



Type : **ELEX**
Manufacturer : **Wabco GmbH**

Test report
No.: TUEH - TB 2011 - 159.00

In accordance with the Directive of the European Council
Relating to the
Technical unit

Electronic Extension Module ELEX

98/91/EG dated 14.12.1998

ECE-R 105

including amendment 04
and

Chapter 9.2.2 ADR 2011

Approval status		
EWG / ECE	Approval number / Test Report	Date
	E1 10R – 035979 (EMC approval)	26.10.2010

Name and address of the test laboratory : TÜV Technische Überwachung Hessen GmbH
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Type : **ELEX**
Manufacturer : **Wabco GmbH**

0. General

- 0.1. Make
(trade name of the manufacturer) : **WABCO**
- 0.2. Type : **ELEX**
Commercial description : **ELEX Premium**
ELEX Basic
- 0.3. Marking of type, if present on the
separate technical unit (b); : **446 122 070 0**
446 122 071 0
- 0.4. Location of that marking : **On the housing cover**
- 0.5. Name and address of the manufac-
turer : **WABCO GmbH**
Am Lindener Hafen 21
D-30453 Hannover
Germany
- 0.6. Description of the system : **The ELEX is an extension-module wich suppliesin
combination with TEBS E Premium the following ad-
ditional functions:**
- Battery loading and supply
- Ramp Approach system
- Rear monitoring System'
- Communication tot he tractor via ISO 12098
- Extension of GIO ports oft he trailer-EBS
- ECAS dual circuit control
- 0.7. Location of EEC type approval mark,
method of applying the mark : **optional, by means of laser-marking or label on the
electronics housing**
- 0.8. Modifications : **--**



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1. Vehicle part

1.1. Description

- 1.1.1.. **Modulator: variants** 446 122 070 0 – Premium
446 122 071 0 – Basic
- 1.1.2 **Connections, pneumatic:** none
- 1.1.3 **Connector locations, electrical:** **Power** (8-pin power supply via TEBS E, Subsystems-connector)
Subsystems (IVTM, ECAS-control unit, Smart-board, Telematik)
GIO10 (Battery)
GIO11 (Corner marker lamp)
GIO13 (multifunctional)
GIO14 (multifunctional)
GIO15 (multifunctional)
GIO16 (Wake up and multifunctional)
GIO17 (ultrasonic sensor)
GIO18 (ultrasonic sensor)
- 1.1.4 **Connecting cable:** Coat isolation of power cable (bulk stock) made out of PUR or optionally of PVC
Further description see appendix 1
- 1.1.6 **Installation instructions:** System description, Electronic braking system for trailers (Version TEBS E0 to 2,5)
815 020 093 0



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2. Testing protocol

2.1. Test results

2.1.1. General : Taking into account the directives stated above, the **Ex-tension module ELEX** was tested for its suitability for trailers permitted for the transportation of dangerous goods. The scope of testing also includes the connecting cables stated above, installed in the relevant connections. IP54 is the minimum degree of protection demanded for electrical plug connections in ADR vehicles (GGVS (Act Governing the Road Haulage of Hazardous Materials (Germany)).

2.2. Scope

2.2.1. Trailer specification : All **O₃ and O₄** trailers requiring a Registration Certificate for the transport of certain dangerous goods (see clause 2.2.3.).

2.2.2. Designation of vehicle body according to 9.1.1.2 directive ADR 2011 : Vehicle **EX/II** or **EX/III**
Vehicle **FL**
Vehicle **OX**
Vehicle **AT**
Vehicle **MEMU**

2.2.3. Definition of O₃ and O₄ trailers (for point 2.2.1.) : In accordance with Framework Directive 2007/46/EG, annex II, clause A, subclause 3 :

Vehicle category O : Trailers (including semi-trailers).

2.2.3.1. Vehicle category O₃ : Trailers with a maximum permitted mass exceeding 3,5 tonnes but not exceeding 10 tonnes.

2.2.3.2. Vehicle category O₄ : Trailers with a maximum permitted mass exceeding 10 tonnes.



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2.2.4. In accordance with ADR 2011, part 9, chapter 9.1, subclause 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)

2.2.4.2. vehicle FL : a) A vehicle intended for the carriage of liquids with a flashpoint of not more than 60 °C (with the exception of Diesel fuels according to the standard EN 590:2004, gas oil or heating oil (light) – UN number 1202 – with a flashpoint according to standard EN 590:2004) in fixed tanks or mountable tanks having a volumetric capacity of more than 1 m³ or in tank containers or portable tanks having a volumetric capacity of more than 3 m³ per single reservoir
or
b) A vehicle intended for the carriage of flammable gases in fixed tanks or mountable tanks having a volumetric capacity of more than 1 m³ or in tank containers or portable tanks or MEGC having a volumetric capacity of more than 3 m³ per single reservoir
or
c) A battery-vehicle with a total capacity of more than 1 m³ for the carriage of flammable gases.

2.2.4.3. vehicle OX : A vehicle intended for the carriage of hydrogen peroxide, stabilized, or of hydrogen peroxide, aqueous solution, stabilized with more than 60 % hydrogen peroxide (class 5.1 UN number 2015) in fixed tanks or mountable tanks having a volumetric capacity of more than 1 m³ or in portable tanks having a volumetric capacity of more than 3 m³ per single reservoir.

2.2.4.4. vehicle AT : a) A vehicle other than those of type EX/III, FL or OX intended for the carriage of dangerous goods in fixed tanks or mountable tanks having a volumetric capacity of more than 1 m³ or in tank containers, portable tanks or MEGC having a volumetric capacity of more than 3 m³ per single reservoir
or
b) A battery vehicle having a volumetric capacity of more than 1 m³ which is not a vehicle FL.

2.2.4.5. vehicle MEMU : A vehicle which complies with the definition "Mobile unit for the production of explosive substances or objects containing explosive materials" given in section 1.2.1.



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2.2.5. Definition of the zones supplements to the vehicles FL according to 2.2.4.2. : 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 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

2.2.5.2. Zone 1
Zone 1 comprises areas in which an explosive 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 0.5 m around the armatures
- within a radius of 0.5 m around the venting equipment which cannot be shut off and is open under normal operating conditions (such as tipping valve)
- within a radius of 0.5 m around the safety valves

2.2.5.3. Zone 2
Zone 2 comprises areas in which an explosive 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. Conditions

2.3.1. Ground return line : When fitting and installing an **Extension Module ELEX** into a trailer having the ADR certificate, **the ground return line must not be routed via vehicle frame.** The maximum intensity of current must not exceed the device-specific permitted current of the line and connection.



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- 2.3.2. Installation position of the ELEX : The suitable location on the trailer has to be decided first. The installation has to be done in accordance with system documentation (Installation Instruction). The installation in FL vehicles has to be made outside the areas of zone 0 and 1 (according to chapter 2.2.5.)! **Additional batteries in trailers have to be operable by means of a disconnection switch (Emergency OFF) in ADR-vehicles.**
- 2.3.3. Fixation of cables : 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 as to prevent any chafing.
- 2.3.4. Load room of EX/III vehicles : If the load room of EX/III vehicles is provided or permitted for goods of the compatible group J (= *objects that contain both explosive materials and flammable liquids, or flammable gel*), there are only electrical equipment parts in the load room allowed, corresponding at least the protection degree IP65.
- 2.4. Summary of assessment** : **From the technical point of view, there are no objections to the installation of the Extension module ELEX in trailers which according to ADR 2011 are subject to the special rules defined for the transport of dangerous goods, if the installation complies with the conditions stated above.**
- 2.5. General indications**
- Date of testing : 16.09. – 18.11.2011



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3. Appendices

1. : **Connecting cables on positions of the Extension Module**
2. : **Illustration of the system components**
3. : **System depiction**

4. Statement of conformity

The system description given in section No. 0.6. and the vehicle part stated in this description -
- comply - with the directives stated above

This report includes pages 1 to 8 and the appendices.

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TEST LABORATORY
- Automotive -
TÜV Technische Überwachung Hessen GmbH
ECE-R 105
designated by designation authority of Kraftfahrt-Bundesamt,
Federal Republic of Germany
under the registration number:
KBA-P 00005-95

64285 Darmstadt, **22.11.2011**
42366364








Dipl.-Ing. Preiß

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 on the basis of Test Instructions
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 and chapter **9.2.2 Annex B, part 9 ADR 2011**



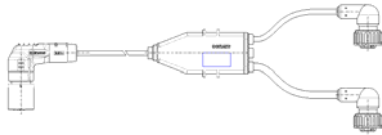
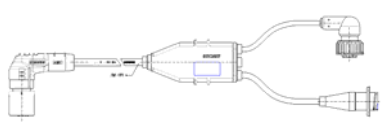
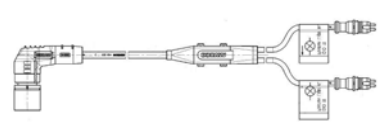
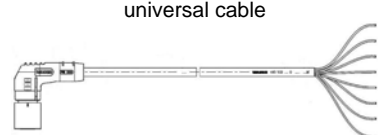

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Slot	Device plugs/ device sockets Interface plugs	Degree of pro- tection	Possible connecting cables (Product-Identification-No.:.)	Termination device plug/ device socket Disconnecting plug	Degree of pro- tection	Cable end / Requirements [Installation instruc- tions for cables see 449 000 000 0/doc 653]
POWER	Connector housing 8-pole Cod. E Table drawing 894 100 005 2	IP 6K9K	449 303 XXX 0 Supply cable ELEX 480 102 XXX 0 	Connector housing 8-pole Cod. C Table drawing 894 101 801 2	IP 6K9K	3x 1,0mm ² 3x 0,5mm ² 1x (2x 0,35mm ²) max. Length 10m
SUBSYSTEM	Connector housing 8-pole Cod. C Table drawing 894 100 005 2	IP 6K9K	449 602 XXX 0 Cable for ECAS Unit 446 056 XXX 0 	9 pole CPC connector [4 assigned]	IP 6K9K	4x 0,5mm ²
SUBSYSTEM	Connector housing 8-pole Cod. C Table drawing 894 100 005 2	IP 6K9K	449 603 XXX 0 Cable for ECAS Control unit 446 156 01X 0 	7-pole [4 assigned]	IP 6K9K	4x 0,5mm ²
SUBSYSTEM	Connector housing 8-pole Cod. C Table drawing 894 100 005 2	IP 6K9K	449 906 XXX 0 Smartboard 446 192 11X 0 	7-pole [5 assigned]	IP 6K9K	5x 0,5mm ²
SUBSYSTEM	Connector housing 8-pole Cod. C Table drawing 894 100 005 2	IP 6K9K	449 907 XXX 0 Telematics 446 290 1XX 0 	6-pole [5 assigned]	IP 6K9K	5x 0,5mm ²

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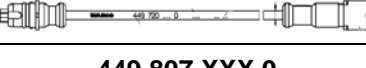

Type : **ELEX**
Manufacturer : **Wabco GmbH**

Slot	Device plugs/ device sockets Interface plugs	Degree of protection	Possible connecting cables (Product-Identification-No.:)	Termination device plug/ device socket Disconnecting plug	Degree of protection	Cable end / Requirements [Installation instructions for cables see 449 000 000 0/doc 653]
SUBSYSTEM	Connector housing 8-pole Cod. C Table drawing 894 100 005 2	IP 6K9K	449 925 XXX 0 Smartboard + IVTM 446 192 11X 0 446 220 01X 0 Distributor: IP6K9K 	7-pole [5 assigned]	IP 6K9K	5x 0,5mm ²
				7-pole [4 assigned]	IP 6K9K	2x 1,0mm ² 1x (2x 0,5mm ²)
SUBSYSTEM	Connector housing 8-pole Cod. C Table drawing 894 100 005 2	IP 6K9K	449 926 XXX 0 Smartboard + ECAS- Unit 446 192 11X 0 446 056 XXX 0 Distributor: IP6K9K 	7-pole [5 assigned]	IP 6K9K	5x 0,5mm ²
				9-pole CPC- connector [4 assigned]	IP 6K9K	4x 0,5mm ² Suitable ADR installation required, min. IP54!
GIO10/11	Connector housing 8-pole Cod. C Table drawing 894 100 005 2	IP 6K9K	449 803 XXX 0 Battery and/or Light (further to 449 807 050 0) Distributor: IP6K9K 	2-pole	IP 69K	2x 1,0mm ² Protection in combination with a suitable mating connector
				2-pole	IP 69K	2x 1,0mm ² Protection in combination with a suitable mating connector
GIO12	Connector housing 8-pole Cod. C Table drawing 894 100 005 2	IP 6K9K	449 908 XXX 0 universal cable 	8-core sheathed cable with open ends	--	3x 1,0mm ² 3x 0,5mm ² 1x (2x 0,35mm ²) Suitable ADR installation required, min. IP54!!
GIO16	Connector housing 4-pole Cod. B Table drawing 894 101 812 2	IP 6K9K	449 808 XXX 0 Battery supply 480 102 XXX 0 	Connector housing 4-pole Cod. C T Table drawing 894 101 812 2	IP 6K9K	2x 1,0mm ²

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Slot	Device plugs/ device sockets Interface plugs	Degree of pro- tection	Possible connecting cables (Product-Identification-No.:.)	Termination device plug/ device socket Disconnecting plug	Degree of pro- tection	Cable end / Requirements [Installation instruc- tions for cables see 449 000 000 0/doc 653]
GIO17-18	Connector housing 4-pole Cod. B Table drawing 894 101 812 2	IP 6K9K	449 801 XXX 0 TCE or ultrasonic sensor 446 122 XXX 0 	4-pole DIN Bajonett [4 assigned] ISO 15170-B1-4.1- Sn/K1	IP 6K9K	4x 0,5mm ²
GIO17-18	Connector housing 4-pole Cod. B Table drawing 894 101 812 2	IP 6K9K	449 806 XXX 0 LIN- ultrasonic sensor 446 122 4XX 0 	3-pole	IP 6K9K	3x 0,5mm ² Protection in combination with a suitable mating connector
GIO 17-18	3-pole Protection in combination with a suitable mating connector	IP 6K9K	449 746 XXX 0 Extension cable between cable 449 806 XXX 0 und LIN- ultrasonic sensor 446 122 4XX 0 	3-pole	IP 6K9K	3x 0,5mm ² Protection in combination with a suitable mating connector
GIO 17-18	3-pole Protection in combination with a suitable mating connector	IP 6K9K	449 747 XXX 0 Extension cable between cable 449 806 XXX 0 und LIN- ultrasonic sensor 446 122 4XX 0 	3-pole	IP 6K9K	3x 0,5mm ² Protection in combination with a suitable mating connector
GIO 17-18	3-pole Protection in combination with a suitable mating connector	IP 69K	449 720 XXX 0 Extension cable between cable 449 806 XXX 0 und LIN- ultrasonic sensor 446 122 4XX 0 	3-pole	IP 69K	3x 0,5mm ² Protection in combination with a suitable mating connector
GIO-Distributor	2-pole Protection in combination with a suitable mating connec- tor	IP 69K	449 807 XXX 0 Batterybox 446 156 09X 0 	4-pole DIN Bajonett [2 assigned] ISO 15170-B1-2.1- Sn/K1	IP 6K9K	2x 1,0mm ²

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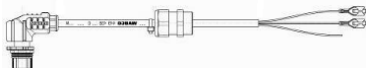


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Slot	Device plugs/ device sockets Interface plugs	Degree of pro- tection	Possible connecting cables (Product-Identification-No.:)	Termination device plug/ device socket Disconnecting plug	Degree of pro- tection	Cable end / Requirements [Installation instruc- tions for cables see 449 000 000 0/doc 653]
GIO-Distributor	3-pole Protection in combination with a suitable mating connec- tor	IP 69K	894 600 024 0 LIN- Distributor Distributor: IP6K9K 	3-pole	IP 6K9K	3x 0,5mm ² Protection in combination with a suitable mating connector
				3-pole	IP 6K9K	3x 0,5mm ² Protection in combination with a suitable mating connector
GIO-Distributor	4-pole DIN Bajonett [2 assigned]	IP 6K9K	894 601 135 2 Adapter cable for 2-circuit Lift axle valve I 463 084 010 0 	2-pole	IP 69K9K	2x 1,5mm ² Protection in combination with a suitable mating connector
GIO-Distributor	TEBS E 3-pole round for GIO-Distributor Protection in combination with a suitable mating connec- tor	IP68	449 752 XXX 0 Cable for pressure sensor, lift axle or travel sensor 	4-pole DIN Bajonett [[3 assigned] ISO 15170-B1-3.1- Sn/K1	IP 6K9K	3x 0,5mm ²
GIO-Distributor	TEBS E 3-pole round for GIO- Distributor Protection in combination with a suitable mating connec- tor	IP68	449 761 XXX 0 Cable for ECAS- valve oder LACV-IC 	4-polig DIN Bajonett [3 assigned] ISO 15170-B1-3.1- Sn/K1	IP 6K9K	3x 0,5mm ²
GIO-Distributor	TEBS E 3-pole round for GIO- Distributor Protection in combination with a suitable mating connec- tor	IP 68/69K	449 762 XXX 0 Cable for traction or manoeuvred control 	2-core sheathed cable with open ends	---	2x 0,75mm ² Suitable ADR instal- lation required, min. IP54!

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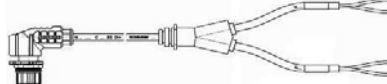


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Slot	Device plugs/ device sockets Interface plugs	Degree of pro- tection	Possible connecting cables (Product-Identification-No.:)	Termination device plug/ device socket Disconnecting plug	Degree of pro- tection	Cable end / Requirements [Installation instruc- tions for cables see 449 000 000 0/doc 653]
GIO- Distributor	TEBS E 3-pole round for GIO- Distributor Protection in combination with a suitable mating connec- tor	IP 68/69K	449 763 XXX 0 Cable for mechanical switch for road finisher brake (not for proximity switch) 	2-core sheathed cable with open ends	---	2x 0,75mm ² Suitable ADR instal- lation required, min. IP54!
GIO	Connector housing 4-pole Cod. B Table drawing 894 101 812 2	IP 6K9K	449 443 XXX 0 Lift axle, RTR 463 084 xxx 0 ECAS-valve 472 880 020 0 Buzer 894 450 000 0 	4-pole DIN Bajonett [2 assigned] ISO 15170-B1-2.1- Sn/K1	IP 6K9K	2x 1,0mm ²
GIO	Connector housing 4-pole Cod. B Table drawing 894 101 812 2	IP 6K9K	449 445 XXX 0 ECAS- valve 472 905 114 0 472 880 030 0 Lift axle valve 463 084 100 0 und ASC-E 	4-pole DIN Bajonett [3 assigned] ISO 15170-B1-3.1- Sn/K1	IP 6K9K	3x 1,0mm ²
GIO	Connector housing 4-pole Cod. B Table drawing 894 101 812 2	IP 6K9K	449 438 XXX 0 ECAS external on TEBS-E with open ends 446 120 0xx 0 	2-core sheathed cable with open ends and 2x 6,3 contacts	--	3x 1,0mm ² Suitable ADR instal- lation required, min. IP54!
GIO	Connector housing 4-pole Cod. B Table drawing 894 101 812 2	IP 6K9K	449 439 XXX 0 ECAS 2-point-regulation 	4 pole DIN Bajonett [4 assigned] ISO 15170-B1-4.1- Sn/K1	IP 6K9K	4x 1,5mm ²
GIO	Connector housing 4-pole Cod. B Table drawing 894 101 812 2	IP 6K9K	449 811 XXX 0 Travel sensor 441 050 100 0 	4-pole DIN Bajonett [2 assigned] ISO 15170-B1-2.1- Sn/K1	IP 6K9K	2x 1,0mm ²

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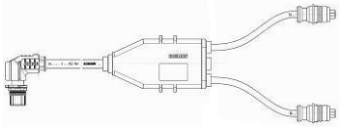
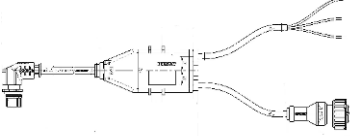
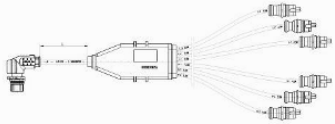

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Slot	Device plugs/ device sockets Interface plugs	Degree of pro- tection	Possible connecting cables (Product-Identification-No.:.)	Termination device plug/ device socket Disconnecting plug	Degree of pro- tection	Cable end / Requirements [Installation instruc- tions for cables see 449 000 000 0/doc 653]
GIO	Connector housing 4-pole Cod. B Table drawing 894 101 812 2	IP 6K9K	449 812 XXX 0 Pressure sensor 441 040 015 0 441 044 002 0 	4-pole DIN Bajonett [3 assigned] ISO 15170-B1-3.1- Sn/K1	IP 6K9K	3x 1,0mm ²
GIO	Connector housing 4-pole Cod. B Table drawing 894 101 812 2	IP 6K9K	449 813 XXX 0 Cable for Traction Help (TH) 	2-core sheathed cable with open ends	---	2x 0,75mm ² Suitable ADR instal- lation required, min. IP54!
GIO	Connector housing 4-pole Cod. B Table drawing 894 101 812 2	IP 6K9K	449 815 XXX 0 3-pole Starting-traction control + inevitably reduce (or Endladenivaue-switch) Distributor: IP6K9K 	2-core sheathed cable with open ends	---	2x 1,0mm ² Suitable ADR instal- lation required, min. IP54!
				2-core sheathed cable with open ends	--	2x 1,0mm ² Suitable ADR instal- lation required, min. IP54!
GIO	Connector housing 4-pole Cod. B Table drawing 894 101 812 2	IP 6K9K	449 535 XXX 0 Universal 4-pole with open ends 	4-core sheathed cable with open ends	---	4x 1,5mm ² Suitable ADR instal- lation required, min. IP54!
GIO	Connector housing 4-pole Cod. B Table drawing 894 101 812 2	IP 6K9K	449 819 XXX 0 Adapter cable BVA extension cable plug socket 441 032 310 2 	2-pole	IP 69K	2x 0,75mm ² Degree of protection in combination with mat- ing WABCO connector

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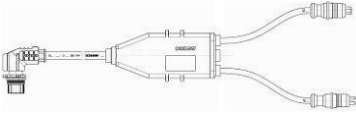



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Slot	Device plugs/ device sockets Interface plugs	Degree of pro- tection	Possible connecting cables (Product-Identification-No.:	Termination device plug/ device socket Disconnecting plug	Degree of pro- tection	Cable end / Requirements [Installation instruc- tions for cables see 449 000 000 0/doc 653]
GIO	Connector housing 4-pole Cod. B Table drawing 894 101 812 2	IP 6K9K	449 629 XXX 0 GIO Y- Distributor, IP6K9K 	3-pole	IP 69K	3x 1,0mm ² Degree of protection in combination with mat- ing WABCO connector
				3-pole	IP 69K	3x 1,0mm ² Degree of protection in combination with mat- ing WABCO connector
GIO	Connector housing 4-pole Cod. B Table drawing 894 101 812 2	IP 6K9K	449 626 XXX 0 Starting-traction control / unloading level / Travel sensor Distributor IP6K9K 	3-core sheathed cable with open ends	---	3x 1,0mm ² Suitable ADR instal- lation required, min. IP54!
				4-pole DIN Bajonett [2 assigned] ISO 15170-B1-2.1- Sn/K1	IP 6K9K	2x 1,0mm ²
GIO	Connector housing 4-pole Cod. B Table drawing 894 101 812 2	IP 6K9K	449 816 XXX 0 Brake pad wear sensor Distributor IP6K9K 	6 x 3-pole	IP 69K	6x 2adrig 2x 0,6mm ² Degree of protection in combination with mat- ing WABCO connector
GIO	Connector housing 4-pole Cod. B Table drawing 894 101 812 2	IP 6K9K	449 611 XXX 0 CAN-diagnostic cable Interface 446 300 348 2 	7-pole [4 assigned]	IP 6K9K	2x 0,5mm ² 2x 1,0mm ²

Appendix 1
to Test Report
 No.: **TUEH - TB 2011 - 159.00**
 on the basis of Test Instructions
98/91/EG, ECE-R 105
 and chapter **9.2.2 Annex B, part 9 ADR 2011**



Type : **ELEX**
 Manufacturer : **Wabco GmbH**

Slot	Device plugs/ device sockets Interface plugs	Degree of pro- tection	Possible connecting cables (Product-Identification-No.:)	Termination device plug/ device socket Disconnecting plug	Degree of pro- tection	Cable end / Requirements [Installation instruc- tions for cables see 449 000 000 0/doc 653]
GIO	Connector housing 4-pole Cod. B Table drawing 894 101 812 2	IP 6K9K	449 818 XXX 0 ABS-Sensor/GIO Distributor IP6K9K 	1x 3-pole	IP 69K	3x 1,0mm ² Degree of protection in combination with mat- ing WABCO connector
				1x 2-pole	IP 69K	2x 0,75mm ² Degree of protection in combination with mat- ing WABCO connector
GIO3	Connector housing 4-pole Cod. B Table drawing 894 101 812 2	IP 6K9K	449 519 XXX 0 ELM (Port air suspension module) 474 100 001 0 	7-pole Bayonet plug [3 assigned]	IP 6K9K	3x 1,0mm ²
463 090 XXX 0 TASC-Ventil	4 pole DIN Bayonet ISO 15170-B1-2.1- Sn/K1	IP 6K9K	449 447 XXX 0 Y-Cable in connection with cable 449 443 XXX 0; Port 2x TASC Value 463 090 XXX 0 Distributor IP6K9K 	4 pole DIN Bayonet [2 assigned] ISO 15170-B1-2.1- Sn/K1	IP 6K9K	2x 1,0mm ² Degree of protection in combination with mat- ing WABCO connector
				4 pole DIN Bayonet [2 assigned] ISO 15170-B1-2.1- Sn/K1	IP 6K9K	2x 1,0mm ² Degree of protection in combination with mat- ing WABCO connector
446 122 40X 0 Ultrasonic Sensor	3-pole (Hirschmann connector 872-858-541)	IP 6K4	449 802 XXX 0 LIN Sensor Ultrasonic 446 122 40X 0 (only in connection with Sensor) 	3-pole	IP 6K9K	3x 0,5mm ² Degree of protection in combination with mat- ing WABCO connector

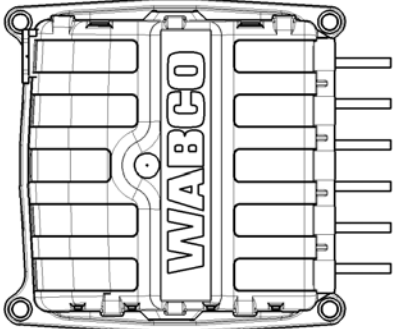
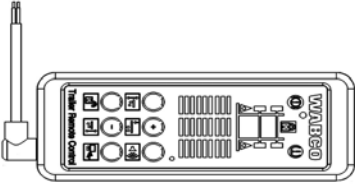
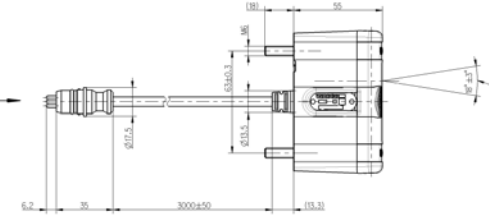
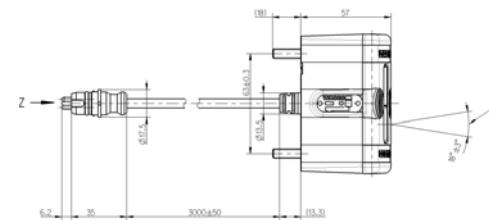
Remarks/Notes:

- 1) Material of the cable coat insulation optionally PUR or PVC



Type : **ELEX**
 Manufacturer : **Wabco GmbH**

System components

<p>Extension modul "ELEX" 446 122 070 0</p>		<p>Degree of protection: IP6K9K</p>
<p>ELEX Trailer Controll Electronic / TRC 446 122 080 0</p>		<p>Degree of protection: IP42 Mounting location: Drivers cab</p>
<p>LIN- ultrasonic sensorr 0° 446 122 401 0</p>		<p>Degree of protection: IP6K9K</p>
<p>LIN- ultrasonic sensor 15° 446 122 402 0</p>		<p>Degree of protection: IP6K9K</p>

**Appendix 2
to Test Report**

No.: **TUEH - TB 2011 - 159.00**

on the basis of Test Instructions

98/91/EG, ECE-R 105

and chapter **9.2.2 Annex B, part 9 ADR 2011**

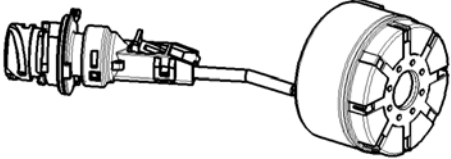
TÜV Technische Überwachung Hessen GmbH

Automotive



Type : **ELEX**
Manufacturer : **Wabco GmbH**

System components

<p>Buzer 894 450 000 0</p>	 A technical line drawing of a horn assembly. It shows a cylindrical horn with a flared end, connected to a mounting bracket with electrical terminals.	<p>Degree of protection: IP6K7</p>
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**Appendix 3
to Test Report**

No.: **TUEH - TB 2011 - 159.00**

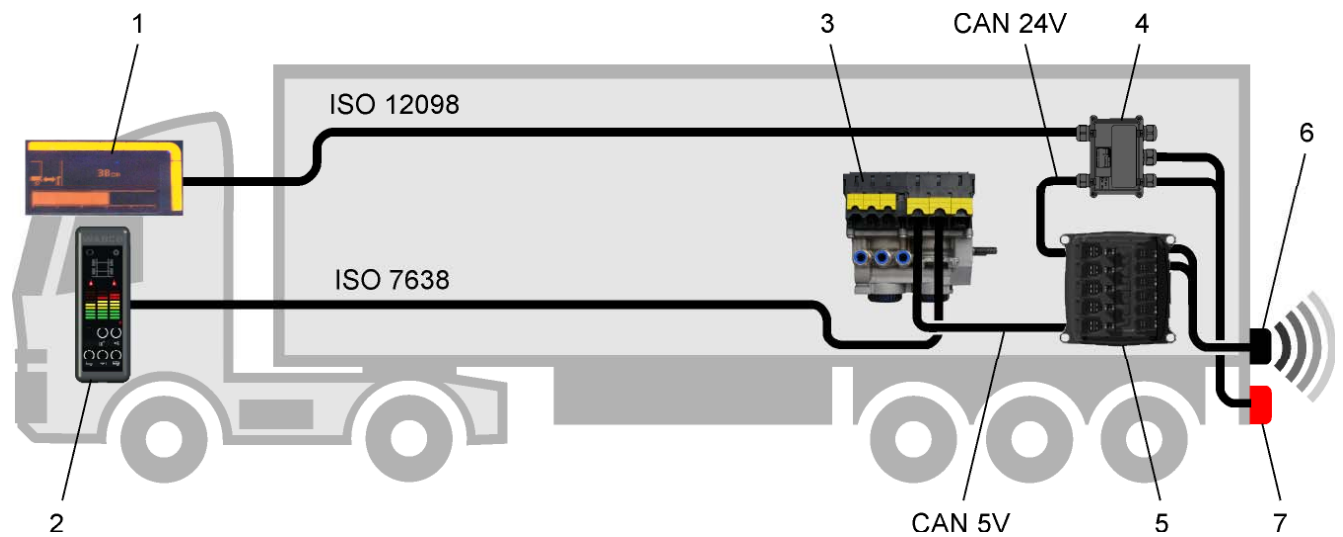
on the basis of Test Instructions

98/91/EG, ECE-R 105

and chapter **9.2.2 Annex B, part 9 ADR 2011**

Type : **ELEX**
Manufacturer : **Wabco GmbH**

Representation system extension module „ELEX“



Legende

1 Instrument panel **2** Trailer Remote Control **3** Trailer EBS E Modulator **4** distributor-box
5 Extension module (ELEX) **6** Ultrasonic sensor **7** Position lamp