

Fault code 4440

Steering-angle sensor

Diagnostic conditions

- Steering angle sensor actual value is evaluated and displays an implausible value

Possible cause of fault

- ◆ Short circuit to ground/B+ or open circuit
- ◆ Steering angle sensor calibration incorrect
- ◆ Wiring/ plug connection faulty
- ◆ Steering angle sensor faulty

Affected terminals

PSM 5.7 terminals 21, 39

PSM 5.3 terminals 2, 61, 63

Diagnosis/troubleshooting PSM 5.7



Note!

Calibration of the steering angle sensor must be performed on a measuring platform. The steering angle sensor must be calibrated after work has been carried out on the running gear in the area of the front axle. The security code is required for calibration of the steering angle sensor. The security code is contained under menu item "Actual values". Calibration is described in⇒ Rep. Gr. 4560; Calibrating steering angle sensor.

Work instruction			Display OK	If not OK
1	Check calibration of the steering angle sensor	♦ Calibrate steering angle sensor	Calibration was incorrect → End	⇒ Step 2
2	Check power supply of the steering angle sensor	♦ Switch off ignition ♦ Pull off steering angle sensor plug ♦ Switch on ignition ♦ Measure voltage between pin 3 of steering angle sensor plug and ground	> 11 V ⇒ Step 3	Open circuit between PSM control module connector pin 39 and pin 3 of the steering angle sensor plug, or PSM control module faulty → End
3	Check ground of the steering angle sensor	♦ Measure voltage between pin 3 of the steering angle sensor plug and pin 4 of the steering angle sensor plug	> 11 V ⇒ Step 4	Open circuit between PSM control module connector pin 21 and pin 4 of the steering angle sensor plug, or PSM control module faulty → End
4	Check CAN-high lead from PSM control module to steering angle sensor for open circuit	♦ Switch off ignition ♦ Pull off the PSM control module plug ♦ Measure resistance between pin 2 of steering angle sensor plug and PSM control module plug pin 24	< 5Ω ⇒ Step 5	Open circuit between pin 2 of steering angle sensor plug and PSM control module plug pin 24 → End
5	Check CAN-low lead from PSM control module to steering angle sensor for open circuit	♦ Measure resistance between pin 1 of steering angle sensor plug and PSM control module connector pin 40	< 5Ω ⇒ Step 6	Open circuit between pin 1 of steering angle sensor plug and PSM control module plug pin 40 → End
6	Steering angle sensor faulty		→ End	

Diagnosis/troubleshooting PSM 5.3



Note!

Calibration of the steering angle sensor must be performed on a measuring platform. The steering-angle sensor must be calibrated after work has been carried out on the running gear in the area of the front axle. The security code is required for calibration of the

steering angle sensor. The security code is contained under menu item "Actual values". Calibration is described in⇒ Rep. Gr. 4560; Calibrating steering angle sensor.

Work instruction			Display OK	If not OK
1	Check calibration of the steering angle sensor	<ul style="list-style-type: none"> ◆ Calibrate steering angle sensor 	Calibration was incorrect → End	⇒ Step 2
2	Check power supply of the steering angle sensor	<ul style="list-style-type: none"> ◆ Switch off ignition ◆ Pull off steering angle sensor plug ◆ Switch on ignition ◆ Measure voltage between pin 3 of steering angle sensor plug and ground 	> 11 V ⇒ Step 3	Open circuit between PSM control module connector pin 2 and pin 3 of the steering angle sensor plug, or PSM control module faulty → End
3	Check ground of the steering angle sensor	<ul style="list-style-type: none"> ◆ Measure voltage between pin 3 of the steering angle sensor plug and pin 4 of the steering angle sensor plug 	> 11 V ⇒ Step 4	Open circuit between the plug of steering angle sensor pin 4 and ground point 2 → End
4	Check CAN-high lead from PSM control module to steering angle sensor for open circuit	<ul style="list-style-type: none"> ◆ Switch off ignition ◆ Pull off the PSM control module plug ◆ Measure resistance between pin 2 of steering angle sensor plug and PSM control module plug pin 61 	< 5Ω ⇒ Step 5	Open circuit between pin 2 of steering angle sensor plug and PSM control module plug pin 61 → End
5	Check CAN-low lead from PSM control module to steering angle sensor for open circuit	<ul style="list-style-type: none"> ◆ Measure resistance between pin 1 of steering angle sensor plug and PSM control module connector pin 63 	< 5Ω ⇒ Step 6	Open circuit between pin 1 of steering angle sensor plug and PSM control module plug pin 63 → End
6	Steering angle sensor faulty		→ End	

