

SK-2 | SK-4

Current-transmitting couplings
for H0 model railway vehicles
with NEM 362 socket

Manual



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Printing the manual

The formatting is optimised for double-sided printing. The standard page size is DIN A5. If you prefer a larger display, printing on DIN A4 is recommended.

** Products from other manufacturers

Fleischmann is a brand of Modelleisenbahn GmbH
Plainbachstraße 4 | 5101 Bergheim | Austria

1. Getting started

These instructions will help you step by step to install and use your couplings safely and correctly. Before installing the couplings, read these instructions in full, especially the safety instructions and the section on possible faults and how to rectify them. You will then know what you need to observe and avoid errors that can sometimes only be rectified with a great deal of effort.

Keep the instructions in a safe place so that you can restore functionality at a later date in the event of any faults. If you pass the couplings on to another person, also pass on the instructions.

1.1. Contents of the package

- 1 pair of 2-pole SK-2 couplings (item no. 71-02021-02) or
- 1 pair of 4-pole SK-4 couplings (item no. 71-00041-02)

1.2. Intended use

The SK-2 and SK-4 current-transmitting couplings are intended for use in model making, especially in model railway systems, in accordance with the information in the instructions. Any other use is not in accordance with the intended use and will invalidate the warranty. Intended use also includes reading, understanding and following all parts of the instructions. The SK-2 and SK-4 current-transmitting couplings are not intended to be connected and used by children under the age of 14.

1.3. Safety instructions

Improper use and non-observance of the instructions can lead to incalculable hazards. Prevent these dangers by carrying out the following measures:

- Only install the couplings when they are de-energised.
- Observe the manufacturer's instructions when connecting the couplings to a consumer (e.g. lighting).
- Only carry out installation work in closed, clean and dry rooms. Avoid moisture, wetness and splashing water in your working environment.
- The couplings are designed exclusively for use with extra-low voltage. Use only tested and approved transformers / power supply units.
- Only plug the mains plugs of transformers / power supply units into properly installed and fused earthed sockets.
- Do not expose the couplings to high ambient temperatures or direct sunlight. Observe the information on the maximum operating temperature in the technical data.
- If you notice damage or malfunctions, switch off the supply voltage immediately. Send the couplings in for inspection.

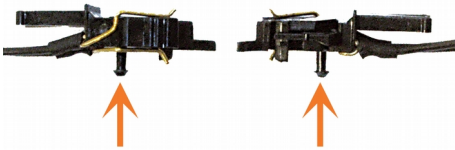
2. Operation overview

The current-transmitting couplings are intended for installation in model railway vehicles of nominal size H0 with a socket according to NEM 362.

2.1. SK-2 couplings (2-pole)

The couplings are modified Fleischmann** professional plug-in couplers (Fleischmann art. no. 6515). The current is transmitted via the external wire brackets. The current-transmitting wire brackets also stabilise the height of the coupling. This prevents unintentional uncoupling at gradient transitions.

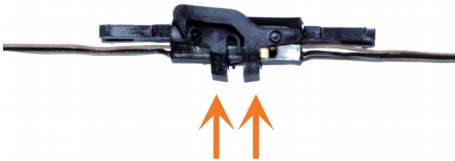
The SK-2 couplers have all the features of the Fleischmann** professional couplers such as normal uncoupling and pre-coupling.



To uncouple, the pins on the underside of the couplings must be pressed upwards.

2.2. SK-4 couplings (4-pole)

Four conductive contact surfaces are integrated into each coupling, via which the current is transmitted.



To uncouple, the brackets on the underside of the couplings must be pressed upwards.

3. Mounting the couplings

Insert the current-transmitting coupling into the standardised NEM 362 coupling socket until the retaining clips click into place.

Guide the connection cables into the vehicle. Connect the desired consumers. Observe the specifications of the consumer manufacturer.

**Please note:**

The mobility of the bogies must not be hindered by the connection cables!

**Please note:**

The maximum current that may be fed through the coupling per connection cable is:

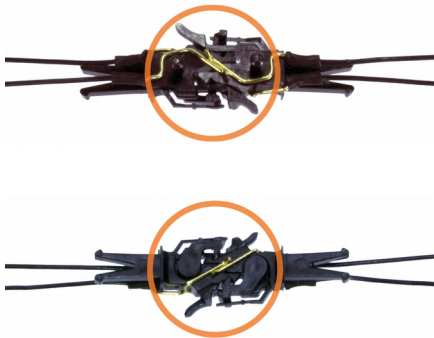
continuous: 0.5 A current

up to 60 seconds: 1.0 A current

If several loads are supplied via one connection cable, the total current must not exceed these values.

3.1. Re-bending the wire brackets of the SK-2

It can happen that after coupling two vehicles, the outer wire brackets of the two SK-2 couplings do not touch and therefore no current is transmitted. This happens in particular when couplings are coupled that were not supplied as a pair.



In this case, adjust the wire brackets on the top and/or bottom of the couplings CAREFULLY with a small pair of needle-nose pliers until they touch.

**Caution!**

Take care not to bend the brackets too far, as they could then break off.

4. Checklist for troubleshooting and error correction

No current is transmitted via the couplings.

Possible causes:

- The connection cables are not soldered correctly to the consumer or are torn off. → Check the connections.
- SK-2: The wire brackets on the top and/or bottom of the two coupled SK-2s are not touching or are bent. → Carefully readjust the wire bracket(s) (→ section 3.1).

4.1. Technical Hotline

If you have any questions about the use of the couplings, our technical hotline will help you (telephone number and e-mail address on the last page).

4.2. Repairs

You can send us defective couplings for inspection / repair (address on the last page). Please do not send us your return freight collect. In the event of a warranty or guarantee claim, we will reimburse you for the regular shipping costs.

Please enclose the following with your shipment

- proof of purchase as evidence of any warranty or guarantee claim
- a brief description of the defect
- the address to which we should return the product(s)
- your email address and/or a telephone number where we can reach you in case of queries

Costs

The inspection of returned products is free of charge for you. In the event of a warranty or guarantee claim, the repair and return are also free of charge for you.

If there is no warranty or guarantee case, we will charge you the costs of the repair and the costs of the return. We charge a maximum of 50% of the new price for the repair according to our valid price list.

Carrying out the repair(s)

By sending in the product(s), you give us the order to inspect and repair it. We reserve the right to refuse the repair if it is technically impossible or uneconomical. In the event of a warranty or guarantee claim, you will then receive a replacement free of charge.

Cost estimates

Repairs for which we charge less than € 25.00 per item plus shipping costs will be carried out without further consultation with you. If the repair costs are higher, we will contact you and carry out the repair only after you have confirmed the repair order.

5. Technical data

Electrical properties

Maximum transmittable current per connection cable	continuous:	0.5 A
	up to 60 seconds:	1.0 A

Protection

Protection class	IP 00
	Meaning: No protection against solid foreign bodies. No protection against water.

Environment



For use in closed rooms

Ambient temperature during operation	0 ~ + 30 °C
Permissible relative humidity during operation	10 ~ 85% (non-condensing)
Ambient temperature during storage	- 10 ~ + 40 °C
Permissible relative humidity during storage	10 ~ 85% (non-condensing)

Other features

Weight of the couplings:	SK-2: approx. 1.45 g per pair
	SK-4: approx. 1.60 g per pair
Length of connection cables:	SK-2: approx. 25 cm
	SK-4: approx. 15 cm
Outer diameter of connection cables	0.5 mm ± 0.1 mm

6. Warranty, EU conformity & WEEE

6.1. Guarantee bond

For this product we issue voluntarily a guarantee of 2 years from the date of purchase by the first customer, but in maximum 3 years after the end of series production. The first customer is the consumer first purchasing the product from us, a dealer or another natural or juristic person reselling or mounting the product on the basis of self-employment. The guarantee exists supplementary to the legal warranty of merchantability due to the consumer by the seller.


The warranty includes the free correction of faults which can be proved to be due to material failure or factory flaw. With kits we guarantee the completeness and quality of the components as well as the function of the parts according to the parameters in not mounted state. We guarantee the adherence to the technical specifications when the kit has been assembled and the ready-built circuit connected according to the manual and when start and mode of operation follow the instructions.

We retain the right to repair, make improvements, to deliver spares or to return the purchase price. Other claims are excluded. Claims for secondary damages or product liability consist only according to legal requirements.

Condition for this guarantee to be valid, is the adherence to the manual. In addition, the guarantee claim is excluded in the following cases:

- if arbitrary changes in the circuit are made,
- if repair attempts have failed with a ready-made module or device,
- if damaged by other persons,
- if damaged by faulty operation or by careless use or abuse.

6.2. EU Declaration of Conformity

 This product fulfils the requirements of the following EU directives and therefore bears the CE marking.

2001/95/EU Product Safety Directive

2015/863/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

2014/30/EU on electromagnetic compatibility (EMC Directive). Underlying standards:

DIN-EN 55014-1 and 55014-2: Electromagnetic compatibility - Requirements for household appliances, electric tools and similar electrical appliances. Part 1: Emitted interference, Part 2: Immunity to interference

To maintain electromagnetic compatibility during operation, observe the following measures:
Only connect the supply transformer to a professionally installed and fused earthed socket.
Do not make any changes to the original components and follow the instructions, connection and assembly diagrams in this manual exactly.
Only use original spare parts for repair work.

6.3. Declarations on the WEEE Directive

This product is subject to the requirements of the EU Directive 2012/19/EC on Waste Electrical and Electronic Equipment (WEEE), i.e. the manufacturer, distributor or seller of the product must contribute to the proper disposal and treatment of waste equipment in accordance with EU and national law. This obligation includes

- registration with the registering authorities ("registers") in the country where WEEE is distributed or sold
- the regular reporting of the amount of EEE sold
- the organisation or financing of collection, treatment, recycling and recovery of the products
- for distributors, the establishment of a take-back service where customers can return WEEE free of charge
- for producers, compliance with the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive.



The "crossed-out wheeled bin" symbol means that you are legally obliged to recycle the marked equipment at the end of its life. The appliances must not be disposed of with (unsorted) household waste or packaging waste. Dispose of the appliances at special collection and return points, e.g. at recycling centres or at dealers who offer a corresponding take-back service.

Further Information and Tips:
<http://www.tams-online.de>

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