



Type : **SmartBoard**  
Manufacturer : **Wabco GmbH**

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# Test Report

## No.: TUEH - TB 2007 - 132.00

According to the Directive of the Council  
relating to  
separate technical unit

# SmartBoard

**98/91/EG dated 14-12-1998**

**ECE-R 105**

including amendment 02  
and

**Chapter 9.2.2 ADR 2007**

Approval status		
EEC	Number of approval / Test report	Date
	<b>e1*72/245*2006/28*5095*00</b> (EMV-system type approval)	07-08-2007

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Name and address of client : WABCO GmbH  
Am Lindener Hafen 21  
D-30453 Hannover  
<http://www.wabco-auto.com>



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**0. General**

- 0.1. Make  
(trade name of manufacturer) : **WABCO**
- 0.2. Type : **SmartBoard [ohne Batterie]**  
Commercial description : **SmartBoard**
- 0.3. Means of identification of type, if  
marked on the separate technical  
unit (b); : **446 192 111 0**
- 0.4. Location of this marking : **On the nameplate**
- 0.5. Name and address of manufacturer : **WABCO GmbH**  
**Am Lindener Hafen 21**  
**D-30453 Hannover**
- 0.6. System description : **System description 815 010 136 3**  
**[Webside:www.wabco-auto.com ⇒ Inform]**
- 0.7. Location and method of affixing of  
the EEC type-approval mark : **Cast into the housing, depressed lettering, on the**  
**back side of the device**
- 0.8. Modifications : **--**

**1. Vehicle part**

**1.1. Description**

- 1.1.1. **SmartBoard: variants** : **446 192 111 0**  
(without battery)
- 1.1.2. **Electrical connection:** **7-pole socket with Bayonet contour**
- 1.1.3. **Connecting cable:** **See appendix 1**
- 1.1.4. **Installation instructions:** **System description 815 010 136 3**  
**[Webside:www.wabco-auto.com ⇒ Inform]**



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## 2. Test record

### 2.1. Test results

- 2.1.1. General : With regard to the a.m. directives, the **SmartBoard** was tested for its suitability for trailers effecting the transport of dangerous goods. The scope of testing also included the connecting cables stated above, installed in the relevant connections. IP 54 is the minimum degree of protection demanded for plug connections in ADR vehicles (GGVS (Act Governing the Road Haulage of Hazardous Materials (Germany))).
- 2.1.2. Tests on vehicle : The applicant presented the **SmartBoard** in a model.

### 2.2. Range of application

- 2.2.1. Trailer Specification : All **O<sub>3</sub>** and **O<sub>4</sub>** – trailers requiring a Registration Certificate for the transport of certain dangerous goods. (See section 2.2.3.)
- 2.2.2. Designation of vehicle body  
acc. to 9.1.1.2  
guideline ADR 2007 : **EX/II or EX/III** vehicle  
**FL** vehicle  
**OX** vehicle  
**AT** vehicle
- 2.2.3. Definition of O<sub>3</sub> and O<sub>4</sub> trailers  
(for chapter 2.2.2.)  
Vehicle category O : According to Framework Directive 70/156/EEC,  
annex II, clause A, subclause 3 :  
Trailers (including semi-trailers).
- 2.2.3.1. Vehicle category O<sub>3</sub> : Trailers with a maximum mass exceeding 3.5 tonnes  
but not exceeding 10 tonnes.
- 2.2.3.2. Vehicle category O<sub>4</sub> : Trailers with a maximum mass exceeding 10 tonnes.
- 2.2.4. According to ADR 2007, part 9,  
chapter 9.1, clause 9.1.1.2
- 2.2.4.1. Vehicle EX/II or EX/III : A vehicle intended for the carriage of explosives or  
objects including explosive material (class 1)



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- 2.2.4.2. FL vehicle :
- a) a vehicle intended for the carriage of liquids having a flashpoint of not more than 60 °C (with the exception of diesel fuel complying with standard EN 590:2004, gas oil or heating oil, light – UN-number 1202 – with a flashpoint as specified in standard EN 590: 2004) in fixed tanks or demountable tanks with a capacity exceeding 1 m<sup>3</sup> or in tank-containers or portable tanks with an individual capacity exceeding 3 m<sup>3</sup> or
  - b) a vehicle intended for the carriage of flammable gases in fixed tanks or demountable tanks with a capacity exceeding 1 m<sup>3</sup> or in tank-containers or portable tanks with an individual capacity exceeding 3 m<sup>3</sup>, or,
  - c) a battery-vehicle with a total capacity exceeding 1 m<sup>3</sup> intended for the carriage of flammable gases.
- 2.2.4.3. OX vehicle :
- a vehicle intended for the carriage of hydrogen peroxide, stabilized or hydrogen peroxide, aqueous solution stabilized with more than 60 % hydrogen peroxide (class 5.1 UN number 2015) in tank-containers, portable tanks with a capacity exceeding 3 m<sup>3</sup> or in fixed tanks or demountable tanks with a capacity exceeding 1 m<sup>3</sup>.
- 2.2.4.4. AT vehicle :
- a) a vehicle, other than EX/III, FL or OX vehicle, intended for the carriage of dangerous goods in fixed tanks or demountable tanks with a capacity exceeding 1 m<sup>3</sup> or in tank-containers or portable tanks with an individual capacity exceeding 3 m<sup>3</sup>; or
  - b) a battery-vehicle with a total capacity exceeding 1 m<sup>3</sup> other than a FL vehicle.
- 2.2.5. Definitions of the classification and supplements of the **FL-vehicles** according to 2.2.5.2. :
- In its subclause 9.7.8.2, the ADR gives an explanation of the classification of zones 0 and 1. Together with the application of the relevant explosion protection regulations and their instructions for implementation, these explanations are the basis for the general indications stated here.
- 2.2.5.1. Zone 0
- Zone 0 comprises areas in which an explosive gas atmosphere is present continuously or for long periods. In case of tank trucks, vehicles having tanks and battery vehicles, this is, for instance,
- the internal of the tanks, armatures and lines used for filling or delivering and for gas return



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2.2.5.2. Zone 1

Zone 1 comprises areas in which an explosive gas atmosphere is likely to occur in normal operation. In case of tank trucks, vehicles having tanks and battery vehicles, this is, for instance,

- the internal of closed armature boxes
- within a radius of 0.5m around the armatures
- within a radius of 0.5m around the venting equipment which cannot be shut off and is open under normal operating conditions. (such as tipping valve)
- within a radius of 0.5m around the safety valves

2.2.5.3. Zone 2

Zone 2 comprises areas in which an explosive gas atmosphere is not likely to occur in normal operation and, if it does occur, is likely to do so only infrequently and will exist for a short period only.

**2.3. Restrictions**

2.3.1. Not-Aus-disconnector

: In case of ADR vehicles, all batteries in the trailer vehicle must be able to be disconnected from the connected consumers by means of a disconnector (EMERGENCY OFF).

2.3.2. Installation position of SmartBoard

: Here, the suitable location on the trailer has to be found first. The installation shall be effected according to system description 815 010 136 3 „SmartBoard Edition 1 Version 1 /12.2007(en)“. The installation in FL-vehicles (according to chapter 2.2.5.) should be made outside the areas of zone 0 and 1!  
In case of ADR vehicles, additional batteries in the trailer vehicle must be able to be disconnected from the connected consumers by means of a disconnector (EMERGENCY OFF).

2.3.3. Fastening of cable

: In order to prevent any vibration transfer to connectors or connector sealings, the free cable length between connector and cable clip shall not exceed 30 cm (except the cable ensuring the connection to the towing vehicle).  
**Fastening of cables shall be such to prevent any chafing.**



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**2.4. Summary of assessment** : **From the technical point of view, there are no objections to the installation of SmartBoard in trailers which according to 5205 ADR 2007 are subject to the special rules defined for the transport of dangerous goods, if installation is effected according to the restrictions stated above.**

**2.5. Other information**

Date of testing : **September 14, 2007**

**3. Appendices**

1. : **Possible connecting cables**
2. : **Drawing**
3. : **Installation instruction 826 102 533 3 Edition 09.07**
4. : **System description 815 010 136 3**  
**[Webside:www.wabco-auto.com =>Inform]**

**4. Statement of conformity**

The system description given in section No. 0.6. and the vehicle type stated in this description -  
- conform to - the directive stated above

This report includes pages 1 to 6 and the appendices.

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**PRÜFLABORATORIUM**  
**- Automotive -**  
**TÜV Technische Überwachung Hessen GmbH**  
accredited by accreditation authority of Kraftfahrt-Bundesamt,  
Federal Republic of Germany  
DAR-registration number:  
KBA-P 00005-95

64285 Darmstadt, 2007-12-12  
41703983



Dipl.-Ing. Preiß



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**Connecting cable Smard Board [Connection 7-pole Bayonet plug]**

System connections	Device plug/ device sockets  <b>interface plug</b>	Degree of protection	Connecting cable (Product-Identification-No.:)	Termination device plug/ device socket  disconnection plug	Degree of protection	Cable end / requirements [For cable installation instructions, see 449 000 000 0/doc 653]
<b>SmartBoard</b>	7-pole Bayonet plug	IP 6K9K	<b>449 911 XXX 0</b> Connecting cable	8-pole T-EBS-E C coding  connection: subsystem	IP 6K9K	Cable sold by the metre 5x 0.5mm <sup>2</sup>
<b>SmartBoard</b>	7-pole Bayonet plug	IP 6K9K	<b>449 916 XXX 0</b> Connecting cable	8-pole T-EBS-E C coding  connection: subsystem	IP 6K9K	Cable sold by the metre 5x 0.5mm <sup>2</sup>  Cable sold by the metre 2x 0.5mm <sup>2</sup> + 2x 1.0mm <sup>2</sup>
				7-pole Bayonet plug  IVTM	IP 6K9K	
<b>SmartBoard</b>	7-pole Bayonet plug	IP 6K9K	<b>449 376 XXX 0</b> Connecting cable	7-core sheathed cable with open end	IP 54 required	Cable sold by the metre 7x 0.5mm <sup>2</sup> <b>Suitable ADR installation required, min. IP54!</b>
<b>SmartBoard</b>	7-pole Bayonet plug	IP 6K9K	<b>449 377 XXX 0</b> Connecting cable	8-pole T-EBS-D  connection: IN/OUT	IP 6K9K	Cable sold by the metre 4x 0.5mm <sup>2</sup>

# Appendix 2

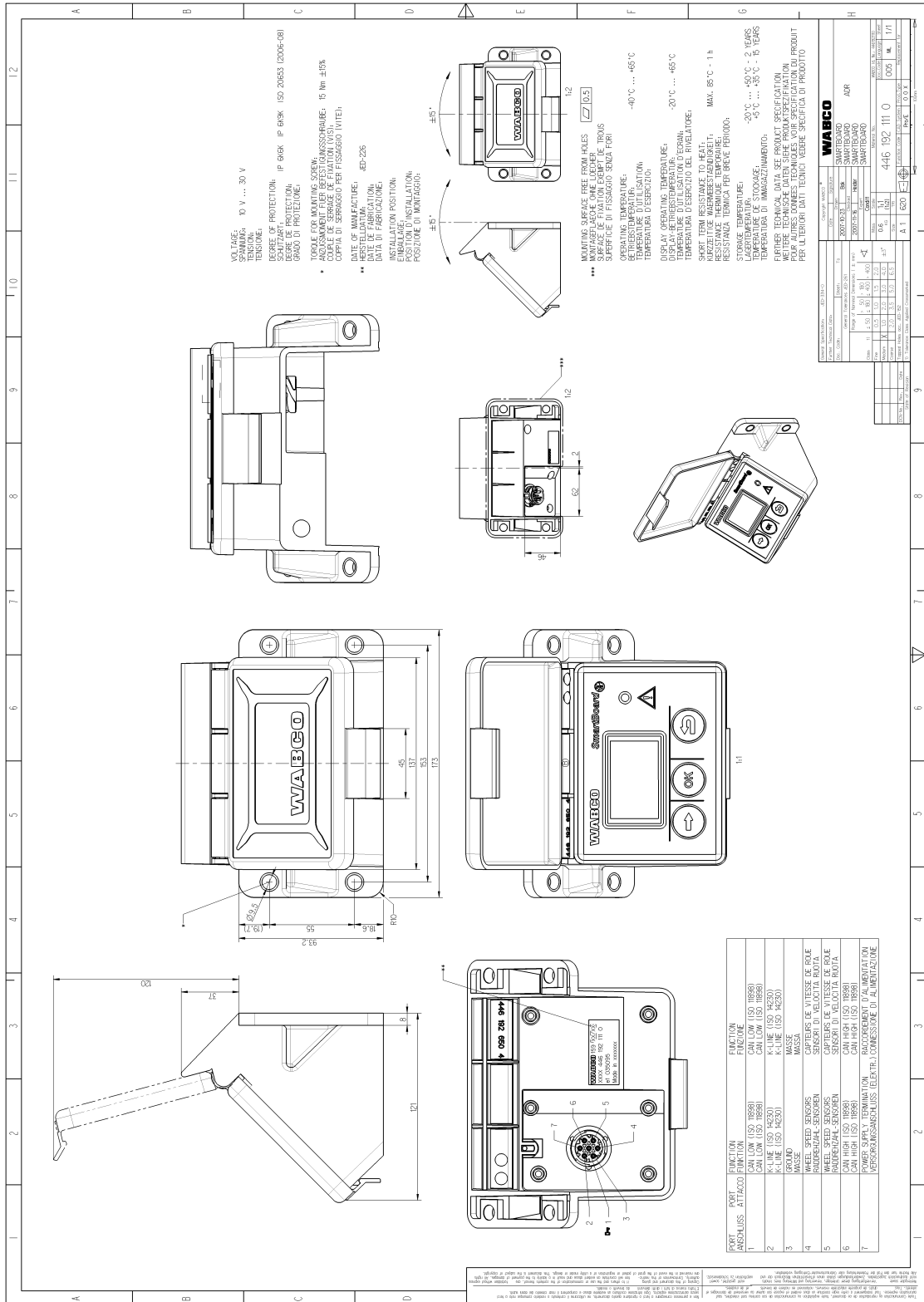
## Of the Test Report

No.: TUEH - TB 2007 - 132.00  
 in consideration of the test regulations  
 98/91/EG, ECE-R 105  
 and chapter 9.2.2 ADR 2007



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### Drawing





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## Service Hints

Installation instruction  
Installationsanweisung  
Instruction de l'installation  
Istruzione di installazione  
Instrucción de la instalación



446 192 110 0



446 192 111 0

