

Patent No. ... ZL202130363425.X

V1.8

IMU GYRO - FARM MACHINERY VERSION

RION TL725D

Technical manual

TL725D IMU GYRO FOR FARM MACHINERY



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 No. AT18250EC001296
- Revision date: 2022-5-9

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

TL725D IMU GYRO FOR FARM MACHINERY



► PRODUCT DESCRIPTION

TL725D is a gyroscope IMU specialized in navigation for agricultural vehicle automatic driving. With built-in industrial-grade three-axis gyroscope and three-axis accelerometer, TL725D can still output smooth attitude data under the high vibration working condition. Developed based on the MEMS inertial measurement platform and dynamic attitude algorithm of the angular rate of the gyroscope, it outputs dynamic inclination angle, horizontal azimuth angle, three-axis angular rate, three-axis acceleration and forward axial body acceleration data in real time. It also can feedback counting output in real time by the Z-axis single-axis integral output, allowing the vehicle's front wheels turned accurately. The TL725D is specially applied for automatic agricultural machinery aiming to precise and efficient operation. It is an indispensable component of a new generation agricultural machinery.

► FEATURE

- ★ Horizontal azimuth and attitude angle output
- ★ Long life and strong stability
- ★ Compact and lightweight design
- ★ DC9~36V power supply
- ★ Real-time angular rate output
- ★ Forward axis acceleration
- ★ All solid state
- ★ Light weight

► APPLICATION

- ★ Automated agricultural machinery
- ★ Precision agriculture
- ★ Combination Harvesters
- ★ Farming machine



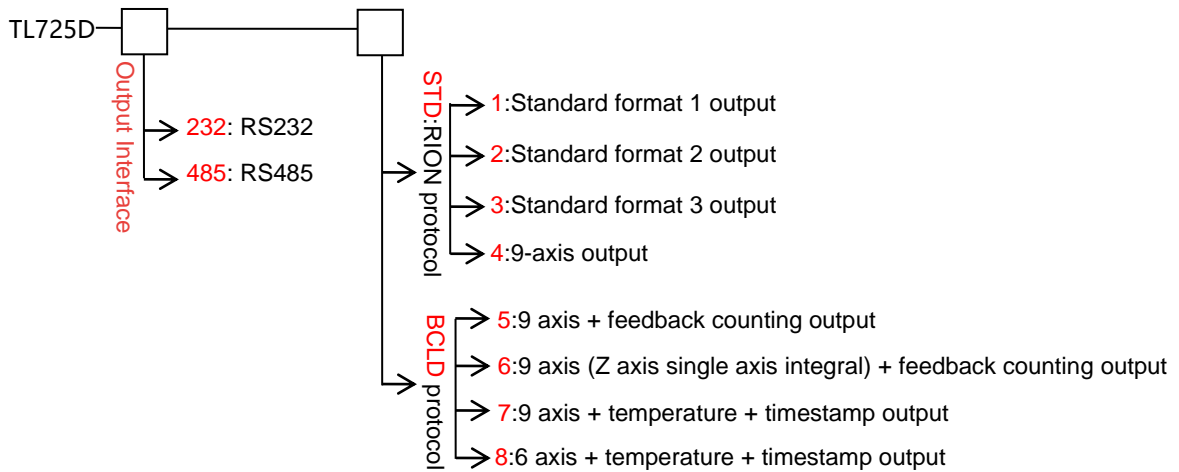
TL725D IMU GYRO FOR FARM MACHINERY

► PERFORMANCE

TL725D		PARAMETERS
Three-axis attitude		Azimuth $\pm 180^\circ$, Roll angle $\pm 180^\circ$, Pitch angle $\pm 90^\circ$
Bandwidth		>100Hz
Resolution		0.01°
Nonlinear		0.1% of FS
Three-axis gyro	Gyro Range	250°/s
	Bias instability mg (allan)	4.5°/h
	Angle random walk coefficient m/s/sqrt(h) (allan)	0.25°/sqrt(h)
	Bias stability mg (10s average)	8.5°/h
Three-axis acceleration	Range	$\pm 4g$
	Resolution	0.001g
	Accuracy	1mg
	Bias instability°/h (allan)	0.05mg
	Speed random walk coefficient m/s/sqrt(h) (allan)	0.015m/s/sqrt(h)
	Bias stability°/h(10s average)	0.15mg
Startup time		500ms
Input voltage		+9~36V
Current		35mA(12V)
Working temp.		-40 ~ +80°C
Storage temp.		-40 ~ +85°C
Vibration		5g~10g
Shock		200g pk, 2ms, 1/2sine
Working life		10 Year
Output frequency		5Hz / 15Hz / 25Hz / 35Hz / 50Hz / 100Hz / 200Hz Settable
Output signal		RS232 / RS485 / (Optional)
MTBF		≥ 50000 Hours/times
Insulation resistance		$\geq 100M\Omega$
Shockproof		100g@11ms, 3 Axial Direction (Half Sinusoid)
Anti-vibration		10grms, 10 ~ 1000Hz
Protection grade		IP67
Cable		Standard 1 m 4 pin shield wire
Weight		$\leq 160g$ (including 1 meter cable)

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► ORDERING INFORMATION



E.g 1: TL725D-232-STD1: RS232 output, STD: RION protocol standard format 1 output.

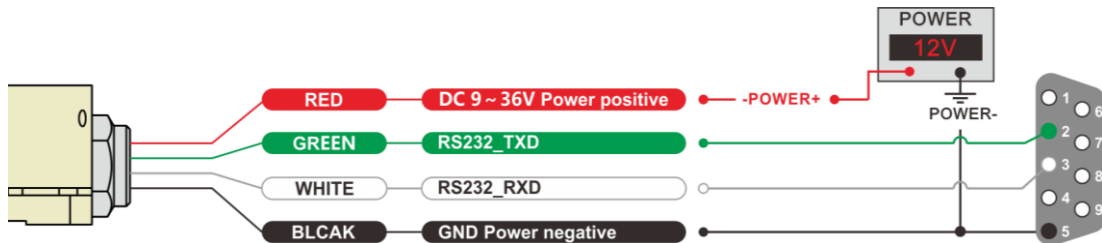
E.g 2: TL725D-232-BCLD5: RS232 output, BCLD protocol 9 axes + feedback counting output.

Note: Two protocols are optional, STD RION protocol can choose 1~4 output, BCLD protocol can choose 5~6 output.

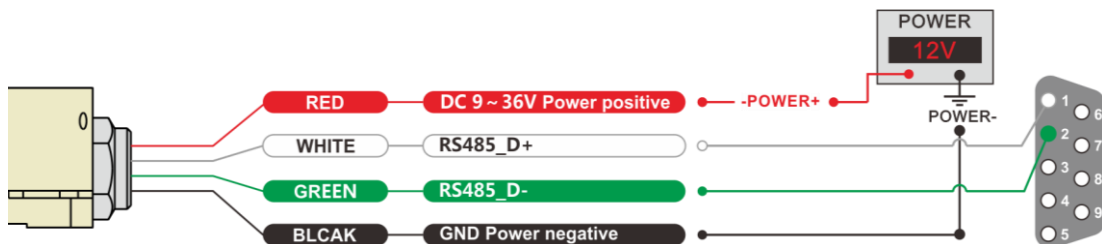
► PRODUCT ELECTRICAL CONNECTION

LINE COLOR INFORMATIO	BLACK	WHITE	GREEN	RED
	GND Negative power	RS232(RXD) RS485(D+)	RS232(TXD) RS485(D-)	DC 9 ~ 36V Power Positive

RS232 CABLE WIRE INFORMATION ▼

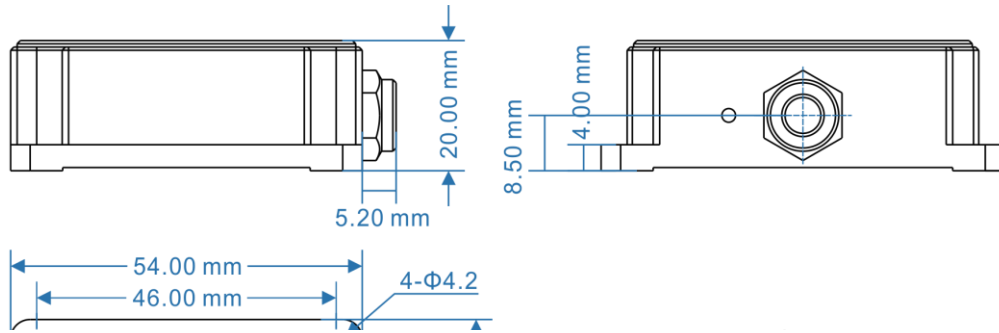


RS485CABLE WIRE INFORMATION ▼



► PRODUCT DIMENSION

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