

"21" - Speed sensor fault

Error code	Cause	Result
21	Speed sensor fault.	The display shows the error code 21 and the motor cannot work.

Component Description

The speed sensor is used to measure the speed of pedelec.

Component Location

The speed sensor is installed on the frame at the left side of back wheel spoke

Conditions for Running the Diagnostics

After the system is turned on, the diagnosis runs continuously.

Error Phenomenon

The display shows the error code 21 and the motor cannot work.

Conditions for Clearing the Error Code

After the diagnosis runs and passes, the system works normally.

Troubleshooting

Step 1 Restart the system.

Specification	Solution
System returns to normal.	Go to step 8.
System doesn't return to normal after restarted.	Check the magnet and speed sensor.

Step 2 Check the clearance between the magnet and speed sensor.

Specification	Solution
The clearance is between 10 and 20mm.	Go to step 3.
The clearance isn't between 10 and 20mm.	Adjust the magnet, make the clearance between 10 and 20mm and the magnet is aligned with the speed sensor. Then go to step 8.

Step 3 Check the speed sensor connector.

Check the connector and cable of speed sensor for the following conditions:

- Loose connector
- Corroded pins
- Bent or broken pins
- Dirt or debris in or on the connector pins
- Wire insulation damage
- Connector shell broken

Specification	Solution
Correctly connected	Go to step 4.
A damaged connection has been detected in the harness connector.	Clean the connector and pins. Repair the damaged harness, connector, or pins, if possible. Then go to step 8.

Step 4 Connect the pedelec to BESST, check the speed sensor signal.

Specification	Solution
The signal is normal.	Go to step 5.
Can't receive the signal from speed sensor.	Go to step 6.

Step 5 Use BESST to update the controller.

Specification	Solution
The system returns to normal.	Go to step 8.
The system doesn't return to normal after update.	Go to step 6.

Step 6 Replace the speed sensor.

Specification	Solution
The system returns to normal.	Go to step 8.
The system doesn't return to normal.	Go to step 7.

Step 7 Replace the motor.

Step 8 Clear the error code

Conditions: Connect all components, Turn on the system.

Specification	Solution
Error code 21 is inactive.	Repair complete.
Error code 21 is active.	Return to the step 1 or contact BAFANG if all steps have been completed and checked again.