



V1.6

CANBUS IMU DYNAMIC ATTITUDE SENSOR

**RION TL720D-CAN2.0A/B**

**Technical Manual**

## **TL720D- CAN2.0A/B IMU DYNAMIC ATTITUDE SENSOR**

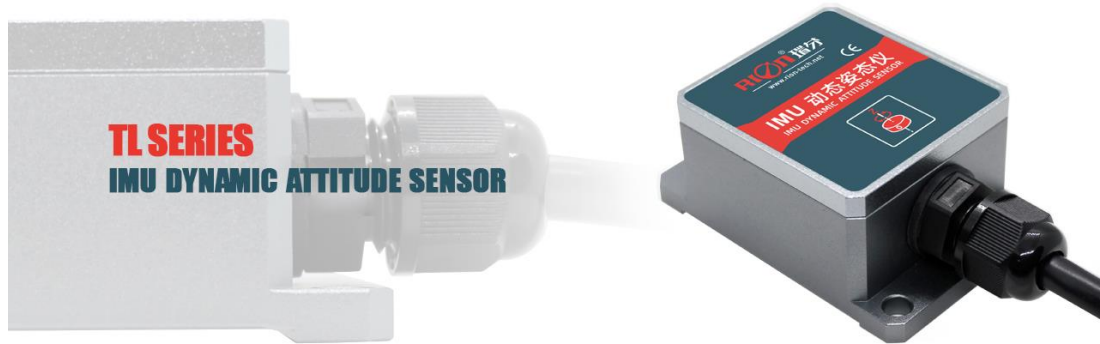


### **RION QUALIFICATION CERTIFICATION**

- Quality management system certification: GB/T19001-2016 idt ISO19001:2015 standard (certificate No.: 128101)
- High-tech Enterprise (Certificate No.: GR201844204379)
- CE certification: registration number AT18250EC100757
- China National Intellectual Property Appearance Patent (patent No.: ZL 201830752874.1)
- Revision date: 2022-5-25

Note: Product functions, parameters, appearance, etc. will be adjusted as technology upgrades. Please contact our sales to confirm when purchasing.

## TL720D- CAN2.0A/B IMU DYNAMIC ATTITUDE SENSOR



### ► GENERAL DESCRIPTION

TL720D is a high-precision gyroscope developed by RION Technology based on the latest MEMS inertial measurement platform. It outputs the horizontal azimuth angle of the object in real time by performing dynamic attitude algorithm on the angular rate of the gyroscope; angular rate; forward axis body acceleration. The product integrates RION' s patented inertial navigation algorithm. Through the multi-model data fusion of the attitude angle, the short-term drift of the gyroscope can be solved to the greatest extent.

This product is specially used for automated agricultural machinery, precise operation and efficiency, and is an essential component of a new generation of automated precision agricultural control.

### ► KEY FEATURES

- ★ Azimuth angle output
- ★ Long life, strong stability
- ★ Compact & light design
- ★ Strong vibration resistance
- ★ Cost-effective
- ★ CAN2.0A/CAN2.0B output optional
- ★ Light weight
- ★ All solid state
- ★ DC9~36V power supply

### ► APPLICATION

- ★ AGV
- ★ Automated agricultural machinery
- ★ Combination Harvesters
- ★ Precision agriculture
- ★ Plowing machine



## TL720D- CAN2.0A/B IMU DYNAMIC ATTITUDE SENSOR

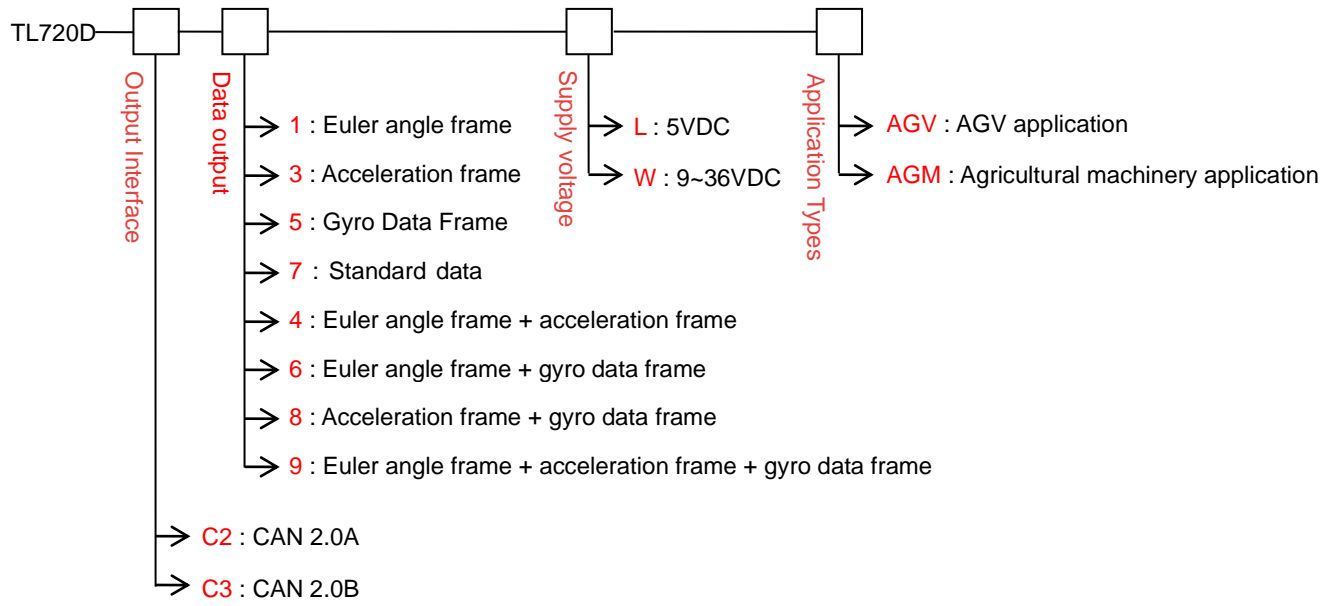
### ► PERFORMANCE

TL720D-C2/C3		PARAMETERS
Heading measure axis		Z axis heading angle (±180) °
Bandwidth		>100Hz
Resolution		0.01°
Heading accuracy		<0.1°/m
Position accuracy		<2mm/m (According to the angle conversion)
Nonlinear		0.1% of FS
Pitch measurement range		±90°
Pitch measurement accuracy		0.25° (1σ)
Roll measurement range		±180°
Roll measurement accuracy		0.25° (1σ)
Accelerometer	Accelerometer range	±4g
	Acceleration resolution	0.001g
	Acceleration accuracy	5mg
	Bias instability (allan)	0.05mg
	Speed random walk coefficient (allan)	0.015m/s/sqrt(h)
	Bias stability (10s average)	0.15mg
Gyro	Max Gyro Range	±250°/s
	Bias instability (allan)	5.0°/h
	Angle random walk coefficient (allan)	0.30°/sqrt(h)
	Bias stability(10s average value)	10°/h
Startup time		200mS
Input voltage		9~36VDC / 5VDC(optional )
Working current		30mA(12V)
Working temp		-40°C ~ +80°C
Storage temp		-40°C ~ +85°C
Vibration		5g~10g
Impact		200g pk, 2ms, ½sine
Working life		10 years
Output rate		1Hz~100Hz can set
Output signal		CAN2.0A / CAN2.0B(optional )
MTBF		≥50000Hours/times
Insulation resistance		≥100 MΩ
Shockproof		100g@11ms、 3 Axial Direction (Half Sinusoid)
Anti-vibration		10grms、 10 ~ 1000Hz
Protection grade		IP67
Weight		≤135g (including 1 meter standard cable)

**Note:** AGV application startup time is 5S at rest.

# TL720D- CAN2.0A/B IMU DYNAMIC ATTITUDE SENSOR

## ► ORDERING

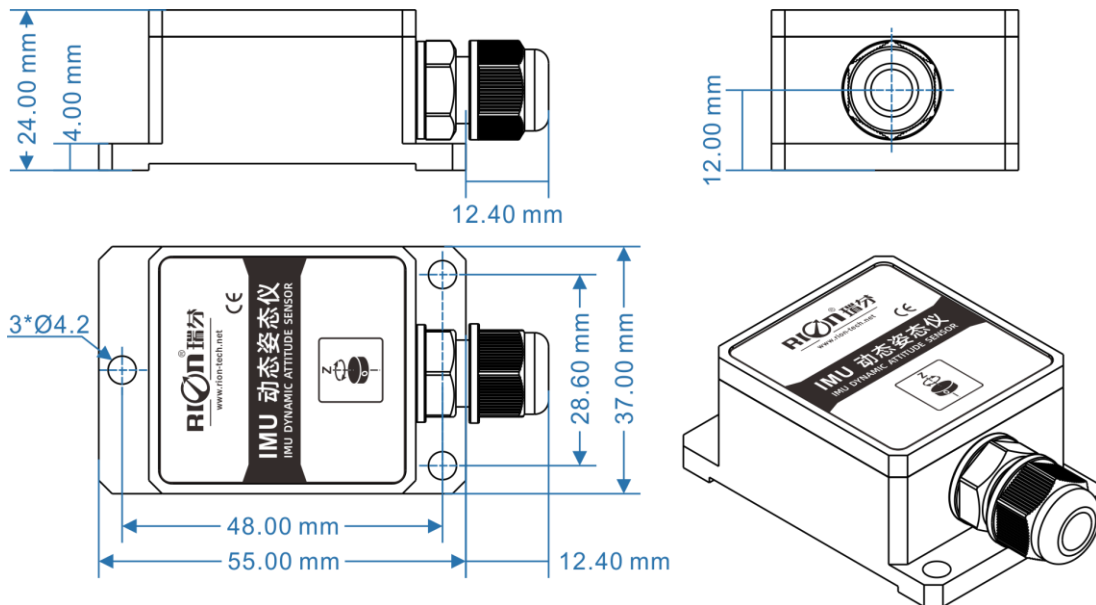


E.g :TL720D-C2-1 : CAN2.0A Output Interface/Standard format 1 output.

## ► ELECTRICAL CONNECTION

COLOR	BLACK	WHITE	GREEN	RED
FUNCTION	GND Power negative	CAN_L	CAN_H	DC9~36V / DC5V Optional power supply positive

## ► SIZE



Shell size: L67.4xW37xH24mm

Installation size: L48xW28.6xH4mm

ounting screws: 3 M4 screws



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