

BRAWA H0 DIL 212 DB IV AC Ex World Of Trains Model Railway Shop



# BRAWA H0 DIL 212 DB IV AC Ex World Of Trains Model Railway Shop User Manual

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**BRAWA H0 DIL 212 DB IV AC Ex World Of Trains Model Railway Shop**



## Specifications

- **Product Name:** Diesel Loco V100 West
- **Models:** 211, 212, 213, V 100.10, V100.20
- **Scale:** H0
- **Intended Users:** Adult collectors

## Product Usage Instructions

### Before Starting Up

Before starting up the product, perform the following tasks:

- Refer to general assembly and safety information.
- Use only a toy transformer compliant with VDE 0570-2-7/DIN EN 61558-2-7 as the voltage source.

### Dismantling Instructions (Analog Version)

To dismantle the NEM shaft in the analog version:

1. Follow work-step dismantling instructions.
2. Refer to position number of spare part (Pos.) 29.

## Converting to Digital Operation

### For DC version

1. Consult the installation instructions from the decoder manufacturer for the correct installation of the digital decoder.
2. The factory setting for the decoder is address 03.

### For AC version:

1. Use the premium digital decoder (01) for AC locomotive models.
2. The decoder identifies the operation type automatically.
3. If reprogramming is needed, refer to the enclosed installation and operation instructions.
4. The factory setting for the decoder is address 03.

## Exchanging Components

1. **Exchanging digital decoder/speaker:** Follow work step dismantling instructions.
2. **Dismantling circuit board:** Follow work step dismantling instructions.
3. **Exchanging motor/cardan shaft:** Follow work step dismantling instructions.
4. **Dismantling bogie/NEM shaft:** Follow work step dismantling instructions.
5. **Dismantling bogie:** Follow work step dismantling instructions.

## General assembly and safety information

- These operating instructions describe all work steps necessary for maintenance and repair. Please read these operating instructions carefully before you start with your work.
- In the case of incorrect handling of electrical components, they may be destroyed. Please ask your specialist dealer to help with the necessary work (e.g. changing circuit boards).
- In the case of maintenance work, the disassembly is described below, to re-assemble the tractor reverse the work steps.
- The maintenance work described below is virtually identical for direct current and alternating current models. If there are any differences these will be pointed out specifically.
- All cables and connection wires installed in this product may not be inserted in a main socket. Danger!

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

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

## Used Symbols

- Please refer to the symbols used in this operating instructions:
- Work step dismantling
- Position no. of spare part (Pos.)
- Lubricating

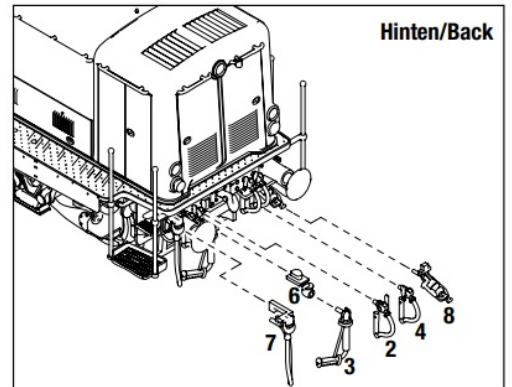
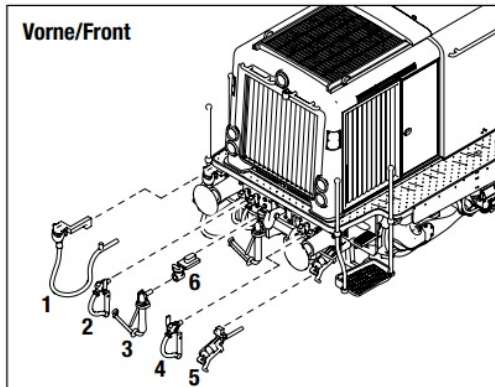
## Fitting additional parts

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

- 1 = 1x Multiple traction line long
- 2 = 4x Brake hose right
- 3 = 2x Heating pipe
- 4 = 4x Brake hose left

- 5 = 1x Connector multiple traction long
- 6 = 2x Heating connection
- 7 = 1x Multiple traction line short
- 8 – 1x Connector multiple traction short

Depending on the model, different numbers of parts are in the accessory bag



### Converting to digital operation DC version

See item 4.

Please consult the installation instructions issued by the decoder manufacturer for the correct installation of the digital decoder and its insert direction.

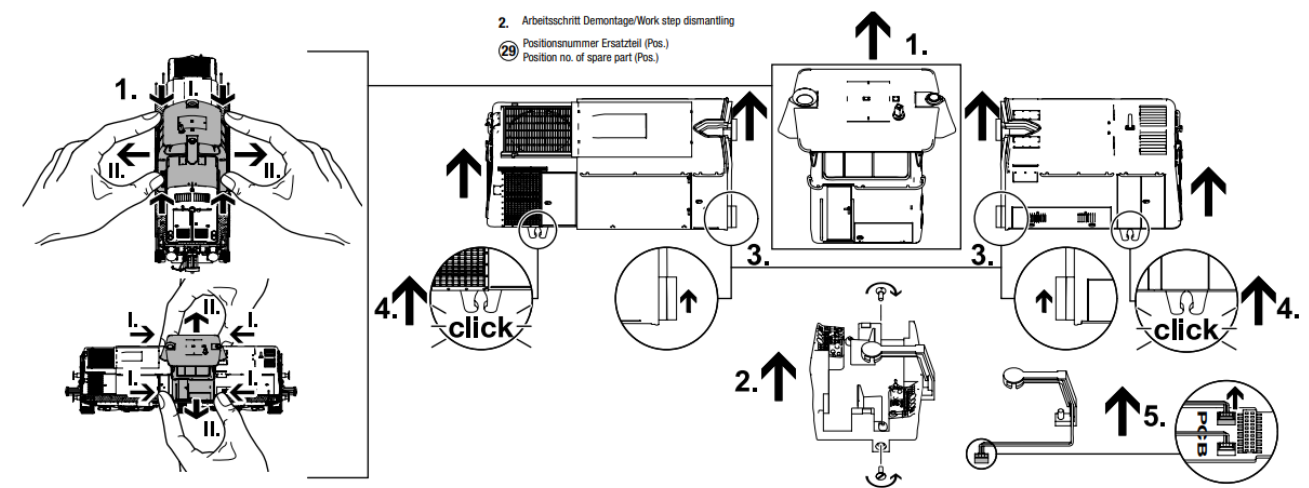
### AC version

The premium digital decoder (01) is standard for the alternating current (AC) locomotive models. The decoder independently identifies the operation type (analog/digital).

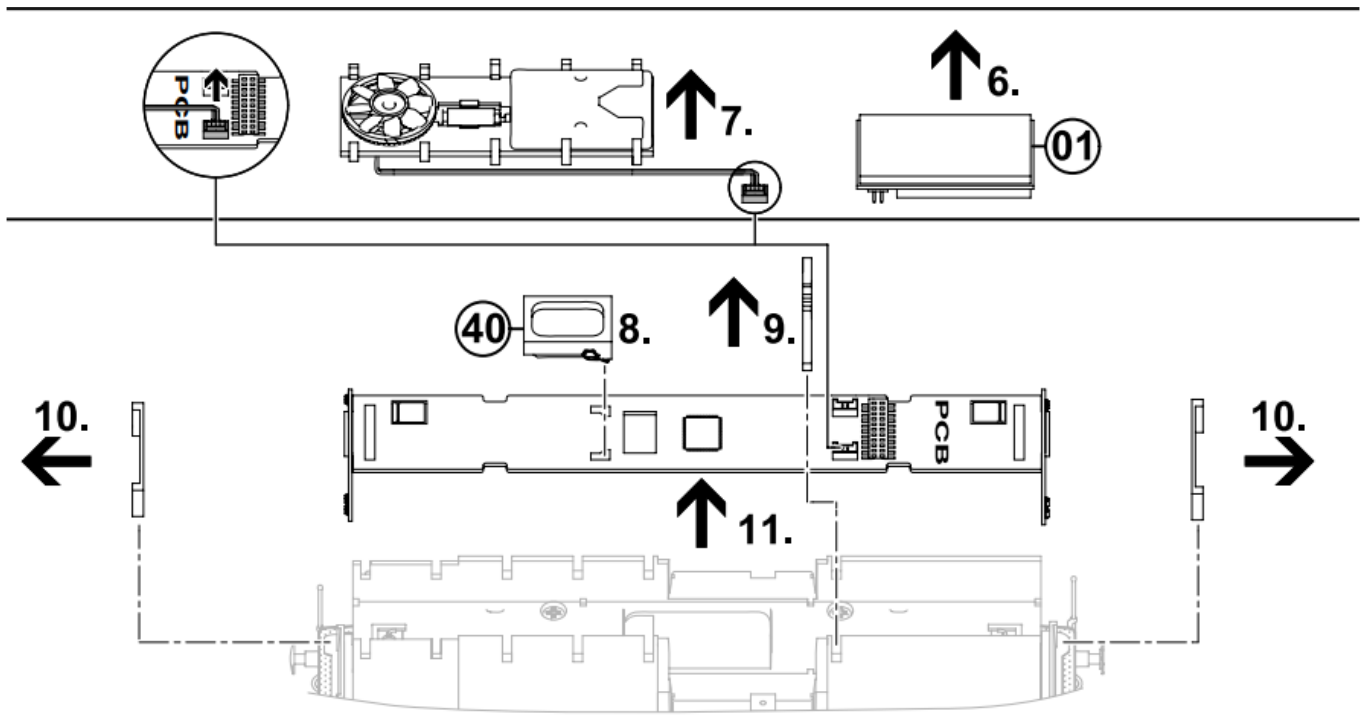
Please refer to the enclosed installation and operation instructions “Premium Digital Decoder” if the decoder needs to be reprogrammed

The decoder is set to address 03 in the factory.

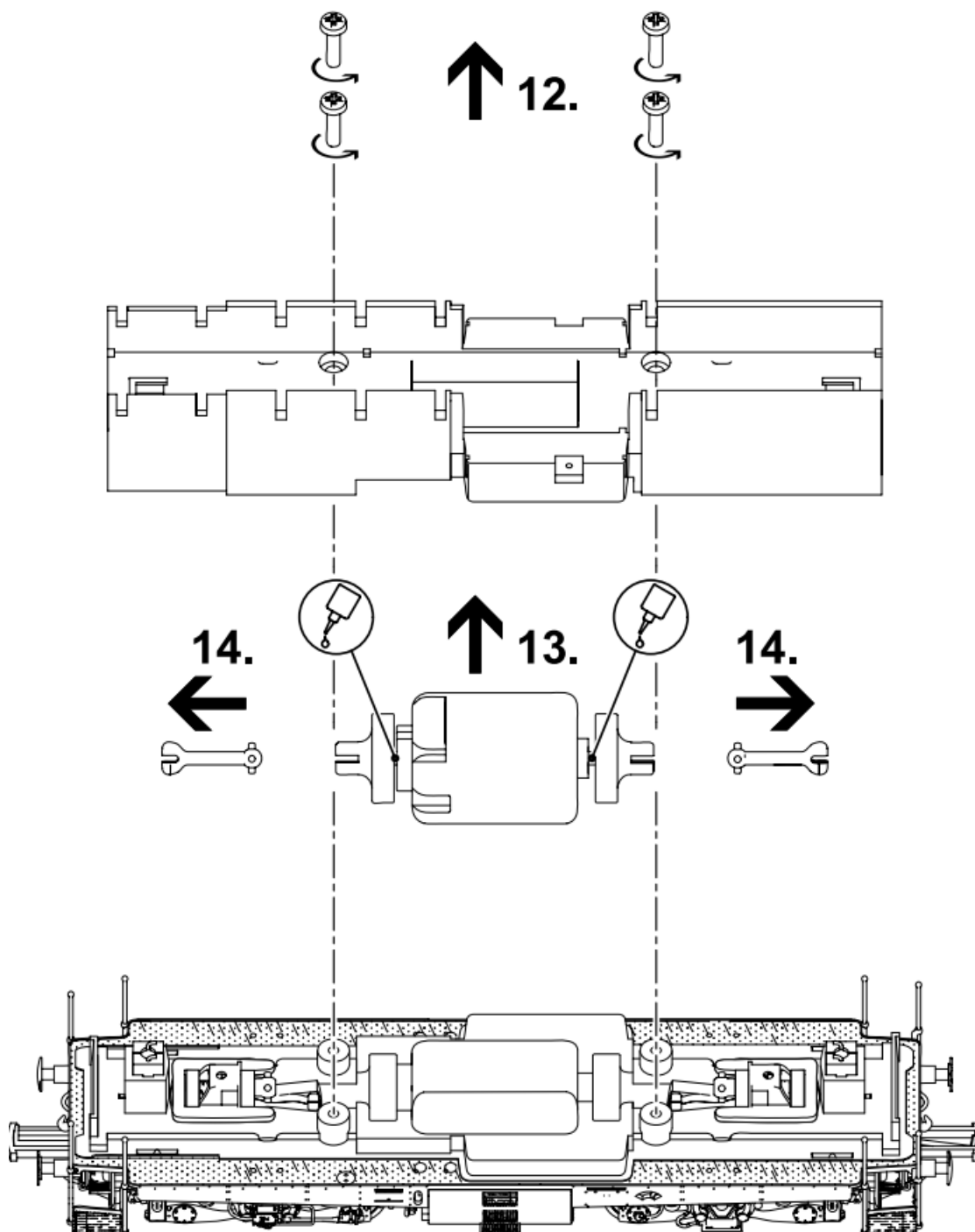
### Dismantling housing



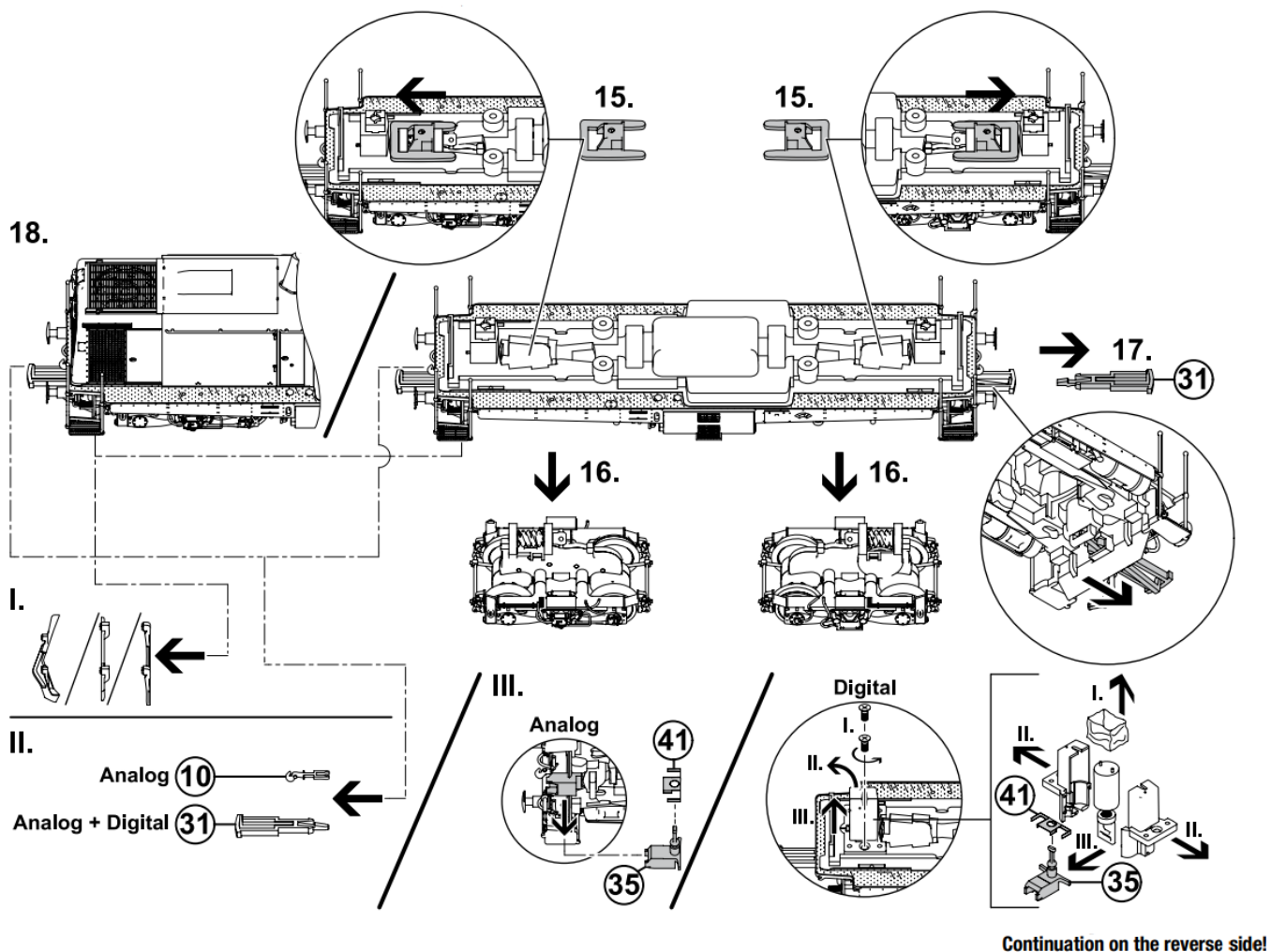
### Exchanging the digital decoder/speaker Dismantling the circuit board



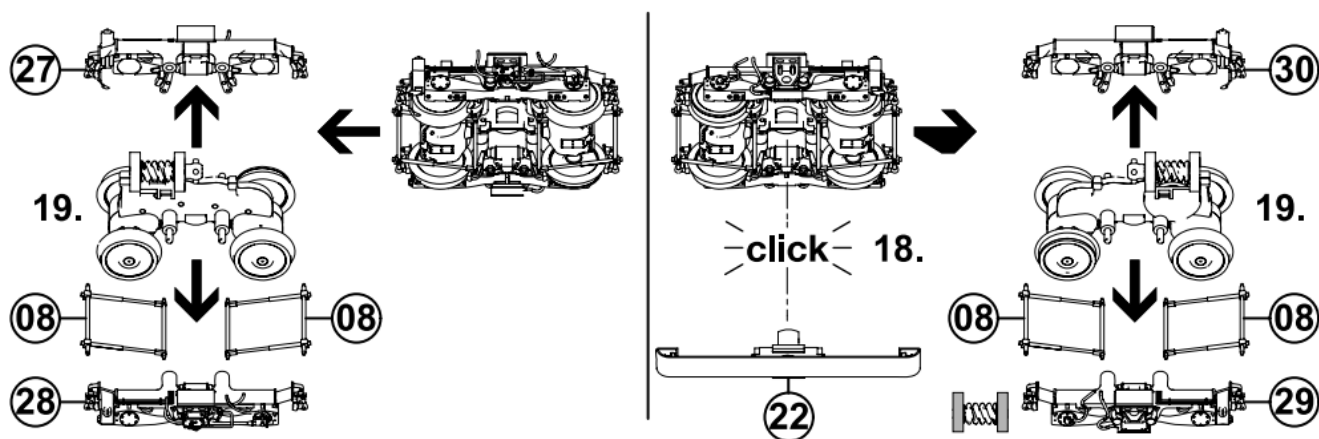
**Exchanging the motor/cardan shaft**



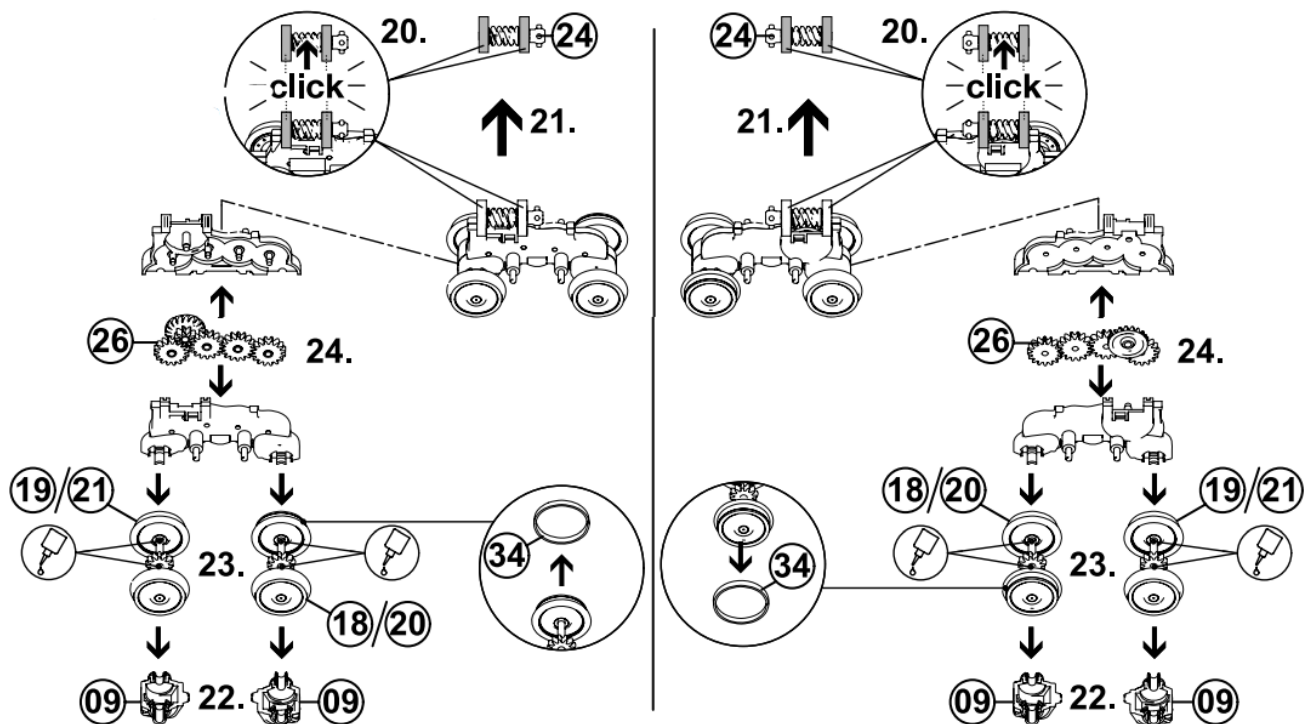
**Dismantling the bogie/NEM shaft**



## Dismantling the bogie

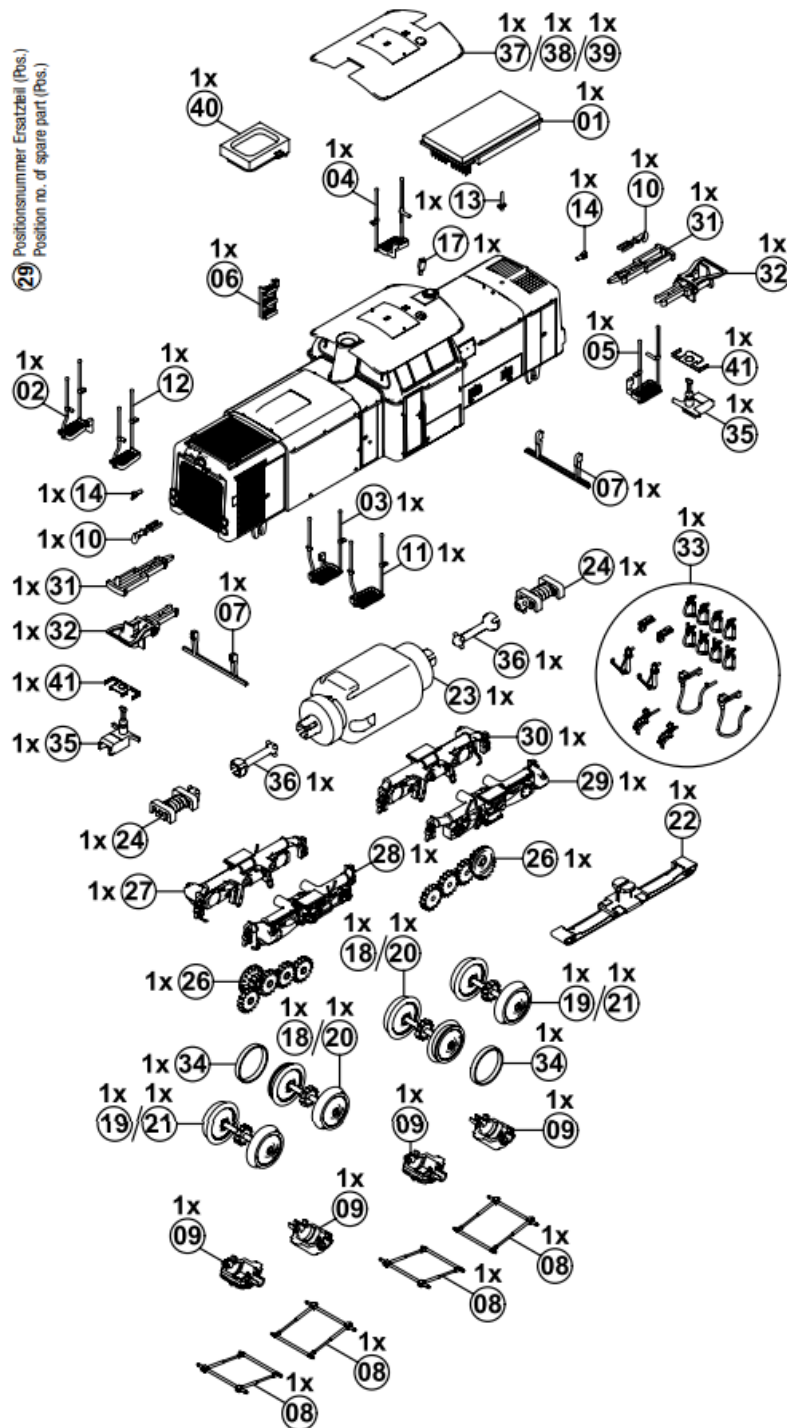


## Worm gear/Gear set/ Wheelset/Traction tire



## Spare Parts List





## Spare Parts List

Sounddecoder SD22-4 (DCC/SX1/SX2/Motorola/DC/AC) / DCC sound decoder SD22-4 (DCC/SX1/SX2/Motorola/DC/AC)

**BRAWA-Nr.: 0014765.11; Ausführung EXTRA mit Prozessor und Energiespeicher**

Funktion		1. Ebene	2. Ebene (aktiv bei Rangiergang)	Anmerkung		
F0		Hauptlicht laut CV-Tabelle EIN/AUS	Rangierlicht laut CV-Tabelle EIN/AUS	mit Fahrtrichtung wechselnd Länderkennung laut CV Tabelle		
F1		Hauptfahrgeräusch EIN/AUS	Hauptfahrgeräusch EIN/AUS	mit Zufallsfunktion für bestimmte Geräusche		
F2		Signalton 1 kurz EIN/AUS ohne Funktion	Signalton 1 kurz EIN/AUS ohne Funktion			
F3		Glocke	Glocke			
F4		Rangiergang EIN ---->	Rangiergang AUS	2. Ebene aktiv Länderkennung laut CV-Tabelle		
F5		Licht vorn AUS	Kupplung vorn entkuppeln/kuppeln	1. Ebene: F5+F6+F0 = Rangierlicht		
F6		Licht hinten AUS	Kupplung hinten entkuppeln/kuppeln	1. Ebene: F5+F6 ohne F0 = Licht Lok abgestellt		
F7		Licht Führerstand	Licht Führerstand			
F8		Ausblenden	Ausblenden			
F9		Signalton 1 lang EIN/AUS ohne Funktion	Signalton 1 lang EIN/AUS ohne Funktion			
Fkt.		1. Ebene	2. Ebene (aktiv bei Rangiergang)	Fkt.	1. Ebene	2. Ebene (aktiv bei Rangiergang)
F10		Kompressor	Kompressor	F16	Führerstandstür AUF/ZU	Führerstandstür AUF/ZU
F11		Lüfter EIN/AUS	Lüfter EIN/AUS	F17	Schaffnerpfeiff	Schaffnerpfeiff
F12		Dampfheizkessel	Dampfheizkessel	F18	Sound lauter	Sound lauter
F13		Hilfsdiesel	Hilfsdiesel	F19	Sound leiser	Sound leiser
F14		Bremsgeräusch	Bremsgeräusch	F20	Bremsgeräusch deaktivieren	Bremsgeräusch deaktivieren
F15		Kupplungsgeräusch + Luft	Kupplungsgeräusch + Luft	F21	Leerlauf erzwingen	Leerlauf erzwingen

**BRAWA-No.: 0014765.11; Version EXTRA with processor and energy storage**

Function	1. Level	2. Level (active at shunting mode)	Note		
F0	Main light as per CV table ON/OFF	Shunting light as per CV table ON/OFF	with directin change Country code according to CV table		
F1	Main driving noise ON/OFF	Main driving noise ON/OFF	with random function f. specific sounds		
F2	Acoustiv signal 1 short ON/OFF w/o function	Acoustiv signal 1 short ON/OFF w/o function			
F3	Bell	Bell			
F4	Shunting mode ON ---->	Shunting mode OFF	2. level active Country code according to CV table		
F5	Light front OFF	Coupling front decouple/couple	1. Level: F5+F6+F0 = Shunting ligh		
F6	Light back OFF	Coupling back decouple/couple	1. Level: F5+F6 w/o F0 = light loco parked		
F7	Light driver's cabin	Light driver's cabin			
F8	Fading out	Fading out			
F9	Acoustiv signal 1 long ON/OFF w/o function	Acoustiv signal 1 long ON/OFF w/o function			
Fct.	1. Level	2. Level (active at shunting mode)	Fct.	1. Level	2. Level (active at shunting mode)
F10	Air compressor	Air compressor	F16	Driver's cabin door OPEN/CLOSE	Driver's cabin door OPEN/CLOSE
F11	Ventilator ON/OFF	Ventilator ON/OFF	F17	Conductor whistle	Conductor whistle
F12	Boiler	Boiler	F18	Sound turn up	Sound turn up
F13	Auxiliary diesel	Auxiliary diesel	F19	Sound turn down	Sound turn down
F14	Brake sound	Brake sound	F20	Brake sound deactivate	Brake sound deactivate
F15	Coupling noise + Air	Coupling noise + Air	F21	Enforce idling running	Enforce idling running

**CV Attribution**

<b>CV</b>	<b>Beschreibung/Description</b>	<b>Werte/Value</b>	<b>Sound</b>
980	Herstellerkennung/Manufacturer code	8=Reset	97
991	Führerstand/Driver's cabin	0 = aus/off, 1 = F1...28 = F28, 29 = F0*	135 = 128+7 = F7*
993	Lüfter/Ventilator	0 = aus/off, 1 = F1...28 = F28, 29 = F0	11 = F11
994	Licht vorn AUS **/Light front OFF**	0 = aus/off, 1 = F1...28 = F28, 29 = F0	5 = F5
995	Licht hinten AUS**/Light back OFF**	0 = aus/off, 1 = F1...28 = F28, 29 = F0	6 = F6
996	Rangiergang****/Shunting mode****	0 = aus/off, 1 = F1...28 = F28, 29 = F0	4 = F4
997	Länderkennung*****/Country code*****	0 = Deutschland, 4 = Schweiz	0
998	Analogbetrieb (Zusatzlicht)/ Analog operation (Additional light)	2 = Führerstand/Driver's cabin 8 = Lüfter/Ventilator 16 = Licht vorn (Führerstand 1) AUS/ Light front (Driver's cabin 1) OFF 32 = Licht hinten (Führerstand 2) AUS Light back (Driver's cabin 2) OFF 64 = Rangiergang/Shunting mode	2
CV1003	Ladezeit Kondensator/Charging time capacitor	0 = aus, 255 bei Anfahrt, 1...254 = Wert mal 16ms 0 = off, 255 at start, 1...254 = value multiplied by 16ms	255
CV1004	Entladezeit Kondensator/Discharging time capacitor	0 = aus, 255 bei Anfahrt, 1...254 = Wert mal 16ms 0 = off, 255 at start, 1...254 = value multiplied by 16ms	254
CV1008	Lüftergeschwindigkeit/Ventilator speed	0 = aus/off, 255 = zunehmende Geschwindigkeit/ increasing speed	30
CV1009	Dimmen weißes Frontlicht/Dim white front light	0...31 = zunehmende Helligkeit/increasing brightness	31
CV1010	Dimmen rotes Schlußlicht/Dim red tail lamp	0...31 = zunehmende Helligkeit/increasing brightness	31
CV1012	Dimmen Licht Führerstand/Dim light driver's cabin	0...31 = zunehmende Helligkeit/increasing brightness	31

## Differentiation driving and standstill:

- Function is on only when driving: Wert+64
- Function is always off: Wert+192

## Additional information for country code Germany:

Extra (Sound)	F0+F5+F6	Rangierlicht aktiv (3x weiß je Seite) Shunting light active (3x white/side)
	F5+F6	Lok abgestellt (2x rot je Seite) Loco parked (2x red/side)

### **\*\*F4+F0 Rangierlicht aktiv (3x weiß je Seite) Shunting light active (3x white on each side)**

CV997	Länderkennung Country code	Wert/Value +1 = 2x weiß unten/white down
		Wert/Value +2 = 1x weiß oben/white up
		Wert/Value +3 = 1x weiß unten rechte Fahrzeugseite/ white down right side of the loco

### **\*\*\*\*Zusatzinformationen bei Länderkennung Schweiz/ Additional information for country code Switzerland:**

Extra (Sound)	F0	Lok fährt allein (3x weiß vorn, 1x rot rechts hinten) Loco driving alone (3x white front, 1x red right back)
	F0+F6 (Fahrt vorwärts) (Drive forward)	Lok fährt vor Zug (3x Weiß vorn, 1 x weiß rechts hinten) Loco runs before train (3x white front, 1x white right back)
	F0+F5 (Fahrt rückwärts) (Drive backward)	Lok fährt vor Zug (3x Weiß vorn, 1 x weiß rechts hinten) Loco runs before train (3x white front, 1x white right back)
	F0+F5+F6	Rangierlicht aktiv (3x weiß je Seite) Shunting light active (3x/side)
	F5+F6	Lok abgestellt (2x rot je Seite)/Loco parked (2x/side)

## Automatic coupling

The coupling is only controlled when the shunting mode is selected (F4). The F5 key serves the front coupling (long front end), F6 the rear coupling (short front end). It can always be only one coupling operated. F5 is still active (i.e. lowered), this coupling must be reset before with F6 the rear coupling can be operated. The coupling is set to simple lifting and lowering the coupling hook. It is also possible to set an automatic sequence when coupling:

- CV143 = 0 (automatic process at F5 and F6 without F4)
- CV143 = 64 (hand coupling at F5 and F6 without F4)
- CV143 = 128 (automatic process)
- CV143 = 192 (manual coupling at F5 and F6 with F4, default setting)

## Storage capacitors

The storage capacitors are only charged after the model is set in motion. They buffer in digital mode the sound, the engine, and the lights. In analog mode, the memory circuit has no effect. With the CV1004 the buffer time can be limited (for example if red signals are passed over).

## PLUX22-Serial interface

The locomotive is equipped with a PluX22 serial interface according to NEM 658. The locomotive is set at digital mode to the DCC mode with address 3. When changing the locomotive decoder of the digital sound locomotive (Extraversion) please make sure that the decoder controls the SUSI interface, since all additional lighting functions are controlled. In analog mode, the standard light changes and the cab lighting is active. If a decoder is used, the „Basic+“-versions (DC with analog plugs and AC with standard decoder) have an assignment of the functions F1 to F4. The „Extra“-versions (all sound versions) have an assignment of the functions F1 to F21 (depending on the model).

## FAQ


### Frequently Asked Questions

- **Q: Can I use any transformer with the product?**
  - A: No, only a toy transformer compliant with VDE 0570-2-7/DIN EN 61558-2-7 should be used as the voltage source.
- **Q: What is the factory setting for the decoder address?**
  - A: The factory setting for the decoder address is 03.

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### Documents / Resources

	<a href="#">BRAWA H0 DIL 212 DB IV AC Ex World Of Trains Model Railway Shop</a> [pdf] User Manual H0 DIL 212 DB IV AC Ex World Of Trains Model Railway Shop, H0 DIL 212 DB, IV AC Ex World Of Trains Model Railway Shop, Trains Model Railway Shop, Model Railway Shop, Railway Shop
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### References

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

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