



BRAWA 46749 H0 PEW ABi DB III AC LED Instruction Manual

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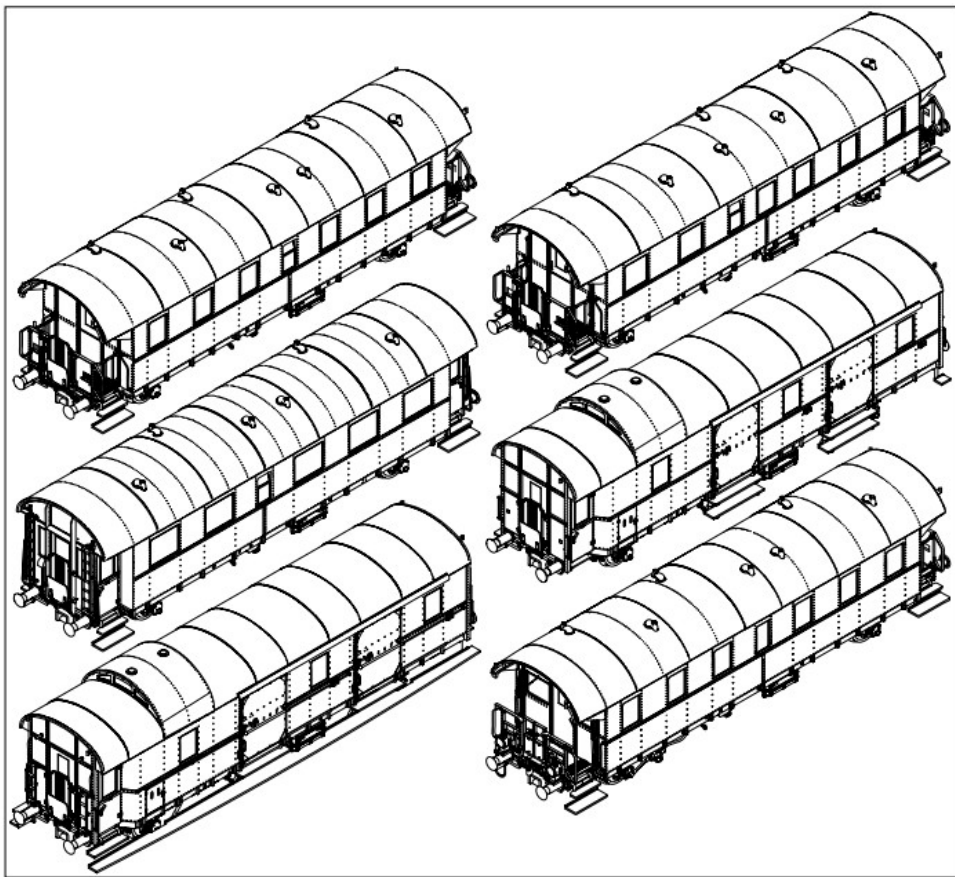
46749 H0 PEW ABi DB III AC LED Instruction Manual

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Operating Instructions

Two-axle standard passenger car Pwi-28, Bi-29, BCi-28, Ci-28
Two-axle command car Bif-28, BPwif-28

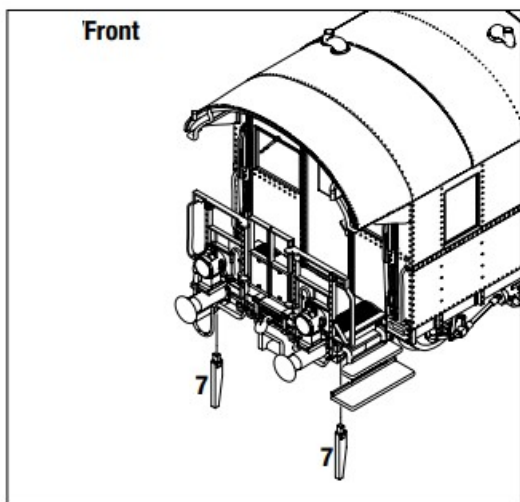
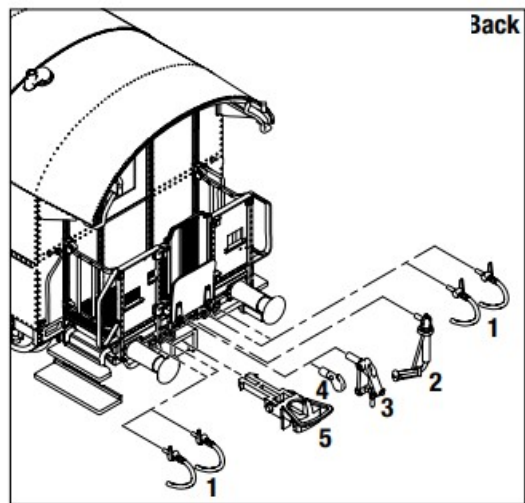
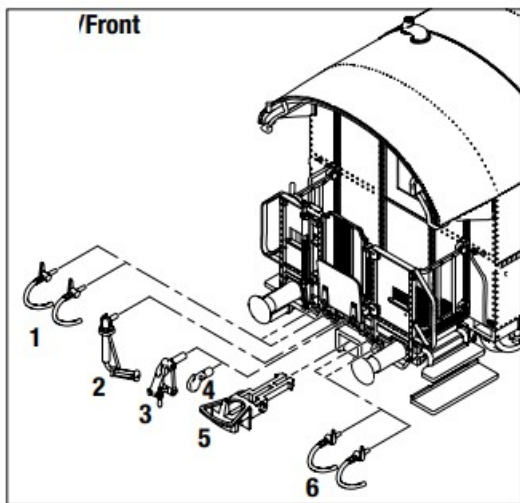


General information

Fitting additional parts

There is an accessory bag added to the model but may be not all parts will be needed. The additional parts are intended for showcase. After mounting the additional parts, there can be limitations in driving mode.

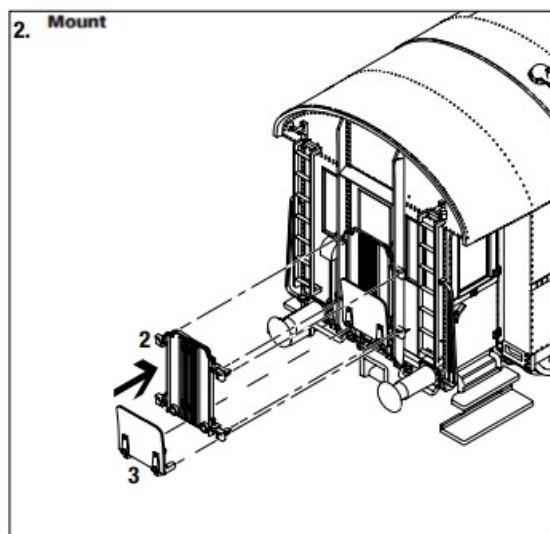
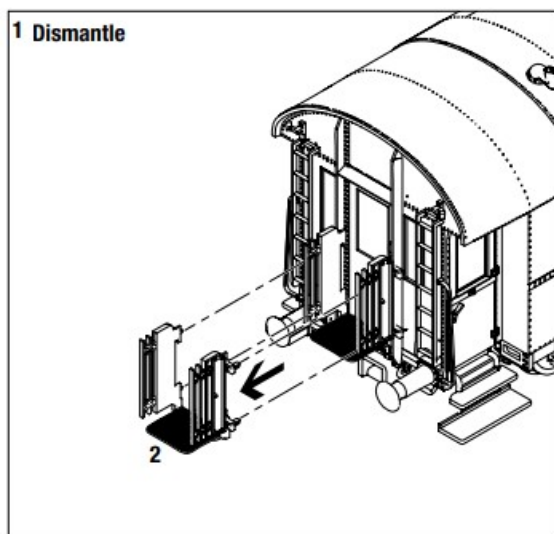
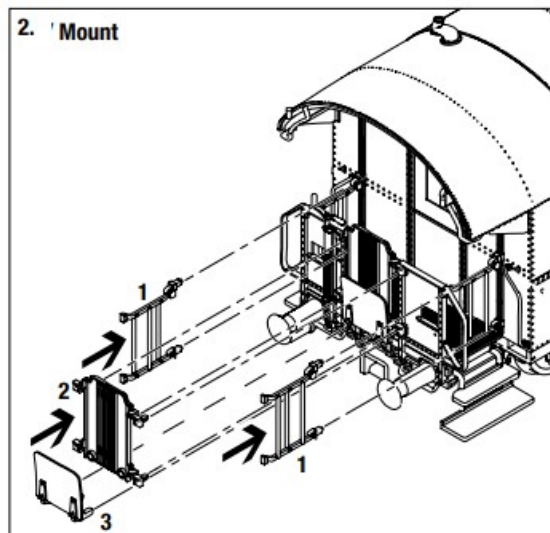
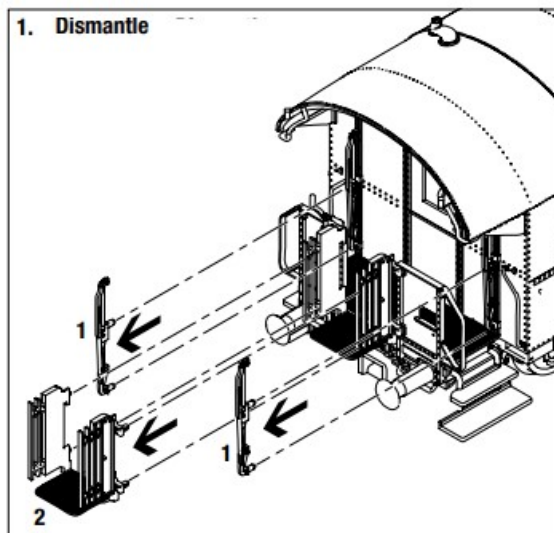
| Pos. Description | Pcs. in add on bag [Pcs.] |
|---------------------|---------------------------|
| 1 Brake hose right | 8 |
| 2 Heating hose | 2 |
| 3 Original coupling | 2 |
| 4 Hook | 2 |
| 5 Coupler | 2 |
| 6 Brake hose right | 8 |
| 7 Rail guard BPwif | 2 |



Mount the closed variant

The open folding guard (1) (not all models), the open folding grille (2) and the transition plate (3) are fitted at the factory.

These can be replaced by the closed version.



AC wheels

This wagon is supplied with insulated wheel sets for DC power supply. They can be exchanged for wheel sets for AC operation at your BRAWA dealer. You can also order the AC wheel set separately.

Order no.: 2187 Wheel with solid center set AC Oils

The wheel bearings should be oiled regularly with fine model oil.

Couplings

The coupling is a standard NEM coupling, and can therefore be used with all other standard H0 gauge model railway couplings.



Scale and true to original small sized model for adult collectors.



Only a toy transformer produced compliant with VDE 0570-2-7/DIN EN 61558-2-7:2008-06 may be used as a voltage source to operate this product.



This product conforms to the current CE standards.



Electrical equipment may not reach to domestic waste. According to the current terms of the country reference the electrical equipment must professional disposed.

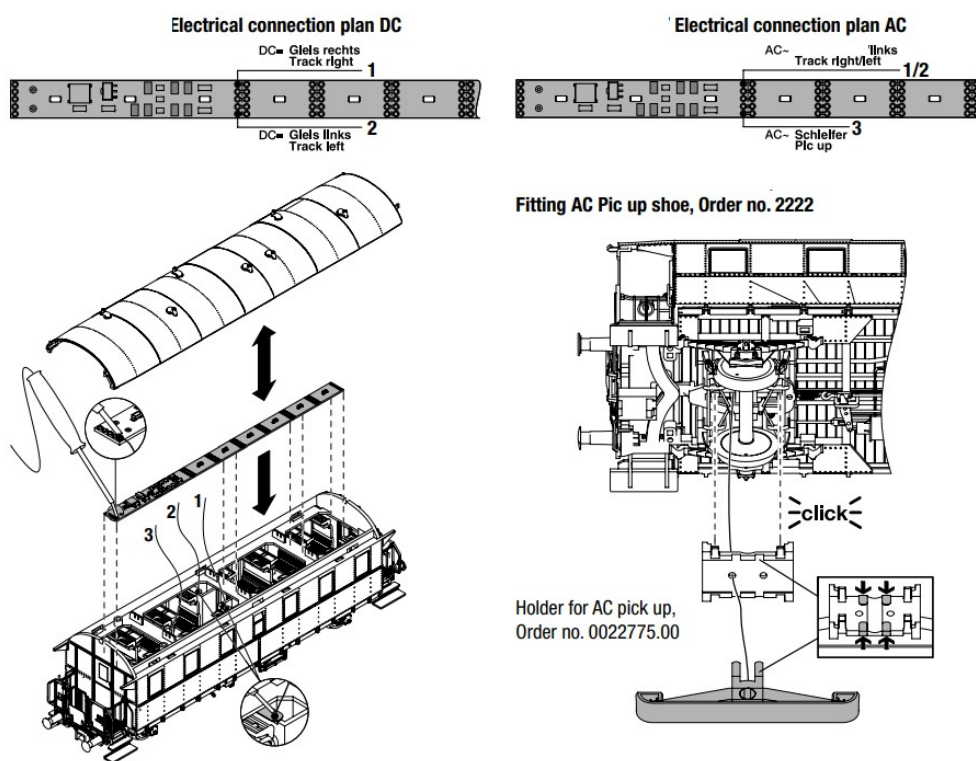
Model building item, not a toy! Save the packaging, it contains important information!

Accessory

| Description | Order no. |
|---|-----------|
| Rigid coupling set of 10 | 2250 |
| LED lighting board, warm white, variable in length | 2212 |
| AC Pick up shoe | 2222 |
| Connection wire 0.05 mm ² , coil 10 m, black | 32408 |

Fitting LED lighting board, Order no. 2212

1. Open the roof.
2. Shorten the PCB to the length of the car.
3. Sold the wires at the PCB as shown in the electrical connection plan AC or DC. Install and connect the power pic up shoe for AC version (Connection wire see table accessory).
4. Place the PCB with LEDs downwards.
5. Snap the roof in the correct position.

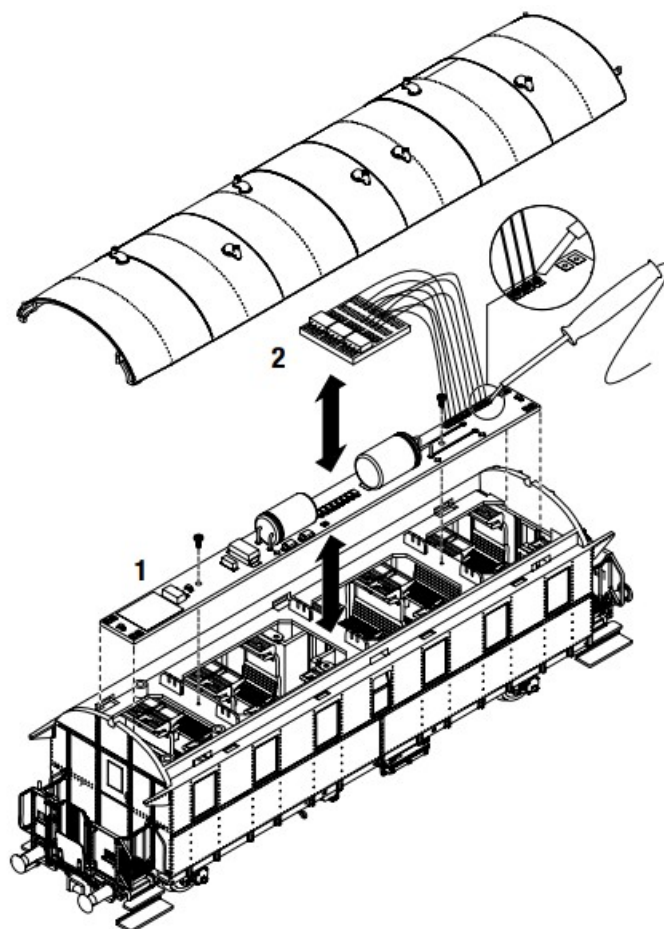


Maintenance

Install the function decoder

1. Open the roof.
2. Unscrew the screws.
3. Lift off the light guide plate with solder interface (1).
4. Sold the function decoder (2) as shown in the electrical connection plan AC/DC. Install and connect the power pic up shoe for AC version (Connection wire see table accessory).
5. Place the light guide plate with solder interface (1) and function decoder (2) in the car.

6. Screw in the screws.
7. Snap the roof in the correct position.



Additional information for passenger car

All Versions

The lighting circuit board of the passenger car has a soldering interface for the installation of a function decoder.

Assignment of the physical outputs

| Function output | Description |
|-----------------|--|
| F0f (LV) | 2x red rear end of the car |
| F0r (LR) | 2x red end of the car in front |
| AUX1 | Passenger compartment light |
| AUX2 | Light platform |
| AUX3 | Light train driver's compartment (pulpit in the baggage car) |

Mapping recommendation for the function decoder FH22:

| | | |
|----|-----|------------------------------|
| 33 | 1 | LV ON (Standard D&H) |
| 34 | 2 | LR ON (Standard D&H) |
| 35 | 4 | F1 to AUX1 (Standard D&H) |
| 36 | 8 | F2 to AUX2 (Standard D&H) |
| 37 | 16 | F3 to AUX3 (Standard D&H) |
| 38 | 128 | Shunting mode (Standard D&H) |
| 47 | 4 | like CV35 (Standard D&H) |
| 64 | 8 | like CV36 (Standard D&H) |

Additional information for passenger car/command car

Function assignment for function decoder FH22-4 (DCC/SX1/SX2/Motorola/DC/AC) Brawa no.: 0021886.00

| Function | Description | Mapping-CV | Physical output Note |
|----------|----------------------------------|------------|---|
| F0 | Main light ON/OFF | 33/34 | LV/LR (F0_f/F0_r) White/red front light changes with the direction of travel |
| F1 | Passenger compartment light | 35 (47) | AUX1 |
| F2 | Light platform | 36 (64) | AUX2 |
| F3 | Light train driver's compartment | 37 | AUX3 |

Function assignment for function decoder FH22-4 (DCC/SX1/SX2/Motorola/DC/AC) Brawa no.: 0018271.06
Command car with or without lights (in the train set)

| Function | Description | Mapping-CV | Physical output | Note |
|----------|-----------------------------|------------|--------------------------|--|
| F0 | Main light ON/OFF | 33/34 | LV/LR (F0_f/F0_r) | White/red front light changes with the direction of travel |
| F1 | Passenger compartment light | 35 (47) | AUX1 | permanently switched on at the factory (CV153=4) |
| F2 | Light platform | 36 (64) | AUX2 (FS) und AUX 4 (BS) | FS: front; BS: Rear (at the driver's cab) |
| F3 | Light train driver's cabin | 37 | AUX3 | |
| F4 | Shunting light | 38 | | Light 3x white regardless of the direction of travel |

Function assignment for function decoder FH22-4 (DCC/SX1/SX2/Motorola/DC/AC) Brawa no.: 0018271.03
Command car with or without lights (single car)

| Function | Description | Mapping-CV | Physical output | Note |
|----------|-----------------------------|------------------|----------------------|---|
| F0 | Main light ON/OFF | 33/34 145/146 | LV/LR (F0_f/F0_r) | White/red front light changes with the direction of travel |
| F1 | Passenger compartment light | 35 (47) | AUX1 | only for cars with interior lighting |
| F2 | Light platform | 36 (64) | AUX2 (FS) | FS: front, only for cars with interior lighting |
| F3 | Light train driver's cabin | 37 | AUX3 | |
| F4 | Shunting light | 38/145/146 | | Light 3x white regardless of the direction of travel |
| F5 | Light platform | 39/150 | AUX4 (BS) | BS: Rear (at the driver's cab) Platform light is only on in conjunction with F0. If the light should be switchable separately, please set CV150=0 |

Additional information for passenger car

Function decoder interface

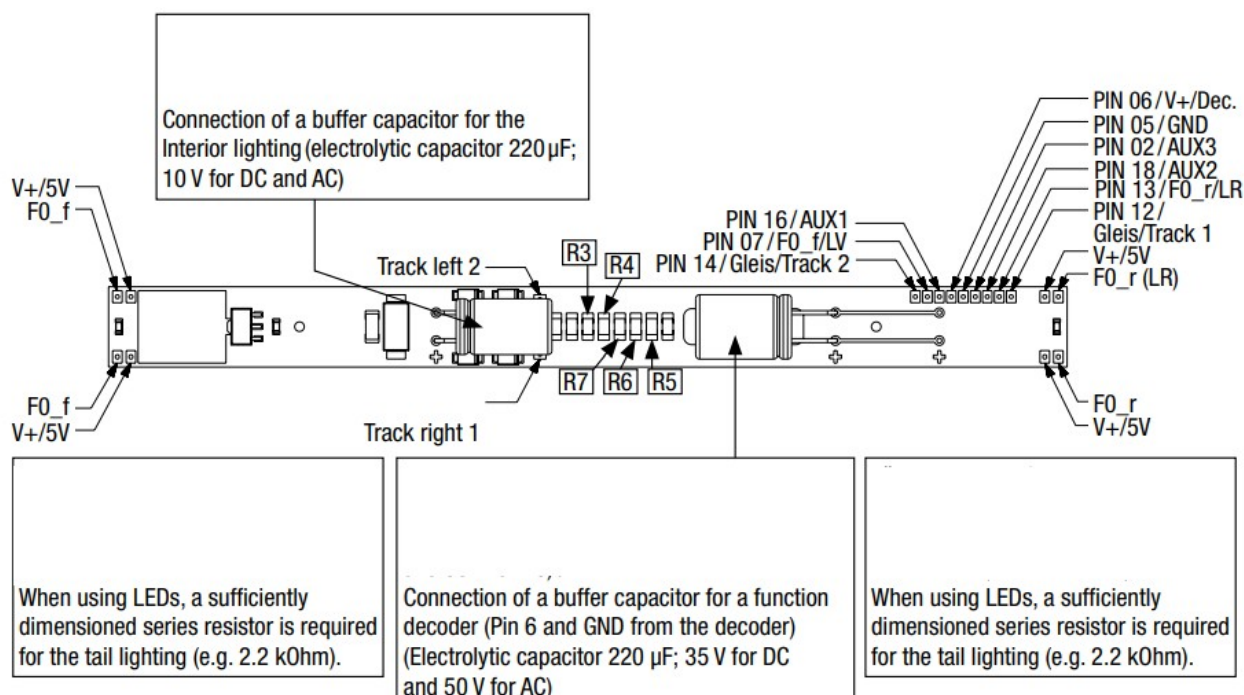
When installing the decoder (FH22 for AC and DC BRAWA no.: 0021886.00, FH05B BRAWA no.: 0019694.00 is sufficient for DC; the function decoders are optional order parts) the track on the right (TR, red wire) and the track on the left must be used to operate the interior lighting (TL, black wire), the function output (AUX1, green wire) must be connected and the 0-ohm resistor R5 must be removed.

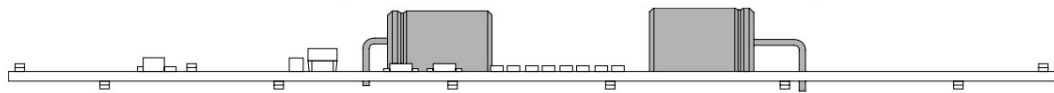
If a buffer capacitor is required for the decoder, V+ from the decoder (V+/Dec., Pin 6, blue wire) and ground (GND, Pin 5, brown wire) must be connected.

F0_f (LV) and F0_r (LR) are only required if a red tail light should be retrofitted. When connecting LV, R3 must be removed in digital mode, when connecting LR, R4 must be removed.

In the passenger car with an open platform, the platform light can be switched on separately. To do this, add a wire from the decoder to AUX2 and remove the 0-ohm resistor R6.

In the baggage car, the light in the pulpit (train driver's compartment) can be switched on separately. To do this, add a wire from the decoder to AUX3 and remove the 0-ohm resistor R7.



Kondensatoren im Personenwagen**capacitors in the passenger car****Additional information for passenger car**

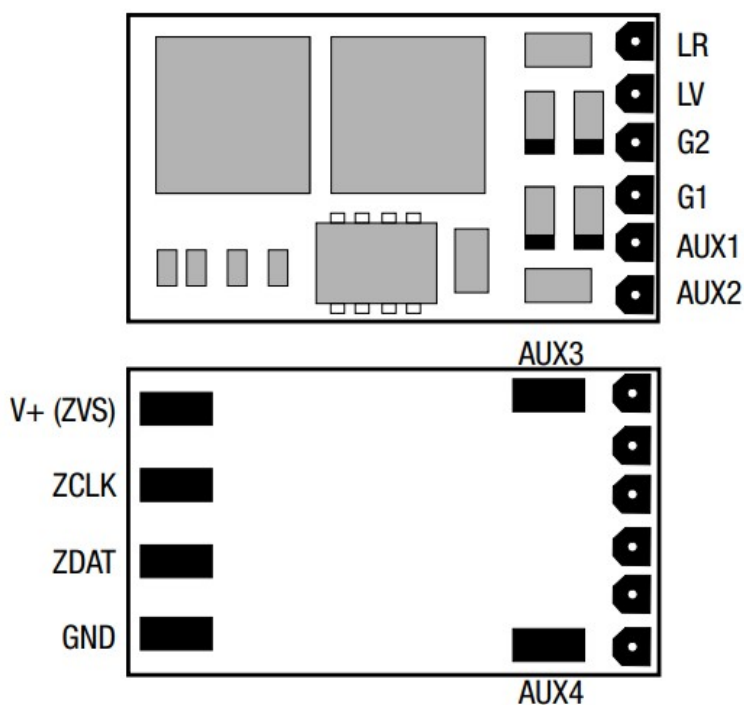
Electrical connection plan AC/DC

| PIN | Name | Description | Cable color |
|-----|---------------|--|-------------|
| 01 | GPIO / C | General input/output | |
| 02 | AUX3 | Output 3 | pink |
| 03 | GPIO / B | Train bus cycle | |
| 04 | GPIO / A | Train bus data | |
| 05 | GND | Decoder minus, pick-off after rectifier | brown |
| 06 | V+/Cap. | Decoder Plus, pick-off after rectifier, storage capacitor connection | blue |
| 07 | F0_f | Light, driving direction forward | white |
| 08 | Motor+ | Motor connection plus | |
| 09 | V+/Dec. | Decoder plus, pick-up after rectifier | blue |
| 10 | Motor – | Motor connection minus | |
| 11 | Index | not used, coding | |
| 12 | Track 1/Power | Current pick-up right driving direction forward | red |
| 13 | F0_r | Light, driving direction backwards | yellow |
| 14 | Track 2/Power | Current pick-up left driving direction forward | black |
| 15 | LS/A | Loudspeaker connector A | |
| 16 | AUX1 | Output 1, tail lights in the driving direction forward | green |

| | | | |
|----|------|--|-----------|
| 17 | LS/B | Loudspeaker connector B | |
| 18 | AUX2 | Output 2, tail lights in the driving direction backwards | violet |
| 19 | AUX4 | AOutput 4 | dark blue |
| 20 | AUX5 | Output 5 | |
| 21 | AUX6 | Output 6 | |
| 22 | AUX7 | Output 7 | |

Function decoder FH05B, only DC

With the FH05B, V + (ZVS) and GND are not provided with litz wires on the decoder. If necessary, suitable braids can be soldered to the marked soldering points on the back of the decoder.



Additional information for command car

All versions

The control car is equipped with a PluX22 interface in accordance with NEM 658.

Version: Basic+ (analog DC)

In analogue driving mode, the white/red light change is active and the interior lighting in the passenger compartment is switched on. When installing a PluX22 function decoder, the functions can be used according to the table "Function assignment for function decoder FH22-4".

When installing a decoder, please also note the points "Assignment of the physical outputs" and "Digitizing the analogue Basic+ version".

Version: Basic+ (analog AC)

In analogue driving mode, the white/red light change is active and the interior lighting in the passenger compartment is switched on. By changing the CV programming of the decoder, additional functions (such as the light in the driver's cab) can be activated for analogue operation.

Version: Basic+ (digital AC)

In digital operation, the control car is set to DCC operating mode with address 3 ex works.

In digital operation, functions F1 to F4 are available (see table "Function assignment for function decoder FH22-4").

4").

Assignment of the physical outputs

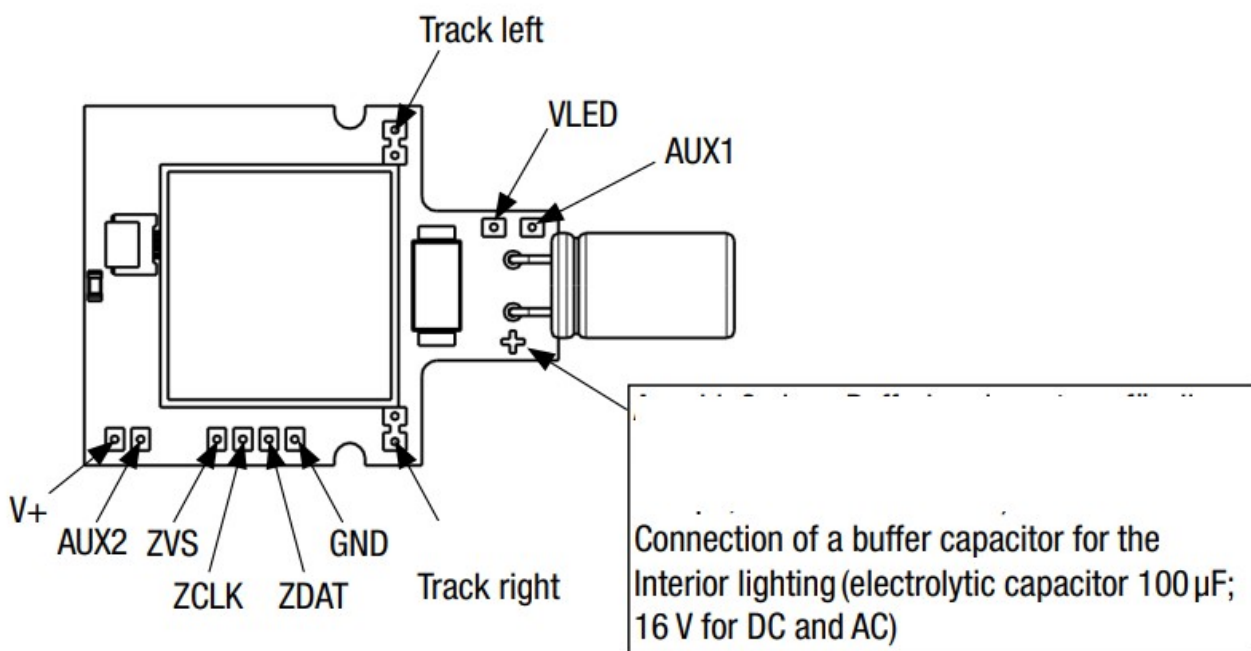
| Function output | Description | Note |
|-----------------|---|-------------------------------------|
| F0f (LV) | 2x red on the side of the driver's cab | |
| F0r (LR) | 3x white on the side of the driver's cab | |
| AUX1 | Passenger compartment light | only in cars with interior lighting |
| AUX2 | Front platform light | only in cars with interior lighting |
| AUX3 | Light in the cab | |
| AUX4 | Rear platform light (at the driver's cab) | |

Digitizing the analog Basic+ version Mapping recommendation for the function decoder FH22 in the control car:

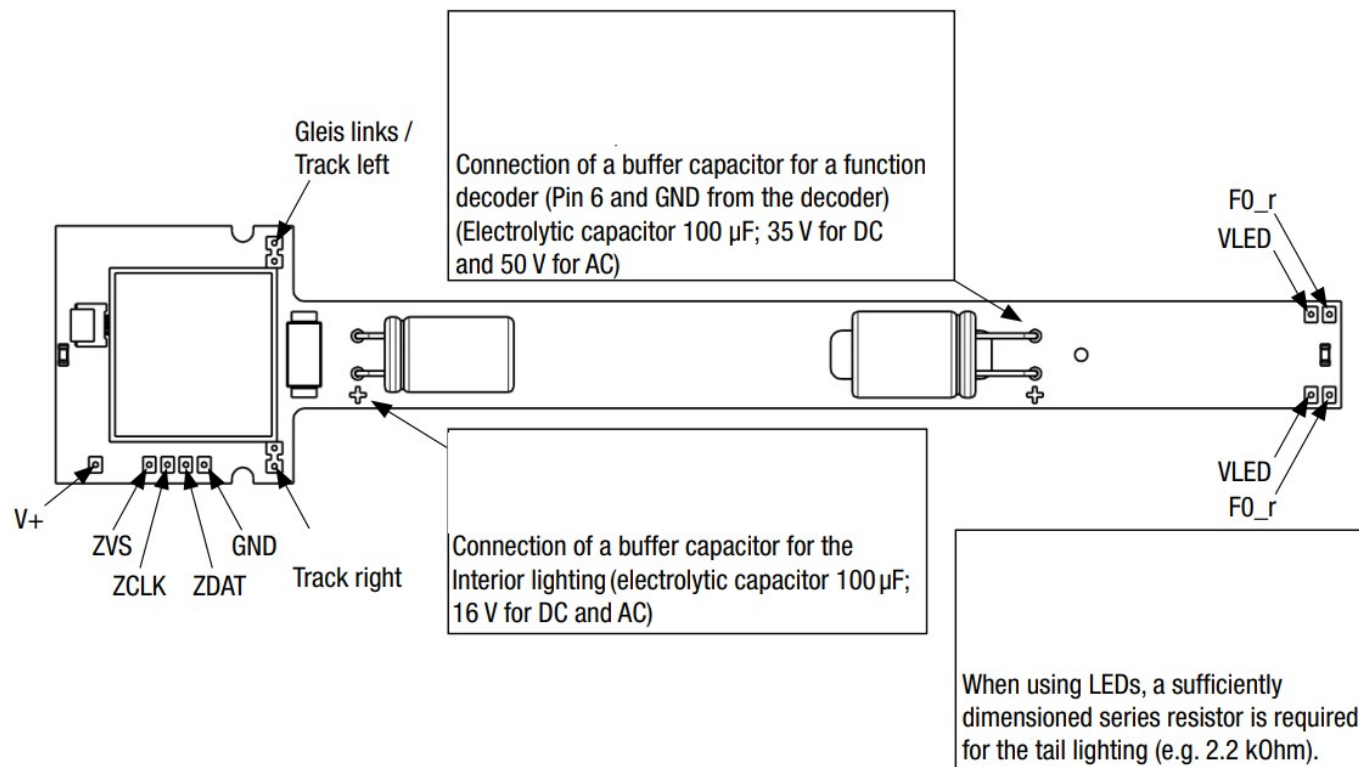
| | | |
|-----|-----|--|
| 13 | 1 | F1 (light in the passenger compartment) is on in analogue operation (standard D&H) |
| 14 | 3 | LV/LR (light change) is active in analogue operation (standard D&H) |
| 33 | 3 | F0 switches LV+LR on (forward) |
| 34 | 3 | F0 switches LV+LR on (reverse) |
| 35 | 4 | F1 switches on AUX1 (standard D&H) |
| 36 | 40 | F2 turns on AUX2 and AUX4 |
| 37 | 16 | F3 switches on AUX3 (default D&H) |
| 38 | 128 | F4 switches on the maneuvering gear |
| 47 | 4 | like CV35 (standard D&H) |
| 64 | 40 | like CV36 |
| 145 | 46 | Conditions for light forward |
| 146 | 101 | Conditions for light backwards |
| 153 | 4 | AUX1 is permanently on in digital operation |

Additional information for command car

Notes on the circuit board for the analog bridge plug or function decoder

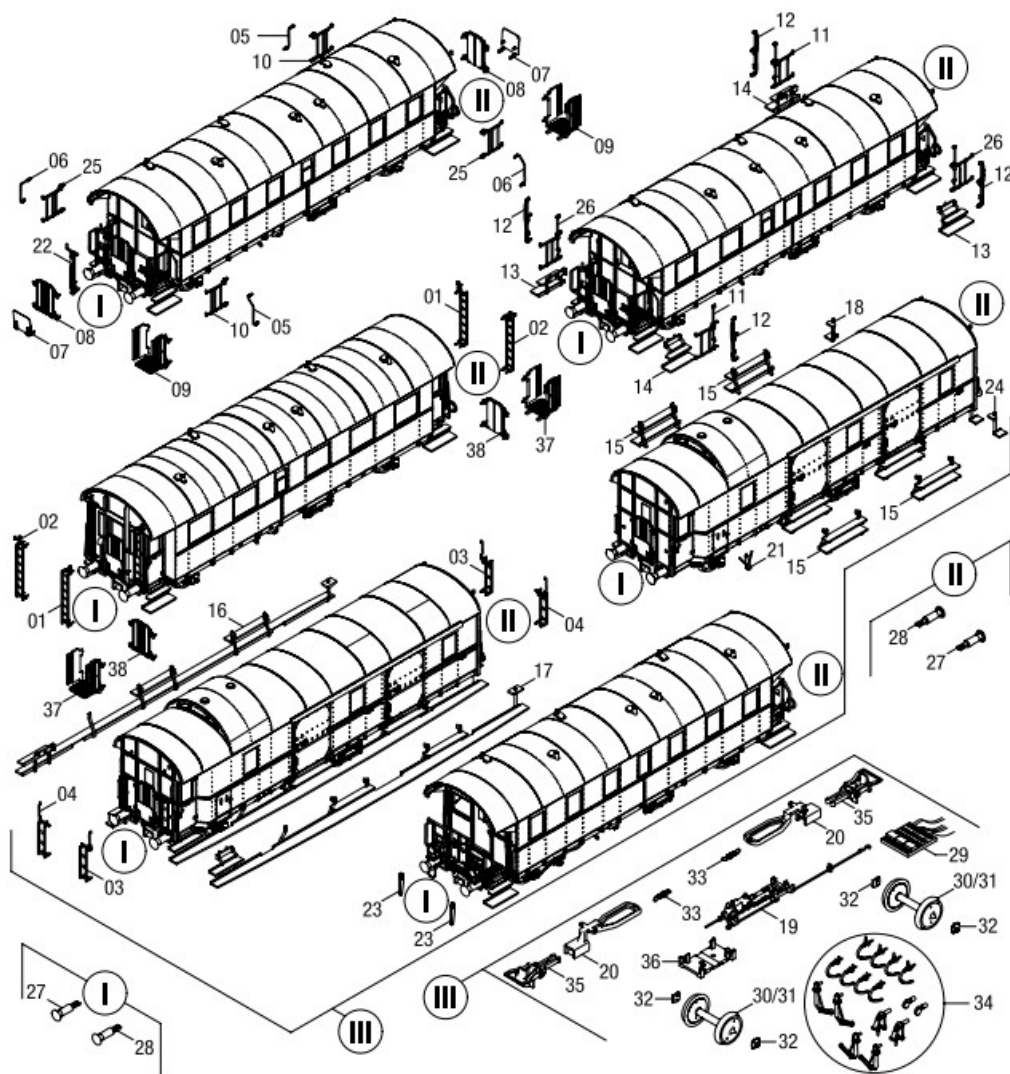


Notes on the light guide plate



Spare Parts

To fit individual spare parts it is necessary to dismantle the waggon. Please be careful not to damage any components during removal as not every component is available as spare part.



| Pos. | Description | Order no. |
|----------|----------------------------|------------------|
| 01** | Ladder Ai right** | 0021334.00** |
| 02** | Ladder Ai left** | 0021335.00** |
| 03** | Ladder Pwi right** | 0021336.00** |
| 04** | Ladder Pwi left** | 0021337.00** |
| 05* / ** | Handrail Bi right* / ** | 0021338.00* / ** |
| 06* / ** | Handrail Bi left* / ** | 0021339.00* / ** |
| 07 | Transition tread | 0021342.00 |
| 08* / ** | Folding grille close* / ** | 0021343.00* / ** |
| 09* / ** | Folding grille open* / ** | 0021344.00* / ** |

| | | |
|----------|---|------------------|
| 10* / ** | Folding guard 3 bars closed left* / ** | 0021345.00* / ** |
| 11* / ** | Folding guard 2 bars closed left* / ** | 0021346.00* / ** |
| 12* / ** | Folding guard open* / ** | 0021347.00* / ** |
| 13** | Entrance tread right** | 0021372.00** |
| 14** | Entrance tread left** | 0021373.00** |
| 15** | Loading tread * | 0021374.00** |
| 16** | Running board right** | 0021375.00** |
| 17** | Running board left** | 0021376.00** |
| 18** | Shunter tread Pwi right** | 0021377.00** |
| 19 | Main brake cylinder | 0021378.00 |
| 20 | Coupler shaft | 0021380.00 |
| 21** | Downpipe** | 0021387.00** |
| 22** | Brake Crank** | 0021388.00** |
| 23** | Rail guard BPwif** | 0021393.00** |
| 24** | Shunter tread Pwi left * | 0021409.00** |
| 25* / ** | Folding guard 3 bars closed right* / ** | 0021412.00* / ** |
| 26* / ** | Folding guard 2 bars closed right* / ** | 0021413.00* / ** |
| 27** | Buffer rounded** | 0021415.00** |
| 28** | Buffer flat** | 0021416.00** |
| 29*** | Function decoder FH22-3 (Standard D&H)*** | 0021886.00*** |
| 30 | Wheelset, DC | 0021292.00 |
| 31 | Wheelset, AC | 2187 |
| 32 | Bearing cover | 0009338.00 |
| 33 | Coupler spring | 0023093.00 |

| | | |
|----------|---|------------------|
| 34 | Add-on part bag 2 | 0000748.00 |
| 35 | Standard coupler (2 pieces) | 0000729.00 |
| 36 | Holder for AC pick-up (Order no. 2222***) | 0022775.00 |
| 37* / ** | Folding Grille open* / ** | 0023532.00* / ** |
| 38* / ** | Folding Grille close* / ** | 0023531.00* / ** |

* The color of the spare parts may be slightly different.

** Version-specific component.

The design versions of this car series differ as far as the use of the parts is concerned.

*** Optional, not included

Important information:

When ordering spare parts you must always state the order number and give the description.

If you do not do this, the order cannot be processed.

Example of order number:

Position (33), Coupler spring = 0023093.00, Coupler spring Ordering spare parts:

www.brawa.de/en/service/spareparts

We reserve the right to deviations in printing, color and structural or design modifications to the original as well as our advertising material.

The packaging and operating instructions are part of this product.

They contain important information concerning safety, use and disposal. Store these carefully. Hand it over to third parties.

www.brawa.de

Brawa Artur Braun Modellspielwarenfabrik GmbH & Co. KG


Uferstraße 2430 · D73630 Remshalden

Hotline +49 (0)7151 979 35 68

Telefax +49 (0)7151 746 62

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Documents / Resources

| | |
|---|---|
|  | <p>BRAWA 46749 H0 PEW ABi DB III AC LED [pdf] Instruction Manual</p> <p>46749 H0 PEW ABi DB III AC LED, 46749, H0 PEW ABi DB III AC LED, PEW ABi DB III AC LED, ABi DB III AC LED, DB III AC LED, III AC LED, AC LED, LED</p> |
|---|---|

References

-  [Startseite - BRAWA Modelleisenbahn, Modellbahn, Zubehör - Spur 0, O, H0, HO, TT, N, Z](#)
- [User Manual](#)

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