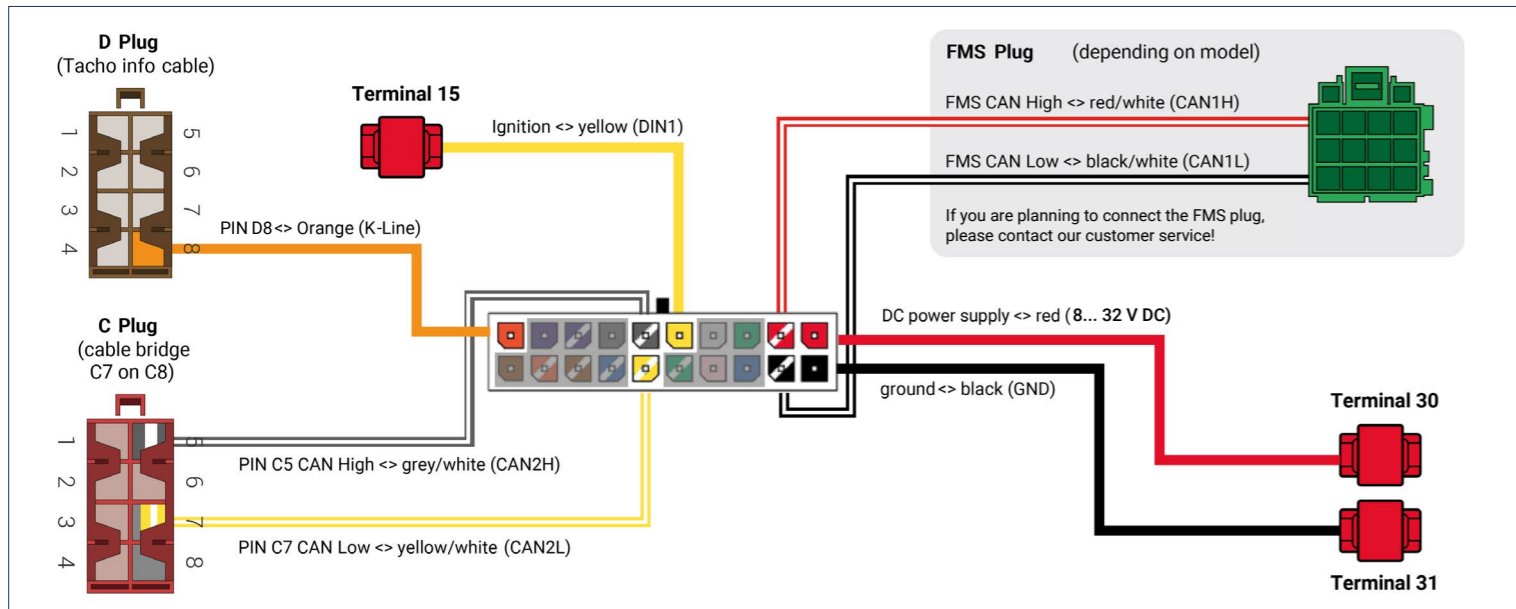
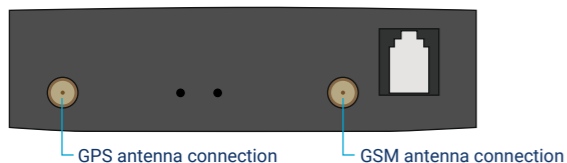


Installation – step-by-step instruction

Please be sure to observe the installation sequence!



1. Connect the 20-pole wiring harness according to the installation scheme shown below.
2. Placement and connection of external antennas (GSM & GPS)



Place the two external antennas in a suitable place in the area behind the tachograph. Fix their position using the adhesive tape that is attached on the antennas. Both antenna threads have to be tightened by hand and additionally secured to prevent vibration (Recommendation: 1 drop of Loctite 243 medium strength).

3. Place the telematics device to a suitable spot in the free space behind the tachograph. Use the two double-sided adhesive pads (included) to fix the device in its final position. Check that the device is not moving anymore, before re-installing the tachograph.

4. Implement the following setup on your tachograph:

for VDO (testing device and workshop card)

- deactivate CAN2 and then reactivate it
- deactivate CAN2 remote download and then reactivate it
- set CAN2 baud rate on 250 kBd

for Stoneridge (workshop card and tachograph)

- OR
- CAN selection on „C“
 - D8 log SER/SRE

5. In case you ordered FMS data transmission (fuel level, fuel consumption, etc.) please contact our customer service.
6. Before you insert the tachograph into the slot, please call the DAKO support. Please make sure the concerning vehicle is **parked outdoors** and the **ignition is switched on**, before your call.

DAKO customer service: **+49 3641 22778 700**



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 Registergericht Jena, HRB 512470
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 Registered in Jena
 WEEE-Reg.-Nr. DE 57318687

Information obligations according to § 18
 section 4 sentence 3 ElektroG:
<https://www.bmuv.de/themen/kreislaufwirtschaft/statistiken/elektro-und-elektronikgeraete>



Installation Guide FMC650 BLE 4G

Before installation, please ask our support about the remote capability of the tachograph using the type (1381) or release number (VDO tacho versions 1.3a or later and Stoneridge device from release 7.3):

+49 3641 22778 700 or ticket@dako.de



If difficulties should occur while connecting the telematic unit to the tachograph, please consult the manufacturer's manual for installing third-party telematics.

Preparation

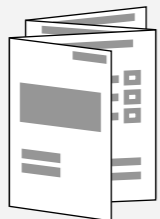
Scope of delivery:

Please note: All parts are required for installation!

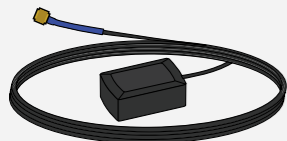
FMC650



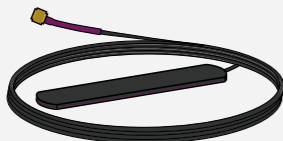
Installation Guide



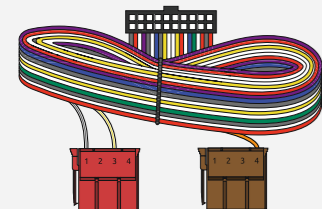
GPS antenna cable



GSM antenna cable



Wire harness (20 pins)



Double sided sticky pads 2x



Required for installation:

- testing device for tachographs
- certified staff member according to (EWG) Nr. 3821/85
- workshop card
- if necessary, a 120 ohm resistor

Tachograph has to be calibrated BEFORE installation (Licence number/Vehicle identification number)

The following information has to be available at the time of the final installation check:

IMEI FMC650: _____

Licence number: _____

Number of tachograph type: _____

Please fill out this form and contact DAKO customer service before re-installing FMC650 and tachograph.

Before contacting us, please make sure the concerning vehicle is parked outdoors.

DAKO customer service: **+49 3641 22778 700**

If you are converting the telematic unit from another vehicle, please contact our customer service before the installation in a new vehicle.

LED signals

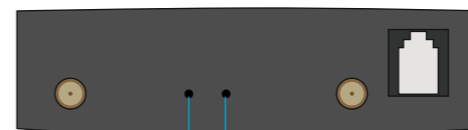
On the rear of the FMC650 you will find the two LEDs that indicate the system and network status. The following tables summarise the meaning of each LED-signal.

Navigation LED

Status	Meaning
OFF	GNSS is switched off: Device does not work or is in sleep mode
Pulses every second	Default state, GNSS operates
Fast pulsing	Device installs new firmware
ON	No GNSS signal

Status LED

Status	Meaning
OFF	Device does not work or is starting to operate
Pulses every second	Default state
Pulses every 2 seconds	Sleep mode
Fast pulsing	Modem activity



Navigation LED | Status LED

Wiring

Standard installation without pre-wiring

The internal resistance is measured with the ignition switched off and the C plug disconnected. On the red plug „C“, only the FMC650 is connected using a cable bridge which connects the internal resistor.

First, it should be determined whether your tachograph comes with an internal resistor. This requires checking the resistance with a multimeter at Pin C5 and Pin C8 without a plug (check figure 5). If the testing device shows 120 ohm, an internal resistor is included which can be connected to Pin C7 and C8 with a bridge cable. If the measured value is in the mega ohm range, no internal resistor has been installed. In this case, a 120 ohm resistor has to be placed between C5 and C7. The cable bridge between C7 and C8 becomes unnecessary.

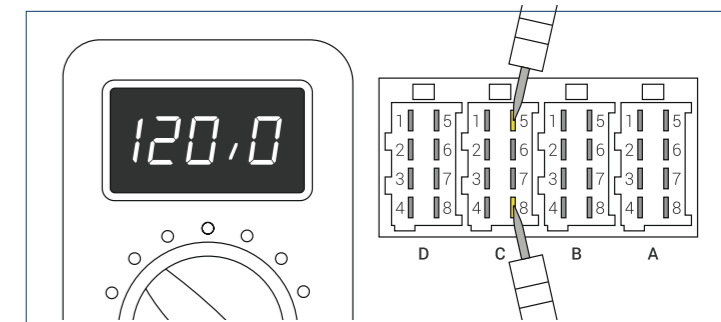


Figure 5: Checking resistance