



Product Overview

- * Single-channel speed sensor based on Hall principle
- * Non-contact measurement of speed of nonferromugnetic gear is simple and reliable, and is free from maintenance
- * Screw installation
- * Stainless steel shell, and they are applicable to hash application environments.
- * Simple flange installation
- * Can be customized according to customer requirements





Environmental parameters

Service conditions		
Altitude	≤2500m	
Operating temperature	-40°C~+125°C	
Relative humidity	≤95%(the average minimum temperature of this month is 25°C)	
Impact and shock	meet the installation requirements of class 3 axle in GB/T 21563-2008	
Protection grade	IP68(head), IP67(connector)	

Performance parameter

Electrical Parameters		
Powervoltage	DC10V~DC30V, nominal voltage DC15V	
Working frequency	0Hz~10kHz	
Working air gap	0.1mm~1.5mm, standard air gap 0.8mm	
Number of output channels	Single channel	
Output waveform	Square wave, rise time and fall time are both no more than 10µs	
Load resistance	≥1kΩ	
High level	≥0.8Vcc (Vcc is power voltage)	
Low level	≤1.0V	
Duty ratio	50%±20%	
No-load power consumption current	≤35mA	
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 $50M\Omega$	

Electrical Parameters		
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	
EMC	Accord with GB/T 24338.4-2009	
Protection function	Power polarity protection and output short circuit protection	

Mechanical Parameters		
Modulus of speed measuring gear	2 (other modulus can be customized according to customer requirements)	
Effective gear width	≥10mm(radial movement shall be considered, and it is suggested to be no less than 12mm)	
Form of speed measuring gear tooth	Involute teeth (meet the requirements of GB/T 1356 or DIN 867)	
Material of speed measuring gear	Low carbon magnetized steel	
Material of sensor shell	Stainless steel	
External dimension	Referring to figure 1, line length can be customized according to customer requirements	





Performance parameter

	Electric Connector Parameters	
Auxiliary connector	HMS3106BKY18-12SN or YGC-JY-Q18S6P	

Cable and c	orrugated tube Parameters
Cable	3-core integral shielded cable
Outside diameter of cable	5.4mm
Cross section of cable core	0.5mm²
Minimum bending radius of cable	≤6D
Outside diameter of corrugated tube	13mm
Static/dynamic bending radius of corrugated tube	20mm/50mm

Fire-proof Performance	
Fire-proof performance of non-metallic materials	Meet the requirements of standard DIN 5510-2: 2009

Outline Drawing

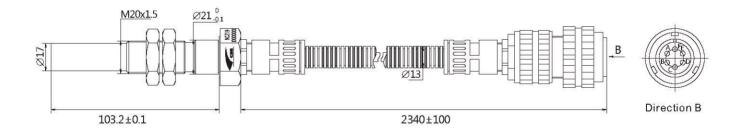


Fig.1 Outline Drawing





Electrical Interface

Table 1 Definition of Electrical Interface

Number	Output Functions	Core Definition
1	Power supply +	Contact pin A
2	Power ground (0V)	Contact pin B
3	Signal channel	Jack socket C
4	Shield	Jack socket D
5	Empty pin	Jack socket E
6	Empty pin	Jack socket F

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:
- * Grounding way of shielded wire: recommended to be grounded on the control system through one end.

Standards	
* GB/T 2423.1-2008	Environmental testing for electric and electronic productsPart 2: Testing methods Test A: Low temperature (IEC 60068-2-1: 2007 , IDT)
* GB/T 2423.2-2008	Environmental testing for electric and electronic productsPart 2: Testing methods Test B: High
	temperature (IEC 60068-2-2: 2007, IDT)
* GB/T 2423.4-2008	Environmental testing for electric and electronic productsPart 2: Testing methods Test Db:
	Alternating temperature and humidity (IEC 60068-2-30: 2005, IDT)
* GB 4208-2008	Enclosure protection class (IP code) (IEC 60529:2001 , IDT)
* GB/T 24338.4-2009	Rail transitelectromagnetic compatibility Part 3-2: Equipment for rolling stock (IEC 62236-3-2:
	2003, MOD)
* GB/T 25119-2010	Rail transit electronic devices for rolling stock
* TB/T 2760.2-2010	Locomotive speed sensor Part 2: Hall effect speed sensor
* DIN 5510-2:2009	Preventive fire protect in railway vehicle parts 2: Fire behavior and fireside effects of material

Main Application Fields and Achievements

Diesel engine control system

Main application achievements: 4400kW diesel locomotive

