

TQG2B | Speed Sensor



Product Overview

- * Magnetolectric principle, passive sensor
- * Non-contact speed test, mechanical parts, no internal electronic elements, high reliability
- * Restricted by principle, inaccurate speed test under low speed

Environmental parameters

Service conditions	
Altitude	≤2500m
Operating temperature	-40°C~+85°C
Relative humidity	0~100% (MIL-STD-202 Method 106)
Impact and shock	meet the installation requirements of class 3 axle in GB/T 21563-2008
Protection grade	IP66

Performance parameter

Electrical Parameters	
Working frequency	50Hz ~3000Hz
Working air gap	0.3mm~1.5mm, standard air gap 0.9mm
Number of output channels	Single channel
Output waveform	Approximate sine wave
Direct current resistance	When the temperature is 20°C, direct current resistance is $3.2 \times (1 \pm 10\%) \text{ k}\Omega$
Load resistance	≥1kΩ
Output signal amplitude	signal voltage peak value V_{p-p} : $V_{p-p} \geq 0.1V$
Insulation resistance	A 500V megger is used for testing. Insulation resistances between all cable core and shielded wire and between all leading wire (including shielded wire) and shell should be no less than 50MΩ
Insulating strength	AC500V, 50Hz can be taken among all cable core and shielded wire, between all leading wires (including shielded wire) and shell for 60s without breakdown or flashover

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Performance parameter

Mechanical Parameters	
speed measuring gear	Modulus: 2; pressure angle: 20°; number of teeth: 68; carbon structural steel; standard involute tooth
External dimension	Referring to figure 1, line length can be customized according to customer requirements
Connector	JL5-4TJ

Outline Drawing

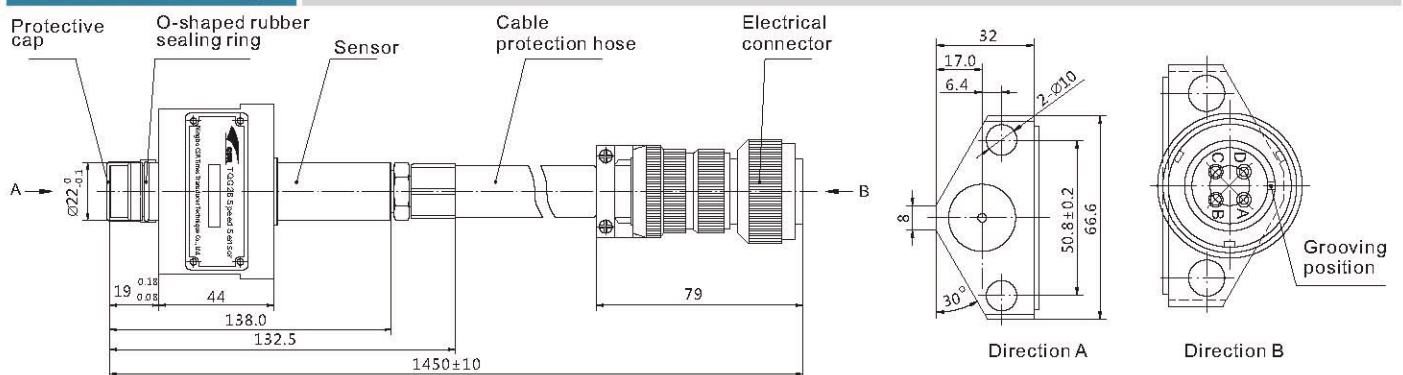


Fig.1 Outline Drawing

Mechanical Interface

The sensor is tightened through two mounting screws (M8 or appropriate specification), as shown in the figure.

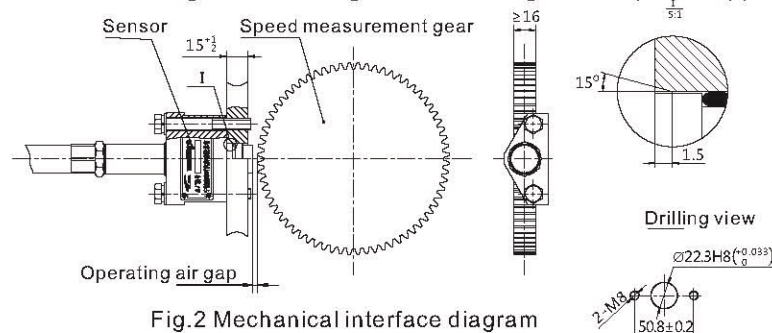


Fig.2 Mechanical interface diagram

Electrical wiring diagrams

JL5 electrical connector: JL5-4TJ

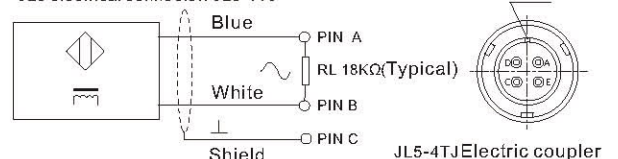


Fig.3 Electrical wiring diagram

Mounting Requirements

- * Cable laying requirements: sensor conductors and subsequent connecting lines should keep away from large-scale electrical equipment and power lines, and are forbidden to be wound with power lines or transmit in the same pipeline;
- * Wire according to the definition of the electrical interface strictly, make sure of right wiring without short circuit and break circuit;
- * Grounding way of shielded wire: recommended to be grounded on the control system through one end.

Standards

- * GB 4208-2008 Enclosure protection class (IP code)
- * TB/T 1394-93 Electronic Devices of Rolling Stock Equipment Electronic equipments used on rail vehicles
- * TB/T 1333.1-2002 Railway applications -- Electric equipment for rolling stock -- Part 1: General service conditions and general rules
- * TB/T 1333.2-2002 Railway applications -- Electric equipment for rolling stock -- Part 2: Electrotechnical components -- General rules
- * TB/T 2761-1996 Basic technical conditions for electric couplers for locomotives

Main Application Fields and Achievements

Rail transit traction system

Main application achievements: Iran STG locomotive