SCANIA

17:01-03

Issue 1 **en**

Trip Computer

Function description and troubleshooting

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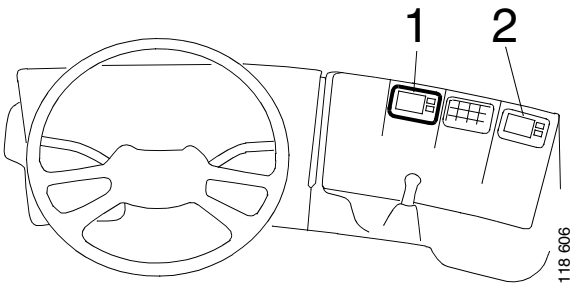
Contents

Function description

Trip Computer

Location



1 Normal location for the trip computer

2 Alternative location for the trip computer

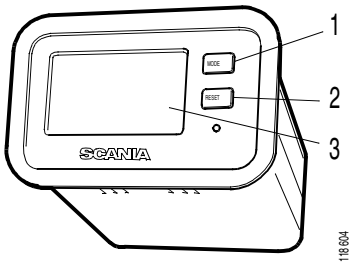
General

The trip computer is connected via an FMS interface to the CAN bus (CAN = Controller Area Network) in the vehicle. FMS stands for Fleet Management System. The designation RTI (RTI = Road Transport Informatics) is sometimes used, which is the same as FMS. The FMS control unit receives all necessary information from the CAN bus and transforms the signals to the J1939 protocol so that the information can be processed by a computer. The transformed signals are then displayed in the trip computer. There is only one-way communication between the FMS control unit and the trip computer. The FMS control unit is also a fire wall to protect the CAN bus from interference.

The trip computer displays information about for instance fuel consumption, average vehicle speed and engine temperature. The trip computer is activated as soon as the ignition (15 supply) is switched on. During start up the CAN bus is tested and the memory unit and computer are initiated. The trip computer is switched off as soon as the ignition (15 supply) is switched off.

About the Trip Computer

The trip computer displays and stores information about the vehicle and how it has been driven. The information is shown in the display on the instrument panel 3. The MODE button 1 is used to jump between menus and the RESET button 2 is used to zero values. The trip computer has three different menus. Each menu presents the information in two windows.



The three menus are:

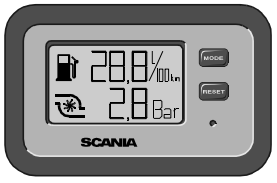
- Instantaneous trip data.
- Accumulated trip data. ("Trip" is shown in the display.)
- Accumulated total trip data. ("Total" is shown in the display.)

The enclosed PIN code has to be used in order to operate some functions. The PIN code is mainly intended for the vehicle owner.

The display

Display Appearance

It is possible to choose between positive or inverted display or standby, see the illustrations on the right. The appearance of the display can be changed. Enter the Instantaneous Trip Data menu.



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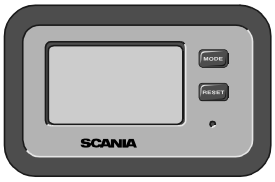

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1 To switch between positive and inverted display:

2 Press the RESET button.

3 To switch from positive or inverted display to standby: Hold the RESET button depressed for more than 2 seconds.

4 To switch from standby to positive or inverted display: Press the RESET or MODE button.

Display brightness is controlled by the instrument illumination switch.

Cleaning

Use a soft cloth and mild soap solution to clean the surface of the display.

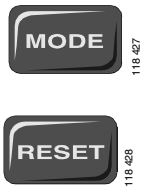
Storing Trip Data

Trip data is retained in the memory even if the vehicle battery is disconnected.

Button Functions

The buttons have the following main functions:

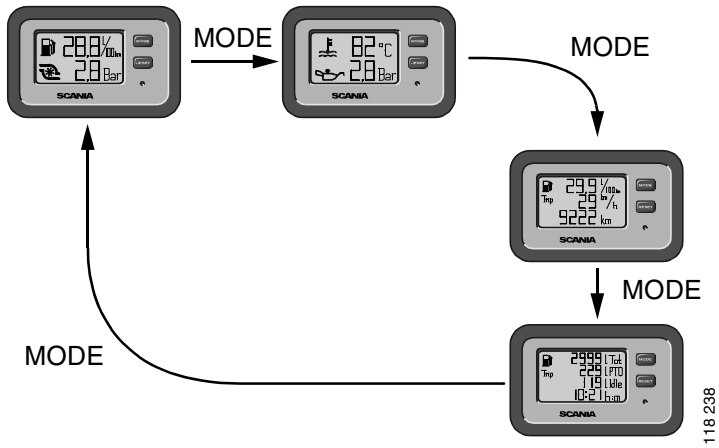
- The MODE button is used for switching between menus and between windows within a menu. The MODE button is also used to select functions.
- The RESET button is used to zero trip data, confirm and execute selected functions.



Menus and Windows

Each menu consists of two different windows. Use the MODE button to scroll between menus and windows.

Instantaneous or accumulated trip data is displayed during driving, see illustration on the right. Accumulated total trip data is also displayed when the vehicle is stationary or doing a maximum of 8 km/h, see illustration on the following page.



Trip computer menus

Instantaneous trip data

Instantaneous trip data displays the current information about the vehicle and the driving at this very moment.

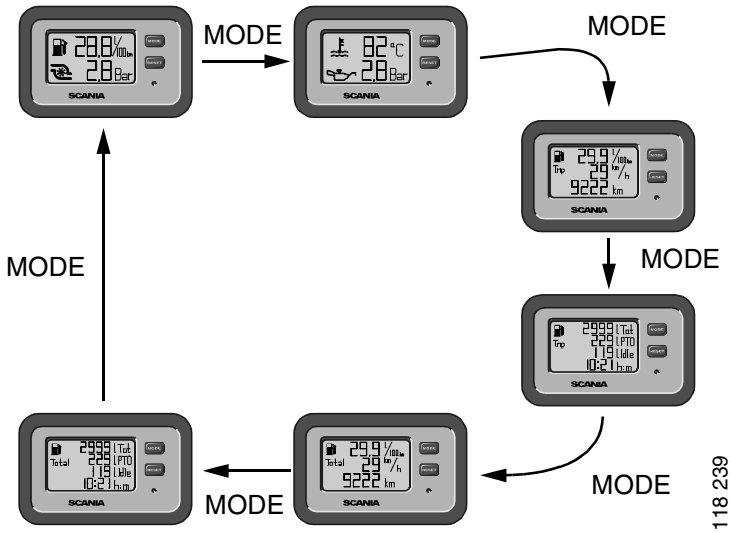
Instantaneous trip data is displayed in two windows: Fuel or Engine.

Accumulated trip data

Accumulated trip data displays information about the vehicle and the driving during for example a journey or working shift.

Accumulated trip data is displayed in two windows: Distance or Total fuel consumption.

In the windows, the word 'Trip' is shown in the upper left-hand corner.



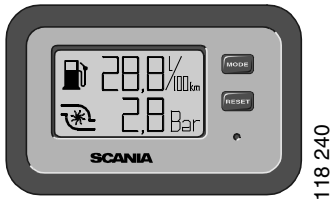
Deleting accumulated trip data.

1 Select the Accumulated trip data menu (Trip).

2 Keep the RESET button depressed for 2 seconds.

Included in the Fuel window:

- Fuel consumption
- Total charge air pressure (i.e. including ambient air pressure)



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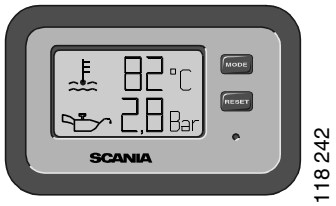
The Engine window contains:

- Engine coolant temperature
- Oil pressure (certain engine types)



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The Distance window contains:

- Average fuel consumption
- Average speed
- Total distance driven

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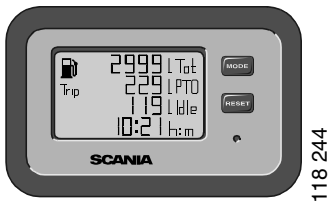
The Total Fuel Consumed window contains:

- Total fuel consumed (= Total fuel consumption during power take-off operation, idling and driving)
- Fuel consumed when stationary with PTO engaged
- Fuel consumed when idling
- Engine running time



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Accumulated total trip data

Accumulated total trip data displays total information about the vehicle and driving. This menu is only accessible when stationary.

Displaying trip data

Accumulated total trip data includes the same parameters as accumulated trip data. See the section on accumulated trip data.

The windows are indicated by 'Total' in the upper left-hand corner.

Erasing trip data

Note: The PIN code is needed to delete accumulated total trip data.

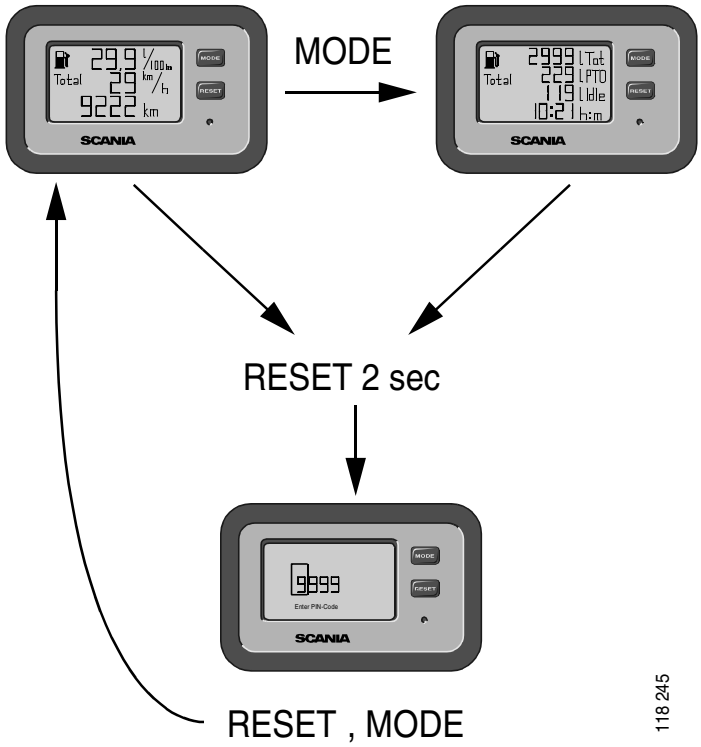
1 Select the Accumulated total trip data menu.

2 Hold the RESET button depressed for 2 seconds.

3 The first digit will flash. Enter the PIN code as follows: Press the RESET button until you obtain the desired number. To move to the next digit position, press the MODE button. Continue until you have entered the entire PIN code. Press the MODE button after you have entered the final digit.

4 Trip data in the display will be reset if you have entered the correct PIN code. You are now returned to the Fuel window in the Instantaneous Trip Data menu.

If you have entered an incorrect PIN code, you will be returned to the Distance window in the Accumulated Total Trip Data menu, but the information will be retained in the memory.



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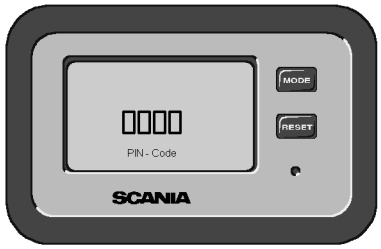
PIN Code

General



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The PIN code is used so that unauthorised persons are not able to delete stored trip data or change set/calibrated values. PIN stands for Personal Identification Number.

The PIN Code consists of 4 digits. The default PIN Code is 0000 on delivery. If you wish to protect your trip data, choose a personal PIN code.

The following functions require the PIN code:

- Erasing accumulated total trip data.
- Changing the PIN code.
- Changing the unit of measurement.
- Changing the calibration factor for fuel consumption and distance driven.

Problems with the PIN Code

The default PIN Code is 0000 on delivery.

Should you enter an incorrect PIN code three times in a row, the PUK code window appears. The PIN code must then be replaced by a PUK code.

PUK code

The PUK code is used to reset the PIN code. PUK stands for Personal Unblocking Key. The reason for resetting the PIN code may be that the code has been forgotten or that incorrect codes have been entered three times. There are three different PUK codes than can be used for resetting the PIN code to 0000.

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Note: The PUK codes are only intended for use in authorised Scania workshops and must not be divulged.

The following PUK codes exist:

- 358632
- 468511
- 492123

Setting menus

Note: The following menus require the PIN code.

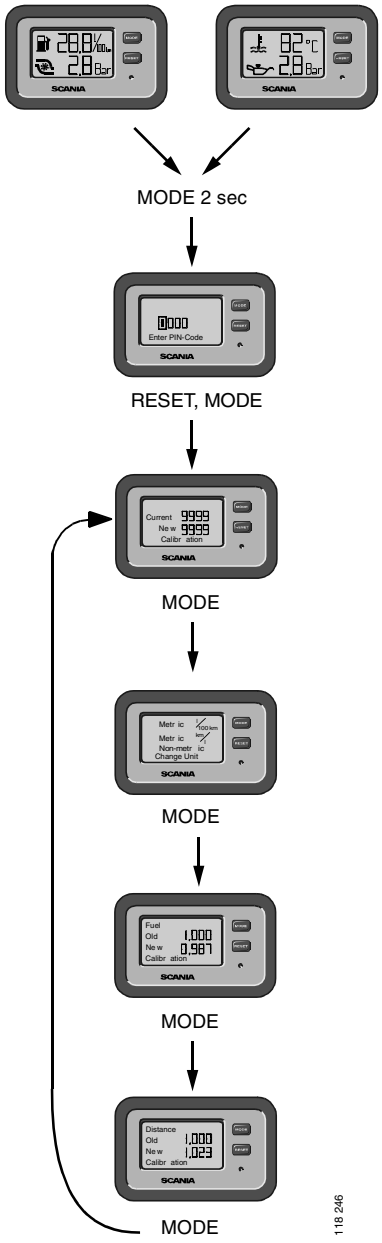
Change a setting:

1 Enter the Instantaneous trip data menu.

2 Hold the MODE button depressed for 2 seconds.

3 The first digit will flash. Enter the PIN code as follows: Press the RESET button to get the required digit. To move to the next digit position, press the MODE button. Continue until you have entered the entire PIN code. Press the MODE button after you have entered the final digit. If you have entered an incorrect PIN code, you will be returned to the Instantaneous Trip Data menu.

4 Switch to the desired function using the MODE button. See the relevant heading describing the function.



When changing PIN code or calibration factors

When the final digit furthest to the right is changed, the whole row of characters will flash. Then do either of the following:

1 To confirm the code or value, press the MODE button.

2 To restart, press the RESET button.

Exiting a setting menu

Note: Applies to all setting menus.

To exit a setting menu or return to the Instantaneous trip data menu, hold the MODE button depressed for 2 seconds.

Changing PIN Code.

1 Select the Changing PIN Code menu.

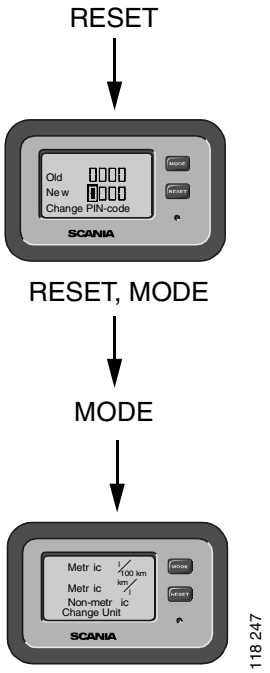
2 Press the RESET button: The first digit of the PIN code will begin to flash.

3 Enter a new PIN code, pressing the RESET button until you obtain the desired digit. To move to the next digit position, press the MODE button. Continue until you have entered the entire PIN code. After the final digit has been entered, press the MODE button. The PIN code will flash.

4 Press the MODE button to confirm the PIN code. If instead you wish to restart from step 3: Press the RESET button.

5 The PIN code has now been changed.

6 The Change Unit of Measurement settings menu will be displayed.



Note: To exit a setting menu or return to the Instantaneous trip data menu, hold the MODE button depressed for 2 seconds.

Changing unit of measurement

Metric or non-metric units can be selected.

1 Enter the Change Unit of Measurement menu.

2 Press the RESET button. The current unit of measurement will flash.

3 Press the RESET button to change the unit of measurement.

4 Press the MODE button to confirm the selected unit.

5 You will be taken to the Change Calibration Factor for Fuel Consumption settings menu.

Note: To exit a setting menu or return to the Instantaneous trip data menu, hold the MODE button depressed for 2 seconds.

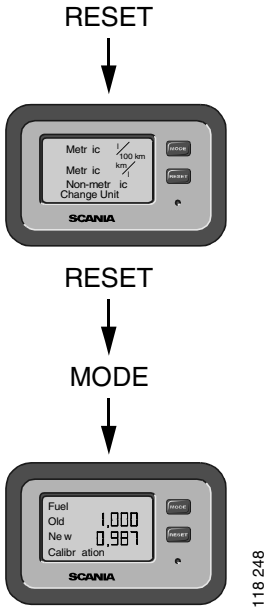


Table of metric and non-metric units of measurement

	Metric units		Non-metric units
Fuel consumption	litres/100 km	km/litre	imperial mpg
Engine coolant temperature	°C	°C	°F
Charge pressure	bar	bar	PSI
Fuel consumption	litres	litres	imperial mpg
Average speed	km/h	km/h	mph
Distance driven	km	km	miles

Calibrating Trip Computer

General

Calibration factors for fuel consumption and distance are calculated so that the trip computer data will correspond to the vehicle characteristics.

The calibration factor contains four digits, for example 0.951.

Calculating the calibration factor

1 Fill the fuel tank completely.

2 Reset the Accumulated trip data menu (Trip menu) in the Trip computer and the trip meter in the instrument cluster.

3 Drive a distance so that at least half a tank of fuel is consumed.

4 Fill the fuel tank again and read off values 1-5 as required for the calibration record.

5 Calculate the calibration factors for distance driven and fuel consumption according to the formulae given in the calibration record.

Calibration Record

Quantity of fuel filled (Total l)						[1]
Distance driven according to instrument cluster (km)						[2]
Quantity of fuel consumed in accumulated trip data 'Trip menu' (Total l)						[3]
Data from trip computer:						
Distance driven in accumulated trip data 'Trip menu' (km)						[4]
Current calibration factor for fuel consumption						[5]
Current calibration factor for distance driven						[6]
Calculate a new calibration factor for fuel consumption according to the following:						
[1]	x	[5]	/	[3]	=	[7]
Calculate a new calibration factor for distance driven according to the following:						
[2]	x	[6]	/	[4]	=	[8]
Example:						
Calculate a new calibration factor for fuel consumption according to the following:						
210 l. [1]	x	1.065 [5]	/	206 l. [3]	=	1.086 [7]
Enter the new calibration factor for fuel consumption, 1.086, into the trip computer.						
Calculate a new calibration factor for distance driven according to the following:						
700 km [2]	x	1.023 [6]	/	690 km [4]	=	1.038 [8]
Enter the new calibration factor for distance driven, 1.038, into the trip computer.						

Changing the calibration factor

1 Enter the Change Calibration Factor for Fuel Consumption menu.

2 Press the RESET button: The first digit of the calibration factor will begin to flash.

3 Enter a new calibration factor, pressing the RESET button until you obtain the desired digit. To move to the next digit position, press the MODE button. Continue doing this until the whole calibration factor has been entered. After the final digit has been entered, press the MODE button. The calibration factor will begin to flash.

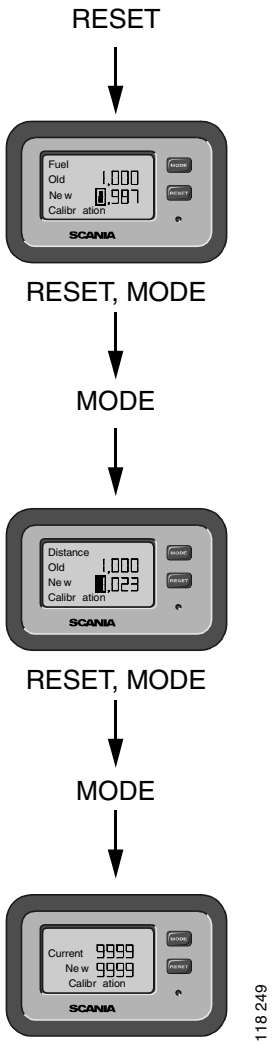
4 Press the MODE button to confirm the calibration factor. (If instead you wish to restart from step 3: Press the RESET button.)

5 The calibration factor has now been changed.

6 The window containing the calibration factor for distance is displayed. Enter the new calibration factor for distance driven in the same way as for fuel consumption. Follow steps 3-5.

7 The Change PIN Code settings menu will be displayed.

Note: To exit a setting menu or return to the Instantaneous trip data menu, hold the MODE button depressed for 2 seconds.



Troubleshooting

If the trip computer does not function, work through the list below containing possible faults and how they can be remedied. See also wiring diagram 16:24-47.

If the trip computer does not start

Is the instrument lighting on?

Adjust the light intensity using the control on the dashboard.

Is the display on standby?

Press the MODE or RESET button.

Have the fuses blown?

Check fuse numbers 40 and 45 in the central electric unit.

List of fault codes

The following fault codes may appear on the trip computer display. IRTI stands for Interface Road Transport Informatics.

Fault code IRTI 01

Fault

Parameters for calculation are missing.

Cause

The FMS control unit is missing information from the CAN bus.

Action

Check the wiring between C56 and the FMS control unit.

Fault code IRTI 02

Fault

No messages from the CAN bus.

Cause

The FMS control unit does not receive any messages from the CAN bus.

Action

Check the wiring between C56 and the FMS control unit.

Fault code IRTI 03

Fault

Internal fault in the FMS control unit.

Cause

Faulty FMS control unit.

Action

Renew the FMS control unit.

Fault code CAN Error

Fault

The trip computer is missing information from the CAN bus.

Cause

At least one parameter for calculation has been omitted for more than 30 seconds.

Action

Check the wiring between the trip computer and the FMS control unit.