

Tyre pressure control (RDC)

- Introduction

The RDC system monitors the tyre pressures both when the vehicle is being driven and when it is stationary. An electronic module fitted inside each tyre measures the tyre pressure and temperature at regular intervals and transmits the information by radio to a central control unit.

- Modifications to the system on the E65

Apart from the interface with the controller, the design of the system is the same as on previous models.

The controller replaces the Set button for initializing the system.

When the vehicle is not in use, the tyre pressure is only monitored for the first 12 hours after the ignition is switched off.

The control unit

The control unit has been made smaller and slimmer. It is fitted behind the glove box on the equipment subframe. It has the same type of connector as before. It is not backwardly compatible with earlier models. The control unit is connected to the K-CAN SYSTEM.



System overview

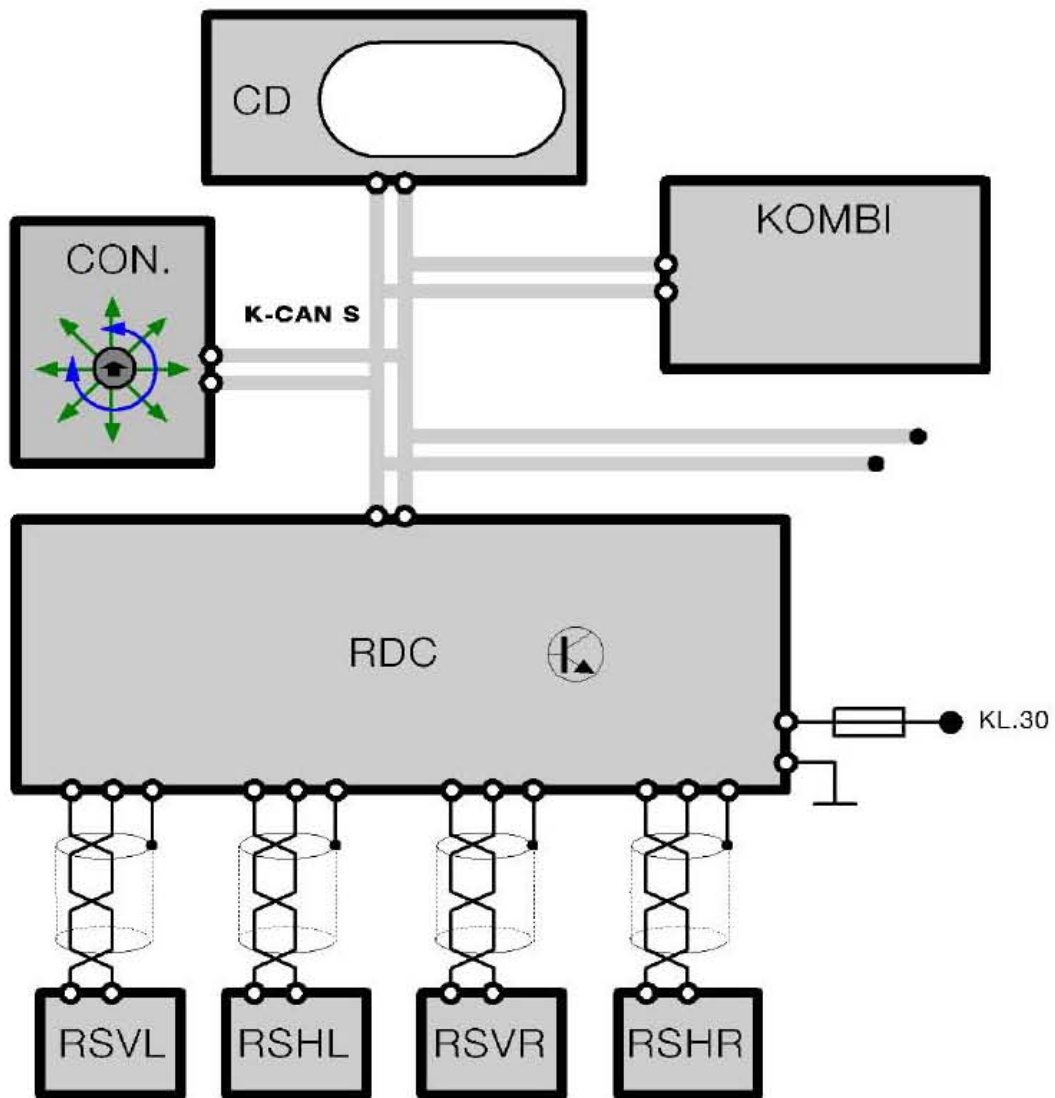


Fig. 101: System overview of RDC

| Index | Description | Index | Description |
|---------|-----------------|-------|---------------------------|
| CD | Control Display | RSVR | Wheel sensor, front right |
| CON | Controller | RSVL | Wheel sensor, front left |
| K-CAN S | K-CAN SYSTEM | RSHR | Wheel sensor, rear right |
| RDC | Control unit | RSHL | Wheel sensor, rear left |
| KL.30 | Terminal 30 | KOMBİ | Instrument cluster |

- Operation

Initialization

After a tyre pressure check, the RDC system has to be re-initialized. On the E65, this is done by means of the controller. The RDC then learns the wheel positions. On successful completion of the learning process, the pressures for each wheel are shown on the Control Display.

Minor differences (0.1-0.2 bar) between the pressures detected and those indicated by the service station's calibrated tester are possible.



Fig. 102: Initialization display

After wheels have been changed, complete initialization can take up to 30 minutes. Only actual driving time at over 6 km/h is taken into account. The time required also depends on how many other radio transmitters using the same frequency are capable of obscuring the wheel module signals.

During initialization, the CC message "RDC initialization in progress" is displayed on the instrument cluster.

When the RDC menu on the Control Display is activated, the wheels appear black and the pressures are not shown.

Tyre pressure monitoring

If the tyre pressure being monitored falls below the required level by 0.2 bar for more than 8 minutes, a CC message appears on the instrument cluster after the car is started (change of electrical system status) prompting the driver to check the tyre pressure.

When the RDC menu in the Control Display is activated, the car is shown with yellow tyres.

Tyre failure warning

If the tyre pressure being monitored falls below the specified level by 0.4 bar, the CC message "Tyre failure" appears in the instrument cluster accompanied by an audible warning tone. In addition, another message appears on the Control Display advising the driver to reduce speed and refer to the owner's handbook.

When the RDC menu in the Control Display is activated, the car is shown with the defective tyre coloured red. In the case of non-specific tyre failure, all wheels are shown in red.

LAUNCH
LAUNCH

- Diagnosis

Self-diagnosis

As part of its self-diagnosis capabilities, the software detects various abnormal operating statuses and stores the details in a non-volatile memory. Corresponding error messages are sent to the driver information system.

The faults can be subdivided into the following categories:

1. HF transmission faults:

- External interference:

Signal overlay

Temporary radio interference

- Internal faults:

Temporary shutdown of wheel electronics due to excessive temperature

Fault in signal transmission path (wheel electronics, aerial, aerial lead)

2. Control unit faults

