Semic Trade, s.r.o., Volutová 2521/18, 158 00 Praha 5
Telephone: +420 251 625 331, 251 625 332, 251 625 377
GSM: +420 605 999 994 Fax:+420 251 626 252, 251 626 393
www.semic.cz
semic@semic.cz

TAG43E Speed Sensor

Product Overview

* Magnetoelectric 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℃~+95℃
Relative humidity	≤100%
Impact and shock	meet the installation requirements of class 3 axle in GB/T 21563-2008
Protection grade	IP68
Salt spray resistance	meet the requirements of 96h in GB/T 2423.17-2008

Performance parameter

Electrical Parameters	
Working frequency	37Hz ~3109Hz
Working air gap	0.5mm~1.1mm, standard air gap 0.8mm
Number of output channels	Three channels
Output waveform	Approximate sine wave
Direct current resistance	When the temperature is 20℃, the resistance is 60×（1±10%）Ω for channel 1, 33×（1±10%）Ω for channel 2, and 27×（1±10%）Ω for channel 3
Load resistance	1kΩ
Output signal amplitude	When frequency is 37Hz, signal voltage root mean square Vr.m.s: 1.0V ≤ Vr.m.s ≤ 6.5V When frequency is 53Hz, signal voltage root mean square Vr.m.s: 1.4V ≤ Vr.m.s ≤ 9.3V When frequency is 160Hz, signal voltage root mean square Vr.m.s: 1.9V ≤ Vr.m.s ≤ 28.0V When frequency is 1000Hz, signal voltage root mean square Vr.m.s: 6.0V ≤ Vr.m.s ≤ 28.0V When frequency is 3109Hz, signal voltage root mean square Vr.m.s: 6.0V ≤ Vr.m.s ≤ 28.0V
Phase difference	90°±30° (the phase difference of channel 1 is bigger than that of channel 2, the definition of clockwise direction refers to figure 1)

中国中车 CRRC

Semic Trade, s.r.o., Volutová 2521/18, 158 00 Praha 5
Telephone: +420 251 625 331, 251 625 332, 251 625 377
GSM: +420 605 999 994 Fax:+420 251 626 252, 251 626 393
www.semic.cz
semic@semic.cz

TAG43E Speed Sensor

Performance parameter

Electrical Parameters	
Insulation resistance	A 500V megger is used for testing. Insulation resistances between all signal channels, between cable core and shielded wire and between all leading wire (including shielded wire) and shell should be no less than 50MΩ
Insulating strength	AC2000V/50Hz/1s
Electromagnetic compatibility	GB/T 17626

Mechanical Parameters	
Weight	3.5kg±0.5kg
Speed measuring gear	Modulus:2.5; number of teeth: 72; width of gear: 32mm, carbon structural steel; standard involute tooth
External dimension	Referring to figure 1, line length can be customized according to customer
Connector	GTC6L-20-M1SC-74B1-(20)L, Can be also customized according to customer requirements

Outline Drawing

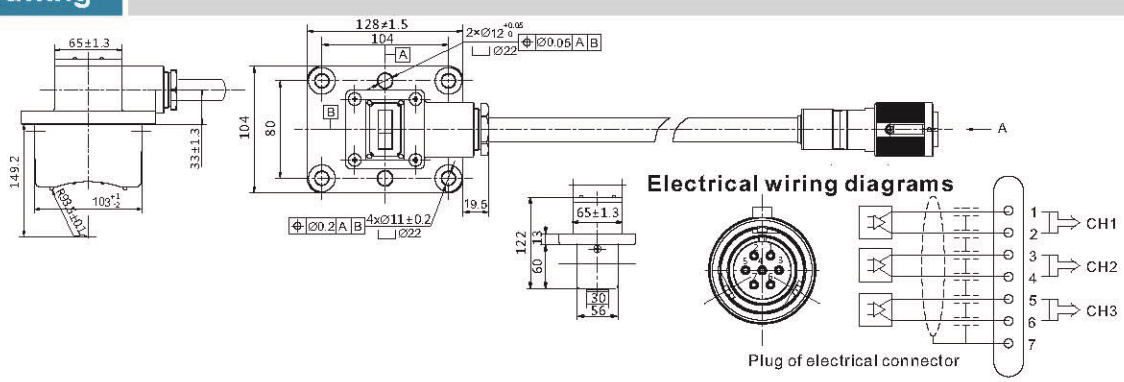

Fig.1 Outline Drawing

Fig. 2 Electrical wiring diagrams

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 winded 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.

Standards

GB/T 2423.1-2008	Environmental Testing for Electric and Electronic Products - Part 2: Test Methods - Test A: Low Temperature (IEC 60068-2-1:2007，IDT)
GB/T 2423.2-2008	Environmental Testing for Electric and Electronic Products - Part 2: Test Methods - Test A: High Temperature (IEC 60068-2-2:2007 , IDT)
GB/T 2423.4-2008	Environmental Testing for Electric and Electronic Products - Part 2: Test Methods - Test Db: Alternating Temperature and Humidity (12h+12h cycle) (IEC 60068-2-30:2005 , IDT)
GB/T 2423.17-2008	Environmental Testing for Electric and Electronic Products - Part 2: Test Methods - Test Ka: Salt mist (IEC 60068-2-11:1981 , IDT)
GB 4208-2008	Degrees of protection provided by enclosure(IP code) (IEC 60529:2001 , IDT)
GB/T 17626.4-2008	Electromagnetic compatibility - Testing and measurement techniques - Electrical fast transient / burst immunity test (IEC 61000-4-4:2004 , IDT)
GB/T 17626.5-2008	Electromagnetic compatibility - Testing and measurement techniques - Surge immunity test (IEC 61000-4-5:2005 , IDT)
GB/T 17626.6-2008	Electromagnetic compatibility-Testing and measurement techniques-Immunity to conducted disturbances induced by radio-frequency fields (IEC 61000-4-6:2006 , IDT)
TB/T 2760.3-2010	Revolution meter for locomotive. Part 3:Magnetoelectricity speed sensor

Main Application Fields

ATPsystem