

Installation Instruction

Autor: Anton Kolar, I CVAM RD TTS SY1

Continental Automotive GmbH
Heinrich-Hertz-Straße 45
D-78052 Villingen-Schwenningen
Postfach1640
D-78006 Villingen-Schwenningen
Tel: +49 7721 / 67 – 3128
Fax: +49 7721 / 67 - 793128
E-Mail: Anton.Kolar@continental-corporation.com

Revision
Release 1.2

Designed by Anton Kolar	Date 29.06.2017	Department I CVAM TTS LRH	Released by	Date	Department
	Designation Installation Instruction				
	Document			Version	Pages 1/ 19
	Continental Automotive GmbH				

Installation Instructions

1 History

Rev.	Date	Status	Author	Remarks
1.0	29.06.2017	Final	Anton Kolar	
1.1	26.07.2017	Final	Dr. Marion Grüner	Update after review from the test lab "Seimic"
1.2	03.08.2017	Final	Dr. Marion Grüner	Update after review from the test lab "Seimic" about the usage of the antennas

Designed by Anton Kolar	Date 29.06.2017	Department I CVAM RD TTS SY1	Released by Dr. M.Grüner	Date	Department ICVAMTTSLRH
	Designation Installation Instruction				
	Document			Version	Pages 2/ 19
Continental Automotive GmbH					

Installation Instructions

1	History	2
2	Delivery content and general note.....	4
3	Connection Overview and DIP Switches.....	6
4	Location of LEDs	7
5	Connection diagram	8
5.1	Main connector	8
5.2	8-pin and 6-pin interface connectors	9
5.3	External GNSS antenna connector	10
5.4	External WLAN antenna connector	10
5.5	External GSM antenna connector	10
5.6	USB 2.0 OTG connector.....	10
6	General Safety Notes.....	11
7	Installation Requirements	13
8	Required FLEX CM Telematics Unit connections.....	14
9	FLEX CM Telematics Unit installation locations	14
10	Installation Position.....	15
11	Installing the FLEX CM Telematics Unit.....	16
12	Setting the termination resistance.....	17
13	GNSS recording.....	18
14	Technical data and requirements.....	19

Designed by Anton Kolar	Date 29.06.2017	Department I CVAM RD TTS SY1	Released by Dr. M.Grüner	Date	Department ICVAMTTSLRH
	Designation Installation Instruction				
	Document			Version	Pages 3/ 19
Continental Automotive GmbH					

2 Delivery content and general note

Delivery Content

FLEX CM Telematics Unit

Connection cable (optional)

GNSS antenna (optional)

Installation Instruction

Note: Please be aware, the installation location of the device has to be in a minimum distance of 20cm of the head of a human.

Note:

FCC compliance statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note:

Non-modification warning statement

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Designed by Anton Kolar	Date 29.06.2017	Department I CVAM RD TTS SY1	Released by Dr. M.Grüner	Date	Department ICVAMTTSLRH
	Designation Installation Instruction				
	Document			Version	Pages 4/ 19
	Continental Automotive GmbH				

Installation Instructions

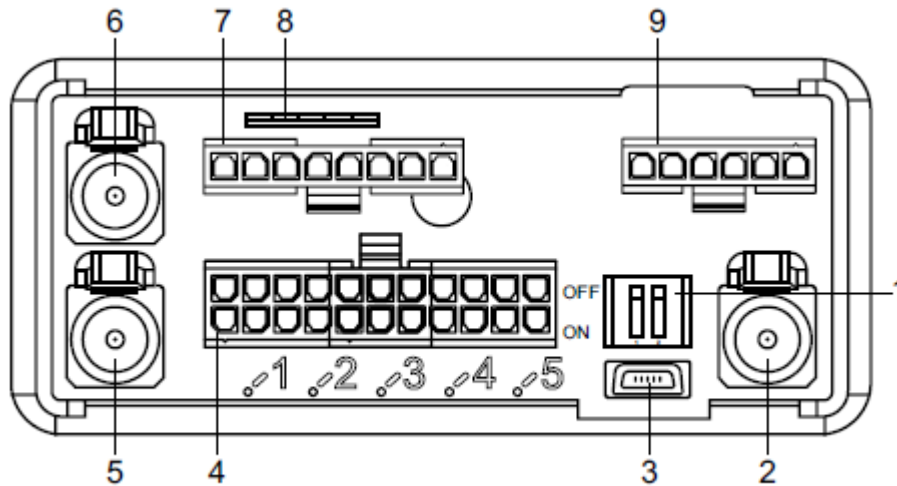
Note:

Usage of antennas

Do NOT substitute any antenna for the one supplied by or recommended by the manufacturer. Substituting an antenna may expose a person or persons to harmful radio frequency radiation. Contact the manufacturer for further instructions.

Designed by Anton Kolar	Date 29.06.2017	Department I CVAM RD TTS SY1	Released by Dr. M.Grüner	Date	Department ICVAMTTSLRH
	Designation Installation Instruction				
	Document			Version	Pages 5/ 19
Continental Automotive GmbH					

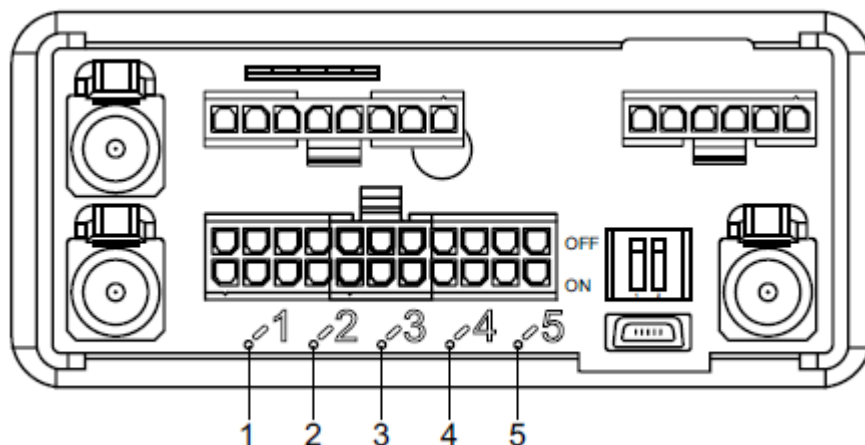
3 Connection Overview and DIP Switches



Item	Designation
1	DIP switches for CAN3 high / low termination setting (OFF / ON)
2	WLAN antenna connector
3	Mini USB connector
4	Main connector (i.e. to connect a DTCO® 1381)
5	GPS antenna connector
6	GSM antenna connector
7	8-pin interface connector
8	Micro SIM card
9	6-pin interface connector

Designed by Anton Kolar	Date 29.06.2017	Department I CVAM RD TTS SY1	Released by Dr. M.Grüner	Date	Department ICVAMTTSLRH
	Designation Installation Instruction				
	Document		Version		Pages 6/ 19
Continental Automotive GmbH					

4 Location of LEDs



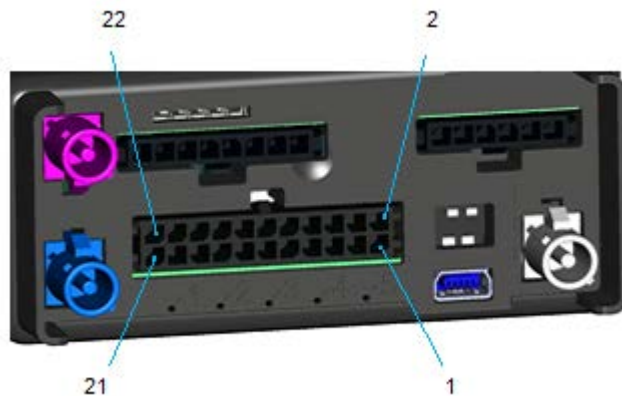
LED	Designation
1	Green; Free programmable LED
2	Red; during boot / Free programmable LED
3	Green; Free programmable LED
4	Green; Free programmable LED
5	Green; Free programmable LED

Designed by Anton Kolar	Date 29.06.2017	Department I CVAM RD TTS SY1	Released by Dr. M.Grüner	Date	Department ICVAMTTSLRH
	Designation Installation Instruction				
	Document			Version	Pages 7/ 19
Continental Automotive GmbH					

Installation Instructions

5 Connection diagram

5.1 Main connector



Item	Designation	Item	Designation
1	Terminal 31	12	CAN 3 high
2	Terminal 30	13	Ground
3	Ground (RS232)	14	D8
4	Terminal 15	15	Ground
5	Ground	16	Digital Input 1
6	Not connected	17	Digital Output High Side
7	Ground	18	Not connected
8	Not connected	19	Ground
9	Ground	20	Not connected
10	CAN 3 low	21	RS232 TX line
11	Ground	22	RS232 RX line

Designed by Anton Kolar	Date 29.06.2017	Department I CVAM RD TTS SY1	Released by Dr. M.Grüner	Date	Department ICVAMTTSLRH
	Designation Installation Instruction				
	Document			Version	Pages 8/ 19
Continental Automotive GmbH					

Installation Instructions

5.2 8-pin and 6-pin interface connectors



Item	Designation	Item	Designation
1	CAN 1 high	1	CAN 2 high
2	CAN 1 low	2	CAN 2 low
3	Ground	3	Ground
4	Digital Input 2	4	Digital Input 5
5	Digital Input 3	5	Digital Input 6
6	Digital Input 4	6	Digital Output Low Side
7	Analog Input 1		
8	Ground		

Designed by Anton Kolar	Date 29.06.2017	Department I CVAM RD TTS SY1	Released by Dr. M.Grüner	Date	Department ICVAMTTSLRH
	Designation Installation Instruction				
	Document			Version	Pages 9/ 19
Continental Automotive GmbH					

Installation Instructions

5.3 External GNSS antenna connector



5.4 External WLAN antenna connector



5.5 External GSM antenna connector



5.6 USB 2.0 OTG connector



Designed by Anton Kolar	Date 29.06.2017	Department I CVAM RD TTS SY1	Released by Dr. M.Grüner	Date	Department ICVAMTTSLRH
	Designation Installation Instruction				
	Document			Version	Pages 10/ 19
Continental Automotive GmbH					

6 General Safety Notes

Warning: Risk of electric shock

All work on the electrical system must only be carried out by a specialist workshop.

Warning: Danger of short circuits

Bear in mind that during all installation work (especially when working on the vehicle's electrical system), the vehicle manufacturer's instructions must be adhered to.

Warning: Before removing the connection terminals from the battery, observe the following points:

- Switch off all electrical consumers.
 - Disconnect the negative battery terminal before the positive battery terminal.
-

Warning: Secure all power cables in accordance with the guidelines.

Warning: Danger of explosion

When loading and unloading hazardous goods onto / from ADR vehicles and in environments that are at risk of explosion, the DTCO® 1381 front interface must be closed, i. e.

- The FLEX CM Telematics Unit power circuit must be switched off via the vehicle's master switch.
 - There must be no plug connections to the DTCO® 1381 and no data being downloaded.
-

Designed by Anton Kolar	Date 29.06.2017	Department I CVAM RD TTS SY1	Released by Dr. M.Grüner	Date	Department ICVAMTTSLRH
	Designation Installation Instruction				
	Document			Version	Pages 11/ 19
Continental Automotive GmbH					

Installation Instructions

Caution: Do not run the cables over sheet metal or plastic parts with sharp edges.

Caution: Do not bend the cables.

Caution: Do not install the FLEX CM Telematics Unit near shelves or moving parts, e.g. airbags and covers.

Note: Installation and setup work may only be carried out by service technicians.

Note: In addition to the above instructions, please also note the Service Information documents on the VDO Extranet at <http://extranet.vdo.com> or ask your service partner.

Note: Please observe the rules and regulations (which apply in your country) for accident prevention and the recognized specialist technical rules for safe and professional working.

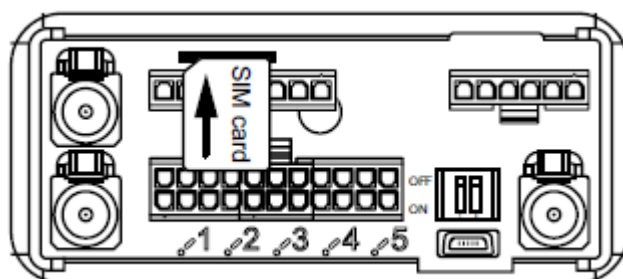
Designed by Anton Kolar	Date 29.06.2017	Department I CVAM RD TTS SY1	Released by Dr. M.Grüner	Date	Department ICVAMTTSLRH
	Designation Installation Instruction				
	Document			Version	Pages 12/ 19
Continental Automotive GmbH					

7 Installation Requirements

Note: Use the overview on page 2 to check that all the items in the FLEX CM Telematics Unit package are present.

The FLEX CM Telematics Unit can only collect data and communicate with other devices if:

- A SIM card is inserted and a contract for GPRS data transfer has been concluded.



- The GPS antenna has already been properly installed in the vehicle and the connection cable has been run to the FLEX CM Telematics Unit's installation location (see the following note).

Note: For detailed information on how to install the GPS antenna, please refer to the enclosed manufacturer's instructions.

Designed by Anton Kolar	Date 29.06.2017	Department I CVAM RD TTS SY1	Released by Dr. M.Grüner	Date	Department ICVAMTTSLRH
	Designation Installation Instruction				
	Document			Version	Pages 13/ 19
Continental Automotive GmbH					

8 Required FLEX CM Telematics Unit connections

- Connection to the power supply
- Connection to the ignition signal and to ground
- Connection to the vehicle via a CAN interface

9 FLEX CM Telematics Unit installation locations

You can choose the installation location. We recommend, however, that you install the device into the dashboard.

Please also note the following warnings and instructions:

Warning: Do not cover any defroster vents on the dashboard with the FLEX CM Telematics Unit and note any other devices (in the background) before fixing the device.

Note: The driver must have a sufficient field of vision under all operating and weather conditions when the device is mounted on the dashboard.

Note: When installing the device observe a safety distance of at least 25 cm between the device and any person travelling in the vehicle.

Note: If the FLEX CM Telematics Unit is to be installed in locations where higher requirements must be met (presence of humidity, vapour, oil, etc.), the device should be installed with the connection strip facing down.

Designed by Anton Kolar	Date 29.06.2017	Department I CVAM RD TTS SY1	Released by Dr. M.Grüner	Date	Department ICVAMTTSLRH
	Designation Installation Instruction				
	Document			Version	Pages 14/ 19
Continental Automotive GmbH					

Installation Instructions

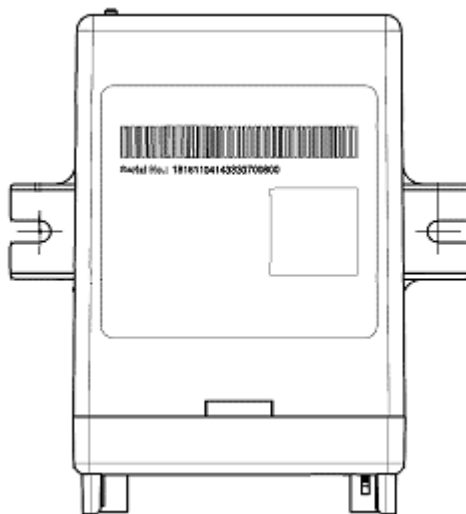
Note: Fix the cables at short intervals (approx. every 500 mm) so that they do not vibrate.

Note: When installing into the dashboard, make sure that the FLEX CM Telematics Unit can be removed quickly, e. g. to carry out a manual firmware upgrade or for installing a different antenna.

Tip: Put the sticker (included in the package) over the DIP switch and USB interface openings in the housing to prevent any foreign matter getting into the device.

10 Installation Position

To fulfill the IP class of the device, the device has to be installed that the opening for connectors/cables are on bottom side.



Designed by Anton Kolar	Date 29.06.2017	Department I CVAM RD TTS SY1	Released by Dr. M.Grüner	Date	Department ICVAMTTSLRH
	Designation Installation Instruction				
	Document			Version	Pages 15/ 19
Continental Automotive GmbH					

11 Installing the FLEX CM Telematics Unit

Requirements

- Installation location determined
- Power supply and CAN interface cables installed
- GPS antenna and connection cable installed

Note: Please observe the notes from page 10 to page 14.

1. Fix the FLEX CM Telematics Unit in the installation location. Screw on the FLEX CM Telematics Unit with two screws.
The device can be fixed by screws M5.
Washer or screw with flange to be used.
Torque: max. Torque 6,5Nm.
2. Connect the power cable and CAN interface cable to the relevant connections in the vehicle.

Please note: the manufacturer's instructions when doing this (see the figures on pages 7 to 9 and 14).

Designed by Anton Kolar	Date 29.06.2017	Department I CVAM RD TTS SY1	Released by Dr. M.Grüner	Date	Department ICVAMTTSLRH
	Designation Installation Instruction				
	Document			Version	Pages 16/ 19
Continental Automotive GmbH					

12 Setting the termination resistance

Delivery condition: The CAN interface termination resistors are disabled (the switches are set to OFF and point in the direction of the top interface connector).
The DIP switches for setting the CAN termination resistance on the FLEX CM Telematics Unit are located above the mini USB connection (see page 4).

Note: The DIP switches only have to be set when connecting the FLEX CM Telematics Unit using the 22-pin main connector (see page 4).

Caution: When using the FLEX CM Telematics Unit together with the CAN interface, the two termination resistors must be enabled, if the resistors terminate the CAN line (the switches set to ON and point in the direction of the mini USB connector).

Note: When using CAN interfaces on the 6-pin or 8-pin plug, termination resistors are not pre-installed.

Designed by Anton Kolar	Date 29.06.2017	Department I CVAM RD TTS SY1	Released by Dr. M.Grüner	Date	Department ICVAMTTSLRH
	Designation Installation Instruction				
	Document			Version	Pages 17/ 19
Continental Automotive GmbH					

13 GNSS recording

If you want the FLEX CM Telematics Unit to record GNSS data, you must connect the external antenna (see page 4).

Note: For detailed information on how to install the GNSS antenna, please refer to the enclosed manufacturer's instructions.

Note: The GNSS antenna has to be mounted at a distance of at least 20 cm distance to any other GNSS antenna (if available).

Designed by Anton Kolar	Date 29.06.2017	Department I CVAM RD TTS SY1	Released by Dr. M.Grüner	Date	Department ICVAMTTSLRH
	Designation Installation Instruction				
	Document			Version	Pages 18/ 19
Continental Automotive GmbH					

14 Technical data and requirements

FLEX CM Telematics Unit	
Dimensions	L 130 x W 116 x H 40 mm
Power supply	9 V - 32 V
Power consumption	Active mode: RMS consumption of 500 mA at 12 V Peak consumption: 2 A at 12 V Sleep mode: up to 50 mA at 12 V (depending on the configuration)
Temperature range	Storage: -40 °C to 85 °C Operating: -40 °C to 70 °C
Backup battery	none
Protection class	IP54 on 5 sides IP42 on 1 side if installed with the connection strip facing down
In-line fuse protection	5 A (into the harness, if in delivery)
USB	Type 1.1 and 2.0

Designed by Anton Kolar	Date 29.06.2017	Department I CVAM RD TTS SY1	Released by Dr. M.Grüner	Date	Department ICVAMTTSLRH
	Designation Installation Instruction				
	Document			Version	Pages 19/ 19
Continental Automotive GmbH					