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# CTCII – Compact Test Computer II

## Roller Interface Module

### Installation Instructions

Intended only for the servicing and installation of the CTCII and the Roller Interface Module

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***Document History***

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01/2009		First edition
01/2010	page 5	Fitting instructions
05/2011		New release (CTCII Rel. 2.07)

As at: 6<sup>th</sup> May 2011

Roller Interface Module • Edition 05/2011

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## ***Pictograms and what they mean***

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The following pictograms are used in this manual to make you aware of a particular circumstance or association:



This denotes conditions which must be fulfilled before you can carry out an action or program command successfully. ◀



This denotes practical tips for installation or for checking system components. ◀



This denotes legal regulations or contains explanations about device associations and background knowledge. ◀



This denotes dangers which may cause material damage or injury to persons. To avoid possible injury to persons, always pay special attention to the note(s) pertaining to this pictogram. ◀

The following additional symbols denoting danger are attached to the Roller Interface Module:



### **Caution!**

This denotes dangers which may cause injury to persons. To avoid possible injury to persons, always pay special attention to the note(s) pertaining to this pictogram. ◀



### **Danger!**

Electric shock upon contact with voltage-carrying parts when the housing is open. Only authorised persons may open the housing. ◀

## ***For your safety***

---



### **Important**

Before installing and using the Roller Interface Module, please read the safety and operating instructions in this Chapter carefully.

Protect yourself and prevent damage to the test device and tachograph components. ◀

## ***Personnel/technical requirements***

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### **Requirements for personnel**

The service technician contracted to carry out the installation of the CTCII components must have received specific training in installing CTCII components.

In the following description, the service technician is expected to have

- comprehensive, occupation-specific knowledge and
- to be in complete control of the necessary and relevant tasks.

### **Technical requirements**

To enable the technician to carry out tasks reliably, the premises and equipment must comply with the pertinent legal regulations of the country in which they are used.

## **General safety instructions**

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The basic requirement for working safely with the Roller Interface Module and its components is a thorough knowledge of the general instructions, the safety instructions and the safety regulations.

The service technician contracted to carry out the installation of the CTCII components must have read and understood this documentation, including the Chapters on safety.



**Caution**

### **Danger! Electric shock upon contact with voltage-carrying parts**

The electric equipment in the Roller Interface Module operates by means of dangerous electric voltage.

When the Roller Interface Module is open, it must be switched off and disconnected from mains – only then may authorised persons carry out work on the module. Remove the key to prevent anyone switching on the module accidentally. ◀



**Caution**

### **Danger of explosion!**

The Roller Interface Module may not be operated in areas which may be endangered by explosions!

Do not use the Roller Interface Module near flammable liquids or gases! ◀



**Caution**

### **Danger of accidents!**

While working on the module, adhere to the relevant trade association's safety and accident prevention regulations. ◀



**Caution**

### **Danger of accidents – rolling road test stand!**

Work on the test stand equipment may only be carried out when the Roller Interface Module is switched off. Remove the key to prevent anyone switching on the module accidentally. Compressed air supply (lifting bar, test stand brake) must also be interrupted. ◀

## **Notes on operation**

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<b>Designated use</b>	The Roller Interface Module is a CTCII component. It is used for the inspection, commissioning, and programming of tachographs (EC recording equipment and Non-EC tachographs) on a test stand. The Roller Interface Module may only be used for the purpose for which it was manufactured. The manufacturer is not liable for any damage caused by improper use.
<b>Moisture and dampness</b>	Prevent moisture or dampness from seeping into the module. The Roller Interface Module may not be operated in the proximity of water. Do not place any liquid container (like a tumbler, etc.) on or beside the module – this will avoid any spillage getting into the device.
<b>Environmental requirements</b>	Protect the Roller Interface Module from heat and cold. Do not place the Roller Interface Module near heat sources (e. g. blowers, ovens, etc). Protect the test device from direct sunlight.  The ideal environmental temperature is around +25 °C.
<b>Operating instructions</b>	Avoid excessive jolting and shaking of the module.
<b>Cleanliness</b>	Prevent dust and dirt from getting into the module.



## **Installation instructions**

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### **Power supply**

The Roller Interface Module may only be connected to the voltages stipulated in this Installation Manual; see *Chapter "Technical data"* on page 35.



#### **Important**

---

The power supply installation must be carried out by an electrician. ◀

Since 2010 the CTCII Roller Interface Module has been equipped with a power cable. The CTCII Roller Interface Module can now be connected directly to an earthed power socket.



#### **Caution**

---

Please note that the CTCII Roller Interface Module must be connected to mains via an Earth Leakage Circuit Breaker. ◀

### **Connection cables**

When laying the cables, make sure that no one can stumble over them and that no damage to the cables can be caused by other objects or by the effects of heat.



#### **Caution**

---

#### **Danger of short-circuits!**

Damaged cables can cause short-circuits, adverse effects and malfunctions.

Replace damaged cables immediately! ◀

### **Accessories**

No modifications to accessories may be made (EMC regulations). Never use accessories which have not been recommended by the manufacturer – they can cause accidents and operational disruptions.



#### **Important**

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The use of non-authorised accessories invalidates the CE certificate of conformity! ◀

## **Notes on the sealing of the Roller Interface Module**

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If sealing is required, the following sealing may be carried out for the Roller Interface Module:

- Sealing of the housing cover.



#### **Important**

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Always adhere to your country's valid legal regulations; see *page 20!* ◀

## **Notes on commissioning the test stand**

---



### **Important**

This equipment may only be commissioned if the regulations pertaining to the technical equipment and materials **in their currently valid versions** are adhered to and national safety warnings are put up at the workplace/ rolling road test stand.

- 1) The following warning notice must be put up in a highly visible location:  
**“Noise Zone, Wear Hearing Protection”**.
- 2) The following sign (measuring 200 x 300 mm or 250 x 350 mm) must be put up in a highly visible location:

**“During measuring, entry to the pit is forbidden”**

Supplier: Fa. Klar  
Neuer Weg 12-16  
D-42111 Wuppertal

- 3) The cover plate of the rollers and projecting parts like light barriers, etc. must be visibly flagged with a danger sign (yellow/black paint):

Supplier: Fa. Klar  
Neuer Weg 12-16  
D-42111 Wuppertal

**The operator is responsible for adherence to all valid safety regulations and safety precautions. ◀**

# Product overview

## Connection overview

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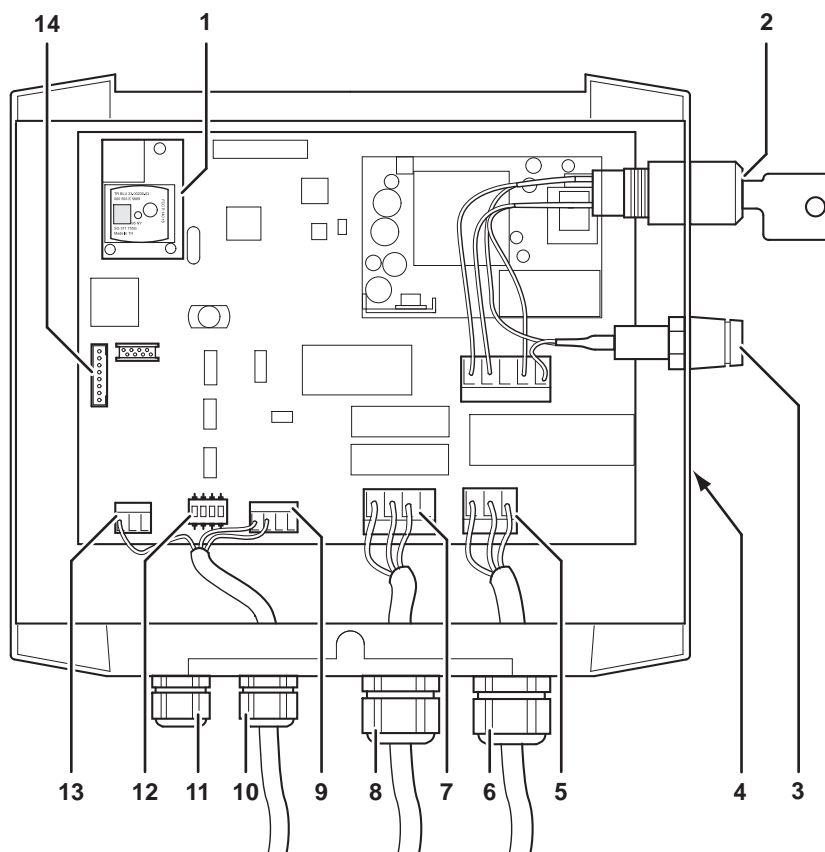


Fig. 1: Connection overview

- 1 Bluetooth module
- 2 Key switch
- 3 Fuse
- 4 Bluetooth address of the Roller Interface Module
- 5 Power connection; see *Chapter "Connection J1 – Power supply"* on page 12
- 6 Power connection (screw connection)
- 7 Lifting bar connection; see *Chapter "Connection J2 – Magnetic valve for lifting bar"* on page 13
- 8 Lifting bar (screw connection)
- 9 Roller sensor power connection; see *Chapter "Connection J3 – Roller sensor"* on page 14
- 10 Roller sensor (screw connection)
- 11 Light barrier (screw connection)

- 12 Hardware prescaler; see *Chapter "Hardware prescaler SW1"* on page 19
- 13 Light barrier power connection; see *Chapter "Connection J4 – Light barrier"* on page 15
- 14 Trailing cable interface (optional); see *Chapter "Connection J13 – Trailing cable interface (optional)"* on page 16

### Package contents

- The connection cables for the roller sensor and the light barrier are **20 m in length**.
- Communication between the CTCII and the Roller Interface Module takes place via Bluetooth (wireless).



#### Important

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The power supply installation must be carried out by an electrician. ◀



#### Caution

---

#### Danger of short-circuits!

No protective earth conductor is connected to the magnet valve of the lifting bar.

The protective earth conductor must be externally connected to the roller set. Ensure that earthing is sufficient (cross-section at least 6 mm<sup>2</sup>). ◀

## Connection configuration

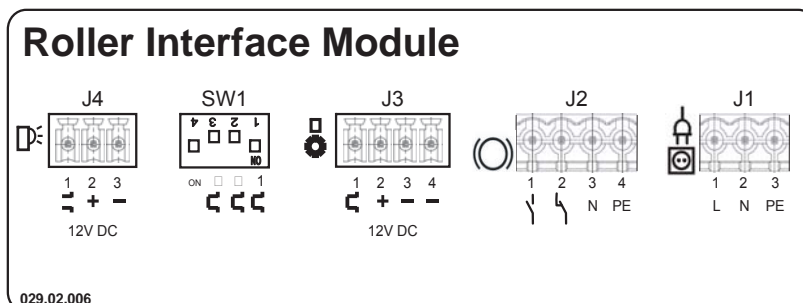


Fig. 2: Connection configuration – Roller Interface Module

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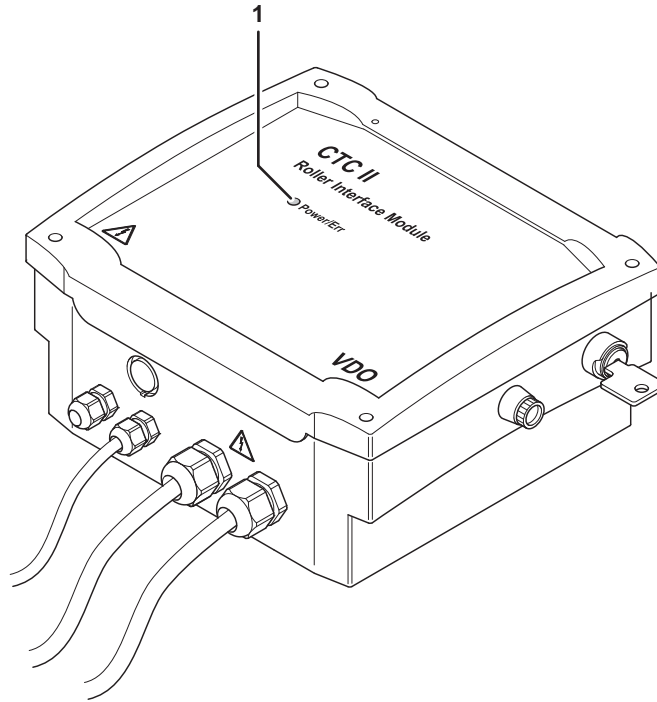
Function	Sign	Configurat ion	Symbol	Description
Power input J1		1	L	L 230 V AC
		2	N	N 230 V AC
		3	PE	Protective earth conductor (PE)
Lifting bar J2		1	⏏	L 230 V AC open when inactive
		2	⏏	L 230 V AC closed when inactive
		3	N	N 230 V AC
		4	PE	Protective earth conductor (PE)
Roller sensor J3		1	⏏	Roller sensor signal (white)*
		2	+	12 V DC (green)*
		3	-	Earth (brown)*
		4	-	Earth (colourless)*
Light barrier J4		1	⏏	Light barrier signal (white)*
		2	+	12 V DC (brown)*
		3	-	Earth (blue)*

\* Colour relates to the original sensor cable.

Function	Symbol	Description
SW1 Hardware prescaler	1	Position ON: 1 x sensor frequency
	1/2	Position ON: 1/2 sensor frequency
	1/4	Position ON: 1/4 sensor frequency
	ON	<b>Always</b> in ON position in normal operation

## Operating status of the Roller Interface Module

The operating status of the Roller Interface Module is displayed by means of a LED (1).



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Colour	Meaning
blue	The CTCII and the Roller Interface Module are connected via Bluetooth.
blue, flashing	The Roller Interface Module is waiting to connect with the CTCII.
red	Communication error with the Bluetooth module, e. g. Bluetooth module is not responding. To rectify the error, switch the Roller Interface Module off, then on again.
red, flashing	Protocol error between CTCII and the Roller Interface Module: The Roller Interface Module breaks the connection with the CTCII after some time and waits for a connection to be established by the CTCII.

## ***Installing the Roller Interface Module***

---



### **Condition**

When choosing a location to mount the Roller Interface Module, please note the following:

- The ideal environmental temperature is between -10 °C and +40 °C.
- The power supply installation must be carried out or approved by an electrician. ◀



### **Caution**

Please note that the CTCII Roller Interface Module must be connected to mains via an Earth Leakage Circuit Breaker. ◀



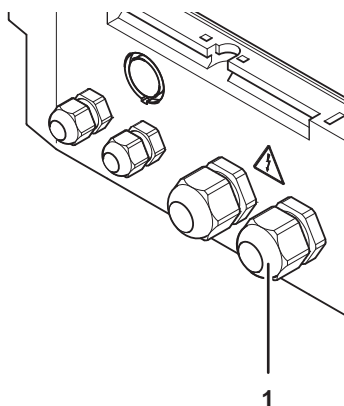
### **Caution**

Check the supply voltage before connecting and commissioning the Roller Interface Module.

The system is factory-set at an input voltage of 100 to 240 V. ◀

## ***Installing connections***

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- 1 Loosen screw connection (1).**
- 2 Push the end of the cable through the union nut, the washer and the cable assembly into the housing interior.**
- 3 Connect the wires as described in the connection diagram.**
- 4 Tighten screw connection (1) and secure the cable.**

## Connection J1 – Power supply

### Connection diagram

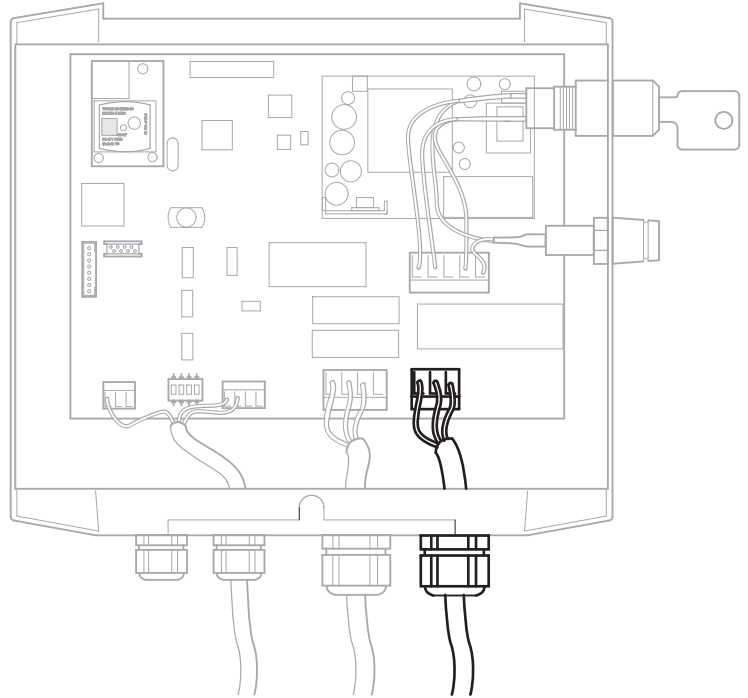
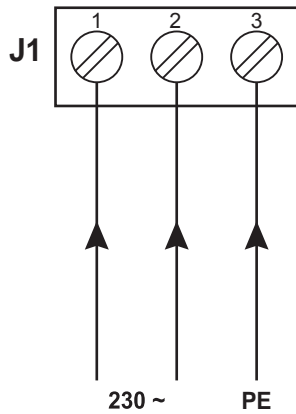


Fig. 3: Connection diagram plug J1, power supply

### Captions

Roller Interface Module – J1, terminal	Function	Cross-section
1	L	1 mm <sup>2</sup>
2	N	1 mm <sup>2</sup>
3	PE	1 mm <sup>2</sup>



## Connection J2 – Magnetic valve for lifting bar

### Connection diagram

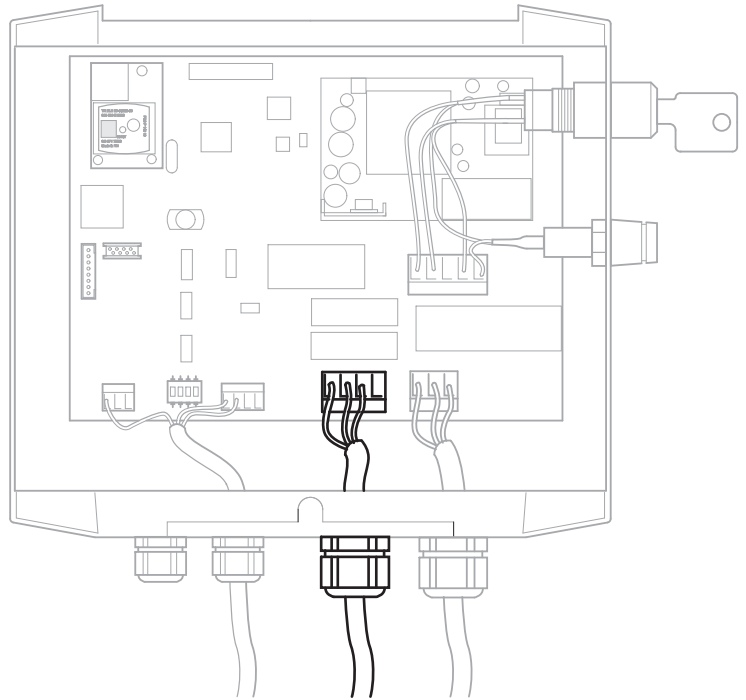
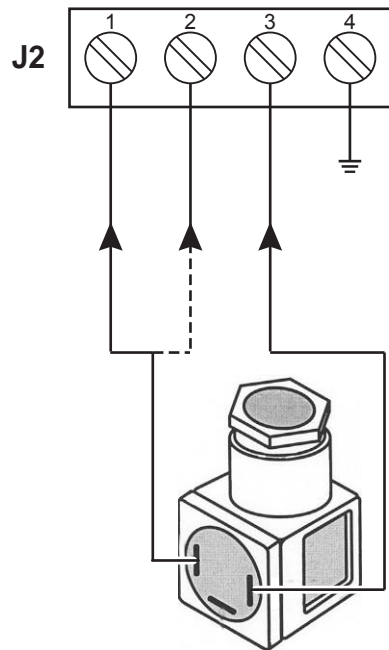


Fig. 4: Connection diagram plug J2, lifting bar

### Captions

Roller Interface Module – J2, terminal	Function	Cross-section
1	Control voltage (L) for pneumatic valve (230V AC, open when inactive)	1 mm <sup>2</sup>
2	Control voltage (L) for pneumatic valve (230V AC, closed when inactive)	1 mm <sup>2</sup>
3	Control voltage (N)	1 mm <sup>2</sup>

## Connection J3 – Roller sensor



### Important

In the case of double roller sets, the roller sensor and the light barrier can be connected with **one** 7-pole connecting cable.

In the case of brake test stands, the roller sensor may have its own cable. ◀

### Connection diagram

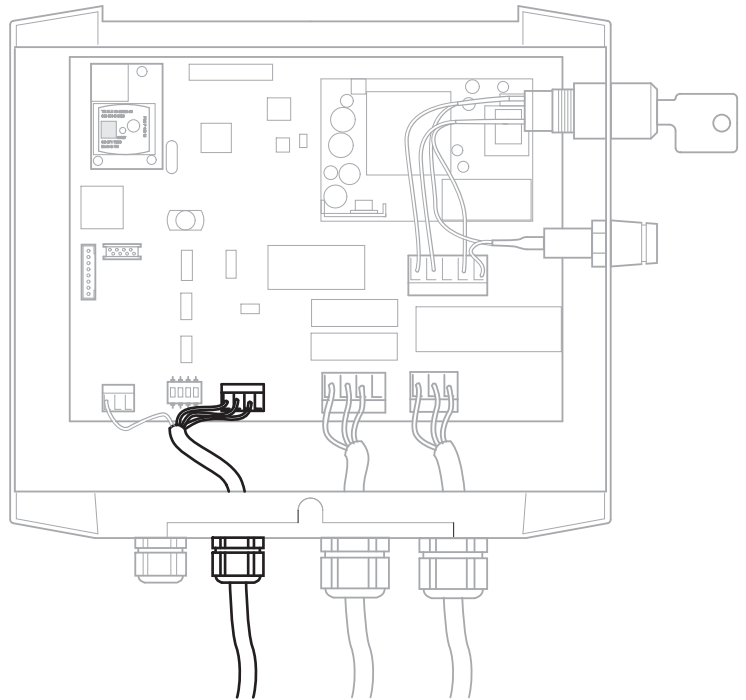
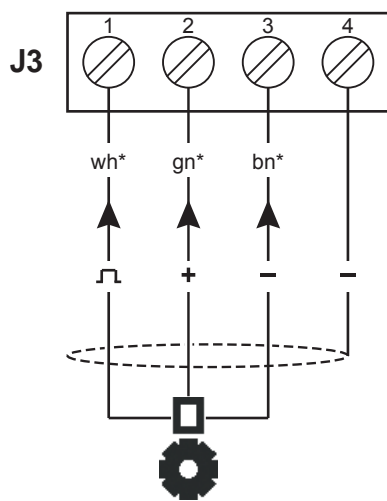


Fig. 5: Connection diagram plug J3, roller sensor

\* Colour relates to the original sensor cable.

### Captions

Roller Interface Module – J3, terminal	Function	Cross-section
1	Roller sensor signal	0.15 mm <sup>2</sup>
2	12 V DC (+)	0.15 mm <sup>2</sup>
3	Earth (-)	0.15 mm <sup>2</sup>
4	Earth (-)	0.15 mm <sup>2</sup>

## Connection J4 – Light barrier



### Important

In the case of double roller sets, the roller sensor and the light barrier can be connected with **one** 7-pin connecting cable.

In the case of test benches for brakes, the light barrier may have its own cable. ◀

### Connection diagram

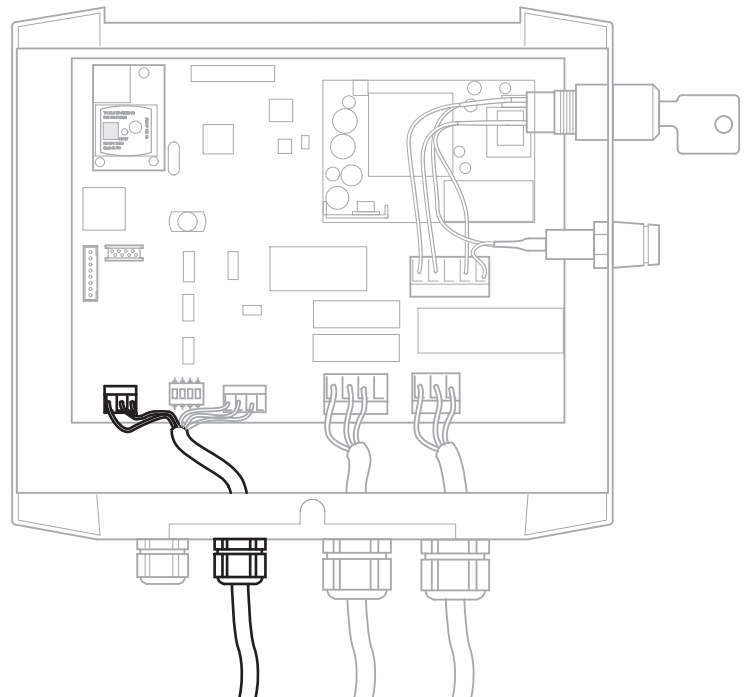
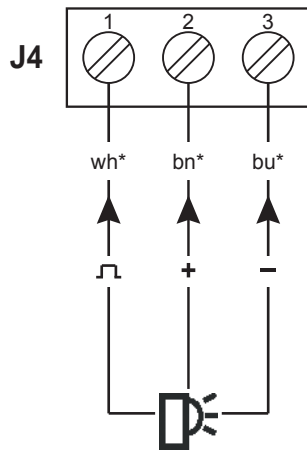


Fig. 6: Connection diagram plug J4, light barrier

\* Colour relates to the original sensor cable.

### Captions

Roller Interface Module – J4, terminal	Function	Cross-section
1	Light barrier signal	0.15 mm <sup>2</sup>
2	12 V DC (+)	0.15 mm <sup>2</sup>
3	Earth (-)	0.15 mm <sup>2</sup>

## **Connection J13 – Trailing cable interface (optional)**

---



### **Important**

Communication between the CTCII and the Roller Interface Module normally takes place via Bluetooth (wireless).

If wireless communication is not possible due to strong interference at the test stand, a trailing cable can be used to change to serial connection; see also *Chapter “Configuring communication via a trailing cable”* on page 32. ◀



### **Important**

To install the trailing cable connection (serial connection cable), a press cut must be broken out of the Roller Interface Module's housing. If the press cut is broken out unnecessarily, the protection class of the Roller Interface Module will be affected.

Check whether or not the Bluetooth module has to be replaced basing the check on the operating status of the Roller Interface Module as well as the field strength displayed at the CTCII; see *Chapter “Operating status of the Roller Interface Module”* on page 10 and *Chapter “Checking field strength”* on page 30. ◀



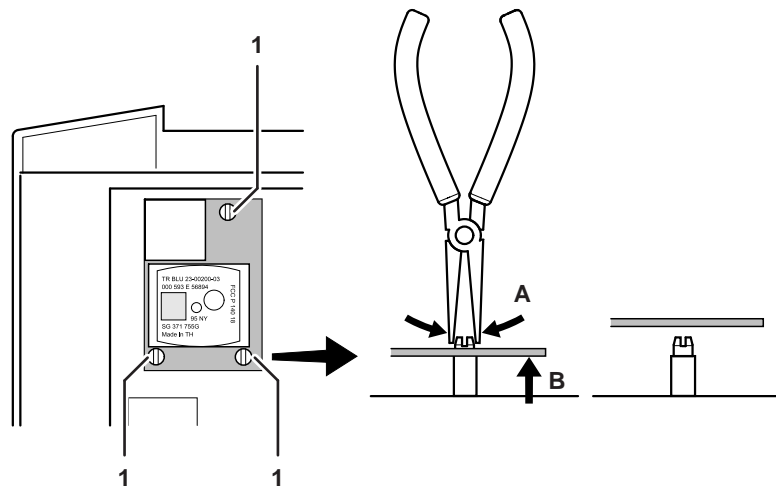
### **Condition**

You have a Bluetooth Replacement Set available.

The Bluetooth Replacement Set consists of

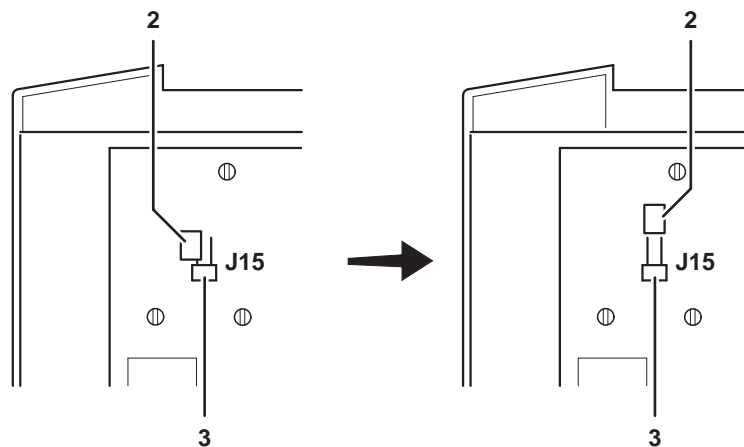
- a connection cable with an 8-pin plug connection and an interface for the trailing cable with a union nut, and
- 20 m of trailing cable. ◀

To install the connection for the trailing cable:

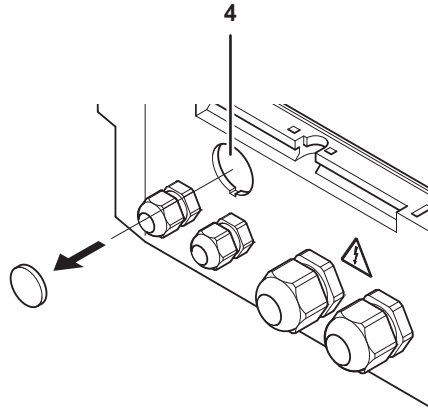


**1 Remove the Bluetooth module from the spacer bolts:**

- Press the three spacer bolts (1) on the Bluetooth module together (one after the other) using pliers (A) and
- remove the Bluetooth module from the spacer bolts (B).



**2 Close the J15 contact (3) with the jumper (2).**



- 3 Break the press cut (4) (for feeding through the interface for the trailing cable) out of the housing (e. g. using a screwdriver).
- 4 Push the trailing cable interface through the opening from the inside.
- 5 Secure the trailing cable interface using the union nut.
- 6 Plug the connection cable plug into the J13 8-pin plug connector (see Pos. (14), *Fig. 1 on page 7*).

The trailing cable connection has now been installed in the Roller Interface Module. The trailing cable to the CTCII can now be connected.



**Caution**

When laying the cables, make sure that no one can stumble over them and that no damage to the cables can be caused by other objects or by the effects of heat. ◀

## Hardware prescaler SW1

The Roller Interface Module can work with a pulse count of between 0.20 and 5.00 cm/imp. Higher resolution roller sensor signals can be adjusted by means of a hardware prescaler.

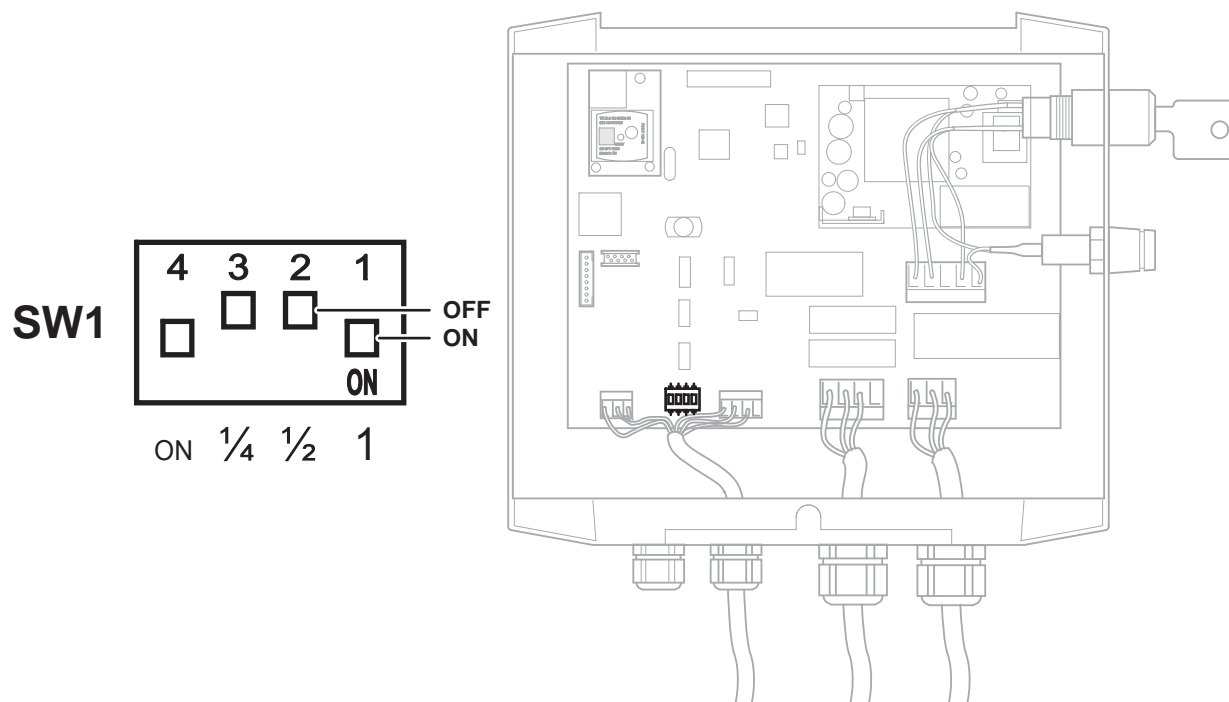


Fig. 7: Hardware prescaler SW1

Switch	Prescaler setting
1	Position <b>ON</b> : 1 x sensor signal (frequency) Position <b>OFF</b> : no sensor pulses
2	Position <b>ON</b> : 1/2 x sensor signal (frequency) Position <b>OFF</b> : no sensor pulses
3	Position <b>ON</b> : 1/4 x sensor signal (frequency) Position <b>OFF</b> : no sensor pulses
4	Position <b>ON</b> : The sensor signal will be forwarded to the CPU (normal operation). Position <b>OFF</b> : Firmware Update Mode

### **!** Important

**Only one** of the switches numbered 1 to 3 must be set to the **ON** position – this will ensure correct measurement results.

In normal operation, switch 4 must **always** be in the **ON** position. ◀

## Sealing the Roller Interface Module

---



### Important

Not every country's legal regulations stipulate that sealing must take place. Always adhere to your country's valid legal regulations! ◀

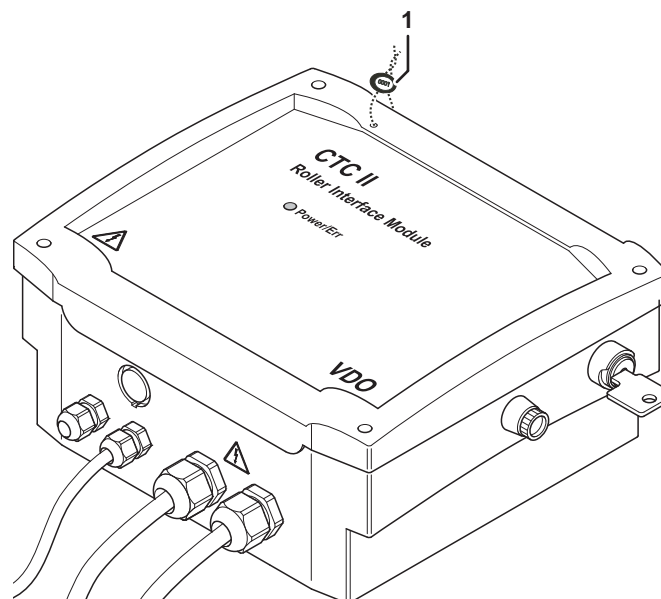
When sealing, make sure that

- the sealing pliers are adjusted correctly and that the assigned seal number is used,
- the sealing wire is short, making it impossible to open the cover,
- the sealing wire does not cause any short-circuits.



### Condition

You have connected all the Roller Interface Module's necessary components. ◀



1 Two-hole seal



## Switching on the Roller Interface Module

---

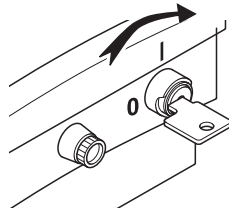
---

**✓ Condition**

---

The Roller Interface Module is connected to the power supply.

The Roller Interface Module's cover is closed; see also the safety instructions on *page 3*. ◀



- **Turn the key of the Roller Interface Module clockwise (upwards, to Position "I").**  
The LED on the Roller Interface flashes blue. The Roller Interface Module now attempts to establish a Bluetooth connection with the CTCII.

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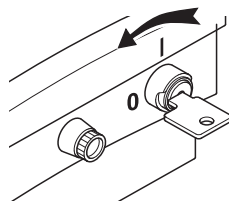
**! Important**

---

If the LED turns blue, the Roller Interface Module is connected to the CTCII via Bluetooth. ◀

## Switching off the Roller Interface Module

---



- **Turn the key of the Roller Interface Module anticlockwise (diagonally, to Position "0").**  
The Roller Interface Module is now switched off.

---

**! Important**

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Remove the key to prevent anyone switching on the module accidentally.  
The key can only be removed in Position "0". ◀

## Configuring the CTCII

---

This Chapter gives you an overview of

- possible CTCII settings for tachograph inspection and
- the CTCII settings for communication with the Roller Interface Module.

CTCII configuration is carried out in the **SERVICE** menu.



### Important

The **SERVICE** menu is password-protected. You receive the password directly from the Continental Automotive GmbH by e-mail.

Please remember to handle your Roller Interface Module password as carefully as you would handle a cover seal. Make sure that only authorised persons know the password.

**Giving the password to unauthorised third parties is expressly forbidden. ◀**

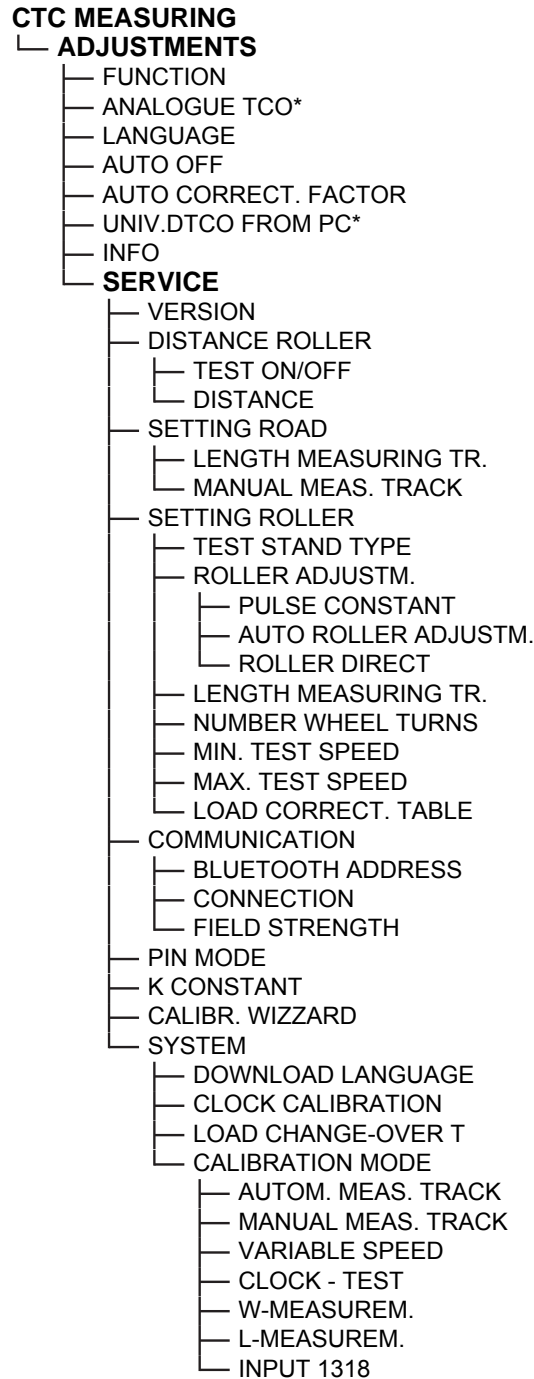


### Important

When configuring the CTCII, always adhere to your country's valid legal regulations! ◀



## An overview of the "SERVICE" menu

---



\* If licensed.

## An overview of the "SERVICE" menu parameters


Program	Range of values	Remark
VERSION	STANDARD/ BELGIUM/ FRANCE/ ITALY/ PORTUGAL/ SWITZERLAND/ SLOWENIA/ POLAND	
<b>DISTANCE ROLLER</b>		
TEST ON/OFF	ON/ OFF	Switching the  function on/ off (distance check on roller).  When the setting is at <b>OFF</b> , the <b>DISTANCE</b> parameter cannot be set.
DISTANCE	100 ...10,000 METRES	Entering the test distance for the distance check on the roller.  Default value: 1,000 METRES
<b>SETTING ROAD</b>		
LENGTH MEASURING TR.	10 ...1,000 METRES	Entering the length of the measuring track.  Default value: 20 METRES
MANUAL MEAS. TRACK	ON/ OFF	Switching the  function (W measurement using test track pointer and watching pulse change) for measurement on the road on and off.
<b>SETTING ROLLER</b>		
TEST STAND TYPE	DOUBLE ROLLER/ BRAKE TESTER/ BRAKE DOUBLE/ ROLLER SET COMPACT	Setting the test stand type.
	DOUBLE ROLLER (rolling road test stand)	Both wheels of a drive axle are powered. The characteristic coefficient imp/km is calculated from <b>one</b> drive axle. The number of drive axles is not requested (test stand constant 1 cm/imp, measuring track 200 m, values can be changed).
	BRAKE TESTER (brake test stand)	Only one wheel of the drive axle(s) is powered. The number of drive axles is requested (number: 1, 2 or 3). The characteristic coefficient imp/km is determined from the powered wheel, doubled and multiplied by the number of drive axles (measuring track of 20 m).
	BRAKE DOUBLE (brake test stand)	Both wheels of a drive axle are powered. The number of drive axles is requested (number: 1, 2 or 3). The characteristic coefficient imp/km is determined from the powered drive axle, doubled and multiplied by the number of drive axles (measuring track of 20 m).
	ROLLER SET COMPACT	As with double roller, automatic adjustment of test stand constant (0.73 cm/imp) and measuring track (200 m).

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Program	Range of values	Remark
<b>ROLLER ADJUSTM.</b>		
PULSE CONSTANT	0.20 ... 5.00 CM/IMP	The distance that corresponds to one pulse emitted by the roller sensor ist entered directly.
AUTO ROLLER ADJUSTM.	500 ... 8,000 MM	<p>The circumference of the measuring roller (the roller upon which the roller sensor is mounted) is calculated automatically.</p> <p>For the steps involved in this measuring procedure, see <i>Chapter "Automatic roller adjustment"</i> on page 33.</p> <p><b>Note:</b> Wheel circumference measurement is always carried out without the correction value (which is set with <input type="checkbox"/> <sub>Corr</sub>).</p> <p><b>Attention:</b> The AUTOMATIC ROLLER ADJUSTMENT function must not be selected when using the correction value table!</p>
<b>ROLLER DIRECT</b>		
ROLL. CIR.	100 ... 5,000 MM	<p>The circumference of the measuring roller (the roller upon which the roller sensor is mounted) and the number of pulses per measuring roller revolution are entered into the CTCII.</p> <p>In the case of the double roller set, a roller circumference of 1,000 mm and a pulse count of 100 imp/rev must be entered.</p>
PULSES	10 ... 999	Entering the imp/rev of the measuring roller/ number of teeth.
LENGTH MEASURING TR.	20 ... 10,000 METRES	<p>Entering the length of the measured track to determine the W value and the vehicle constants The default value is predefined by the setting of the test stand type:</p> <ul style="list-style-type: none"> <li>• 20 METRES for the BRAKE TESTER,</li> <li>• 200 METRES for the DOUBLE ROLLER/ ROLLER SET COMPACT.</li> </ul>
NUMBER WHEEL TURNS	3 ... 20	<p>Entering the number of wheel turns during wheel circumference measurement (L value).</p> <p>Default value: 10</p>
MIN. TEST SPEED	1 ... 80 KM/H	<p>Entering the minimum test speed.</p> <p>The test functions start when roller speed is greater than the minimum test speed. During the test, a cyclical check is carried out to ascertain whether or not the value is under-run. If the value is under-run, the CTCII aborts the test.</p> <p>Default value: 1 KM/H</p>

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Program	Range of values	Remark
MAX. TEST SPEED	1 ... 80 KM/H	<p>Entering the maximum test speed.</p> <p>The test functions start when roller speed is less than the maximum test speed.</p> <p>During the test, a cyclical check is carried out to ascertain whether or not the value is exceeded. If the value is exceeded, the CTCII aborts the test.</p> <p>Default value: 80 KM/H</p>
LOAD CORRECT. TABLE		<p>As brake test stands feature rollers of different size, adjusting the correction values could be necessary.</p> <p>You can transfer the modified correction value table from your computer to the CTCII. Before transfer can take place,</p> <ul style="list-style-type: none"> <li>• the table must be edited using an editor program (e. g. Notepad),</li> <li>• the computer must be connected to the CTCII using the serial connection cable (accessory).</li> </ul>
<b>COMMUNICATION</b>		
BLUETOOTH ADDRESS	In accordance with the specifications of the Bluetooth module's manufacturer (hexadecimal)	Entering the Roller Interface Module's Bluetooth address; see Pos. <b>(4)</b> , Fig. 1 on page 7.
CONNECTION	BLUETOOTH/ SERIAL	<p>Setting the type of connection to the Roller Interface Module:</p> <ul style="list-style-type: none"> <li>• BLUETOOTH: wireless communication,</li> <li>• SERIAL: cabled communication (trailing cable) via serial interface.</li> </ul>
FIELD STRENGTH	<p>Field strength and error rate CTCII</p> <p>Field strength and error rate Roller Interface Module</p>	Display of the received field strength and the error rate of the Bluetooth connection; see Chapter "Checking field strength in the "SERVICE" menu" on page 31.
PIN MODE	OFF/ PIN DIRECT/ USER SELECTION	Setting the PIN mode.
	OFF	Function for entering the workshop card's PIN via the CTCII is switched off.
	PIN DIRECT	The workshop card's PIN can be entered directly via the CTCII by using <input type="checkbox"/> . The PIN is not saved in the CTCII.
	USER SELECTION	The workshop card's PIN can be entered via the CTCII by using <input type="checkbox"/> and selecting the user. The workshop card's PIN is saved in the CTCII and protected by a 4-digit password. Up to 10 PINs can be saved.

Program	Range of values	Remark
K CONSTANT	READ ONLY/ SETTING	<p><b>READ ONLY:</b> When calibrating a tachograph, the W constant must be measured and programmed into the tachograph as the K constant. Press  or select <b>PROGRAMMING &gt; INSTALLATION DATA &gt; K CONSTANT</b> for displaying the programmed K value.</p> <p><b>SETTING:</b> For repair/ settings/ test purposes (in headquarter, RSOs/ NDs) direct K constant setting could be enabled. Default value: "READ ONLY"</p>
CALIBR. WIZZARD	ON/ OFF	<p>Switching the <b>TCO CALIBRATION</b> function on and off (initial menu).</p> <p>This function guides the user through the calibration procedure.</p>
<b>SYSTEM</b>		
DOWNLOAD LANGUAGE		<p>CTCII display texts are translated into German, English and French. To load other languages, a text file can be transferred into the CTCII. Before transfer can take place,</p> <ul style="list-style-type: none"> <li>the language file (current release) must be translated using an editor program (e. g. Notepad),</li> <li>the computer must be connected to the CTCII using the serial connection cable (accessory).</li> </ul>
CLOCK CALIBRATION		This menu item is only required for CTCII manufacture.
LOAD CHANGE-OVER T		<p>You can use a data transfer cable to load change-over times for summer and winter to the CTCII. Before transfer can take place,</p> <ul style="list-style-type: none"> <li>the file containing the change-over times must be edited using an editor program (e. g. Notepad),</li> <li>the computer must be connected to the CTCII using the serial connection cable (accessory).</li> </ul>
CALIBRATION MODE		The CTCII must be periodically calibrated by a service technician. To do this, the CTCII must be connected to a calibration unit.
AUTOM. MEAS. TRACK		
MANUAL MEAS. TRACK		
VARIABLE SPEED		
CLOCK - TEST		
W MEASUREM. (Roller Interface Module)		
L MEASUREM. (Roller Interface Module)		
INPUT 1318		

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## Starting configuration

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When the CTCII is connected to the vehicle power supply (or when a specific button is pressed in battery operation), the CTCII starts automatically and the basic menu is displayed.



**1 Open the “ADJUSTMENTS” menu.**

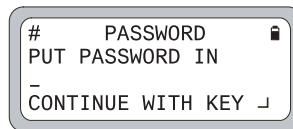


**2 Open the “SERVICE” menu.**



**Important**

The **SERVICE** menu is password-protected. You receive the password directly from the Continental Automotive GmbH by e-mail. ◀



The Password Entry screen is displayed.



**3 Enter the password and confirm.**



**Important**

Press to change from numerical to alphabetical entry.  
Press to correct wrong entries. ◀

The **SERVICE** menu is displayed.



## Connecting the CTCII

---

### Programming the Bluetooth address

---



#### Important

A label with the Bluetooth address of the Roller Interface Module is affixed to the Roller Interface Module housing; see *Chapter "Connection overview"* on page 7. ◀

To program the Bluetooth address into the CTCII:

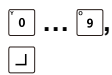


1 Open the "COMMUNICATION" menu.



2 Open the "BLUETOOTH ADDRESS" menu.



The saved value is shown under **ACTUAL**.



3 Enter the Bluetooth address.



#### Important

Press  to change from numerical to alphabetical entry.  
Press  to correct wrong entries. ◀

When programming has been completed, the newly entered value will be shown under **ACTUAL**.



4 Return to the "COMMUNICATION" menu.

5 Check the connection between the CTCII and the Roller Interface Module; see *Chapter "Checking field strength"* on page 30.

## Checking field strength

---

When you have programmed the Bluetooth address of the Roller Interface Module, you can use the field strength to check the quality of the wireless connection between the CTCII and the Roller Interface Module.

The field strength can be checked

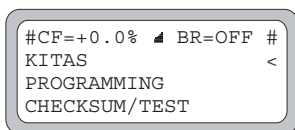
- in the basic menu of the CTCII or
- in the **SERVICE** menu under **COMMUNICATION > FIELD STRENGTH**.



### Tip

A glance at the “Power/Err” LED will tell you whether or not a Bluetooth connection has been established between the CTCII and the Roller Interface Module; see *Chapter “Operating status of the Roller Interface Module” on page 10*. ◀

## Checking field strength in the CTCII basic menu



The █ bar in the first display line indicates the quality of the Bluetooth connection. Up to 5 bars are displayed.

The more bars displayed, the better the quality of the Bluetooth connection. If too many errors occur, the connection is terminated.



### Important

During installation of the CTCII, the display in the basic menu outside the vehicle should always show 5 bars – in the **FIELD STRENGTH** menu, it should show a BER value of < 500 (see *section “What the Field Strength display means” on page 31*), if the CTCII is facing in the direction of travel. ◀



### Important

If the connection between the CTCII and the Roller Interface Module is malfunctioning, **# NO CONNECTION #** is shown in the display. ◀

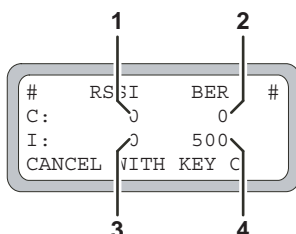
### Checking field strength in the "SERVICE" menu



1 Open the "COMMUNICATION" menu.

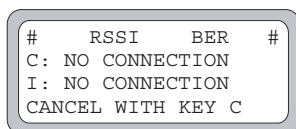


2 Open the "FIELD STRENGTH" menu.



In the display, the current values are shown for

- the field strength (1) and the error rate (2) of the CTCII as well as
- the field strength (3) and the error rate (4) of the Roller Interface Module.



If no Bluetooth connection can be established between the CTCII and the Roller Interface Module, the adjoining display will be shown.



3 Return to the "COMMUNICATION" menu.

#### What the Field Strength display means

Field	Range of values	Meaning
RSSI	-32,786 ... 0	The value indicates the received signal strength indication (RSSI): 0: Signal is being received in very good quality. -32,786: no connection
BER	0 ... 3,000	This value indicates the bit error rate. In the basic menu of the CTCII, the value for the CTCII is indicated by the bar display : 5 bars: 0 <= BER < 500 4 bars: 500 <= BER < 1,000 3 bars: 1,000 <= BER < 1,500 2 bars: 1,500 <= BER < 2,000 1 bar: 2,000 <= BER < 3,000 BER >= 3,000: Connection is terminated. The "Power/Err" LED on the Roller Interface Module indicates the quality of the connection: LED lights blue: Connection has been established. LED flashes red: Error rate is too high, connection is terminated.

## **Configuring communication via a trailing cable**

---



### **Condition**

You have replaced the Bluetooth module with the trailing cable interface connection; see *Chapter “Connection J13 – Trailing cable interface (optional)”* on page 16.

The CTCII and the Roller Interface Module are connected via Bluetooth. ◀

### **To program communication in the CTCII via a trailing cable:**



**1** Open the “COMMUNICATION” menu.



**2** Open the “CONNECTION” menu.

The saved value is shown under **ACTUAL**.



**3** Change the connection to “SERIAL”.

When programming has been completed, the newly entered value will be shown under **ACTUAL**.



**4** Return to the “COMMUNICATION” menu.

## Automatic roller adjustment

---



### Caution

The AUTOMATIC ROLLER ADJUSTMENT function must not be selected when using the correction value table! ◀

In automatic roller adjustment, the roller adjustment value (distance of the measuring roller per electric pulse in cm/imp) is determined using a reference vehicle.

### The steps involved in automatic roller adjustment

- Measurement of wheel circumference on the road.
- Entering of "Wheel Circumference Road" in the CTCII.
- Measurement of wheel circumference on the test stand.
- Calculation (with display) and saving of the roller adjustment value (distance of the measuring roller per electric pulse in cm/imp).



### Important

Carry out the automatic roller adjustments with a typical test vehicle (with the largest possible wheels). ◀



### Important

The following test sequences are written in an easily comprehensible style. ◀

### Measurement of wheel circumference on the road

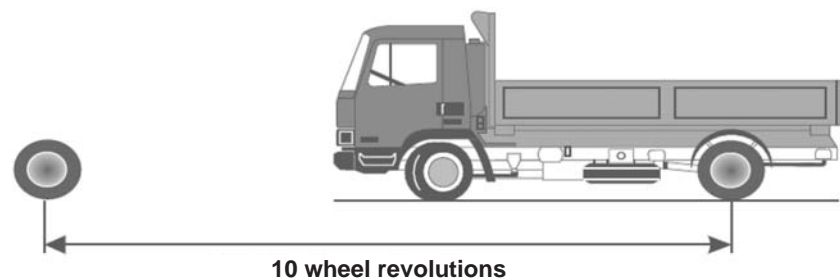


Fig. 8: Measurement of wheel circumference on the road

- 1 Park the unloaded vehicle on a level road.
- 2 Determine the wheel perpendicular at the drive wheel and chalk-mark both wheel and road.
- 3 Move the vehicle 10 wheel revolutions forwards at walking speed.
- 4 Use a measuring tape to measure the distance covered and divide this value by 10.

### Preparing measurement of wheel circumference on the test stand

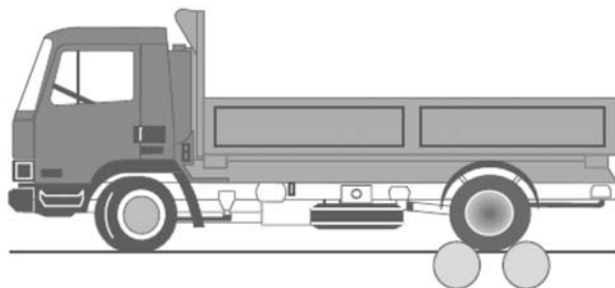


Fig. 9: Measurement of wheel circumference on the test stand

- 1 Drive the vehicle with the drive axle on to the rollers.
- 2 On the light barrier side, affix reflecting strips on the wheel.

### Determining the roller adjustment value with the CTCII

- 1 Open the "SERVICE" menu; see *Chapter "Starting configuration" on page 28.*
- 2 Open the "SETTING ROLLER" menu.
- 3 Open the "ROLLER ADJUSTM." menu.
- 4 Open the "AUTO ROLLER ADJUSTM." menu.
- 5 Enter the wheel circumference determined on the road and confirm.
- 6 Bring the vehicle up to test speed, or drive the measuring roller.
- 7 Start wheel circumference measurement on the roller.

The CTCII ends the measurement independently. The CTCII automatically calculates the roller adjustment value in X.XX cm/imp format, based on wheel circumference on the road and on the test stand.

The adjustment value is shown on the CTCII display.

- 8 **Confirm the value.**  
The adjustment value is saved (distance of the measuring roller per electric pulse in cm/imp).

**!** Important

You can display the current pulse constant setting at any time via **ADJUSTMENTS > SERVICE > SETTING ROLLER > ROLLER ADJUSTM. > PULSE CONSTANT. ◀**



## Technical data

Power supply	100 ... 240 V AC $\pm$ 10%, 50 Hz, 60 Hz
Overvoltage category	II
Current consumption	max. 1 A
Device fuse	1 A slow triptime
Operating temperature	-10 ... +40 °C
Storage temperature	-20 ... +70 °C
Humidity	80%, non-condensing
Type of protection	IP 54
Contamination level	II
Dimensions	200 x 180 x 95 mm
Weight	1.5 kg
Switching output for lifting bar/ brakes	Alternating contact, supply voltage, contact load 0.6 A, fused via device fuse
Connections	<ul style="list-style-type: none"> <li>• Voltage output for sensor supply = 12 V DC <math>\pm</math> 15%, 1 A short-circuit-proof</li> <li>• Roller sensor 0.20 ... 5.00 cm/imp (NPN or push-pull)</li> <li>• Light barrier for wheel circumference measurement (NPN or push-pull)</li> </ul>
Correction value setting	automatic or $\pm$ 9.9% in increments of 0.1%
Measuring range constant "W"	2,000 ... 50,000 imp/km
Measuring range constant "L"	300 ... 7,200 mm
Test speed for "W" and "L"	1 ... 60 km/h
Measuring track for roller measurement	200 m double roller set 20 m break test stand
Odometer check	100 ... 10,000 m

## Accessories

Accessories/Options	Article number
Reflecting strips (10)	1601-2100-050-001
CTCII roller set compact (floor installation)	A2C59513545
CTCII roller set compact (underfloor installation)	A2C59513546
Double roller set	1601-22-000-01
Pulse adapter for brake test stand	1601-30-015-00
Light barrier for double roller set and brake test stand	A2C59513387
Light barrier for CTCII roller set compact	A2C59514557
Universal pulse generator	X79-160-116-027
Bluetooth Replacement Set:	A2C59512915
<ul style="list-style-type: none"> <li>• Connection cable with an 8-pin plug connection and an interface for the trailing cable, plus a union nut</li> <li>• 20 m of trailing cable</li> </ul>	
CTCII serial connection cable	A2C59512181
CTCII set encoder test	A2C59514028



### Important

When installing the roller sensor on the brake test stand, please note that the distance between the roller sensor and the toothed wheel must be less than 2 mm. ◀

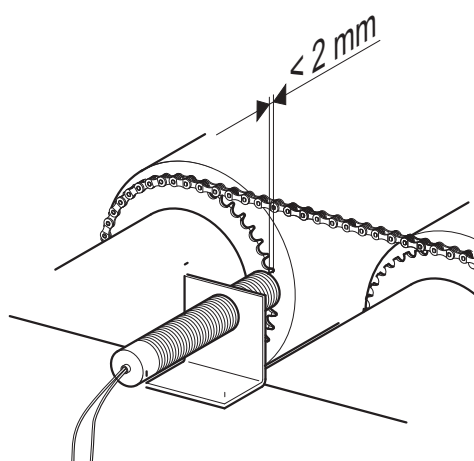


Fig. 10: Distance between roller sensor and toothed wheel



### Important

Perform a function check before starting a measurement on the test stand. The control LED on the light barrier must turn on when the reflector passes the light barrier and the light barrier is switched on. ◀



# Acceptance report

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Roller Interface Module • Edition 05/2011

Company _____	Device No. _____
Town, Street _____	Telephone Number _____

Represented by Mr./ Ms.	
Present at delivery acceptance and explanation of functions	
Company _____	Device No. _____
Town, Street _____	Telephone Number _____

The following system groups were installed
_____
_____
_____

Briefing of the person responsible in all system functions
_____
_____
_____

Delivery of system-related accessories
_____
_____
_____

Remarks, discussions, open issues
_____
_____
_____

The equipment was demonstrated and handed over in functional condition. The operator is familiar with the required safety precautions at the workplace/ rolling road (described overleaf) and hereby affirms that he/ she will implement these and adhere to them.	
Town, Date	
Contract Awarder, Operator	Contractor

**The operator is responsible for adherence to all valid safety regulations and safety precautions.**

This equipment may only be commissioned if the regulations pertaining to the technical equipment and materials in their currently valid versions are adhered to and national safety warnings are put up at the workplace/ rolling road test stand.

1. The following warning notice must be put up in a highly visible location:  
**“Noise Zone, Wear Hearing Protection”.**

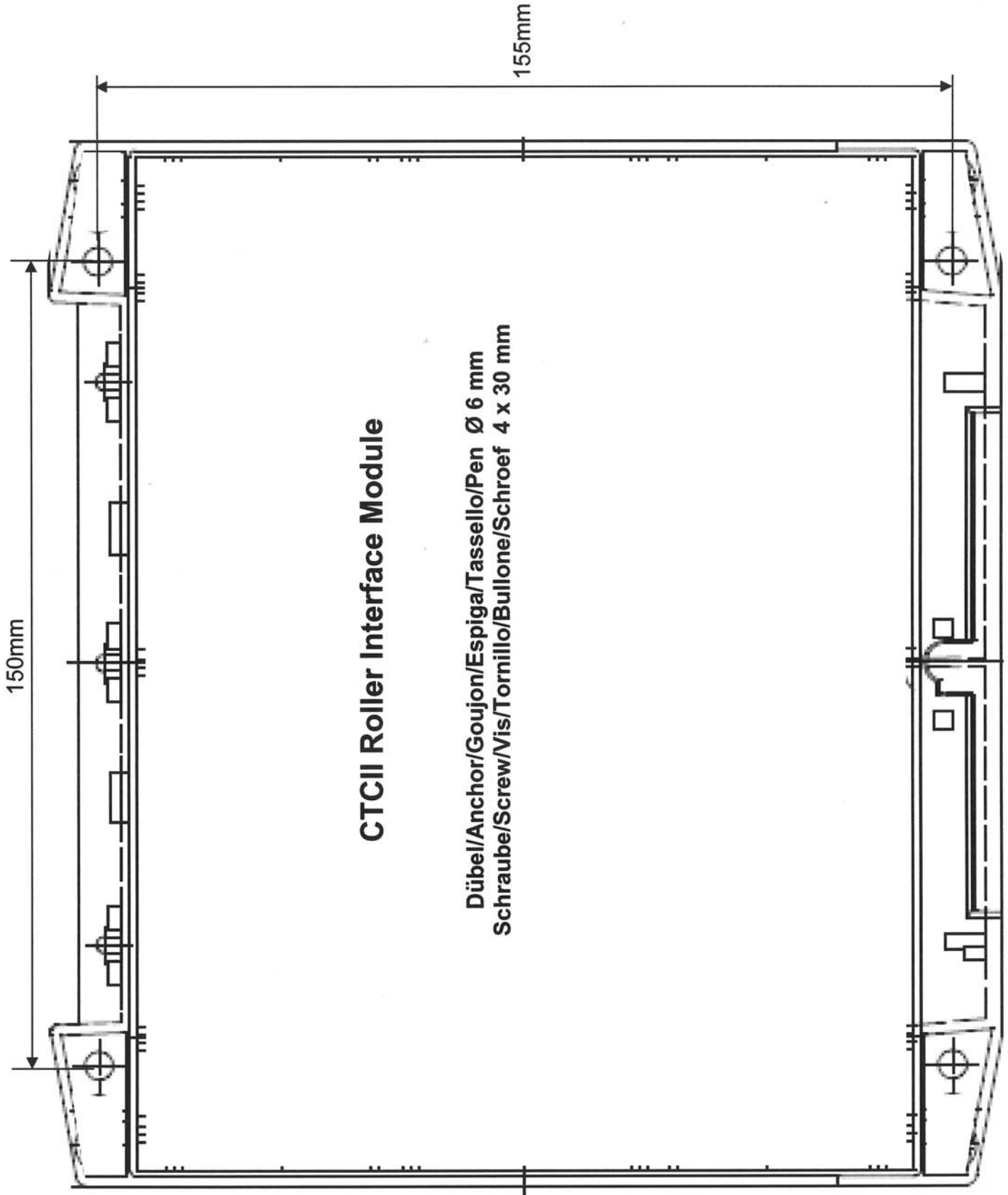
2. The following sign (measuring 200 x 300 mm or 250 x 350 mm) must be put up in a highly visible location:  
**“During measuring, entry to the pit is forbidden”**

Supplier: Fa. Klar  
Neuer Weg 12-16  
D - 42111 Wuppertal

3. The cover plate of the rollers and projecting parts like light barriers, etc. must be visibly flagged with a danger sign (yellow/black paint):

Supplier: Fa. Klar  
Neuer Weg 12-16  
D - 42111 Wuppertal

## Appendix – Drilling jig for wall mounting



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