm. 12 pc./pack.

Art. Nr.: 22205



Length: 50 mm. 12 pc./pack.

Art. Nr.: 22206



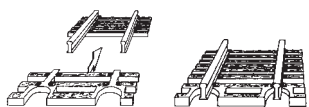
Length: 33,6 mm. 12 pc./pack.

Art. Nr.: 22207



Length: 17,2 mm. 12 pc./pack.

Art. Nr.: 22215



### Sleeper end piece for flexible track.

To enhance the appearance of flexible track ends which have been cut to size, ensuring a correct sleeper spacing. 24 pc./pack.

## Function tracks

Art. Nr.: 22210



### Re-railer track.

Length 104.2 mm (standard length).

Automatic re-railer for vehicles running over the centre section. 12 pc./pack.

Art. Nr.: 22212



### Electromagnetic uncoupler track.

Length 104.2 mm (standard length).

The built-in uncoupling part for the standard coupling can be replaced with the attached uncoupling part for short coupling operations.

Art. Nr.: 22220

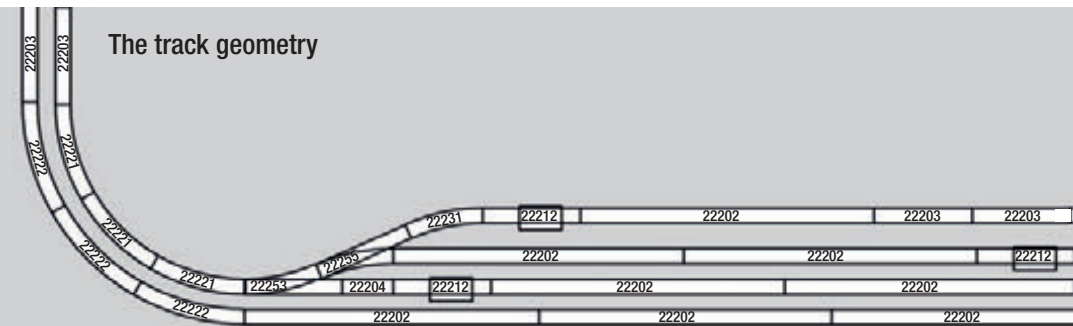


### Feeder track with radio suppressor unit.

Length 104.2 mm (standard length).

Not suitable for use in digital operation.

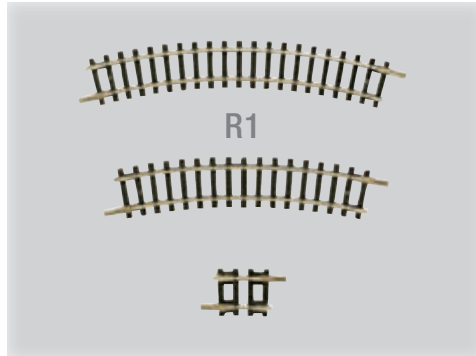
## The track geometry





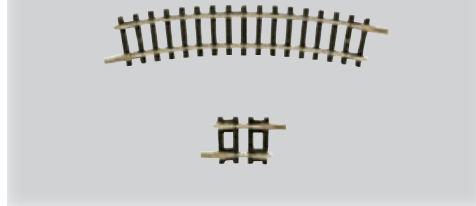
## Curved tracks

Art. Nr.: 22221



**R1, 30°.** Radius 194,6 mm  
12 pieces are needed to form  
a full circle. 12 pc./pack.

Art. Nr.: 22231



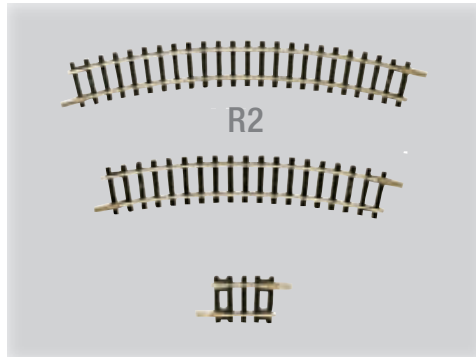
**R1, 24°.** Radius 194,6 mm  
12 pc./pack.

Art. Nr.: 22232



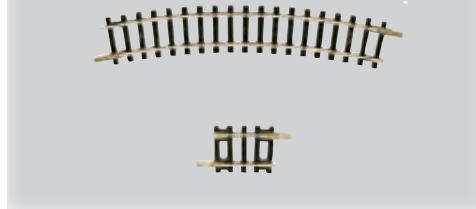
**R1, 6°.** Radius 194,6 mm  
12 pc./pack.

Art. Nr.: 22222



**R2, 30°.** Radius 228,2 mm  
12 pieces are needed to form  
a full circle. 12 pc./pack.

Art. Nr.: 22233



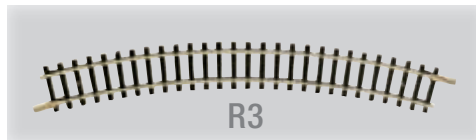
**R2, 24°.** Radius 228,2 mm  
12 pc./pack.

Art. Nr.: 22234



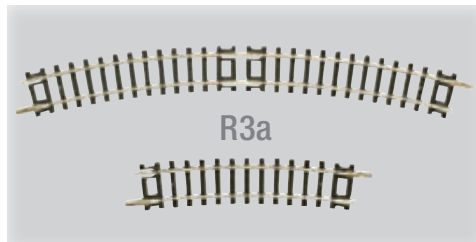
**R2, 6°.** Radius 228,2 mm  
12 pc./pack.

Art. Nr.: 22223



**R3, 30°.** Radius 261,8 mm  
12 pieces are needed to form  
a full circle. 12 pc./pack.

Art. Nr.: 22224



**R3a, 30°.** Radius 295,4 mm  
12 pieces are needed to form  
a full circle. 12 pc./pack.

Art. Nr.: 22235



**R3a, 15°.** Radius 295,4 mm  
12 pc./pack.

## TRACK SETS WITHOUT BALLAST BED

## The track radii.

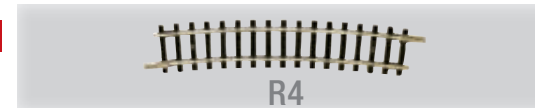
The illustration shows a representation of all the various track radii. Radius R1 is designed primarily as the „standard industry radius“.

**Running longer coaches or larger locomotives is thus only recommend for R2 or higher.**

R1 .....	194.6 mm
R2 .....	228.2 mm
R3 .....	261.8 mm
R3a .....	295.4 mm
R4 .....	329 mm
R5 .....	362.6 mm
R6 .....	480 mm
R7 .....	765 mm

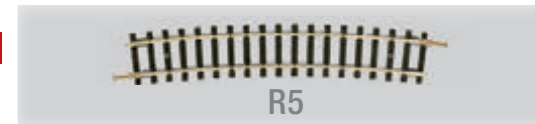


Art. Nr.: 22225



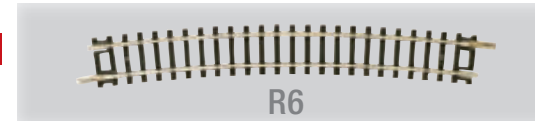
**R4, 15°.** Radius 329 mm  
12 pc./pack.

Art. Nr.: 22226



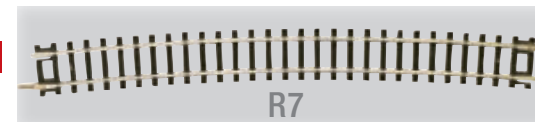
**R5, 15°.** Radius 362,6 mm  
12 pc./pack.

Art. Nr.: 22227



**R6, 15°.** Radius 480 mm  
12 pc./pack.

Art. Nr.: 22228



**R7, 12°.** Radius 765 mm  
12 pc./pack.

Mainly used as the opposite curve for points 22301/22303.

## Points

There are points with three different branch-off radii and angles, and another two different crossings.

The electrically operated points have end-off switching, therefore protecting the motor windings from burning out even if the power is not switched off.

All points have nickel silver rails which are carefully milled out so that the point blades nestle neatly into position. The point blades themselves are also shaped to give trouble-free running.

All electrically operated points can also be changed manually if required.

For improved current pick-up in the frog area, all points (except the cross-overs 22244 and 22245) are fitted with additional pickup contacts.

Art. Nr.: 22249

Art. Nr.: 22253

Art. Nr.: 22251

Art. Nr.: 22255



24°



24°  
Points

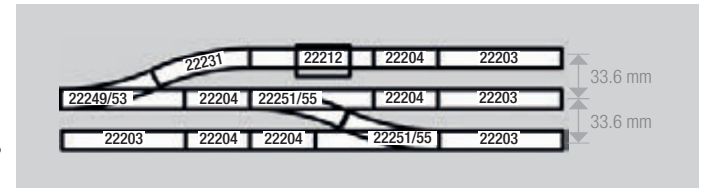
Length of the straight track is 104.2 mm (standard length), branch angle 24°, branch radius 194.6 mm 194.6 mm (corresponds to R1), extendable to 30° using track 22232.

22249: Electric left hand point 24°

22253: Manual left hand point 24°

22251: Electric right hand point 24°

22255: Manual right hand point 24°

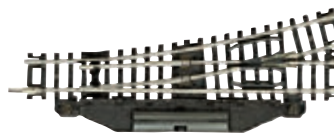


Art. Nr.: 22261

Art. Nr.: 22265

Art. Nr.: 22263

Art. Nr.: 22267



15°



15°  
Points

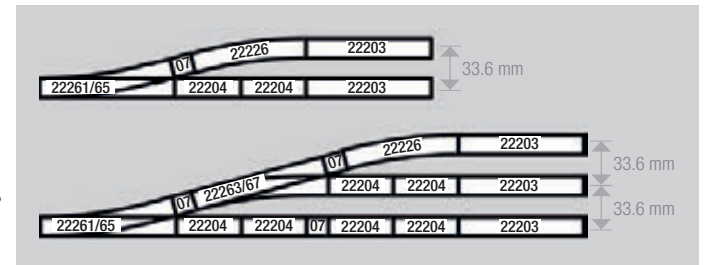
Length of the straight track is 112.6 mm, branch angle 15°, branch radius 362.6 mm (corresponds to R5).

22261: Electric left hand point 15°

22265: Manual left hand point 15°

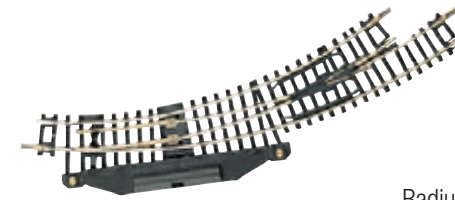
22263: Electric right hand point 15°

22267: Manual right hand point 15°



Art. Nr.: 22273

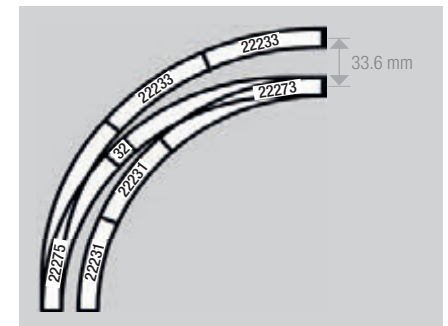
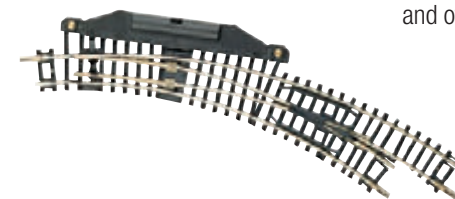
Art. Nr.: 22275



Electric left hand curved point  
(radius R1/R2)

Radius of main track 194.6 mm (R1), and of the branch track 228.2 mm (R2), arc angle 42°.

Electric right hand curved point (radius R1/R2)



Using the curved turnouts, you can change from one track circle with R1 into another circle of R2.



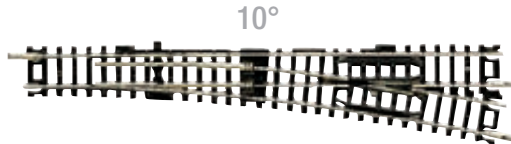
## Points and crossings

Art. Nr.: 22301

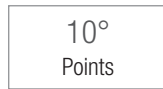


Left hand point without point mechanism, 10°

Art. Nr.: 22303

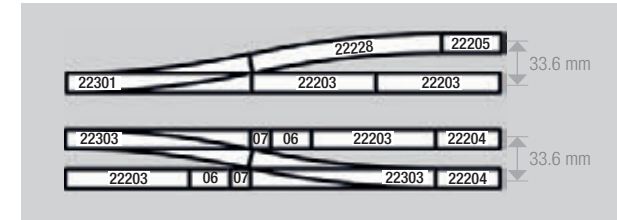


Right hand point without point mechanism, 10°



Length of the straight track is 155 mm,  
radius of the branch-off track 765 mm (corresponds to R7)

The points are adaptable with the below baseboard point mechanism 10030.

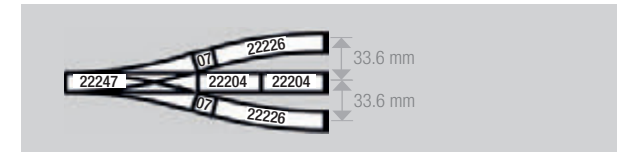


Art. Nr.: 22247



Electric three-way point 15°

Length of the straight track 112.6 mm, point angle 15°.

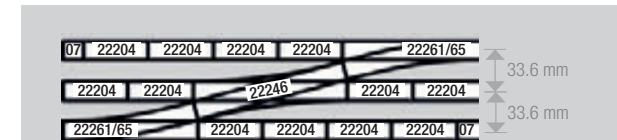


Art. Nr.: 22246

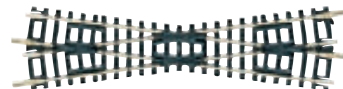


Electric double-slip point 15°

Length of the diagonal 129.8 mm, crossing angle 15°.



Art. Nr.: 22245

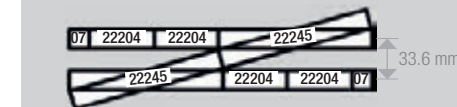


Crossing 15°

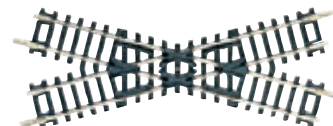
Length of the diagonal 112,6 mm, crossing angle 15°.

The crossing tracks are isolated from each other so that two independent power circuits can cross each other.

4 pc./pack.



Art. Nr.: 22244

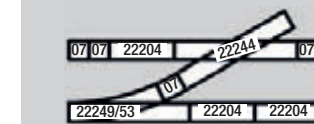


Crossing 30°

Length of the diagonal 104.2 mm, crossing angle 30°.

The crossing tracks are isolated from each other so that two independent power circuits can cross each other.

4 pc./pack.



Art. Nr.: 22218



## Electric point mechanism for left hand points

Suitable for N gauge points without ballast bed.  
Double spool operation with end-off switching.  
For fitting to manual points.

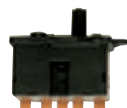
Art. Nr.: 22219



## Electric point mechanism for right hand points

Suitable for N gauge points without ballast bed.  
Double spool operation with end-off switching.  
For fitting to manual points.

Art. Nr.: 10030



## Below baseboard point mechanism

Low energy consumption, shut off mechanism, 4 single-pole double-throw switches. - Can also be installed horizontally.  
Dimensions approx. 60 x 27 x 45 mm.

Art. Nr.: 22217

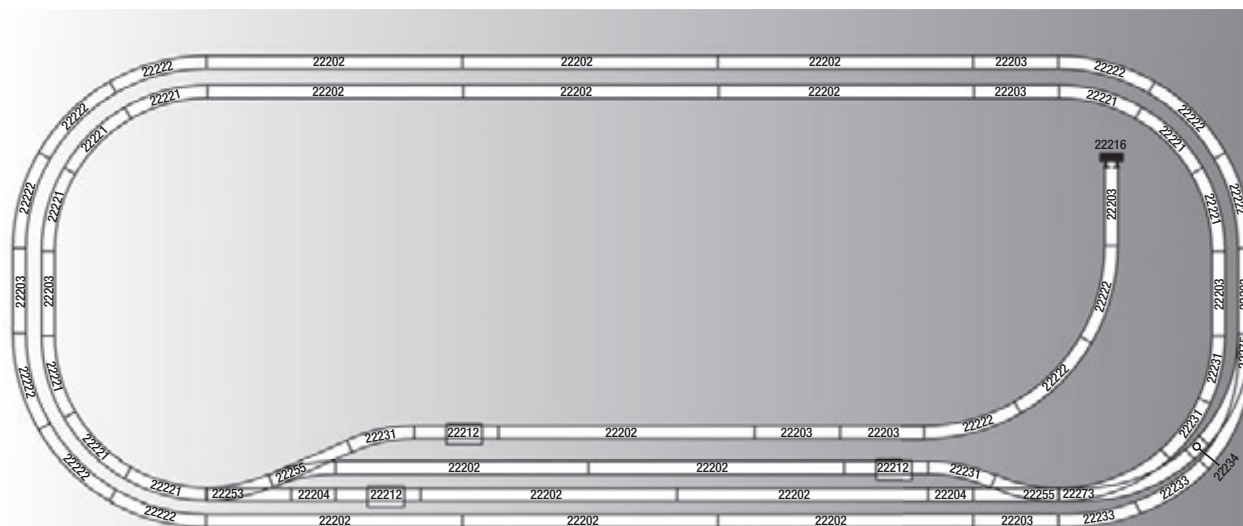


**Connecting cable**, with no interference suppression.

Art. Nr.: 10000



**Track nails**,  
for fastening tracks without ballast bed,  
contents approx. 400 pc./bag.



Art. Nr.: 22213



**Rail joiners**, for tracks without ballast bed.  
50 pc./pack.

Art. Nr.: 22214



**Insulating rail joiners**, for tracks without ballast bed.  
24 pc./pack.

Art. Nr.: 22240



**Transition rail joiner to Arnold® track system**  
12 pc./pack.

(Arnold is a registered trademark of HORNBY ITALIA S.r.l.)

Art. Nr.: 22216



**Track bumper (construction kit)**  
Can be placed on any track siding.



Art. Nr.: 9400



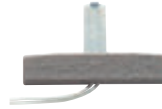
**Track feed clips,**  
2x 1-pole  
(For N tracks with ballast bed)

Art. Nr.: 9401



**Connecting wire with flat contact springs, 1-pole**  
For train control operation of semaphore signals.

Art. Nr.: 9425



**Switch contact**  
The switching impulse (max. 800 mA) is activated using the magnets 942601 or 942701 fitted to the train.  
(For N tracks with ballast bed)

Art. Nr.: 942601



**Switching magnet, angular**  
To activate the switch contact 9425.  
To fix onto the underside of vehicles.  
  
Surface area 7 x 7 mm, height 5 mm.

Art. Nr.: 942701



**Switching magnet, circular, flat**  
To activate the switch contact 9425.  
To fix onto the underside of vehicles.  
  
Diameter 5 mm, height 3 mm.

Art. Nr.: 9404



**Metal rail joiner**  
1-pole. To connect a rail track assembly electrically and mechanically. (For N tracks with ballast bed) - 20 pc./pack.

Art. Nr.: 9403



**Isolating rail joiners**  
1-pole. For electrical isolation of track sections or joining tracks together.  
(For N tracks with ballast bed) - 12 pc./pack.

Art. Nr.: 6410



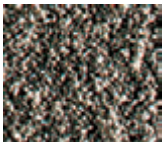
**Wood-screws**  
For fastening tracks, rackrails, signals, relays and signal box parts.  
Content: approx. 144 pieces

Art. Nr.: 9409



**Track fixing nails**  
Nail length approx. 7 mm  
in a plastic container  
Content: approx. 500 pieces

Art. Nr.: 9479



**Ballast scatter material**  
Finely grained ballast scatter to go between tracks.  
Especially for N gauge.

Art. Nr.: 6595



**Track cleaning rubber**  
For manually cleaning the rail surfaces and wheels.

Art. Nr.: 6599



**FLEISCHMANN lubricating oil.**  
For lubricating all vehicles.  
Content: 20 ml.

Art. Nr.: 9480



**Rerailer (without vehicle shown)**  
For easily of placing vehicles on the track.

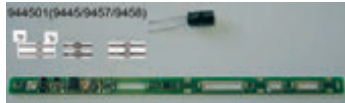
Art. Nr.: 9481



**Unloading tipper unit for tipper wagons (8500)**  
One covered unloader and resetting of side-tipper wagons.  
Suitable for use on all straight N tracks.  
The unloader can only be used by locos pushing the wagons through to empty them and lokos need to start in front of the unloading tipper.

## Interior lighting units

Art. Nr.: 944501



**LED interior lighting unit**  
LED interior lighting unit to replace the items 9445, 9457.

Art. Nr.: 944701



**LED interior lighting unit**  
to replace the item 9447.

Art. Nr.: 945301



**LED interior lighting unit**  
LED interior lighting unit to replace the items 9453, 9460, 9464, 9468.

Art. Nr.: 946501



**LED interior lighting unit**  
LED interior lighting unit to replace the item 9465.

Art. Nr.: 946701



**LED interior lighting unit**  
LED interior lighting unit to replace the item 9467.

Art. Nr.: 946901



**LED interior lighting unit**  
LED interior lighting unit to replace item 20021.

### Advantages of the LED interior lighting units:

Thanks to buffer capacitors, flicker-free lighting can be guaranteed even during short power interruptions.  
For analogue and digital operation and direct current.

Art. Nr.: 9456



**Interior lighting unit** for 2-axled passenger coaches with close coupling mechanism.  
Current consumption approx. 50 mA.  
Exchange bulb: 00009530

Art. Nr.: 9461



**Interior lighting unit** for items 8070-8074 and 8770-8773 (& variants).  
Current consumption approx. 50 mA.  
Exchange bulb: 00009530

## Spare bulbs

Art.Nr.: 00009530



**Spare bulb, for interior lighting.**  
With 2 connecting wires.

Art.Nr.: 00009531



**Spare bulb, red**  
With push-in fitting, Ø 3 mm.

Art.Nr.: 00006535



**Spare bulb, clear**  
14 V, with push-in fitting, Ø 3 mm.

Art.Nr.: 00006536



**Spare bulb, clear**  
14 V, with lead, Ø 3 mm.

DIGITAL\*

Art.Nr.: 00069530\*

**24 V spare bulb, clear, for interior lighting.**  
With 2 connecting wires.

Art.Nr.: 00066535\*

**24 V spare bulb, clear.** With push-in fitting, Ø 3 mm.

Art.Nr.: 00066536\*

**24 V spare bulb, clear.** With lead, Ø 3 mm.

\*Advice: For simultaneous operation of both digital- and traditional D. C. vehicles, the bulbs of the D. C. vehicles should be replaced by the corresponding higher voltage bulbs for digital operation.



## The PROFI coupling from FLEISCHMANN – the closest connection in N



### Advantages of the PROFI-coupling:

- Soft and automatic coupling
- Solid coupling when pulling and pushing trains
- Automatic decoupling on the FLEISCHMANN decoupling tracks
- Easy removal of individual wagons from train composition is possible
- Pre-uncoupling for shunting manoeuvres true to the original



With FLEISCHMANN you can couple up lots of trains just realistically closely, because most of the wagons are fitted with the so-called slot guide mechanism. The slot-guide mechanism together with the standard N coupling as fitted



makes a noticeable difference in closing the gap between wagons. If the PROFI-couplings are fitted as well, then a real close-coupling can be achieved.

Art. Nr.: 9520



### Standard coupling

with spiral centre spring and cover plate.

Art. Nr.: 9521



**Standard coupling** with flat centre spring and cover plate (with **long** fixing lug).

Art. Nr.: 9522



**Standard coupling** with flat centre spring and cover plate (with **short** fixing lug).

Art. Nr.: 9525



### Standard clip-in coupling

Simply pushes into the coupling socket.

Art. Nr.: 9523



**Standard coupling** for article 7368.

Art. Nr.: 9540



### PROFI coupling

with spiral centre spring and cover plate. To convert vehicles which are fitted with the standard coupling 9520.

Art. Nr.: 9541



### PROFI coupling

with flat centre spring and cover plate (with **long** fixing lug). To convert vehicles which are fitted with the standard coupling 9521.

Art. Nr.: 9542



### PROFI coupling

with flat centre spring and cover plate (with **short** fixing lug). To convert vehicles which are fitted with the standard coupling 9522.

Art. Nr.: 9545



### PROFI clip-in coupling

Close-coupling to convert FLEISCHMANN vehicles which have standard coupling 9525 fitted.

Art. Nr.: 389545

50 x 9545  
Bumper pack



With standard coupling 9521



With PROFI coupling 9543



Even all N vehicles without slot-guide mechanism couple up noticeably closer with PROFI coupling if the standard couplings are replaced by the PROFI couplings.

And for wagons having a length over buffers of up to 70 mm, then the PROFI-coupling 9543 is really just as good as a close-coupling.

Art. Nr.: 9543



#### PROFI coupling

with flat centre spring and cover plate (with long fixing lug). To convert two and three axled vehicles with a max. length of 70 mm, which are fitted with the standard coupling 9521.

Art. Nr.: 9549



**PROFI coupling**  
for wagons of the „rolling road“.

Art. Nr.: 9570



#### PROFI coupling head, adjustable height.

Installation using the adapter 9571, 9572, 9573 or 9577.

Art. Nr.: 9571



#### Adapter for PROFI coupling head 9570 (adjustable height).

Suitable for all FLEISCHMANN vehicles fitted with couplings 9521 or 9522. Installation together with the adjustable height PROFI coupling head 9570.

Art. Nr.: 9572



#### Adapter for PROFI coupling head 9570 (adjustable height).

Suitable for all FLEISCHMANN vehicles fitted with couplings 9520 and many vehicles of other manufacturers.

Art. Nr.: 9573



#### Adapter for PROFI coupling head 9570 (adjustable height).

Suitable for many vehicles of other manufacturers. Installation in conjunction with the PROFI coupling head 9570.

Art. Nr.: 9577



#### Adapter for PROFI coupling head 9570

Suitable for ICE 1 and ICE 2.

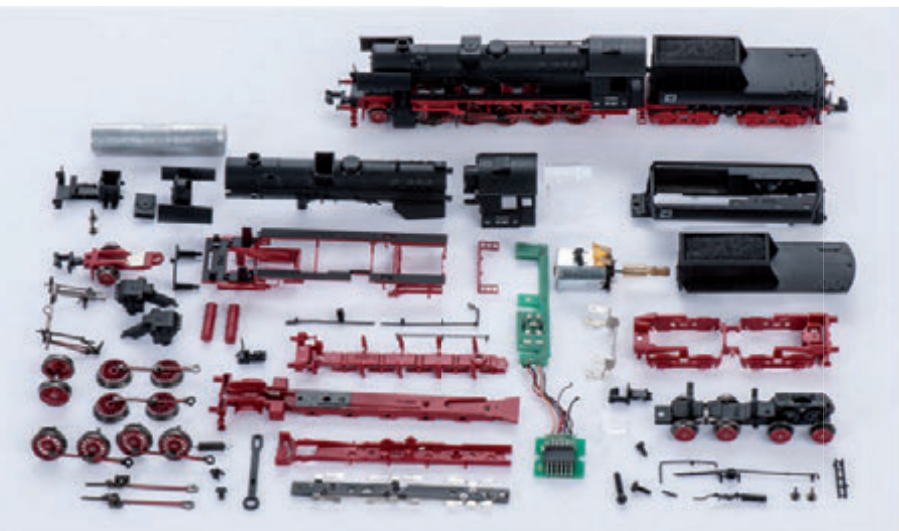
Art. Nr.: 9574



#### Close-coupling converter

To convert wagons without slot-guide mechanism for true close-coupling operation. The pack contains 2 slot-guide mechanisms and 2 PROFI coupling heads 9570 (adjustable height).





Spare parts

We also supply spare parts!  
On [www.fleischmann.de](http://www.fleischmann.de) you can order the right spare parts for your models.  
The spare parts shop and spare parts finder is open 24 hours a day and orders are sent straight to your home.

## Wheel sets

Art. Nr.: 20023



## Disc wheel set, isolated on one side

Axle length: 13,65 mm, diameter 6 mm.

Height of wheel flange: 0.9 mm. 2 pc./pack.



## Traction tyre sets



Art. Nr.: 948001

Suitable for diesel railcar units class V 60 (DR-Ost)  
10 pc./pack.

Art. Nr.: 948002

Suitable for diesel railcar units class VT 12/612 (DB)  
10 pc./pack.

Art. Nr.: 948003

Suitable for diesel railcar units class VT 11 / 601 (DB)  
10 pc./pack.

Art. Nr.: 948005

Outer diameter 6.95 mm, width 1.2 mm.  
10 pc./pack.

Art. Nr.: 948006

Outer diameter 8.8 mm, width 1.3 mm.  
10 pc./pack.

Art. Nr.: 948007

Outer diameter 4.9 mm, width 1.2 mm.  
10 pc./pack.

Art. Nr.: 948008

Suitable for diesel railcar units class VT 642 ("Desiro").  
10 pc./pack.

Art. Nr.: 6518



A pair of round spare brushes with springs.

Art. Nr.: 9517



A pair of round spare brushes with springs.



Newsletter

Subscribe to the FLEISCHMANN newsletter on [www.fleischmann.de](http://www.fleischmann.de) and you are up to date.  
Only here you will find everything about innovations, exclusive models and special series.



**FLEISCHMANN**

TRACK SYSTEMS



## The PROFI track with ballast bed

### Technology:

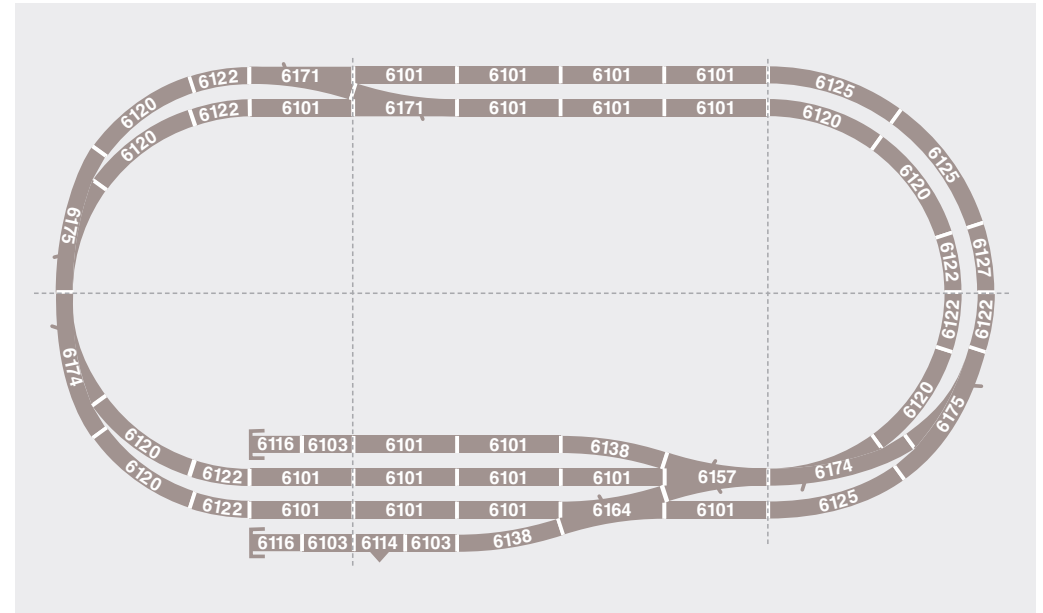
- Running with the internationally widespread 2-wire DC system
- Ideal current carrying capacity even over long distances through solid profile rails made of high quality nickel silver alloy

### Visual appearance:

- Realistic appearance with true to the original wood sleepers and ballast bed
- Secure and stable connection of the tracks
- Crush resistant

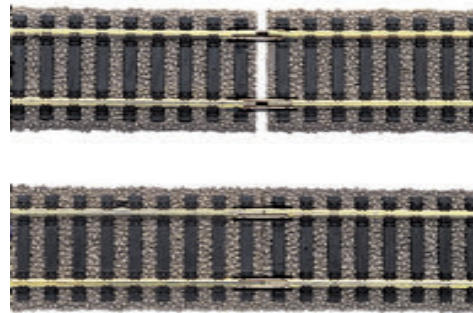
### Clear track geometry:

- A few different tracks already allow for the construction of a play and model railway compatible layout
- Grid with track geometry
- All switches can be upgraded to electrical remote control by plugging in an electric drive



### The track foundation

The fine, precision engraved ballast bed with its irregular outer edges gives an excellent reproduction of the ballast shape, even down to identifying each individual stone. The width and height of the ballast bed has been selected in such a way that when laying tracks in the station area a closer distance between parallel tracks can be obtained without the ballast getting in the way. If a broader ballast bed is required, then colour matched scatter material is available.



You can even recognize the grain on the dark brown wooden sleepers of the PROFI track that differ in color from the grey-brown ballast. Also prototypical are the so called "Sk1 3" tension clips with rib plates.

### The Tracks

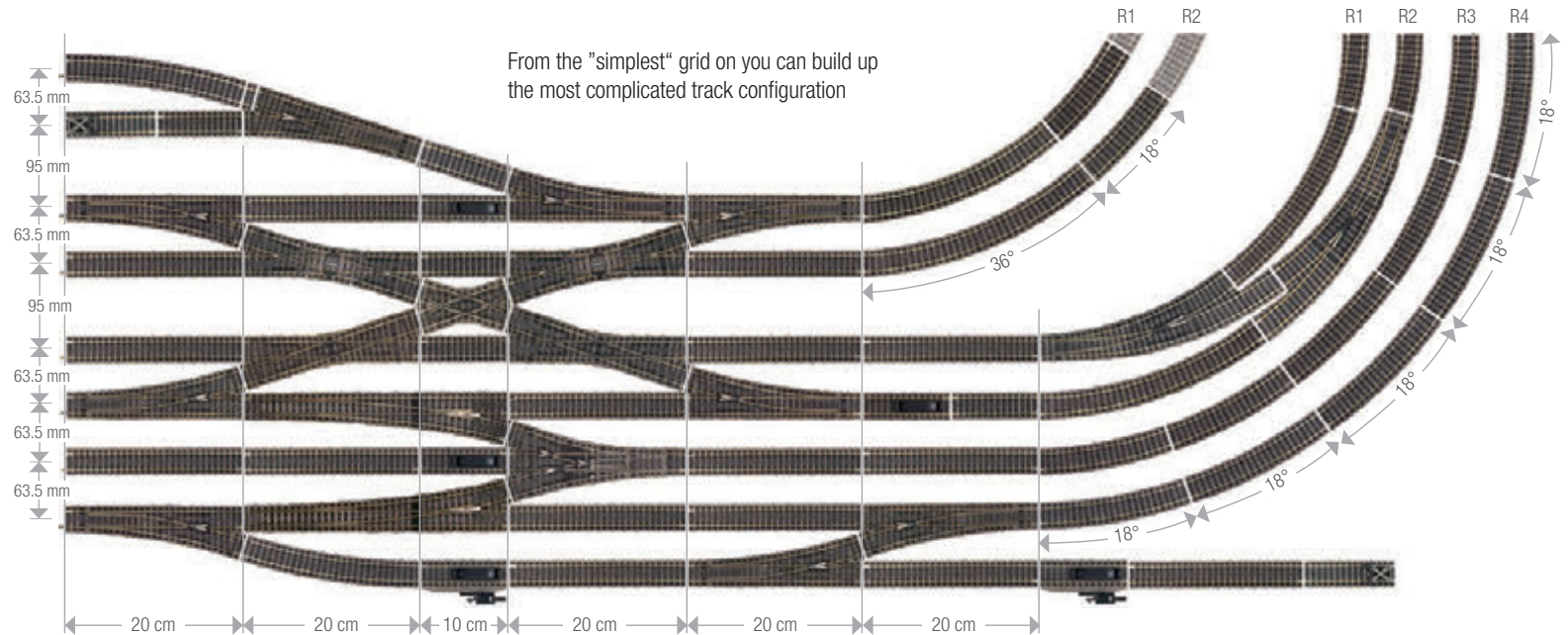
The full-profile rails of the Profi-tracks consist of a high value nickel-silver alloy with ideal current conducting properties even over long stretches. Special "Click" rail joiners ensure a lasting, secure fastening for Profi-tracks, even if they have been laid on the floor, and guarantee a good conductivity at rail joints.

### The track geometry

With only a few different track pieces, the PROFI-track system allows to construct an operational model railway. Apart from diagonal tracks and a few special tracks the well thought out, easily understandable track geometry within a grid system, , utilises only "full" or "half" straight or curved tracks. Track feed clips and switching accessories can be simply attached to the track as necessary.

Curved tracks with 4 standard radii, flexible ballasted tracks, with which one can "curve" extremely large radii, straight-, curved-, three-way points, double slips and express points all make it possible for practically all desired track configurations. Operational tracks complete the layout, like uncoupler tracks as well as buffer stop tracks, even with level crossings.

By simply clipping on an electric motor, all manual points can be converted to electrical operation at any time.



## THE PROFI TRACKS

### Flexible tracks:

Gently curved parade routes can be easily built with this special track (6106 or 6109). Equipped with a gravel bed as all other PROFI tracks.

Also compound curves - gradual transition from a straight track into a curved track - can be simply built with flextracks. A track for the real pro!

Art. Nr.: 6106



#### Flexible track with wooden sleepers

Length 800 mm (= 4 x standard track 6101).  
For each track you need two rail connectors 6436.  
10 pc./pack.

Wooden sleeper tracks or concrete sleeper tracks are often used alongside each other on german railways.

Art. Nr.: 6109



#### Flexible track with concrete sleepers

Length 800 mm (= 4 x standard track 6101).  
For each track you need two rail connectors 6436.  
10 pc./pack.

Easy connection to FLEISCHMANN-PROFI-track by using the rail joiners 6436.

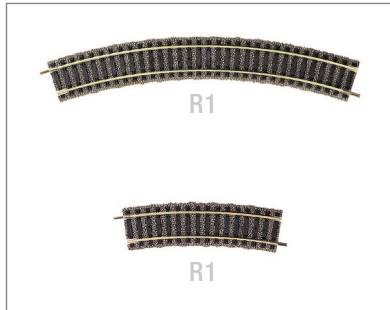
Tracks with concrete sleepers are used for long distance and regional areas for high speed running.





## Curved tracks

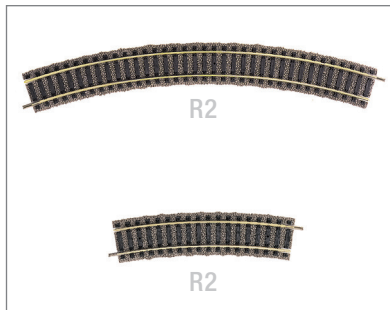
Art. Nr.: 6120



Art. Nr.: 6122



Art. Nr.: 6125



Art. Nr.: 6127



Art. Nr.: 6131



Art. Nr.: 6133



Art. Nr.: 6138



Art. Nr.: 6139



### Curved track R1, 36°

Radius 356,5 mm, Outer diameter of 746 mm.  
10 pieces are needed to form a full circle.  
10 pc./pack.

### Curved track R1, 18°

Radius 356,5 mm, Outer diameter of 746 mm.  
20 pieces are needed to form a full circle.  
10 pc./pack.

### Curved track R2, 36°

Radius 420 mm, Outer diameter of 873 mm.  
10 pieces are needed to form a full circle.  
10 pc./pack.

### Curved track R2, 18°

Radius 420 mm, Outer diameter of 873 mm.  
20 pieces are needed to form a full circle.  
10 pc./pack.

### Curved track R3, 18°

Radius 483,5 mm, Outer diameter of 1000 mm.  
20 pieces are needed to form a full circle.  
10 pc./pack.

### Curved track R4, 18°

Radius 547 mm, Outer diameter of 1127 mm.  
20 pieces are needed to form a full circle.  
10 pc./pack.

### Curved track, 18°

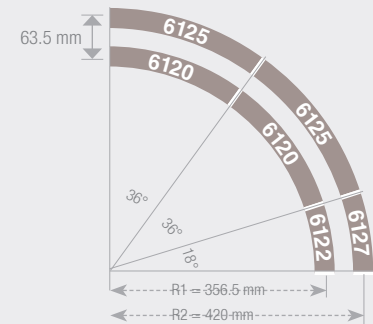
Radius 647 mm, Outer diameter of 1327 mm.  
Opposite curve for straight points.  
10 pc./pack.

### Curved track, 7,5°

Radius 788 mm.  
Special track for PROFI track turntable exits.  
10 pc./pack.

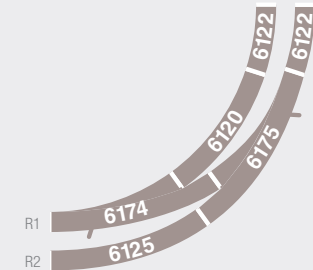
### The track radii:

The distance of the track radii is 63.5 mm, so that even longer vehicles do not touch when trains meet and enter the curve.  
Even the longest tender locomotives can run on the smallest radius R1!



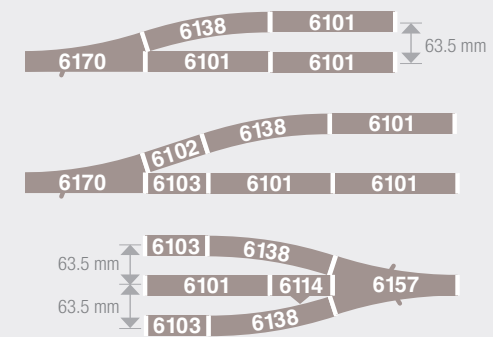
### Curved points:

to change from radius R1 to radius R2 and viceversa.



### Opposite curve 6138

for straight points, threeway-point, double-slips and 18° crossings.



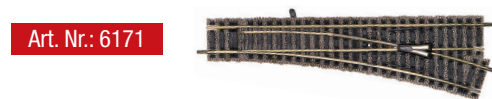


## Points

All points are available for manual operation. Of course, the manual points can be fitted with electric motors later. This point motor can be mounted above the baseboard surface, or even underneath the baseboard. It is then necessary to cut a hole in the baseboard to accommodate the point motor.



**Left hand point**, for manual operation  
Length 200 mm (standard length), branch angle 18°, branch radius 647 mm, frog angle 12°.



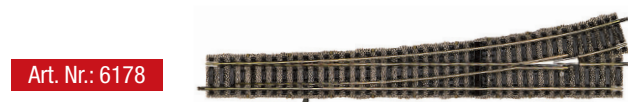
**Right hand point**, for manual operation  
Length 200 mm (standard length), branch angle 18°, branch radius 647 mm, frog angle 12°.



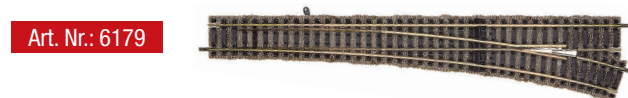
**Left hand curved point**, for manual operation  
Using the curved points, you can change from one track circle with radius 1 into another circle of radius 2 – and vice versa.



**Right hand curved point**, for manual operation



**Left hand express point**, for manual operation  
Length 300 mm, branch angle 18°, frog angle 9.5°



**Right hand express point**, for manual operation  
Length 300 mm, branch angle 18°, frog angle 9.5°

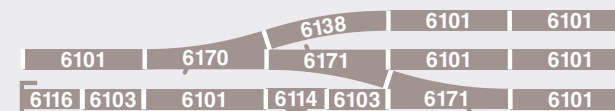
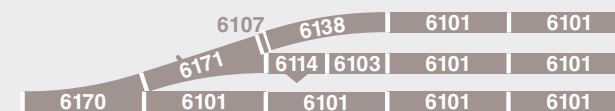
### The express points 6178/6179 with current conducting frog:

On the express points the power pick-up is enhanced by the 9.5° floating, current conducting frog.

These points – just as in the prototype – cannot be slipped through, otherwise a short circuit may occur. The points must always be set in the right direction for the running vehicle.



## PROFI TRACKS

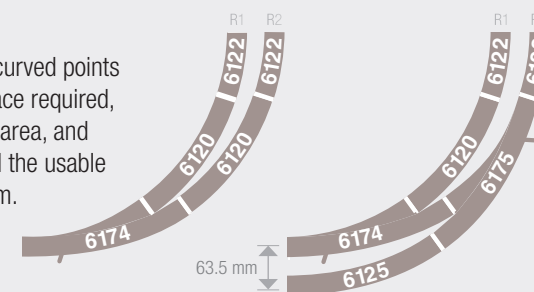


### Standard points:

The standard points

6170 and 6171 are the foundations for variable running operations on the model railway layout. Branch-offs from the straight can be made up with them. Extensive track layouts in the station area as well as storage sidings or industrial yards are made possible with them.

**Curved points:** Using curved points you can save on the space required, especially in the station area, and at the same time extend the usable track length of a platform.

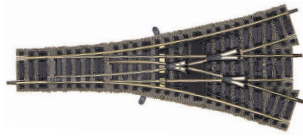


### The express points:



## Points

Art. Nr.: 6157



**Three-way point**, for manual operation  
Length of the straight track 200 mm (standard length). The two branch-off tracks correspond to track 6138, which also serves as the opposite curve.

Art. Nr.: 6160



**Crossing 36°**. Length of tracks 105 mm (= diagonal track 6102). The crossing tracks are electrically separated, so that two different track circuits can cross.

Art. Nr.: 6162



**Left hand crossing 18°**

The straight track is 200 mm long and the crossing track 210 mm long, crossing angle 18°. The crossing tracks are electrically separated, so that two different track circuits can cross.

Art. Nr.: 6163



**Right hand crossing 18°**

Art. Nr.: 6164

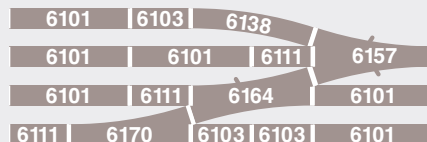


**Double slip 18°, left hand crossing**  
for manual operation. The straight track is 200 mm long and the crossing track 210 mm long, crossing angle 18°.

Art. Nr.: 6165



**Double slip 18°, right hand crossing**  
for manual operation. The straight track is 200 mm long and the crossing track 210 mm long, crossing angle 18°.



**Three-way points  
and  
crossings**



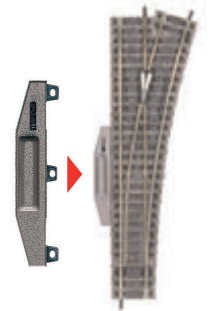
## Points, accessories

Art. Nr.: 640000

**Electromagnetic universal point motor with end-off switching. For all PROFI track points.**

Prepared to accept the clip-in illuminated point signal 644020.

This point motor can be mounted above the base-board surface, or even underneath the baseboard. It is then necessary to cut a hole in the baseboard to accommodate the point motor.



The point motor 640000 replaces the articles 644110 / 644210.

Art. Nr.: 644210



**Point motor for PROFI track - rechts**

Prepared to accept the clip-in illuminated point signal 644020.

Art. Nr.: 644020



**Illuminated point signal**

To clip onto point motor 640000.  
(and former articles 644110 / 644210)

Art. Nr.: 6438



**Illuminated point lantern**

to optionally retrofit points.  
Suitable for the standard points 6170 / 6171, the curved points 6174 / 6175 and the three-way points 6157.  
Illumination with maintenance-free LEDs. Power supply independent from point. Measurement of the point lantern socket: 19 x 10 mm.

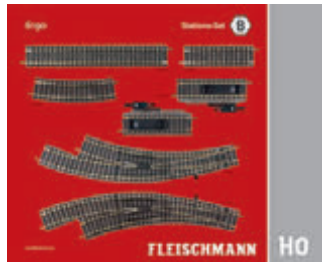
6438





## Station set B

Art. Nr.: 6190

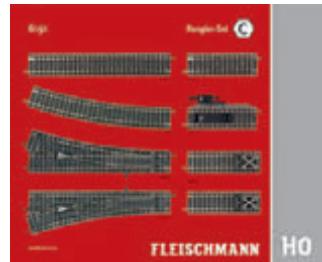


Contents:

8 straight tracks (7 x 6101, 1 x 6103),  
2 uncoupler tracks 6114,  
6 curved tracks 6122,  
1 left hand curved point 6174,  
1 right hand curved point 6175.

## Shunter set C

Art. Nr.: 6191

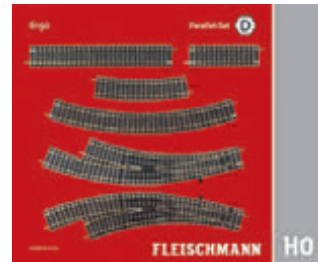


Contents:

7 straight tracks (6 x 6101, 1 x 6103),  
1 uncoupler track 6114,  
2 buffer stop tracks 6116,  
2 curved tracks 6138,  
1 left hand point 6170,  
1 right hand point 6171.

## Parallel set D

Art. Nr.: 6192

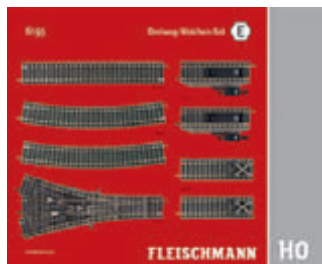


Contents:

13 straight tracks 6101  
1 straight track 6103,  
6 curved tracks 6125,  
2 curved tracks 6127,  
1 left hand curved point 6174,  
1 right hand curved point 6175.

## Three-way point set E

Art. Nr.: 6193

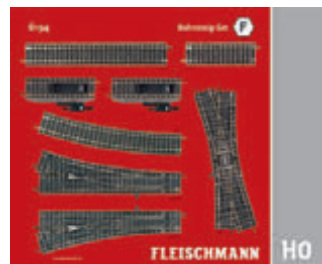


Contents:

10 straight tracks 6101,  
2 uncoupler tracks 6114,  
2 buffer stop tracks 6116,  
2 curved tracks 6138,  
1 three-way point 6157.

## Platform set F

Art. Nr.: 6194



Contents:

11 straight tracks (10 x 6101, 1 x 6103),  
2 uncoupler tracks 6114,  
2 curved tracks 6138,  
1 left hand point 6170,  
1 right hand point 6171,  
1 double slip 6164.

## Electro set

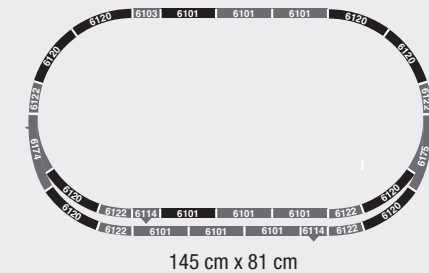
Art. Nr.: 619501



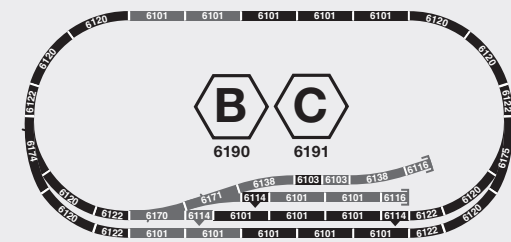
Contents:

1 control switch 6920 for 2 points  
and 2 electric point motors.  
One Electro Set is sufficient for  
the electrification of each track set  
6190, 6191, 6192 and 6193. - 6194  
requires two Electro Sets.

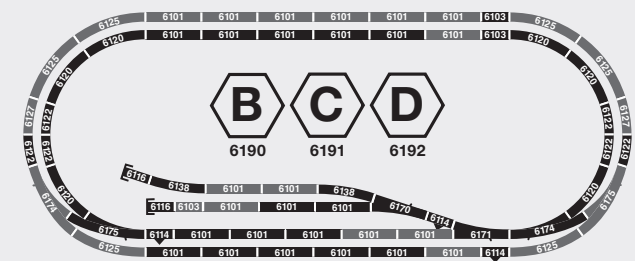
## Expansion of a track oval with passing loop:



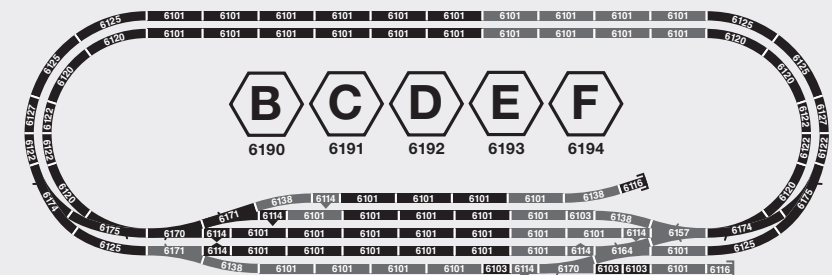
145 cm x 81 cm



175 cm x 81 cm



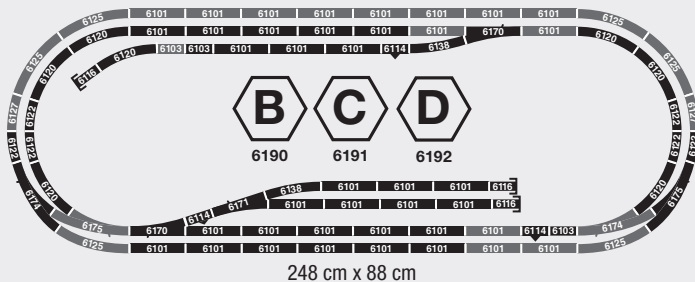
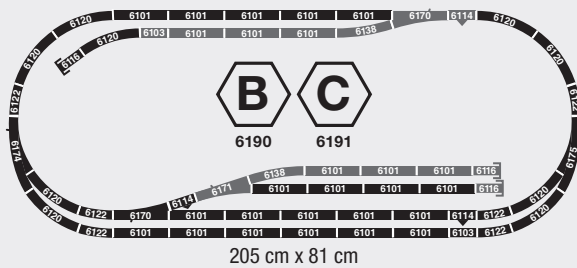
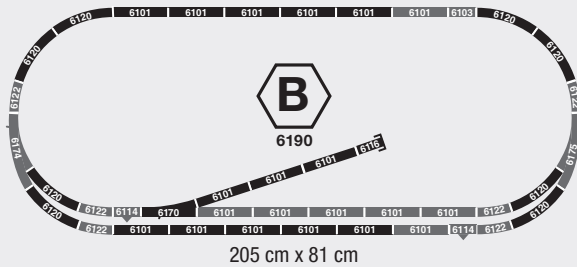
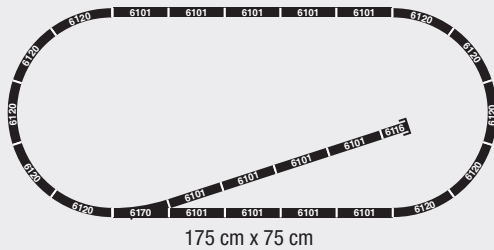
218 cm x 88 cm



288 cm x 95 cm

# PROFI TRACKS, ACCESSORIES

Expansion of a track oval with a turnout:



Art. Nr.: 6476

**Locomotive Roundhouse (kit).**

Suitable for use with the turntables 6152 and 665201. 3 locomotive stalls set at 7.5° angles with 8 opening doors. The doors are operated by locos leaving and entering the shed. Several roundhouse kits can be set up alongside each other to make up a large shed.

One set of doors is set at the rear of the shed to run straight through if desired.



Tip for modelmakers!  
Light duct accessory No. 6459 will fit into the loco shed 6476.

H0 | FLEISCHMANN

Art. Nr.: 6197

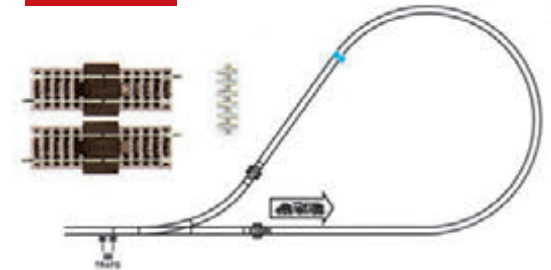


**Ungated level crossing for PROFI track**

With rerailer and two cross bucks.

Track length: 100 mm.

Art. Nr.: 6199



**Reverse loop set to deal with driving on reverse loops**

The set consists of isolating joints and 2 directional track sections. Length: 100 mm each.

**Can not be controlled digitally.**

Art. Nr.: 9921

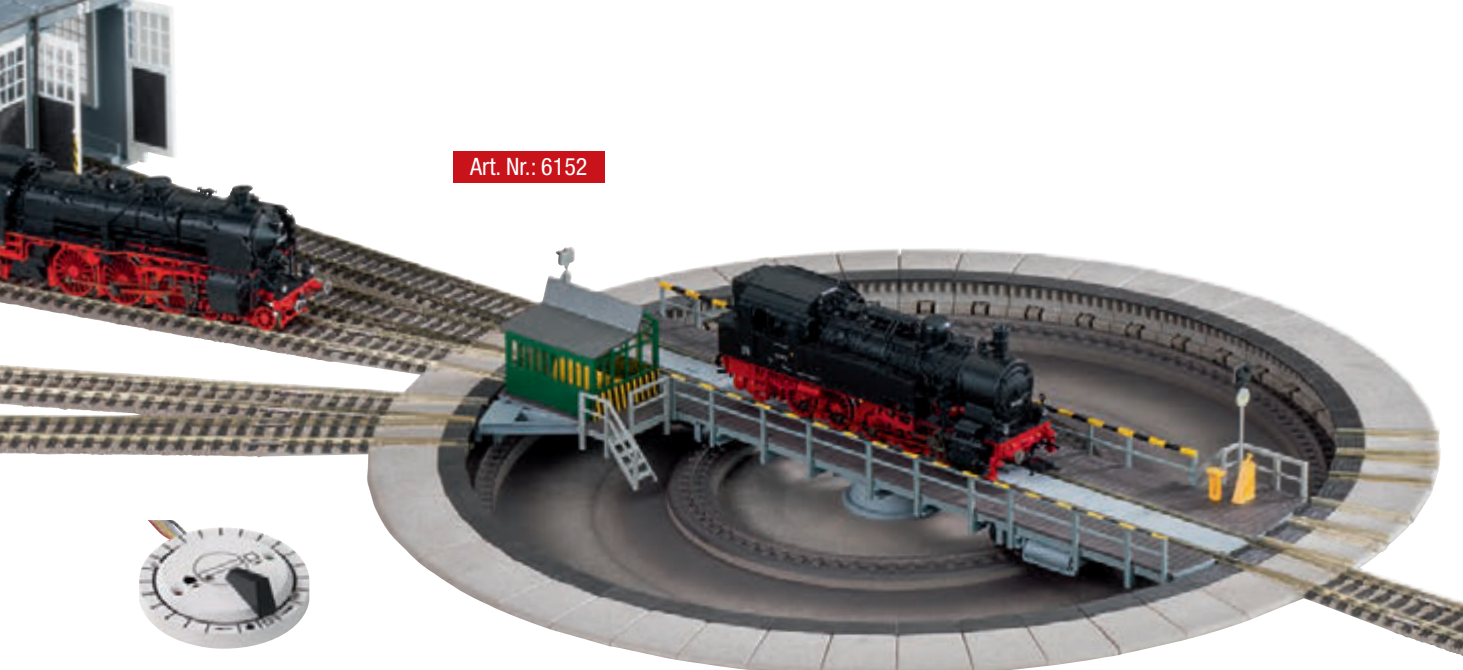


**Track stencil for Fleischmann H0 PROFI-track.**

An absolutely essential aid for individual layout planning. Transparent, yellow plastic, scale 1:10.



# TURNTABLE

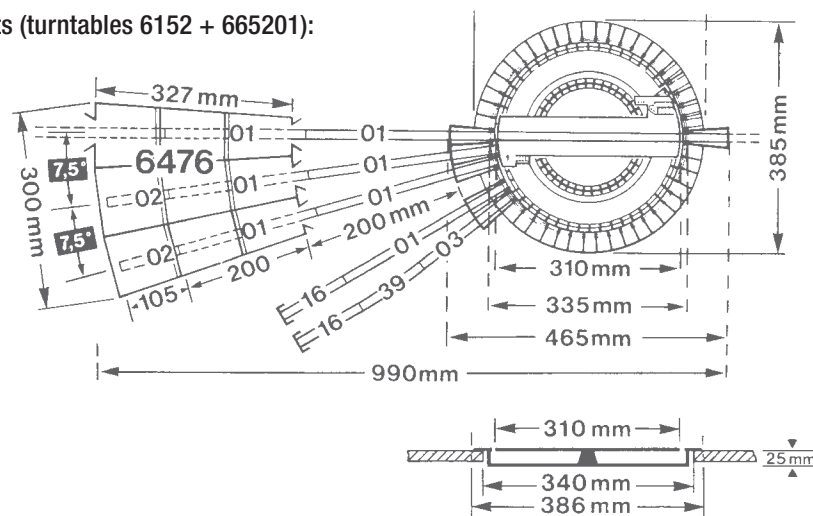


Art. Nr.: 6152

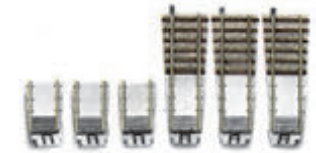
**Electrically operated turntable, with electrically switchable track exits using the turntable control switch 6910. Length of the turning bridge: 310 mm.**

The turntable is prototypically mounted in a recess and fitted with accurate details. As delivered, there are 6 exit tracks and 4 over-run ends.

**Measurements (turntables 6152 + 665201):**



Art. Nr.: 6153

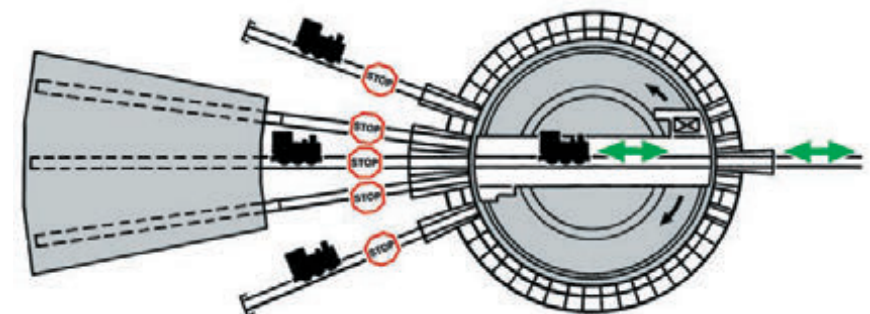


**Extension set for the PROFI track turntable 6152**  
for 2-rail operation with nickel silver tracks.  
The set contains 3 exit tracks and 3 over-run ends.

**The „thinking“ turntable (6152):**

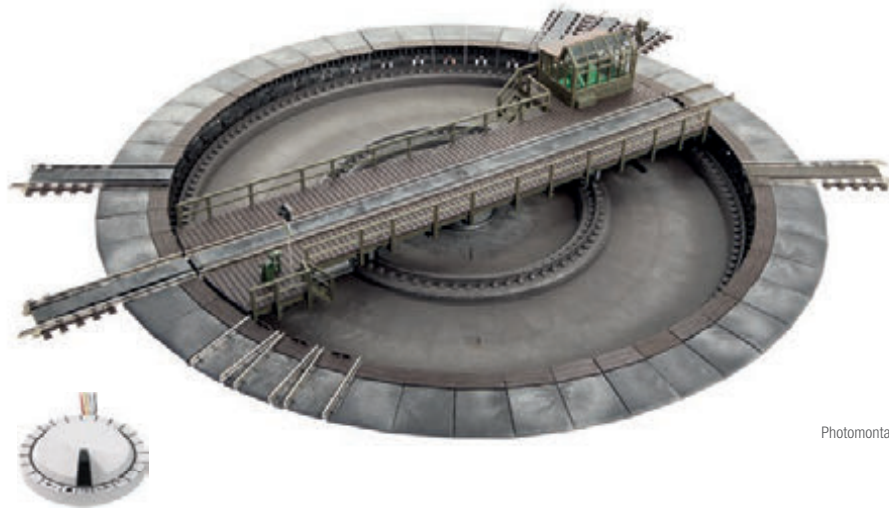
using the switch 6910, will determine the rotation direction in order to access the desired exit. The power feed is activated within the turning bridge. The power to the track exit with which the turntable is lined up, either left or right, can be fed with power using the switch 6910.

All other track exits remain isolated (even those opposite each other). A maximum of 48 track exits can be controlled and electrically operated without the need for any additional wiring.



The „thinking“ turntable

Art. Nr.: 665201 ~



Photomontage

## Electrically operated turntable for 3-rail AC system, with turntable control switch 6909.

The turntable is prototypically mounted in a recess and fitted with accurate details. As delivered, there are 6 exit tracks and 4 over-run ends.

The exit tracks can be unclipped and repositioned at an angle of 7,5° as desired, or extended using the turntable extension set 665301 right up to the complete 48 exits.

Fits to locomotive roundhouse 6476.

Art. Nr.: 665301



## Extension set for the AC turntable 665201

for 3-rail AC operation with nickel silver tracks.

The set contains 3 exit tracks and 3 over-run ends.

Art. Nr.: 6915



## TURN-CONTROL

### Turntable Controller with track pre-selection

For analogue and digital operation

TURN-CONTROL is suitable for analogue and digital control of the turntables from the FLEISCHMANN range.

TURN-CONTROL is suitable for operation with 2-rail DC operation, 3-rail AC operation, and will also operate with all digital systems - DCC or FMZ.

**Using TURN-CONTROL, no changes or alterations to the turntable are necessary.**

### Advantages:

- An LCD display gives a visual indication of the setting of the turntable bridge, the location of the track exits installed and the active track exit, together with additional functions.
- Symbols of the active functions give it a simple, user-friendly operation. Each track exit can be individually exactly controlled.
- By pressing a button, a comfortable turning of a locomotive is possible.
- Because the polarity change is controlled by the switch, when rotating through 180°, the turntable is protected against short circuit.

Art. Nr.: 6910



## Turntable switch

To operate the electric turntables 6052 C, 6152 C, 6154 C with electrically switchable track exits.

Ø 63 mm



Art. Nr.: 6434



## „Click“ metal rail joiners

To electrically and mechanically connect a rail track assembly. Can not be used for 6106/6109. 20 pc./pack.

Art. Nr.: 6436



## Metal rail joiners

Transitional rail joints from assortment 6000 to assortment 6100. To connect the flexible tracks 6106/6109. 20 pc./pack.

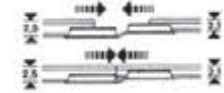
Art. Nr.: 6433



## Isolating rail joiners

For electrical rail cut-off. Can be used on any layout section. The mechanical connection is maintained. 12 pc./pack.

Art. Nr.: 6437



## Transitional rail joints

To connect Scale H0 tracks of 2.5 mm rail profile height with tracks of 2.1 mm rail profile height. 20 pc./pack.  
By simply exchanging the standard mounted rail joints to the transitional rail joints 6437 you can adjust the turntable and the expansion set 6155 to track layouts of 2.1 mm high rail profiles.

Art. Nr.: 6430



## Track Feed Clips ( 2-pole)

Track feed clips (2 poles) can only be connected to the rail connectors on the corresponding rail joint. Saves a siding.

Art. Nr.: 6431



## Track Feed Clip (1-pole)

Track feed clips can only be connected to the rail connectors on the corresponding rail joint such as in front or behind the electrical cut-off point or with signal circuits.

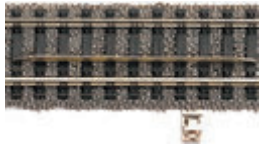
Art. Nr.: 9401



## Connecting wire with flat contact springs

For train control operation of semaphore signals.

Art. Nr.: 6432



## Switch contact rail, 1-pole

To trigger off switching impulses for turnouts, signals etc. with driving locomotives. Can be used on any section of the railway layout.

Art. Nr.: 6435



## Switch contact

To trigger off electrical switching impulses up to a max. of 800 mA. Can be connected to the solenoid switches 942601 and 942701.

Art. Nr.: 942601



## Switching magnet, angular

To activate the switch contacts 6435. To fix onto the underside of vehicles. Surface area: 7 x 7 mm, height 5 mm.

Art. Nr.: 942701



## Switch magnet, circular

To activate the switch contacts 6435. To fix onto the underside of vehicles. Diameter: 5 mm, height 3 mm.

Art. Nr.: 6410



## Wood-screws

To fasten tracks, rackrails, signals, relays and signal box parts.  
144 pieces

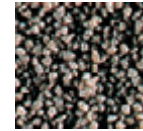
Art. Nr.: 9409



## Track fixing nails

Nail length 7 mm (approx. 500 pcs.) in a plastic container.

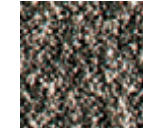
Art. Nr.: 6479



## Ballast scatter material for PROFI tracks

To ballast the track beds.  
Content: 150 g

Art. Nr.: 9479



## Track ballast

Finely grained ballast scatter to go between tracks.

Art. Nr.: 6595



## Track cleaning rubber

For manually cleaning the rail surfaces and wheels.

Art. Nr.: 6599



## FLEISCHMANN lubricating oil

For lubricating all vehicles.  
Content: 20 ml

Art. Nr.: 6480



## Rerailer

Rerailer for locos and wagons (without vehicle shown).

Art. Nr.: 6554

DB AG logos for ICE vehicles  
12 adhesive labels.

Art. Nr.: 6555

Coach numbers for ICE middle coaches.  
The article matches the traction units 4450. Each unit has three adhesive labels for 4441-4449.

Art. Nr.: 647001



## H0 figure set

Figure set of 12 seated travellers.



Photo: FLM Archiv











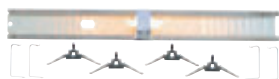


Art. Nr.: 6445



**Interior lighting unit**  
for 6-axled passenger coaches.  
Spare bulb: 00009530

Art. Nr.: 6452



**Interior lighting unit**  
for express coaches.  
Spare bulb: 00006535

Art. Nr.: 6454



**Interior lighting unit**  
for passenger coaches of length  
282 mm.  
Spare bulb: 00009530

Art. Nr.: 6455



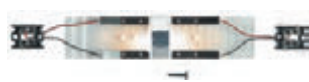
**Interior lighting unit**  
for the local control cab coach "modus".  
Spare bulb: 00009530

Art. Nr.: 6458



**Interior lighting unit**  
for passenger coaches with overall length  
264 mm.  
Spare bulb: 00009530

Art. Nr.: 6469



**Interior lighting unit**  
for passenger coaches with over-  
all length approx. 130 mm.  
Spare bulb: 00006535

Art. Nr.: 6459



**Light dispenser, assembly set**  
Tip for modelmakers: No. 6459 fits  
also into the loco shed 6476.  
Spare bulb: 00009530



Art. Nr.: 00006530



**Spare bulb, clear**  
14 V, E 5, with screwed socket.

Art. Nr.: 00006532



**Spare bulb, red**  
14 V, with push-in fitting, Ø 3 mm.

Art. Nr.: 00006533



**Spare bulb, green**  
14 V, with push-in fitting, Ø 3 mm.

Art. Nr.: 00006534



**Spare bulb, yellow**  
14 V, with push-in fitting, Ø 3 mm.

Art. Nr.: 00006535



**Spare bulb, clear**  
14 V, with push-in fitting, Ø 3 mm.

Art. Nr.: 00006536



**Spare bulb, clear**  
14 V, with lead, Ø 3 mm.

Art. Nr.: 00006538



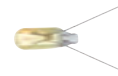
**Spare bulb, clear**  
8 V, with push-in fitting, Ø 3 mm.

Art. Nr.: 00006539



**Spare bulb, red**  
8 V, with push-in fitting, Ø 3 mm.

Art. Nr.: 00009530



**Spare bulb, for interior lighting**  
With 2 connecting wires.

Art. Nr.: 00009531



**Spare bulb, red**  
With push-in fitting, Ø 3 mm.

**DIGITAL\***



Art.Nr.: 00066530\*

**Spare bulb, clear**  
24 V, Ø 5 mm.

Art.Nr.: 00066531\*

**Spare bulb, clear**  
24 V, with push-in fitting, Ø 5 mm.

Art.Nr.: 00066532\*

**Spare bulb, red**  
24 V, with push-in fitting, Ø 3 mm.

Art.Nr.: 00066533\*

**Spare bulb, green**  
24 V, with push-in fitting, Ø 3 mm.

Art.Nr.: 00066534\*

**Spare bulb, yellow**  
24 V, with push-in fitting, Ø 3 mm.

Art.Nr.: 00066535\*

**Spare bulb, clear**  
24 V, with push-in fitting, Ø 3 mm.

Art.Nr.: 00066536\*

**Spare bulb, clear**  
24 V, with lead, Ø 3 mm.

Art.Nr.: 00069530\*

**Spare bulb, for interior lighting**  
With 2 connecting wires.

**\*Advice:**

For simultaneous operation of both digital and traditional D.C. vehicles, the bulbs of the D.C. vehicles should be replaced by the corresponding higher voltage bulbs for digital operation.



## The FLEISCHMANN PROFI coupling



### Advantages of the PROFI-coupling:

- Tight coupling (close coupling) true to the original
- Soft and automatic coupling
- Solid coupling when pulling and pushing trains
- Automatic decoupling on the FLEISCHMANN decoupling tracks
- Easy removal of individual wagons from train composition is possible
- Pre-uncoupling for shunting manoeuvres true to the original

### The perfect pre-uncoupling for great shunting maneuvers:

Pre-uncoupling means that you cannot only uncouple a wagon on a decoupling track and leave it standing there, but first pre-uncouple and then push the wagon to another point of your model railway layout to station it without the couplings connecting again.

This makes shunting manoeuvres really fun!

## Clip-in couplings

Art. Nr.: 6515



**Plug-in PROFI coupling**  
For vehicles with NEM 362 coupling socket.

Art. Nr.: 386515



**Plug-in PROFI coupling (bulk pack)**  
Content: 50 pc. 6515  
For NEM 362 coupling socket.

Art. Nr.: 6514



**Plug-in PROFI coupling**  
For use on rack and pinion locos and coaches with slot-guide mechanism on rack track.

Art. Nr.: 6509



**Plug-in PROFI hook coupling**  
For vehicles with NEM 362 coupling socket **without** slot-guide mechanism.

Art. Nr.: 6510



**Plug-in PROFI hook coupling**  
For vehicles with NEM 362 coupling socket, with slot-guide mechanism.

Art. Nr.: 6511



**"Swallow tail", plug-in exchange hoop coupling**  
For vehicle with NEM 362 coupling socket.

## Digital PROFI coupling

Art. Nr.: 651581



### Retrofit kit digital PROFI coupling (NEM 652) feedback function

Content: 1 Multiprotocol special decoder for AC and DC versions and 2 couplers. The couplers can only be properly controlled with this decoder. The use of any different decoders can cause damages to the couplers. Automatic driving current recognition Motorola/DCC or analog AC/DC. Automatic driving level recognition 14/28/128 levels.

## Button couplings

Art. Nr.: 6517



**PROFI lug-fitting coupling**

Art. Nr.: 6521



**Lug-fitting coupling**

Art. Nr.: 6524



**Exchange coupling with lug fitting (hoop coupling)**



Photo: FLM-Archiv

## Slot couplings

Art. Nr.: 6516



**PROFI slot coupling**

Art. Nr.: 386516



**PROFI slot coupling (bulk pack)**  
Content: 50 pc. 6516

Art. Nr.: 6520



**Slot coupling**

Art. Nr.: 6523



**Exchange coupling with rivet and slot fitting (hoop coupling)**

Art. Nr.: 6526



**Spare coupling with rivet and slot fitting**  
For locos 4232, 4234, 4350, 4380, 4381, 4933 (1st series).

Art. Nr.: 6527



**Spare coupling with rivet and slot fitting**  
For railcar: 4430 (1st series, front end).

Art. Nr.: 6528



**Exchange coupling with rivet and slot fitting**  
For vehicles as per 6526/6527.

Art. Nr.: 6570



**PROFI coupling head**  
To slide onto the coupling mounting 6575 and 6576 and adapter 6572. Adjustable coupling height.

Art. Nr.: 6572



**Adapter for PROFI coupling head 6570 (adjustable height)**  
Suitable for all vehicles fitted with slot coupling 6516 or 6520.

Art. Nr.: 6575



**Coupling mounting for PROFI coupling head 6570**  
For ROCO vehicles fitted with coupling 40273.

Art. Nr.: 6576



**Coupling mounting for PROFI coupling head 6570**  
For fitting to older ROCO vehicles.

Art. Nr.: 6522



**Coupling centre spring**  
To automatically realign the coupling into the central position. Only for vehicles without slot-guide mechanism.

Art. Nr.: 6574



**Close-coupling conversion set**  
To fit to older wagons which do not have close-coupling. 2 per pack, including the coupling head 6570 (adjustable height).



## Exchange wheel sets

Art. Nr.: 6560

**Exchange wheel set for AC operation**

Axle length: 24 mm. Diameter 11 mm. Not isolated.

To convert all 2- and 3-axled Fleischmann wagons fitted with disc wheels, as well as all 4-axled wagons with a length of 282 mm for use on 3-rail, centre pick up AC voltage tracks.

Art. Nr.: 6561

**Exchange wheel set for AC operation**

Axle length: 25 mm. Diameter 11 mm. Not isolated.

To convert all 4-axled Fleischmann wagons fitted with disc wheels (except wagons which should be fitted with 6560) for use on 3-rail, centre pick up AC voltage tracks.

Art. Nr.: 6562

**Exchange spoked wheel set for AC operation**

Axle length: 23,5 mm. Diameter 11 mm. Not isolated.

To convert Fleischmann coaches with spoked wheels for use on 3-rail, centre pick up AC voltage tracks.

Art. Nr.: 6563

**Exchange double spoked wheel set for AC operation.**

Axle length: 24 mm. Diameter 11 mm. Not isolated.

To convert all Fleischmann goods wagons fitted with spoked wheels for use on 3-rail, centre pick up AC voltage tracks.

More wheel sets from our spare part assortment: [www.fleischmann.de](http://www.fleischmann.de) >products >exchange wheel sets

## Traction tyre sets



Art. Nr.: 648001

Outer diameter 11.6 mm, width 2 mm.  
10 pcs/pack

Art. Nr.: 648002

Outer diameter 13.6 mm, width 2 mm.  
10 pcs/pack

Art. Nr.: 648003

Outer diameter 10.6 mm, width 2 mm.  
10 pcs/pack

Art. Nr.: 648004

Outer diameter 13,6 mm, width 1.3 mm.  
10 pcs/pack

Art. Nr.: 648005

Outer diameter 10,6 mm, width 1.3 mm.  
10 pcs/pack

Art. Nr.: 648006

Outer diameter 9,9 mm, width 1.3 mm.  
10 pcs/pack

Art. Nr.: 648007

Outer diameter 16.4 mm, width 1.3 mm.  
10 pcs/pack

Art. Nr.: 648008

Outer diameter 16.4 mm, width 2 mm.  
10 pcs/pack

Art. Nr.: 648009

Outer diameter 8 mm, width 1.3 mm.  
10 pcs/pack

Art. Nr.: 648010

Outer diameter 12.9 mm - 14.6 mm.  
10 pcs/pack

Art. Nr.: 648011

Outer diameter 10.3 mm - 12.8 mm.  
10 pcs/pack. Suitable for loco class 36 (DC)

Art. Nr.: 648012

Outer diameter 10.3 mm - 12.8 mm.  
10 pcs/pack. Suitable for loco class 36 (AC)

Art. Nr.: 6518



A pair of spare brushes and springs.

Art. Nr.: 6519



A pair of spare brushes and springs.

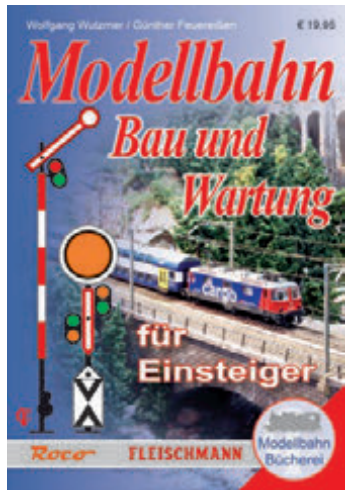








## Building and maintenance for beginners - German



Art. Nr.: 81388

Q3/2020

There is neither a patent recipe, nor a quick solution when you want to build your model railway layout at the weekend. We are happy to support you with many practical examples and tricks and hints, so you can easily build your individual layout. We are proud to help you to understand the technical conditions and how to cope with the maintenance of your vehicles and putting them into operation.

## Operate and switch for beginners - German



Art. Nr.: 81389

Q1/2020

This brochure will help you to operate and connect your model railway layout. Locomotives, trains, switches, signals, gates and all sorts of accessories - everything is kept moving, everything is put into operation by electricity. Step by step and almost playfully you will learn how to face the electrical challenges of your layout and to solve all your problems.

## FLEISCHMANN H0 track plans with ballast bed - German



Art. Nr.: 81398

The track plan manual explains the geometry of the FLEISCHMANN PROFI tracks in scale H0. The manual gives some useful and practical ideas and also shows many track layouts and expansion options in details. All featured track layouts are provided with layout designs and parts lists.

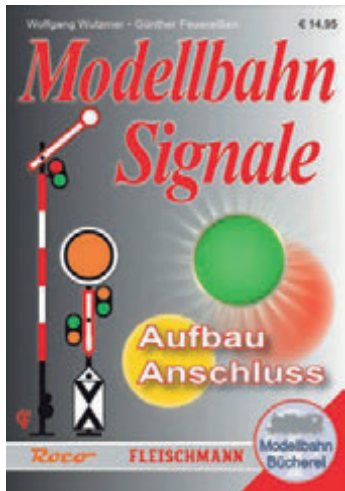
## FLEISCHMANN N track plans with ballast bed - German



Art. Nr.: 81399

The track plan manual explains the geometry of the ballasted tracks of FLEISCHMANN in scale N. Many track layouts and expansion options are shown in details. All featured track layouts are provided with parts lists.

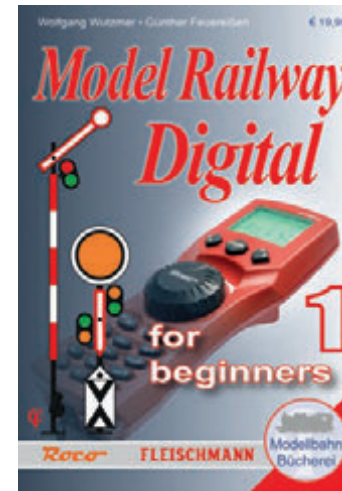
## Signals - Setup and connection - German



Art. Nr.: 81392

This brochure explains the main electrically-powered model signals, shows you the prototypical installation location and gives specific tips on how to set them up for analog or digital switching, from block diagrams to the switching signals and rail crossings. Switching suggestions have mainly been developed for DC railways, but most of them can also be used for AC railways with only slight adjustments.

## Digital for beginners, Part 1 - German and English



Art. Nr.: 81395

German

Art. Nr.: 81391

English

This manual in English language, edited by experts, answers the most important questions on the topic "How to digitize your own model railway layout". Layout construction, programming and other functions are shown and explained here step by step.

## Digital for beginners, Part 2 - German



Art. Nr.: 81396

If you are driving and controlling digitally with the muLiMAUS, you already know the advantages of the ROCO/FLEISCHMANN digital system. But how to enlarge your Starter Set, activate the wireless Z21 WLANMAUS, use tablet or smartphone for control or how to update your control units etc.

## Digital for beginners, Part 3 - German



Art. Nr.: 81393

In the digital age, the computer can reduce all manual work. If you still are operating your trains manually and set your points by mouse click then this book is just the right thing for you. We will help you to set up the interlocking systems and to create the connection with your layout.



## Accessories

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## Accessories

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