

# WABCO TRAILER POWER CASE REV. 2.1

Art.-Nr.: 300 100 001 0

## MANUAL



**WABCO**

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# FOR YOUR SAFETY

## FOR YOUR SAFETY



Please read these operating instructions before you use your equipment for the first time, and handle the equipment as per the instructions.

Please retain these operating instructions for subsequent use or for the next owner.



**WARNING – You must read the safety instructions prior to commissioning!**

Failure to observe the operating instructions and the safety instructions can lead to equipment damage and pose a risk to the operator and to others.

Inform the dealer immediately in the event of damage caused by transport.

## SAFETY INSTRUCTIONS



### Note

It is forbidden to modify the equipment or to produce auxiliary equipment. Such modifications can cause personal injury and malfunctions.

Only trained, authorised persons are permitted to perform repairs on the equipment.

This ensures the continued safety of the equipment.

### Warning

Maintain clearance of 1 metre between the WABCO Trailer Power Case and the trailer, particularly when transporting hazardous materials (ADR).



Only use the equipment under supervision! Always switch off the equipment when the equipment is unattended.



### Warning

High voltage and current inside the equipment.



### Caution

Opening the electronic system or the equipment will invalidate the warranty.



### Warning

Temperature range:

$-20^{\circ}\text{C} < x < 55^{\circ}\text{C}$

The battery capacity drops in the limit areas.

## PROPER USE



### Important note

WABCO Trailer Power Case Rev. 2.1 must only be used on 24V and 12V vehicles and their trailer systems **in accordance with proper use!**



### Note

The vehicles and the trailer systems must meet the country-specific specifications of the relevant traffic regulations.

The equipment must be used for the following functions:

- Power supply of the trailer electronics, **24V and 12V systems**, via the following connections:
  - 7-pin ISO 7638 connection (24V system)
  - 13-pin ISO 11446 connection (12V system)
- Test of trailer lighting as required via the following connections:
  - 15-pin ISO 12098 connection (24V system)
  - 13-pin ISO 11446 connection (12V system)
- Test of the control signals for the trailer lighting coming from the tractor via the 15-pin ISO 12098 connection (24V system)
- Control of PINs 10, 11 and 12 of the ISO 12098 connection as required with the following signals:
  - 24V voltage level
  - 0V voltage level/earth
- Measurement of the voltages and/or currents at the individual PINs of the corresponding connections:
  - ISO 7638 → PIN 1 and 2
  - ISO 12098 → PIN 1, 2, 3, 5, 6, 7, 8, 10, 11 and 12
  - ISO 11446 → PIN 1, 2, 4, 5, 6, 7, 8 and 9

**ISO 12098: Only use the connection on vehicles with 24V on-board voltage!**

**ISO 11446: Only use the connection on vehicles with 12V on-board voltage!**

Use for any other purpose is considered improper use.

The user is liable for any damage ensuing from improper use.

# SCOPE OF DELIVERY

## SCOPE OF DELIVERY

- WABCO Trailer Power Case Rev. 2.1
- Power cable
- Remote control
- User guide (CD)
- List of fault codes



## TECHNICAL DATA

Description	Value
Operating voltage/on-board voltage	24V DC/12V DC
Weight	12 kg
Dimensions (W x H x D) in mm	580 x 210 x 490
Built-in fuse (short-circuit protection)	30 A (not self-restoring)
Built-in fuse	6–8 A (self-restoring)
Connections	<ul style="list-style-type: none"> <li>• Non-heating socket (power cable connection)</li> <li>• ISO 7638</li> <li>• ISO 12098</li> <li>• ISO 11446</li> </ul>
Remote control	<ul style="list-style-type: none"> <li>• Dimensions: Approx. 82x39x17 mm</li> <li>• Weight: Approx. 40 g including battery</li> <li>• Transmission frequency: 868.30 MHz</li> <li>• Modulation: AM</li> <li>• Transmission channels: 4</li> <li>• Range: Up to 100 m</li> <li>• Operating voltage: 12V alkali battery (type 23A)</li> <li>• Current consumption: Typ. 20 mA (transmission)</li> </ul>
Battery	<ul style="list-style-type: none"> <li>• Nominal voltage: 2 x 12V = 24V</li> <li>• Charge time: 8–24 hrs (depending on age)</li> <li>• Capacity: 7 Ah</li> </ul> <p>Corresponding to average use in an application with approx. 8 hrs continuous use</p> <p><b>Charging:</b></p> <ul style="list-style-type: none"> <li>• Nominal voltage: 230V ± 10%</li> </ul>
Power frequency	50 Hz
Max. current consumption	0.8 A

## ENVIRONMENTAL CONDITIONS

Description	Value
Air humidity	Max. 85%
Altitude	Up to 2000 m
Contamination index (IEC 61010-1:2)	Class 2
Overvoltage category (IEC 61010-1)	II
Permissible ambient temperature:	
<ul style="list-style-type: none"> <li>• Charging:</li> <li>• Discharging:</li> <li>• Storage:</li> </ul>	<ul style="list-style-type: none"> <li>• -15° C to +50° C</li> <li>• -15° C to +60° C</li> <li>• -20° C to +50° C</li> </ul>


## EXPLANATION OF ICONS

Name of mode	Icon	Function
Modulator Power	<p><b>MODULATOR</b></p> 	Power supply via permanent positive and ignition
Truck Test	<p><b>TRUCK TEST</b></p>	Test of lighting control signals from the tractor
Light Test		Test of the trailer lighting
Pin Test	<p><b>PIN TEST</b></p>	Activation of freely assignable PINs 10–12 on the 15-pin socket with either 24V or 0V (earth)

# AVAILABLE MODES

## AVAILABLE MODES

Mode	Name of mode	Function	System type
0	Standby	Detection of connected cable	
1	Truck Test	Signal test X1	24V
		Signal test X2	24V
2	Light Test + Power	Modulator Power (X1)	24V
		Light Test (X2)	
		Modulator Power + Light Test (X1 + X2)	
3	Pin Test	Pin Test (X2)	24V
		Modulator Power + Pin Test (X1 + X2)	24V
4	Light Test + Power	Modulator Power + Light Test	12V

Connected elements	Available modes	Switching per mode
X1	0, 1, 2	
X2	0, 1, 2, 3	
X1 + X2	0, 1, 2, 3	
X3	0, 4 (12V)	




### Important note

Switching mode only possible with a connected cable.

## OPERATION

### X1 – TRAILER POWER SUPPLY VIA ISO 7638

Typ	1	2	3	4	5	6	7
<b>MODULATOR</b> 	X1 				 Mode 2		

**Type:** Trailer power supply via ISO 7638 cable

**Step 1:** Connect the ISO 7638 cable to the X1 connection of the WABCO Trailer Power Case.

**Steps 2 + 3:** Connect the ISO 7638 cable to the corresponding connection on the trailer.

**Step 4:** Use the “Power” rocker switch to switch on the case.

**Step 5:** Use the “Mode” rocker switch to activate **mode 2** (see details on the display).

**Step 6:** Use the “Zündung/Ignition” switch to activate the ignition.



#### Note:







When the ignition is released, the LED above lights up in green.

**Step 7:** Use the remote control (left/right button) or the + / - rocker switch on the case to switch the measurement and display to:

- X1.1                      Permanent positive (terminal 30)
- X1.2                      Ignition (terminal 15)



## X1 – SIGNAL TEST OF THE TRACTOR CONTROL SIGNALS

Typ	1	2	3	4	5	6	7
TRUCK TEST	X1 				 Mode 1		

**Type:** Signal test of the control signals coming from the tractor via the ISO 7638 cable

**Step 1:** Connect the ISO 7638 cable to the X1 connection of the WABCO Trailer Power Case.

**Steps 2 + 3:** Connect the ISO 7638 cable to the corresponding connection on the tractor.

**Step 4:** Use the "Power" rocker switch to switch on the case.

**Step 5:** Use the "Mode" rocker switch to activate **mode 1** (see details on the display).

**Step 7:**

- Now switch the vehicle ignition to position 2.
- Use the following functions to check the extent to which the WABCO Trailer Power Case detects an input signal at the corresponding lines:
  - The indication of the measurements at the current line on the display  
(Use the remote control or the +/- rocker switch to switch between the individual lines)



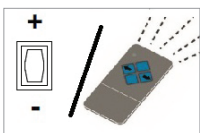
### Current measurement, voltage measurement and indication on the display

The equipment displays the voltage measured from the vehicle for each controlled PIN.

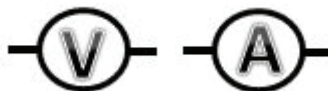


#### Note:

The individual PINs are selected using the remote control or the +/- button on the case.



Switching sequence



Sequence	PIN	Meaning	
1	X1.1	Permanent positive (terminal 30)	Measurement on display
2	X1.2	Ignition (terminal 15)	Measurement on display

## X2 – TRAILER LIGHTING TEST

Typ	1	2	3	4	5	6	7
	X2						

**Type:** Test of the trailer lighting via ISO 12098

**Step 1:** Connect the ISO 12098 cable to the X2 connection of the WABCO Trailer Power Case.

**Steps 2 + 3:** Connect the ISO 12098 cable to the corresponding connection on the trailer.

**Step 4:** Use the “Power” rocker switch to switch on the case.

**Step 5:** Use the “Mode” rocker switch to activate **mode 2** (see details on the display).

- Step 7:**
- Now activate **in sequence** the individual lighting units on the trailer and check the “visual” result as well as using the case to check for accuracy.
  - Available aids for checking the lighting in WABCO Trailer Power Case:
    - Trailer schematic showing the currently controlled lighting
    - Measurement and display **of the voltage and current** at the current line (see display)
      - Use the remote control or the +/- rocker switch to switch between the individual lines



### Current measurement, voltage measurement and indication on the display



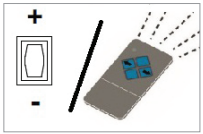
The equipment displays the voltage measured and the present current flow for each controlled PIN.



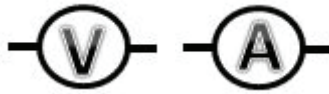
#### Note:

The individual PINs are selected using the remote control or the +/- button on the case.

# OPERATION



Switching sequence



Sequence	PIN	Meaning	Icon
1	X2.7	Brake light	
2	X2.1	Left turn indicator	
3	X2.2	Right turn indicator	
4	X2.5	Left parking light	
5	X2.6	Right parking light	
6	X2.8	Reversing light	
7	X2.3	Fog light	

## X2 – SIGNAL TEST OF THE TRACTOR CONTROL SIGNALS

Typ	1	2	3	4	5	6	7
<b>TRUCK TEST</b>	X2				 Mode 1		

**Type** Signal test of the control signals coming from the tractor via the ISO 7638 cable and the ISO 12098 cable

**Step 1:** Connect the ISO 12098 cable to the X2 connection of the WABCO Trailer Power Case.

**Steps 2 + 3:** Connect the ISO 12098 cable to the corresponding connection on the tractor.

**Step 4:** Use the “Power” rocker switch to switch on the case.

**Step 5:** Use the “Mode” rocker switch to activate **mode 1** (see details on the display).

## Step 7:

- Now switch on **in sequence (not simultaneously!)** the individual lighting units on the tractor.
- Use the following functions to check the extent to which the WABCO Trailer Power Case detects an input signal at the corresponding lines:
  - Trailer schematic on the case
  - Indication of the measurements at the current line on the display(Use the remote control or the +/- rocker switch to switch between the individual lines)



### Note:



Considerable heat generation in the case when operating constantly with several signals at the same time (several lights enabled on the tractor at the same time: brake + light + turn indicator + fog light).

In the event of excessive internal heat generation, the case automatically switches off in order to cool down.

### Current measurement, voltage measurement and indication on the display



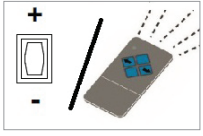
The equipment displays the voltage measured and the present current flow for each controlled PIN.



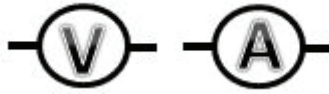
### Note:

The individual PINs are selected using the remote control or the +/- button on the case.

# OPERATION



Switching sequence



Sequence	PIN	Meaning	Icon
1	X2.7	Brake light	
2	X2.1	Left turn indicator	
3	X2.2	Right turn indicator	
4	X2.5	Left parking light	
5	X2.6	Right parking light	
6	X2.8	Reversing light	
7	X2.3	Fog light	

## X2 – PIN TEST OF PINS 10–12

Typ	1	2	3	4	5	6	7
<b>PIN TEST</b>	X2						

**Type:** Test of the functions of pins 10–12 of the ISO 12098 cable

**Step 1:** Connect the ISO 12098 cable to the X2 connection of the WABCO Trailer Power Case.

**Steps 2 + 3:** Connect the ISO 12098 cable to the corresponding connection on the trailer.

**Step 4:** Use the “Power” rocker switch to switch on the case.

**Step 5:** Use the “Mode” rocker switch to activate **mode 3** (see details on the display).

- Step 7:**
- Now use the remote control or the +/- rocker switch to select the required PIN.
    - Currently selected PIN is shown on the display
  - Now actuate the selected PIN with the required signal:
    - 24V – level:                      Rocker switch on case/up button on remote control
    - 0V/earth                         Rocker switch on case/down button on remote control
  - Available aids for checking in WABCO Trailer Power Case:
    - Measurement and display **of the voltage and current** at the current line (see display)
      - Use the remote control or the +/- rocker switch to switch between the individual lines



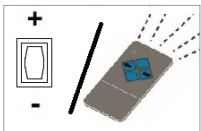
### Current measurement, voltage measurement and indication on the display

The equipment displays the voltage measured and the present current flow for each controlled PIN.

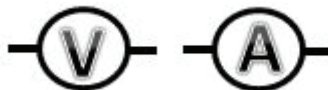


#### Note:

The individual PINs are selected using the remote control or the +/- button on the case.



Switching sequence



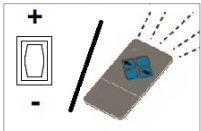
Sequence	PIN	Meaning	Icon
8	X2.10	Freely assignable PIN	
9	X2.11	Freely assignable PIN	
10	X2.12	Freely assignable PIN	

## X1/X2 – POWER SUPPLY + TRAILER LIGHTING TEST

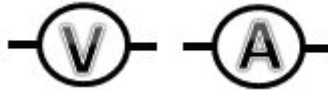
Typ	1	2	3	4	5	6	7
	X1  X2 				 Mode 2		

**Type:** Power supply of the trailer via ISO 7638 and simultaneous trailer lighting test via ISO 12098  
 Operation with X1 and X2 connected is as per the descriptions in the previous section for the individual modes:

- Light test + power supply:
  - See page 8 – “X1 – Trailer power supply via ISO 7638”
  - See page 10 – ”X2 –Trailer lighting test”



Switching sequence



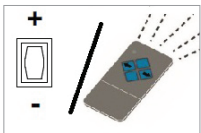
Sequence	PIN	Meaning	Icon
1	X2.7	Brake light	
2	X2.1	Left turn indicator	
3	X2.2	Right turn indicator	
4	X2.5	Left parking light	
5	X2.6	Right parking light	
6	X2.8	Reversing light	
7	X2.3	Fog light	
8	X1.1	Permanent positive (terminal 30)	
9	X1.2	Ignition (terminal 15)	

## X1/X2 – SIGNAL TEST OF THE TRACTOR CONTROL SIGNALS

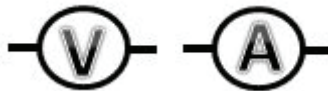
Typ	1	2	3	4	5	6	7
<b>TRUCK TEST</b>	X1 X2						

**Type** Signal test of the control signals coming from the tractor via the ISO 7638 cable and the ISO 12098 cable  
 Operation with X1 and X2 connected is as per the descriptions in the previous section for the individual modes:

- Truck Test:
  - See page 9 – “X1 – Signal test of the tractor control signals”
  - See page 11 – “X2 – Signal test of the tractor control signals”










Switching sequence



Sequence	PIN	Meaning	Icon
1	X2.7	Brake light	
2	X2.1	Left turn indicator	
3	X2.2	Right turn indicator	
4	X2.5	Left parking light	
5	X2.6	Right parking light	
6	X2.8	Reversing light	
7	X2.3	Fog light	
8	X1.1	Permanent positive (terminal 30)	
9	X1.2	Ignition (terminal 15)	



## X3 – TRAILER LIGHTING TEST

Typ	1	2	3	4	5	6	7
	X3 						

**Type:** Test of the trailer lighting via ISO 11446

**Step 1:** Connect the ISO 11446 cable to the X3 connection of the WABCO Trailer Power Case.

**Steps 2 + 3:** Connect the ISO 11446 cable to the corresponding connection on the trailer.

**Step 4:** Use the “Power” rocker switch to switch on the case.

**Step 5:** Use the “Mode” rocker switch to activate **mode 4** (see details on the display).

**Step 7:**

- Now activate **in sequence** the individual lighting units on the trailer and check the “visual” result as well as using the case to check for accuracy.
- Available aids for checking the lighting in WABCO Trailer Power Case:
  - Trailer schematic showing the currently controlled lighting
  - Measurement and display **of the voltage and current** at the current line (see display)
    - Use the remote control or the +/- rocker switch to switch between the individual lines



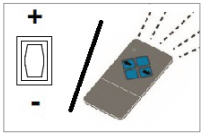
### Current measurement, voltage measurement and indication on the display

The equipment displays the voltage measured and the present current flow for each controlled PIN.

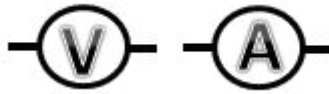


### Note:

The individual PINs are selected using the remote control or the +/- button on the case.



Switching sequence



Sequence	PIN	Meaning	Icon
1	X3.6	Brake light	
2	X3.1	Left turn indicator	
3	X3.4	Right turn indicator	
4	X3.7	Left parking light	
5	X3.5	Right parking light	
6	X3.8	Reversing light	
7	X3.2	Fog light	
8	X3.9	Permanent positive (terminal 30)	Only measurement + display

## EQUIPMENT CHARGING



### Caution

Only charge the equipment using sockets with an earthing contact!

Observe the country-specific requirements when connecting the equipment to a mains socket!

## MAINTENANCE AND CLEANING



### Caution

Always disconnect the mains plug and switch off the equipment before cleaning the equipment.

## WARRANTY

A voluntary one-year warranty is given on all hardware components as standard.

A voluntary warranty of 6 months is given for the batteries of the WABCO Trailer Power Case.

WABCO does not give a warranty for damage caused by external influences and Acts of God. Modifications or repairs to products that have not been approved by WABCO and the incorrect use of WABCO products will lead to immediate cancellation of the warranty.

**We cannot be held responsible for typographical mistakes.**

## ENVIRONMENTAL INSTRUCTIONS

**Never dispose of the equipment in normal household waste.**

Dispose of the equipment via an approved disposal facility or via your municipal disposal facility.

Observe the current legislation in force. If in doubt, contact your disposal facility. Dispose of all packaging in an environmentally friendly manner.

## BATTERIES:

Do not place batteries in household waste, fire or water. Batteries must be collected, recycled or disposed of in an environmentally friendly manner.

## **CE DECLARATION OF CONFORMITY**

We declare under our sole responsibility that this product meets the following standards or normative documents:

<b>Designation of equipment:</b>	Power supply case
<b>Name of equipment:</b>	WABCO Trailer Power Case (Revision 2.1)
<b>Product number:</b>	300 100 001 0

Positive compliance by TÜV SÜD Product Service GMBH confirmed for:

- CE approval
- EN 61010



a **WORLD** of  
**DIFFERENCE**

Safety • Efficiency • Connectivity

## WABCO

**WABCO** (NYSE: WBC) is a leading global supplier of technologies and services that improve the safety, efficiency and connectivity of commercial vehicles. Founded nearly 150 years ago, WABCO continues to pioneer breakthrough innovations for advanced driver assistance, braking, stability control, suspension, transmission automation and aerodynamics. Partnering with the transportation industry as it maps a route toward autonomous driving, WABCO also uniquely connects trucks, trailers, cargo, drivers, business partners and fleet operators through advanced fleet management systems and mobile solutions. WABCO reported sales of \$2.8 billion in 2016. Headquartered in Brussels, Belgium, WABCO has 13,000 employees in 40 countries. For more information, visit:

[www.wabco-auto.com](http://www.wabco-auto.com)

DEALER

**WABCO**