

TSB23 Sensor User Manual

1 General Description

1.1 Purpose

It is a Valve Stem Device that works on air pressure. This manual is to make sure the reliability of communication between receiver and sensor, and tightness between sensor and wheel hub.

2 Basic Requirements



2.1.1 Suitable pore size for tire valve

The valve is suitable for wheel hub with tire valve pore size of $\Phi 11.5 \pm 0.2\text{mm}$.

2.1.2 Valve nut dimension

Valve nut O.D. is $\Phi 14\text{mm}$, length is 19mm.

2.2 Housing

Housing of the sensor must be sealed to meet water proof and dust proof requirement, with protection degree IP54. The housing material should make the parts meet vibration, shock and drop requirement, and tests for vibration, shock and drop should comply with test requirements of ISO16750-3 2007 《Road Vehicles — Environmental conditions and testing for electrical and electronic equipment》.

Housing material: PA6+GF30 (black)

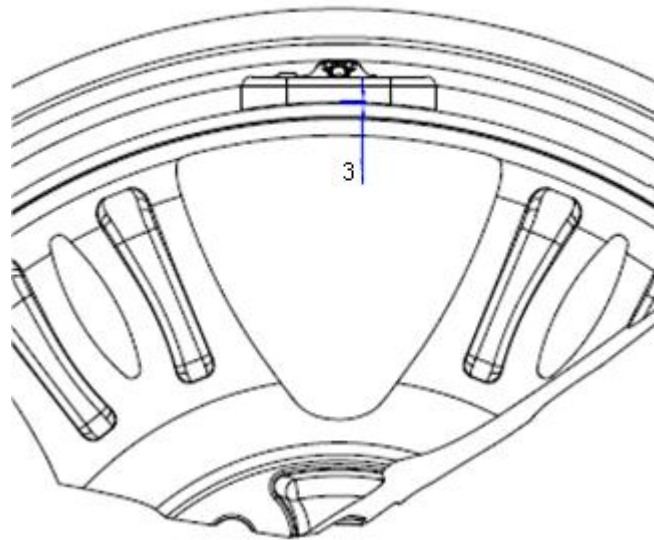
2.3 Dimension requirement

TSB23 dimension is as below:

Item	Size	Remark
Length	76mm	Including tire valve
Width	63mm	
Height	26mm	

2.4 Installation requirement

4N.m(± 0.5 N)torque force should be employed to screw tire valve nut when install TSB23 sensor to make sure the installation reliability. After installation, there should be 0-3mm space between sensor camber side and wheel hub camber side, as below:

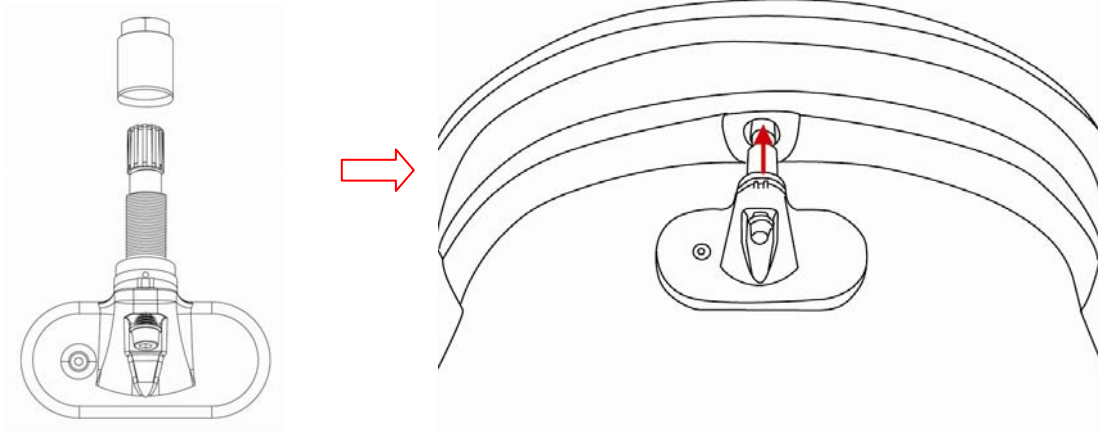


Installation environment requirement:

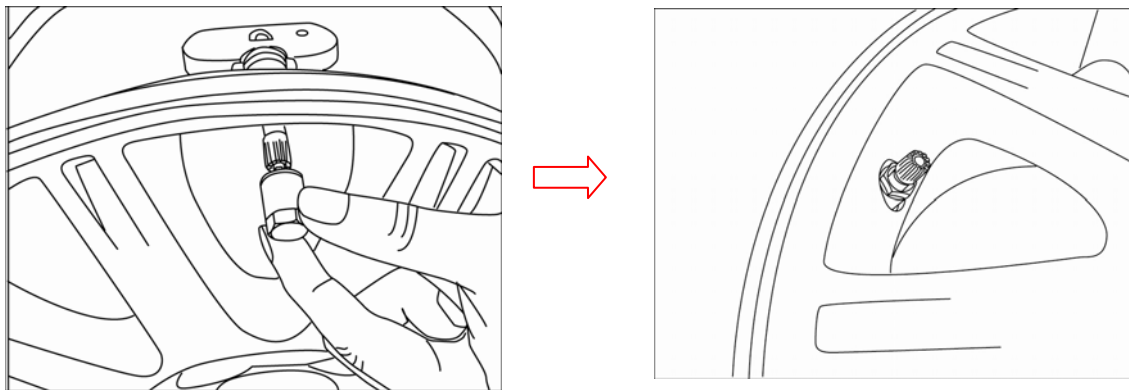
- 1 Sensor dropped from height above 1m can't be applied on vehicle any more;
- 2 There shouldn't be static electricity above 6KV in sensor installation site;

Installation steps:

- ① Screw the sensor valve nut off, and get the valve through wheel hub valve pore.



- ② Screw the sensor nut by hand, and employ 12mm sleeve to tighten it (torque force 4N.M) .



- ③ Mount the rubber tubes;
 ④ Inflate the tires to standard pressure, and check whether there is leakage between the valve and lock nut with soap water;
 ⑤ Screw the valve cap on to finish sensor installation;
 ⑥ Check the tire' s dynamic balance after sensor installation, and then install the other three sensors one by one, and mount the tire.

Note: After sensor installation, the tires need to be re-balanced.



Note: During installation, the sensor need to be clean, not polluted by lubricant oil, etc;

During tire mounting and dismounting, the sensor shouldn't be touched;

During tire inflation and deflation, no force should be employed to the sensor;

2.5 Temperature requirement

Operation temperature and storage temperature range of TSB23 sensor are as below:

Parameter	Temperature range		Unit
	Minimum	Maximum	
Operation temperature	-40	125	°C
Storage temperature	-40	85	°C

2.6 Sealing requirement

Sealing test of TSB23 sensor after installation complies with standards of GBT12836.2 (Tubeless valves--Part 2: Clamp-in valves) -7.2.2.

FCC WARNING

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE 1: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.