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	IMU6-1y-x	
	Inertial Measurement Unit User Manual	
	EX2.900.012SM	
Countersig		
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	批准 Liu Haitao is 20220420	
Description		
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This instruction manual is the main reference document for the use and operation of IMU6-1, and is mainly prepared in accordance with the Technical Agreement of IMU6-1 MEMS Inertial Measurement Unit and the Technical Conditions of KTJT-001 Inertial Measurement Unit and Triaxial Gyro Combination.

IMU6-1 series inertial measurement unit can change the measurement accuracy and measurement range of the inertial sensor according to the user's requirements.



#### 1 Product features and technical parameters

#### 1.1 Composition and function

The MEMS inertial measurement unit consists of a three-axis gyroscope, a three-axis acceleration meter, a three-axis inclination angle, a temperature sensor, a signal processing board, a structure and necessary software, and is used for measuring three-axis angular rate, three-axis acceleration and three-axis inclination angle of a carrier. And output that gyro, the loading table and the inclination data aft error compensation (including temperature compensation, installation misalignment angle compensation, nonlinear compensation and the like) through an RS-422 serial port according to an agreed communication protocol.

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# 1.2 Main technical parameters

# 1.2.1 Gyroscope specifications

Parameter	Unit	IMU6-1	IMU6-1A	
Measuring range	°/s	±400	±400	
(customizable)	/8	±400	±400	
Zero bias stability	°/h	1	0.5	
(@ Allan Variance)	/11	1	0.5	
Zero bias stability	°/h	10	5	
(1s smooth, $1\sigma$ , room temperature)	/11	10	J	
Zero bias stability	°/h			
(10s smooth, 1σ, room		5	1	
temperature)				
Zero-bias error over full	°/h	20	10	
temperature range	/11	20	10	
Random walk	°/√h	0.2	0.1	
Zero-bias repeatability	°/h	10	5	
Zero bias acceleration sensitivity °/		1	1	
Resolution	°/h	2 1		
Scale factor nonlinearity	ppm	500		
Scale factor repeatability	ppm	500		
Cross coupling	%	0.1		
Bandwidth	Hz	12	5	

# 1.2.2 Add table technical indicators

				Parameter		Unit	IMU6-1y-1	IMU6-1y-2
			Measuring	g range (customizable	e)	g	±10 (80g optional)	±30 (80g optional)
			Zero-bias sta	bility (Allan Varianc	ce @		0.02	0.05
				25 °C)		mg	0.02	0.05
			Zero-bias s	tability (1s smoothin	ıg)	mg	0.1	0.5
			Zero-bias st	ability (10 s smoothi	ng)	mg	0.05	0.2
			Zero-bias err	or over full tempera	ture	mg	1	3
				range				
Tracing			R	Random walk		m/s/√h	0.001	0.002
Trace			Zero-	bias repeatability		mg	0.1	0.5
			Scale f	actor repeatability		ppm	5	500
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Scale factor nonlinearity	ppm	500
Bandwidth	Hz	125

# 1.2.3 Tilt angle specification (not configured by default, optional)

Parameter	Unit	IMU6-1y-x
Measuring range (customizable)	g	±1.7
Zero-bias stability (1s smoothing)	mg	0.5
Random walk	m/s/√h	0.08
Scale factor nonlinearity	ppm	100

## 1.2.4 Electrical characteristics

Parameter	Unit	IMU6-1y-x
Voltage	V	5
Power consumption	W	2
Ripple	mV	100

## 1.2.5 Environmental adaptability

Parameter	Unit	IMU6-1y-x	
Operating temperature	°C	-45~85	
Storage temperature	°C	-55~105	
Vibration		10~2000Hz, 6.06g	
Impact		1000g,0.1ms	

## 1.2.6 Other

Parameter	Unit	IMU6-1y-x
Weight	g	55±5

# 2 Space coordinate system

## 2.1 Right Hand Rule Principle 1

The MEMS IMU contains three axial spatial coordinate systems, namely X, Y and Z. The X axis points to the direction of the electrical connection interface, the Y axis

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	Base	map					IMU6-1y	EX2.900.012SM
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points to the left side of the IMU, and the Z axis point to the top surface of the IMU, as shown in Figure 2-1.

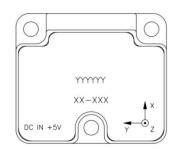


Figure 2-1 IMU Space Coordinate System

The installation of IMU should be matched with the axial direction of the coordinate system, otherwise the measured angular velocity data will be inaccurate. The axis of the coordinate system can be quickly assigned and determined by following the "right-hand rule principle 1". Stretch out the right hand and spread out the thumb, index finger and middle finger respectively. The direction of the thumb is the X axis, the direction of the index finger is the Y axis, and the direction of the middle finger is the Z axis, as shown in Figure 2-2.

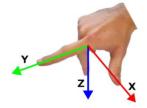


Figure 2-2 Right Hand Rule Principle 1

### 2.2 Right hand rule principle two

The three-degree-of-freedom gyroscope in the IMU can measure the angular velocity in three directions. The direction of the angular velocity of the axial rotation of the coordinate axis can be quickly determined by following the'right-hand rule principle 2 '. Stretch out the right hand and spread out the thumb. The direction of the thumb is the axial direction, and the direction of the other four fingers is the angular velocity of the axial rotation of the thumb, as shown in Figure 2-3.

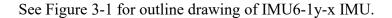


-	Trace Old base map				Figur	e 2-3 Right Hand Rule Principle 2	
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### 3 Structural installation

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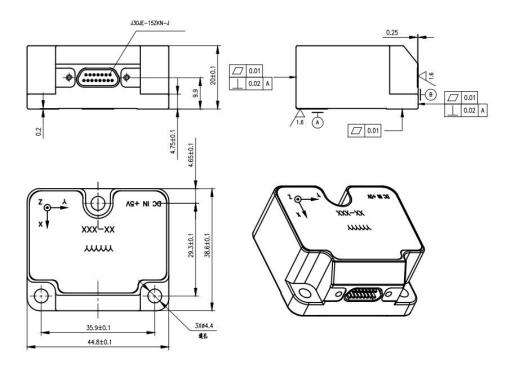


Fig. 3-1 Outline drawing of IMU

"IMU6-1y-x" in the drawing is the product code ". According to the product naming rules of the company," y "in IMU6-1y-x can be" A "," B "," C "or no letter to distinguish different performance index requirements, and" X "can be" 1 "," 2 "." 3 "and" 4 "to distinguish different product plus meter ranges. "XX-XXX" is the product number.

IMU6-1y-x IMU is installed through 3  $\Phi$ 4.4 through holes, and installed with 3 M4 screws (with spring washer and flat washer). When installing the connector, the plug shall be locked with the socket and the cable shall be fixed. In the figure  $\otimes_{\infty}$  B Is the installation datum plane of the inertia group.

It is recommended that the flatness of the mounting surface opposite to the reference surface shall not be greater than 0.01 mm, the verticality shall not be greater than 0.02 mm, and the surface roughness shall not exceed 0.8  $\mu$ m.

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### 4 Electrical characteristics

### 4.1 Electrical interface

The electrical connector model of IMU6-1y-x IMU is J30JE-15-ZKN-J. See Table

4-1 and Figure 4-1 for the specific distribution of contacts.

	Table 4-1 J.	30JE-15ZKN-J	Contact Distribution
Contact number	Pin definition	Туре	Explain
1	TxD-	OUTPUT	Product RS422 output interface negative
			terminal
2	RxD-	INPUT	Product RS422 receiving interface negative
			terminal
4	TOV	OUTPUT	Sync Signal <sup>(1)</sup>
5	NRST	INPUT	Reset signal <sup>(2)</sup>
8	VSUP	SUPPLY	Positive end of product power supply, DC
			regulated power supply
9	TxD+	OUTPUT	Product RS422 output interface positive
			terminal
10	RxD+	INPUT	Product RS422 receiving interface positive
			terminal
11	ExtTrig	INPUT	External Trigger Source <sup>(3)</sup>
12, 13, 15	GND	SUPPLY	Product ground, power ground and serial port
			ground
3, 6~7, 14	Reserved by the	/	/
	manufacturer		

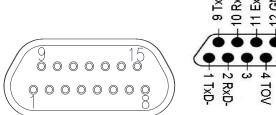
Table 4-1 J30JE-15ZKN-J Contact Distribution

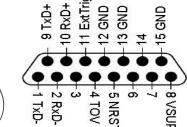
Notice

 The synchronization signal needs to be specially configured according to the requirements. The default IMU does not have this configuration and needs to be suspended.

(2) The reset signal needs to be specially configured as required. The default IMU does not have this configuration and needs to be suspended.

(3) The external trigger source needs to be specially configured according to the requirements. The default inertia group does not have this configuration and needs to be suspended.





Old base ma	р					
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Diskette Fig. 4-1 Configuration Diagram of Connector Node (Seen from the Outside of the Product)

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## 4.2 Electrical interface connections

The IMU6-1y-x IMU is very simple to use. If no special additional functions are required, the IMU will send data through the RS422 communication interface protocol about 1 s after it is powered on. Figure 4-2 shows a simple interconnection diagram for the IMU 6-1y-x.

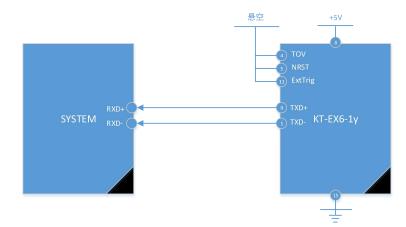


Fig. 4-2 Electrical connection 1

If all functions of IMU6-1y-x IMU are to be used, interconnection wiring with IMU is required as shown in Figure 4-3.

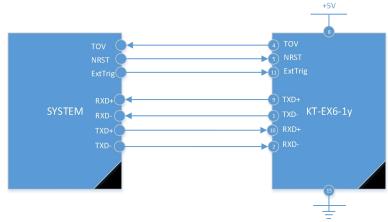


Figure 4-3 Electrical connection 2

# 4.3 Additional Function 1: Reset

The IMU6-1y-x IMU has a separate digital input pin (NRST) that allows the IMU6-1y-x to be reset without re-powering up if the IMU has been configured for a particular configuration. The trigger mode of the NRST signal can be specially defined according to the requirements.

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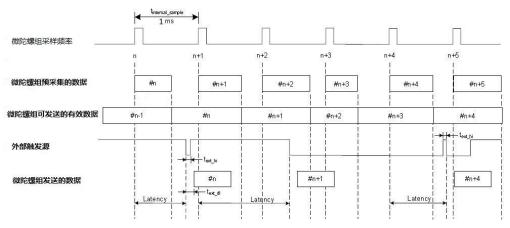
#### 4.4 Additional function 2: external trigger

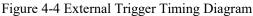
The IMU6-1y-x IMU has an independent digital input pin (ExtTrig). If the IMU has completed a specific configuration, when it receives an external trigger signal and generates an interrupt, it can send data through the RS422 communication interface protocol. The frequency of sending data is synchronized with the frequency of the ExtTrig signal. However, there are two special cases where sending data is not affected by an external trigger source:

a) In normal mode, send command 'C' to the IMU to test the RS422 interface. The IMU will transmit the configuration data stream independent of the external trigger source.

b) In the power-on initialization state, the IMU sends the initialization state data without being affected by the external trigger source.

Figure 4-4 is the timing diagram of the external trigger source sending data. The sampling frequency of the IMU is 1000Hz. The external trigger source shall not be higher than the sampling frequency. Latency is the trigger data sending delay.

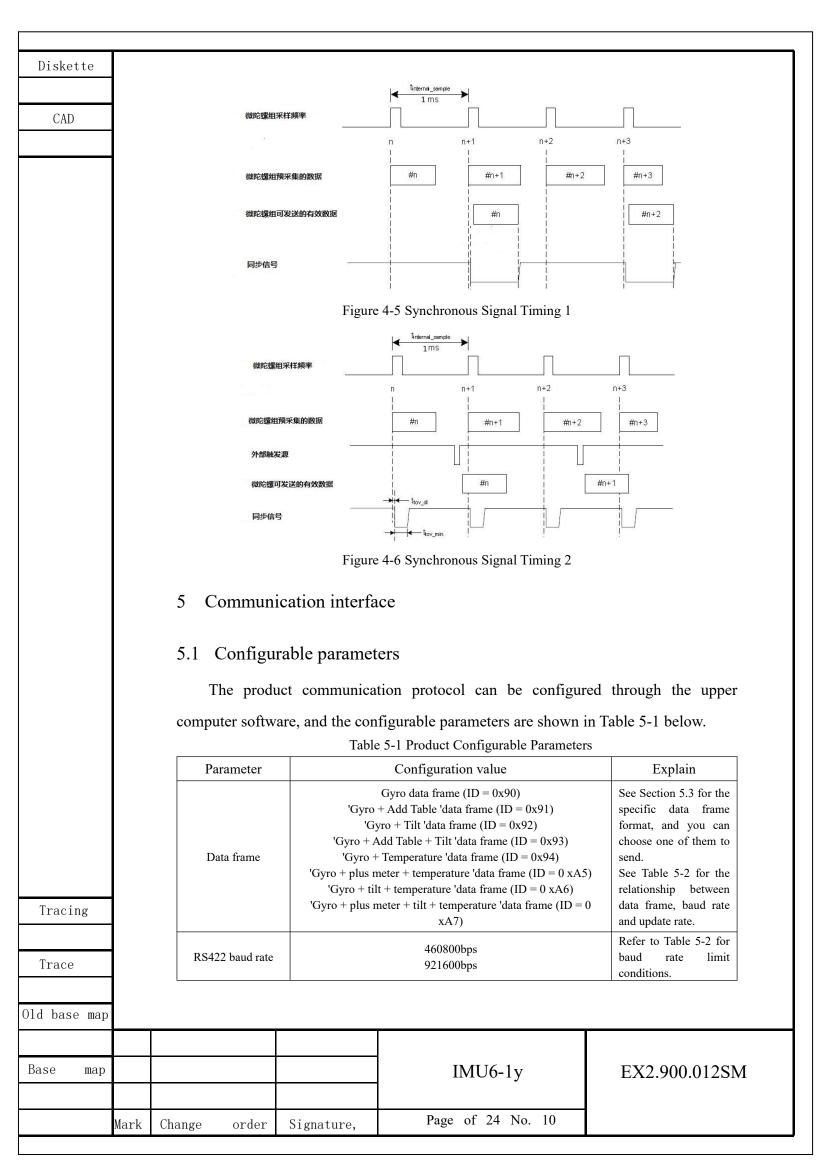




#### 4.5 Additional function 3: synchronization

The IMU6-1y-x IMU has an independent digital output pin (TOV). If the IMU is configured specifically, it can output a signal of a specific frequency and provide a synchronization signal. Figure 4-5 shows the synchronization timing diagram without the external trigger source. Figure 4-6 shows the synchronization timing diagram with the external trigger source. The sampling frequency is 1000 Hz.

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Base ma	D				IMU6-1y	EX2.900.012SM
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RS422 check digit	NONE (no c ODD (odd p EVEN (even		
RS422 stop bit	1 bit 2 bits		
	-3dB frequency	Group Delay (ms)	
	16Hz	23.4	The filter setting i independent of th
Low-pass filter	33Hz	11.7	data update rate.
bandwidth	66Hz	5.9	The low-pass filter is a
	131Hz	3.0	second-order IIR.
	262Hz	1.6	
	125Hz	Refer to Table 5-2 fo	
Data update rate	250Hz		
Data update fate	500Hz	data update rat	
	1000Hz		
Restore factory	Restore factory		
settings	Restore factory sett		

### 5.2 Communication interface

It communicates with the processing circuit unit through the serial communication interface and adopts the RS-422 standard. Both the transmission baud rate and the data update rate can be configured by software. Table 5-2 shows the maximum data update rate corresponding to the transmission baud rate.

In the default state of the product, the communication protocol is: baud rate 921 600bps, 8 data bits, 1stop bit, no check bit, 0xA5 data frame, update rate 1000Hz.

Table 5-2 Maximum Data	Update Rate	
Baud rate Data frame format	460800 bit/s	921600 bit/s
Gyro data frame (0x90)	1000Hz	1000 Hz
'Gyro + Add Table 'data frame (0 x91)	1000 Hz	1000 Hz
'Gyro + Tilt 'data frame (0x92)	1000 Hz	1000 Hz
'Gyro + plus meter + tilt 'data frame (0x93)	1000 HZ	1000 Hz
'Gyro + Temperature 'data frame (0x94)	1000 Hz	1000 Hz
'Gyro + plus meter + temperature 'data frame (0 xA5)	500 Hz	1000 Hz
'Gyro + tilt + temperature 'data frame (0 xA6)	500 Hz	1000 Hz
'Gyro + plus meter + tilt + temperature 'data frame (0 xA7)	500 Hz	1000 Hz

### 5.3 Data frame format

Data frame is sent by IMU in each cycle, and the data format can be configured by referring to the corresponding data frame format in the operating instructions of the supporting upper computer. All formats are shown in the following table.

Table 5-2 Data Frame Format of Gyro

Old base map						
Base map					IMU6-1y	EX2.900.012SM
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Seri al num ber	Parameter name	Valid range	Byte	Scale	Remark
1	Frame header	0x90	1		Packet header
2	V and an and an	[-400, 400]	3	2 <sup>-14</sup>	Unit: (/s, from high to low, the most
	X-axis angular velocity	[-2000, 2000]	3	2 <sup>-12</sup>	significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm
3	Y-axis angular velocity	[-400, 400]	3	2 <sup>-14</sup>	Unit: (/s, from high to low, the most
		[-2000, 2000]	3	2 <sup>-12</sup>	significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm
4	Z-axis angular	[-400, 400]	3	2 <sup>-14</sup>	Unit: (/s, from high to low, the most
	velocity	[-2000, 2000]	3	2 <sup>-12</sup>	significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm
5	Gyro status		1		All zeros are normal. See Table 5-10 fo specific definitions.
6	Frame counter	[0, 255]	1	1	0-255 continuous count
7	Delay		2		Unit: us, first high and then low, the mos significant bit of the first byte is the sign bit. See Note 5 for the specific algorithm
8	CRC32		4		CRC32 verification, see instruction 6

Table 5-3 Data Frame Format of "Gyro + Add Table"

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	Mark	Change	order	Sign	nature,		Page	of 24 No	o. 12	
Base map							]	MU6-1y		EX2.900.012SM
Old base map										
						~~~J	5	-	bit. See N	ote 1 for the specific algorithm.
Trace			z-axis ang velocity		[-2000, 20	0001	3	2 <sup>-12</sup>	-	t bit of the first byte is the sign
		4	Z-axis ang	ular	[-400, 40	00]	3	2 <sup>-14</sup>	Unit: (/	s, from high to low, the most
Tracing			velocity	Į	[-2000, 20	000]	3	2 <sup>-12</sup>	C	t bit of the first byte is the sign ote 1 for the specific algorithm.
		3	Y-axis ang	ular	[-400, 40	00]	3	2 <sup>-14</sup>		s, from high to low, the most
			velocity		[-2000, 20	000]	3	2 <sup>-12</sup>	-	t bit of the first byte is the sign ote 1 for the specific algorithm.
		2	X-axis ang	ular	[-400, 40	00]	3	$2^{-14}$		s, from high to low, the most
		1	Frame hea	ıder	0x91		1			Packet header
		ber								
		num	Parameter r	name	ame Valid range		Byte	Scale	Remark	
		Seri al								

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5	Gyro status		1		All zeros are normal. See Table 5-10 for specific definitions.
6		[-10, 10]		2 <sup>-19</sup>	
	X-axis acceleration	[-30, 30]		2 <sup>-18</sup>	Unit: G, first high and then low, the mos
	X-axis acceleration	[-50, 50]	3	2 <sup>-17</sup>	significant bit of the first byte is the significant bit. See Note 2 for the specific algorithm
		[-80, 80]		2 <sup>-16</sup>	bit. See Note 2 for the specific argorithm
7		[-10, 10]		2 <sup>-19</sup>	
	Y-axis acceleration	[-30, 30]	3	2 <sup>-18</sup>	Unit: G, first high and then low, the mo significant bit of the first byte is the sig bit. See Note 2 for the specific algorithr
	Y-axis acceleration	[-50, 50]	3	2 <sup>-17</sup>	
		[-80, 80]		2 <sup>-16</sup>	bit. See Note 2 for the specific argorithm
8		[-10, 10]		2 <sup>-19</sup>	Unit C forst high and there have the
	Z-axis acceleration	[-30, 30]	3	2 <sup>-18</sup>	Unit: G, first high and then low, the most significant bit of the first byte is the significant bit of the sis the sign
		[-50, 50]	5	2 <sup>-17</sup>	bit. See Note 2 for the specific algorithm
		[-80, 80]		2 <sup>-16</sup>	
9	Add table status		1		All zeros are normal. See Table 5-10 fo specific definitions.
10	Frame counter	[0, 255]	1	1	0-255 continuous count
11					Unit: us, first high and then low, the mo
	Delay		2		significant bit of the first byte is the sig
					bit. See Note 5 for the specific algorithm
12	CRC32		4		CRC32 verification, see instruction 6

Table 5-4 Format of 'Gyro + Tilt' Data Frame
----------------------------------------------

		Seri al num ber	Parameter name	Valid range	Byte	Scale		Remark
		1	Frame header	0x92	1			Packet header
		2	X-axis angular	[-400, 400]	3	2 <sup>-14</sup>	Unit: (/	s, from high to low, the most
			velocity	[-2000, 2000]	3	2 <sup>-12</sup>	C C	t bit of the first byte is the sign ote 1 for the specific algorithm.
		3	Y-axis angular	[-400, 400]	3	2 <sup>-14</sup>	Unit: (/s, from high to low, the most	
			velocity	[-2000, 2000]	3	2 <sup>-12</sup>	-	t bit of the first byte is the sign ote 1 for the specific algorithm.
Tracing		4	Z-axis angular	[-400, 400]	3	2 <sup>-14</sup>	Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm.	
Trace			velocity	[-2000, 2000]	3	2 <sup>-12</sup>		
		5	Gyro status		1		All zeros	are normal. See Table 5-10 for
Old base map								
Base map					]	IMU6-1y		EX2.900.012SM

Page of 24 No. 13

						specific definitions.
CAD	6					Unit: G, first high and then low, the most
CAD		X-axis inclinati	on [-1.7, 1.7]	3	2 <sup>-22</sup>	significant bit of the first byte is the sign
						bit. See Note 3 for the specific algorithm.
	7					Unit: G, first high and then low, the most
		Y-axis inclinati	on [-1.7, 1.7]	3	2 <sup>-22</sup>	significant bit of the first byte is the sign
				-		bit. See Note 3 for the specific algorithm.
	8					Unit: G, first high and then low, the most
		Z-axis inclinati	on [-1.7, 1.7]	3	2 <sup>-22</sup>	significant bit of the first byte is the sign
		Z-axis inclinati		5	2	bit. See Note 3 for the specific algorithm.
	9					All zeros are normal. See Table 5-10 for
	9	Inclination sta	te	1		
						specific definitions.
	10		r [0, 255]	1	1	0-255 continuous count
	11					Unit: us, first high and then low, the most
		Delay		2		significant bit of the first byte is the sign
						bit. See Note 5 for the specific algorithm.
	12	CRC32	<u> </u>	4		CRC32 verification, see instruction 6
		Ta	hla 5 5 Data Frama	Earmat of		ld Table   Din Angle!
	Se		ble 3-3 Data Frame	Format of	$\frac{\text{Gyro} + \text{Ac}}{1}$	ld Table + Dip Angle'
	al					
		Parameter nam	ne Valid range	Byte	Scale	Remark
	nui be					
			0.02			
		Frame header	r   0x93	1		Packet header
		Frame header		1	2-14	Packet header
	2		[-400, 400]	3	2 <sup>-14</sup>	Unit: (/s, from high to low, the most
			[-400, 400]		2 <sup>-14</sup> 2 <sup>-12</sup>	Unit: (/s, from high to low, the most significant bit of the first byte is the sign
	2	X-axis angula velocity	r [-400, 400] [-2000, 2000]	3	2 <sup>-12</sup>	Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm.
		X-axis angula velocity	r [-400, 400] [-2000, 2000]	3		Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most
	2	X-axis angula velocity	r [-400, 400] [-2000, 2000]	3	2 <sup>-12</sup>	Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign
	3	X-axis angula velocity Y-axis angula velocity	r [-400, 400] [-2000, 2000] r [-400, 400] [-2000, 2000]	3 3 3 3	$2^{-12}$ $2^{-14}$ $2^{-12}$	Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm.
	2	X-axis angula velocity Y-axis angula velocity	r [-400, 400] r [-2000, 2000] r [-400, 400] [-2000, 2000]	3 3 3 3	2 <sup>-12</sup> 2 <sup>-14</sup>	Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most
	3	X-axis angula velocity Y-axis angula velocity	r [-400, 400] r [-2000, 2000] r [-400, 400] [-2000, 2000]	3 3 3 3	$2^{-12}$ $2^{-14}$ $2^{-12}$	Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign
	2	X-axis angula velocity Y-axis angula velocity Z-axis angula velocity	r [-400, 400] r [-2000, 2000] r [-400, 400] [-2000, 2000] r [-400, 400]	3 3 3 3 3 3	$2^{-12}$ $2^{-14}$ $2^{-12}$ $2^{-14}$	Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm.
	3	X-axis angula velocity Y-axis angula velocity Z-axis angula velocity	r [-400, 400] r [-2000, 2000] r [-400, 400] [-2000, 2000] r [-400, 400]	3 3 3 3 3 3	$2^{-12}$ $2^{-14}$ $2^{-12}$ $2^{-14}$	Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. All zeros are normal. See Table 5-10 for
Tracing	2	X-axis angula velocity Y-axis angula velocity Z-axis angula velocity Gyro status	$r = \begin{bmatrix} -400, \ 400 \end{bmatrix}$ $r = \begin{bmatrix} -2000, \ 2000 \end{bmatrix}$ $r = \begin{bmatrix} -400, \ 400 \end{bmatrix}$	3 3 3 3 3 3 3	$2^{-12}$ $2^{-14}$ $2^{-12}$ $2^{-14}$ $2^{-12}$ $$	Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. All zeros are normal. See Table 5-10 for specific definitions.
Tracing	2	X-axis angula velocity Y-axis angula velocity Z-axis angula velocity Gyro status	r [-400, 400] r [-2000, 2000] r [-400, 400] [-2000, 2000] r [-400, 400]	3 3 3 3 3 3 3	$2^{-12}$ $2^{-14}$ $2^{-12}$ $2^{-14}$ $2^{-12}$ $$ $2^{-19}$	Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. All zeros are normal. See Table 5-10 for
Tracing Trace	2	X-axis angula velocity Y-axis angula velocity Z-axis angula velocity Gyro status	$r = \begin{bmatrix} -400, \ 400 \end{bmatrix}$ $r = \begin{bmatrix} -2000, \ 2000 \end{bmatrix}$ $r = \begin{bmatrix} -400, \ 400 \end{bmatrix}$ $r = \begin{bmatrix} -10, \ 10 \end{bmatrix}$	3 3 3 3 3 3 3	$2^{-12}$ $2^{-14}$ $2^{-12}$ $2^{-14}$ $2^{-12}$ $$	Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. All zeros are normal. See Table 5-10 for specific definitions.
	2	X-axis angula velocity Y-axis angula velocity Z-axis angula velocity Gyro status	$r = \begin{bmatrix} -400, \ 400 \end{bmatrix}$ $r = \begin{bmatrix} -2000, \ 2000 \end{bmatrix}$ $r = \begin{bmatrix} -400, \ 400 \end{bmatrix}$ $r = \begin{bmatrix} -10, \ 10 \end{bmatrix}$	3 3 3 3 3 3 1	$2^{-12}$ $2^{-14}$ $2^{-12}$ $2^{-14}$ $2^{-12}$ $$ $2^{-19}$	Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. All zeros are normal. See Table 5-10 for specific definitions. Unit: G, first high and then low, the most
Trace	2	X-axis angula velocity Y-axis angula velocity Z-axis angula velocity Gyro status	$r = \begin{bmatrix} -400, \ 400 \end{bmatrix}$ $r = \begin{bmatrix} -10, \ 10 \end{bmatrix}$ $r = \begin{bmatrix} -10, \ 10 \end{bmatrix}$	3 3 3 3 3 3 1	$2^{-12}$ $2^{-14}$ $2^{-12}$ $2^{-14}$ $2^{-12}$ $$ $2^{-19}$ $2^{-18}$	Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. All zeros are normal. See Table 5-10 for specific definitions. Unit: G, first high and then low, the most significant bit of the first byte is the sign
Trace	2	X-axis angula velocity Y-axis angula velocity Z-axis angula velocity Gyro status	$r = \begin{bmatrix} -400, \ 400 \end{bmatrix}$ $r = \begin{bmatrix} -10, \ 10 \end{bmatrix}$ $r = \begin{bmatrix} -10, \ 10 \end{bmatrix}$	3 3 3 3 3 3 1	$2^{-12}$ $2^{-14}$ $2^{-12}$ $2^{-14}$ $2^{-12}$ $$ $2^{-19}$ $2^{-18}$	Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. All zeros are normal. See Table 5-10 for specific definitions. Unit: G, first high and then low, the most significant bit of the first byte is the sign
Trace d base map	2	X-axis angula velocity Y-axis angula velocity Z-axis angula velocity Gyro status	$r = \begin{bmatrix} -400, \ 400 \end{bmatrix}$ $r = \begin{bmatrix} -10, \ 10 \end{bmatrix}$ $r = \begin{bmatrix} -10, \ 10 \end{bmatrix}$	3 3 3 3 3 3 3 1 3	$2^{-12}$ $2^{-14}$ $2^{-12}$ $2^{-14}$ $2^{-12}$ $$ $2^{-19}$ $2^{-18}$ $2^{-17}$	Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. All zeros are normal. See Table 5-10 for specific definitions. Unit: G, first high and then low, the most significant bit of the first byte is the sign bit. See Note 2 for the specific algorithm.
	2	X-axis angula velocity Y-axis angula velocity Z-axis angula velocity Gyro status	$r = \begin{bmatrix} -400, \ 400 \end{bmatrix}$ $r = \begin{bmatrix} -10, \ 10 \end{bmatrix}$ $r = \begin{bmatrix} -10, \ 10 \end{bmatrix}$	3 3 3 3 3 3 3 1 3	$2^{-12}$ $2^{-14}$ $2^{-12}$ $2^{-14}$ $2^{-12}$ $$ $2^{-19}$ $2^{-18}$	Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. Unit: (/s, from high to low, the most significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm. All zeros are normal. See Table 5-10 for specific definitions. Unit: G, first high and then low, the most significant bit of the first byte is the sign bit. See Note 2 for the specific algorithm.

Diskette		<u>г</u> т			1					1
	1				[-80, 80]			$2^{-16}$		
CAD	1	7			[-10, 10]			2 <sup>-19</sup>	Unit G fi	irst high and then low, the most
	1		Y-axis acceler	ation	[-30, 30]		3	$2^{-18}$		t bit of the first byte is the sign
				ution	[-50, 50]			$2^{-17}$	-	ote 2 for the specific algorithm.
					[-80, 80]			$2^{-16}$		
		8			[-10, 10]			$2^{-19}$	Luit C f	insthick and than law, the most
			Z-axis acceler	ation	[-30, 30]		3	$2^{-18}$		irst high and then low, the most
			Z-axis acceler	ation	[-50, 50]		5	$2^{-17}$	-	t bit of the first byte is the sign ote 2 for the specific algorithm.
					[-80, 80]		Ī	$2^{-16}$		ote 2 for the specific algorithm.
		9	Add table sta	atus			1		All zeros	are normal. See Table 5-10 for specific definitions.
		10							Unit: G, fi	irst high and then low, the most
			X-axis inclina	ation	[-1.7, 1.7]	1	3	$2^{-22}$		t bit of the first byte is the sign
						-			bit. See No	ote 3 for the specific algorithm.
		11								irst high and then low, the most
			Y-axis inclina	tion	[-1.7, 1.7]	1	3	$2^{-22}$		t bit of the first byte is the sign
					L .	-			-	ote 3 for the specific algorithm.
		12								irst high and then low, the most
			Z-axis inclina	ition	[-1.7, 1.7]	1	3	$2^{-22}$		t bit of the first byte is the sign
						-			-	ote 3 for the specific algorithm.
		13								are normal. See Table 5-10 for
			Inclination s	tate			1			specific definitions.
		14	Frame coun	ter	[0, 255]		1	1	0	-255 continuous count
		15							Unit: us, f	irst high and then low, the most
			Delay				2			t bit of the first byte is the sign
									-	ote 5 for the specific algorithm.
		16	CRC32				4			verification, see instruction 6
				т	l able 5-6 Forr	mot of 10		Tomporat		
		Seri		1						
		al	Parameter na	ame	Valid range	e F	Byte	Scale		Remark
		num	i didineter ne	une	vana rang.		Jyte	Seare		Romark
		ber								
	4	1	Frame head	ler	0x94		1			Packet header
Tracing	-	2	X-axis angu	lar	[-400, 400	)]	3	$2^{-14}$		s, from high to low, the most
	4		velocity		[-2000, 200	001	3	$2^{-12}$	-	t bit of the first byte is the sign
Trace	-					1	_		bit. See No	ote 1 for the specific algorithm.
d base map		3	Y-axis angu	lar	[-400, 400	)]	3	$2^{-14}$	Unit: (/	s, from high to low, the most
ase map							Ι	MU6-1y	7	EX2.900.012SM
	1									

Diskette	4						_:	
CAD	-		velocity	[-2000, 2000]	3	2 <sup>-12</sup>	-	the bit of the first byte is the sign for the specific algorithm.
CAD	-	4	Z-axis angular	[-400, 400]	3	2 <sup>-14</sup>	Unit: (/	/s, from high to low, the most
	-		velocity	[ 2000 2000]		2 <sup>-12</sup>	significar	nt bit of the first byte is the sign
			velocity	[-2000, 2000]	3	2-12	bit. See N	ote 1 for the specific algorithm.
		5	Gyro status		1		All zeros	are normal. See Table 5-10 for specific definitions.
		6	V avia armo				Unit: °	C, from high to low, the most
			X-axis gyro	[-128, 128]	2	2 <sup>-8</sup>	significar	nt bit of the first byte is the sign
			temperature				bit. See N	ote 4 for the specific algorithm.
		7	V ouis sums				Unit: °(	C, from high to low, the most
			Y-axis gyro temperature	[-128, 128]	2	2 <sup>-8</sup>	significar	nt bit of the first byte is the sign
			temperature				bit. See N	ote 4 for the specific algorithm.
		8	Temperature of				Unit: °	C, from high to low, the most
				[-128, 128]	2	2 <sup>-8</sup>	significar	nt bit of the first byte is the sign
			Z-axis gyroscope				bit. See N	ote 4 for the specific algorithm.
		9	Gyro Thermometer		1		All zeros	are normal. See Table 5-10 for
			Status		1			specific definitions.
		10	Frame counter	[0, 255]	1	1	0	)-255 continuous count
		11					Unit: us, f	first high and then low, the most
			Delay		2		significar	nt bit of the first byte is the sign
							bit. See N	ote 5 for the specific algorithm.
		12	CRC32		4		CRC32	verification, see instruction 6
		<u> </u>	T 11 C				<b>T</b> 11 · T	
		Seri	Table 5-	-7 Data Frame Fo	ormat of	Gyro + Add	1able + 1e	
		al						
		num	Parameter name	Valid range	Byte	Scale		Remark
		ber						
		1	Frame header	0xA5	1			Packet header
		2		[-400, 400]	3	2 <sup>-14</sup>	Unit: (/	s, from high to low, the most
			X-axis angular					nt bit of the first byte is the sign
			velocity	[-2000, 2000]	3	2 <sup>-12</sup>	-	ote 1 for the specific algorithm.
	4	3		[-400, 400]	3	2 <sup>-14</sup>		/s, from high to low, the most
Fracing	4		Y-axis angular	[, 100]				nt bit of the first byte is the sign
	4		velocity	[-2000, 2000]	3	2 <sup>-12</sup>	-	ote 1 for the specific algorithm.
		4	Z-axis angular	[-400, 400]	3	2 <sup>-14</sup>	Unit: (/	/s, from high to low, the most
Trace	-		· · ·	1	<u> </u>	1		
	1							
Trace 1 base map								
					]	IMU6-1y		EX2.900.012SM

		velocity	[ 2000 2000]	3	2 <sup>-12</sup>	significan	t bit of the first byte is the sign
CAD			[-2000, 2000]	3	2	bit. See N	ote 1 for the specific algorithm.
CAD	5	Gyro status		1		All zeros	are normal. See Table 5-10 for specific definitions.
	6		[-10, 10]		2 <sup>-19</sup>		specific definitions.
			[-30, 30]		2-18	Unit: G, f	irst high and then low, the most
		X-axis acceleration	[-50, 50]	3	2-17	significan	t bit of the first byte is the sign
			[-80, 80]		2-16	bit. See N	ote 2 for the specific algorithm.
	7		[-10, 10]		2-19		
			[-30, 30]		2 <sup>-18</sup>	Unit: G, first high and then low, the mo	
		Y-axis acceleration	[-50, 50]	3	2 <sup>-17</sup>	significan	t bit of the first byte is the sign
			[-30, 30]		$2^{-16}$	bit. See N	ote 2 for the specific algorithm.
	8		[-10, 10]		2 2 <sup>-19</sup>		
	0		[-30, 30]		$2^{-18}$	Unit: G, f	irst high and then low, the most
		Z-axis acceleration	[-50, 50]	- 3	$2^{-17}$	significan	t bit of the first byte is the sign
					$2^{-16}$	bit. See N	ote 2 for the specific algorithm.
	9		[-80, 80]		2 10	A 11	are normal. See Table 5-10 for
	9	Add table status		1		All zeros	specific definitions.
	10					Linit: 9	C, from high to low, the most
	10	X-axis gyro	[-128, 128]	2	2 <sup>-8</sup>	significant bit of the first byte is th	-
		temperature	[-120, 120]	2	2	-	ote 4 for the specific algorithm.
	11						C, from high to low, the most
		Y-axis gyro	[-128, 128]	2	2 <sup>-8</sup>		t bit of the first byte is the sign
		temperature	[-120, 120]	2	2	-	ote 4 for the specific algorithm.
	12						C, from high to low, the most
		Temperature of	[-128, 128]	2	2 <sup>-8</sup>		It bit of the first byte is the sign
		Z-axis gyroscope	ŗ., j			C C	ote 4 for the specific algorithm.
	13	Gyro Thermometer					are normal. See Table 5-10 for
		Status		1			specific definitions.
	14					Unit: °	C, from high to low, the most
		X-axis plus surface	[-128, 128]	2	2 <sup>-8</sup>		t bit of the first byte is the sign
		temperature				bit. See N	ote 4 for the specific algorithm.
	15					Unit: °	C, from high to low, the most
		Y-axis plus surface	[-128, 128]	2	2 <sup>-8</sup>	significan	t bit of the first byte is the sign
Tracing		temperature				bit. See N	ote 4 for the specific algorithm.
	16	7 1 1				Unit: °	C, from high to low, the most
ſrace		Z-axis plus surface	[-128, 128]	2	2 <sup>-8</sup>	significan	t bit of the first byte is the sign
		temperature				bit. See N	ote 4 for the specific algorithm.
base map					· · · · · · · · · · · · · · · · · · ·		
se map				]	IMU6-1y		EX2.900.012SM
					2		

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17	Add thermometer status		1		All zeros are normal. See Table 5-10 for specific definitions.
18	Frame counter	[0, 255]	1	1	0-255 continuous count
19					Unit: us, first high and then low, the mos
	Delay		2		significant bit of the first byte is the sign
					bit. See Note 5 for the specific algorithm
20	CRC32		4		CRC32 verification, see instruction 6

### Table 5-8 Format of 'Gyro + Tilt + Temperature' Data Frame

		Tabl		Gylo - In	it i rempe	Tature Date	
	Seri al num ber	Parameter name	Valid range	Byte	Scale		Remark
	1	Frame header	0xA6	1			Packet header
	2	X-axis angular	[-400, 400]	3	2 <sup>-14</sup>	Unit: (/	s, from high to low, the most
		velocity	[-2000, 2000]	3	2 <sup>-12</sup>	-	t bit of the first byte is the sign ote 1 for the specific algorithm.
	3	Y-axis angular	[-400, 400]	3	2 <sup>-14</sup>		s, from high to low, the most
	4	velocity	[-2000, 2000]	3	2 <sup>-12</sup>	-	t bit of the first byte is the sign ote 1 for the specific algorithm.
		Z-axis angular	[-400, 400]	3	2 <sup>-14</sup>		s, from high to low, the most
			velocity	[-2000, 2000]	3	2 <sup>-12</sup>	-
	5	Gyroscope status		1		All zeros	are normal. See Table 5-10 for specific definitions.
	6	X-axis inclination	[-1.7, 1.7]	3	2 <sup>-22</sup>	significan	irst high and then low, the most at bit of the first byte is the sign ote 3 for the specific algorithm.
	7	Y-axis inclination	[-1.7, 1.7]	3	2 <sup>-22</sup>	significan	irst high and then low, the most t bit of the first byte is the sign ote 3 for the specific algorithm.
	8	Z-axis inclination	[-1.7, 1.7]	3	2 <sup>-22</sup>	significan	irst high and then low, the most t bit of the first byte is the sign ote 3 for the specific algorithm.
Tracing	9	Inclination state		1		All zeros are normal. See Table 5-10 for specific definitions.	
Trace	10	X-axis gyro temperature	[-128, 128]	2	2 <sup>-8</sup>		C, from high to low, the most t bit of the first byte is the sign
ld base map							
Base map				IN	MU6-1y		EX2.900.012SM
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Page of 24 No. 18

## CAD

Tracing

Trace

					bit. See Note 4 for the specific algorithm.
11	Y-axis gyro temperature	[-128, 128]	2	2 <sup>-8</sup>	Unit: °C, from high to low, the most significant bit of the first byte is the sign bit. See Note 4 for the specific algorithm.
12	Temperature of Z-axis gyroscope	[-128, 128]	2	2 <sup>-8</sup>	Unit: °C, from high to low, the most significant bit of the first byte is the sign bit. See Note 4 for the specific algorithm.
13	Gyro Thermometer Status		1		All zeros are normal. See Table 5-10 for specific definitions.
14	X-axis tilt temperature	[-128, 128]	2	2 <sup>-8</sup>	Unit: °C, from high to low, the most significant bit of the first byte is the sign bit. See Note 4 for the specific algorithm.
15	Y-axis tilt temperature	[-128, 128]	2	2 <sup>-8</sup>	Unit: °C, from high to low, the most significant bit of the first byte is the sign bit. See Note 4 for the specific algorithm
16	Z-axis tilt temperature	[-128, 128]	2	2 <sup>-8</sup>	Unit: °C, from high to low, the most significant bit of the first byte is the sign bit. See Note 4 for the specific algorithm
17	Dip Thermometer Status		1		All zeros are normal. See Table 5-10 for specific definitions.
18	Frame counter	[0, 255]	1	1	0-255 continuous count
19	Delay		2		Unit: us, first high and then low, the mos significant bit of the first byte is the sign bit. See Note 5 for the specific algorithm
20	CRC32		4	[	CRC32 verification, see instruction 6

Table 5-9 Data Frame Format of 'Gyro + Add Table + Inclination + Temperature'

al num ber	Parameter name	Valid range	Byte	Scale	Remark
1	Frame header	0xA7	1		Packet header
2	X-axis angular	[-400, 400]	3	2 <sup>-14</sup>	Unit: (/s, from high to low, the most
	velocity	[-2000, 2000]	3	2 <sup>-12</sup>	significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm
3	Y-axis angular	[-400, 400]	3	2 <sup>-14</sup>	Unit: (/s, from high to low, the most
	velocity	[-2000, 2000]	3	2 <sup>-12</sup>	significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm

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Base	map					IMU6-1y	EX2.900.012SM
		Mark	Change	order	Signature,	Page of 24 No. 19	

CAD         Inclusing and velocity         [2000, 2000]         3         2 <sup>-12</sup> significant bit of the first byte is the sign bit. See Note 1 for the specific algorithm.           5         Grynoscrpe status         1         All zeros are normal. See Table 5-10 for specific algorithm.         All zeros are normal. See Table 5-10 for specific algorithm.           6         [-10. 10]         2 <sup>-10</sup> Unit: G, first high and then low, the most significant bit of the first byte is the sign bit. See Note 2 for the specific algorithm.           7         [-10. 10]         2 <sup>-10</sup> Unit: G, first high and then low, the most significant bit of the first byte is the sign bit. See Note 2 for the specific algorithm.           7         [-10. 10]         2 <sup>-10</sup> Unit: G, first high and then low, the most significant bit of the first byte is the sign bit. See Note 2 for the specific algorithm.           8         [-10. 10]         2 <sup>-10</sup> Unit: G, first high and then low, the most significant bit of the first byte is the sign bit. See Note 2 for the specific algorithm.           9         Add tuble status         1         2 <sup>-10</sup> Unit: G, first high and then low, the most significant bit of the first byte is the sign bit. See Note 2 for the specific algorithm.           9         Add tuble status         1         2 <sup>-10</sup> Unit: G, first high and then low, the most significant bit of the first byte is the sign bit. See Note 3 for the specific algorithm.           11         Y-sxis in		4	Z-axis angu	lar	[-400, 400]	3	2 <sup>-14</sup>	Unit: (/s	s, from high to low, the most
Image: the stand of the second standard	CAD		-	lui	[-2000, 2000]	3	2 <sup>-12</sup>	-	
$ \left  \begin{array}{c c c c c c c c c c c c c c c c c c c $					L				
$ \left  \begin{array}{c c c c c c c c c c c c c c c c c c c $		5	Gyroscope st	atus		1		All zeros	
$\begin{bmatrix} 1 & 1 & 1 & 1 \\ 1 & 2 & 3 & 3 & 3 & 3 & 3 & 3 & 3 & 3 & 3$		6			[_10 10]		2-19		specific definitions.
$ \left  \begin{array}{c c c c c c c c c c c c c c c c c c c $				·		-	_	Unit: G, fi	irst high and then low, the most
Image: constraint of the specific algorithm.int. See Note 2 for the specific algorithm.7(80. 80)2-10Y-axis acceleration(-10. 10)(-10. 10)2-18(-10. 10)2-18Y-axis acceleration(-10. 10)(-10. 10)2-18(-10. 10)2-18(-10. 10)2-18(-10. 10)2-18(-10. 10)2-18(-10. 10)2-18(-10. 10)2-19(-10. 10)2-19(-10. 10)2-19(-10. 10)2-19(-10. 10)2-19(-10. 10)2-19(-10. 10)2-19(-10. 10)2-19(-10. 10)2-19(-10. 10)2-19(-10. 10)2-19(-10. 10)2-19(-10. 10)2-19(-10. 10)2-19(-10. 10)2-19(-10. 10)2-19(-10. 10)2-19(-10. 10)2-19(-10. 10)2-19(-10. 10)2-19(-10. 10)2-19(-10. 10)2-10(-10. 10)2-10(-10. 10)2-10(-10. 10)2-10(-10. 10)2-10(-10. 10)2-10(-10. 10)2-10(-10. 10)2-10(-10. 10)2-10(-10. 10)2-10(-10. 10)2-10(-10. 10)2-10(-10. 10)2-10(-10. 10)2-10(-11. 10)2-10			X-axis acceler	ation		- 3		significan	t bit of the first byte is the sign
$ \begin{bmatrix} 7 \\ V-axis acceleration \\ \hline V-axis acceleration \\ \hline V-axis acceleration \\ \hline V-axis acceleration \\ \hline (-30, 30) \\ \hline (-80, 80) \\ \hline (-10, 101 \\ \hline (-80, 80) \\ \hline (-2^{-10} \\ \hline (-10, 101 \\ \hline (-80, 80) \\ \hline (-2^{-10} \\ \hline (-10, 101 \\ \hline (-80, 80) \\ \hline (-2^{-10} \\ \hline (-10, 101 \\ \hline (-80, 80) \\ \hline (-2^{-10} \\ \hline (-10, 101 \\ \hline (-2^{-10} \\ \hline (-10, 101 \\ \hline (-2^{-10} \\ \hline (-10, 101 \\ \hline (-80, 80) \\ \hline (-2^{-10} \\ \hline (-10, 101 \\ \hline (-10, 101$				·		-		bit. See No	ote 2 for the specific algorithm.
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Yaxis acceleration $\begin{bmatrix} 1.50, 501 \\ [-80, 80] \end{bmatrix}$ 3 $\begin{bmatrix} 2^{-17} \\ 2^{-16} \end{bmatrix}$ significant bit of the first byte is the sign bit. See Note 2 for the specific algorithm.         8 $Z$ -axis acceleration $\begin{bmatrix} [-10, 10] \\ [-30, 30] \\ [-50, 50] \end{bmatrix}$ $2^{-19} \\ 2^{-16} \end{bmatrix}$ Unit: G, first high and then low, the most significant bit of the first byte is the sign bit. See Note 2 for the specific algorithm.         9       Add luble status						-		Unit: G, fi	irst high and then low, the most
Image: second			Y-axis accelera	ation		- 3		significan	t bit of the first byte is the sign
8 $\begin{bmatrix} 1-0, 10 \\ [-30, 30] \\ [-50, 50] \\ [-50, 50] \\ [-50, 50] \\ [-50, 50] \\ [-80, 80] \end{bmatrix}$ 2 $\begin{bmatrix} 2^{-19} \\ 2^{-10} \\ 2^{-10} \\ 2^{-10} \\ 1 \\ 2^{-17} \\ 2^{-16} \end{bmatrix}$ Unit: G, first high and then low, the most significant bit of the first byte is the sign bit. See Note 2 for the specific algorithm.9Add table status1 \\ [-80, 80] \\ [-80, 80] \\ [-80, 80] \\ [-80, 80] \\ [-80, 80] \\ [-10, 10] \\ [-10, 10] \\ [-2, 10] \\ [-2, 10] \\ 2^{-10} \\ [-10] \\ [-2, 10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10] \\ [-10						-		bit. See No	ote 2 for the specific algorithm.
Image: constraint of the second se		Q							
Image: second		0				-		Unit: G, fi	irst high and then low, the most
Image: Problem in the problem in t			Z-axis accelera	ation		3		significan	t bit of the first byte is the sign
9Add table status1All zeros are normal. See Table 5-10 for specific definitions.10X-axis inclination $[-1.7, 1.7]$ 3 $2^{-22}$ Significant bit of the first byte is the sign bit. See Note 3 for the specific algorithm.11Y-axis inclination $[-1.7, 1.7]$ 3 $2^{-22}$ Significant bit of the first byte is the sign bit. See Note 3 for the specific algorithm.11Y-axis inclination $[-1.7, 1.7]$ 3 $2^{-22}$ Significant bit of the first byte is the sign bit. See Note 3 for the specific algorithm.12Z-axis inclination $[-1.7, 1.7]$ 3 $2^{-22}$ Significant bit of the first byte is the sign bit. See Note 3 for the specific algorithm.12Z-axis inclination $[-1.7, 1.7]$ 3 $2^{-22}$ Unit: G, first high and then low, the most significant bit of the first byte is the sign bit. See Note 3 for the specific algorithm.13Inclination state1All zeros are normal. See Table 5-10 for specific definitions.14X-axis gyro temperature $[-128, 128]$ 2 $2^{-6}$ Unit: "C, from high to low, the most significant bit of the first byte is the sign bit. See Note 4 for the specific algorithm.16Temperature of Z-axis gyroscope $(-128, 128]$ 2 $2^{-6}$ Unit: "C, from high to low, the most significant bit of the first byte is the sign bit. See Note 4 for the specific algorithm.16Temperature of Z-axis gyroscope $(-128, 128]$ $2$ $2^{-6}$ Unit: "C, from high to low, the most significant bit of the first						-		bit. See No	ote 2 for the specific algorithm.
Image: Instrument of the second se		0			[-80, 80]		2	All zeros	are normal. See Table 5, 10 for
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Image: Second state in the second state is the second s		10						Unit: G fi	_
Image: Second		10	X-axis inclina	tion	[-1.7, 1.7]	3	2 <sup>-22</sup>		-
Inclination       [-1.7, 1.7]       3       2 <sup>-22</sup> Unit: G, first high and then low, the most significant bit of the first byte is the sign bit. See Note 3 for the specific algorithm.         I2       Z-axis inclination       [-1.7, 1.7]       3       2 <sup>-22</sup> Unit: G, first high and then low, the most significant bit of the first byte is the sign bit. See Note 3 for the specific algorithm.         I2       Z-axis inclination       [-1.7, 1.7]       3       2 <sup>-22</sup> Unit: G, first high and then low, the most significant bit of the first byte is the sign bit. See Note 3 for the specific algorithm.         I3       Inclination state					[,]			-	
Pracing       Y-axis inclination       [-1.7, 1.7]       3       2 <sup>-22</sup> significant bit of the first byte is the sign bit. See Note 3 for the specific algorithm.         12       Z-axis inclination       [-1.7, 1.7]       3       2 <sup>-22</sup> significant bit of the first byte is the sign bit. See Note 3 for the specific algorithm.         12       Z-axis inclination       [-1.7, 1.7]       3       2 <sup>-22</sup> significant bit of the first byte is the sign bit. See Note 3 for the specific algorithm.         13       Inclination state		11							
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Image: Problem in the state in the state is the sign in the state is					L 3			C C	
Image: Construction of the second constructi		12						Unit: G, fi	irst high and then low, the most
13       Inclination state        1        All zeros are normal. See Table 5-10 for specific definitions.         14       X-axis gyro temperature       [-128, 128]       2       2 <sup>-8</sup> Unit: °C, from high to low, the most significant bit of the first byte is the sign bit. See Note 4 for the specific algorithm.         15       Y-axis gyro temperature       [-128, 128]       2       2 <sup>-8</sup> Unit: °C, from high to low, the most significant bit of the first byte is the sign bit. See Note 4 for the specific algorithm.         16       Temperature of Z-axis gyroscope       [-128, 128]       2       2 <sup>-8</sup> Unit: °C, from high to low, the most significant bit of the first byte is the sign bit. See Note 4 for the specific algorithm.         16       Temperature of Z-axis gyroscope       [-128, 128]       2       2 <sup>-8</sup> Unit: °C, from high to low, the most significant bit of the first byte is the sign bit. See Note 4 for the specific algorithm.         base map			Z-axis inclina	tion	[-1.7, 1.7]	3	2 <sup>-22</sup>	significan	t bit of the first byte is the sign
Inclination state       Image: Inclinatis       Image: Inclinatis								bit. See No	ote 3 for the specific algorithm.
Image: Structure of Structure Structur		13	Inclination st	tate		1		All zeros	are normal. See Table 5-10 for
Image: Cracing Crace       Image: Crace Crae Crace Crace Crace Crace Crace Crae Crace				late		1			specific definitions.
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Image: See Mote 4 for the specific algorithm.         Infracing         15       Y-axis gyro temperature         [-128, 128]       2         2-8       Unit: °C, from high to low, the most significant bit of the first byte is the sign bit. See Note 4 for the specific algorithm.         Ifrace       16         Temperature of Z-axis gyroscope       [-128, 128]         2       2-8         Unit: °C, from high to low, the most significant bit of the first byte is the sign bit. See Note 4 for the specific algorithm.         16       Temperature of Z-axis gyroscope         [-128, 128]       2         2-8       Unit: °C, from high to low, the most significant bit of the first byte is the sign         base map					[-128, 128]	2	2 <sup>-8</sup>	-	
Iracing       Y-axis gyro       [-128, 128]       2       2 <sup>-8</sup> significant bit of the first byte is the sign bit. See Note 4 for the specific algorithm.         Irace       16       Temperature of Z-axis gyroscope       [-128, 128]       2       2 <sup>-8</sup> Unit: °C, from high to low, the most significant bit of the first byte is the sign         base map									
Image: Interpretative interval int	Fracing	15	Y-axis gyre	0					-
Index     Index     Temperature of Z-axis gyroscope     [-128, 128]     2     2 <sup>-8</sup> Unit: °C, from high to low, the most significant bit of the first byte is the significant byte is the signit byte is the signit byte is the signit byte is the signif	0		temperatur	e	[-128, 128]	2	2 <sup>-8</sup>	-	
I base map     I base map	Trace			-					
base map	llace	16	-		[-128, 128]	2	2 <sup>-8</sup>		-
	hase man		Z-axis gyrosc	ope				significan	t bit of the first byte is the sign
se map IMU6-1y EX2.900.012SM	. sust map								
se map IMU6-1y EX2.900.012SM									
	se map					11	viu6-ly	7	EX2.900.012SM

Diskette			,		1	, I		
							bit. See No	te 4 for the specific algorithm.
CAD		17	Gyro Thermometer		1		All zeros a	re normal. See Table 5-10 for
			Status		1		5	specific definitions.
		18	X-axis plus surface				Unit: °C	, from high to low, the most
			temperature	[-128, 128]	2	2 <sup>-8</sup>	significant	bit of the first byte is the sign
			temperature				bit. See No	te 4 for the specific algorithm.
		19	Y-axis plus surface				Unit: °C	, from high to low, the most
			temperature	[-128, 128]	2	2 <sup>-8</sup>	significant	bit of the first byte is the sign
			temperature				bit. See No	te 4 for the specific algorithm.
		20	Z-axis plus surface				Unit: °C	, from high to low, the most
			-	[-128, 128]	2	2 <sup>-8</sup>	significant	bit of the first byte is the sign
			temperature				bit. See No	te 4 for the specific algorithm.
		21	Add thermometer		1		All zeros a	re normal. See Table 5-10 for
			status		1		5	specific definitions.
		22	X-axis tilt				Unit: °C	, from high to low, the most
				[-128, 128]	2	2 <sup>-8</sup>	significant	bit of the first byte is the sign
			temperature				bit. See Not	te 4 for the specific algorithm.
		23	Y-axis tilt				Unit: °C	, from high to low, the most
				[-128, 128]	2	2 <sup>-8</sup>	significant	bit of the first byte is the sign
			temperature				bit. See No	te 4 for the specific algorithm.
		24	Z-axis tilt				Unit: °C	, from high to low, the most
				[-128, 128]	2	2 <sup>-8</sup>	significant	bit of the first byte is the sign
			temperature				bit. See No	te 4 for the specific algorithm.
		25	Dip Thermometer		1		All zeros a	re normal. See Table 5-10 for
			Status		1		5	specific definitions.
		26	Frame counter	[0, 255]	1	1	0-2	255 continuous count
		27					Unit: us, fir	st high and then low, the most
			Delay		2		significant	bit of the first byte is the sign
							bit. See No	te 5 for the specific algorithm.
		28	CRC32		4		CRC32 v	erification, see instruction 6
		L				1 1		
			Explain					
					50 / 7	$AR_{1} \cdot 2^{16}$	$+AR_2 \cdot 2^8$	$+AR_{3}$
Tracing			1) Gyro angular	velocity output	$t \lfloor 0/s \rfloor =$	1	214	$+AR_3$ See Figure 5-1
iracilly	-	ſ	data kit former t					
<i>т</i>	-	IOr	data bit format;					
Trace	-		Among $AR_1$ Out	putting the hig	gh eight	t bits of	the three	bytes for the angular
d base map		velo	ocity of each axis o	of the gyroscope	e;			
					I	MU6-1y		EX2.900.012SM
ase map								
ase map								EA2.900.0125W

Diskette								
			AR	<sup>2</sup> Outputting the	e middle eight bits of the three	e bytes for the angular		
CAD		veloc	ity of eacl	n axis of the gyro	oscope;			
			AR	R <sub>3</sub> Outputs the lov	wer eight bits of the three bytes	for the angular velocity		
		of eac	ch axis of	the gyro.				
		Bit 2	2 <sup>8</sup> 2 <sup>7</sup> 2 <sup>6</sup>		$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $		
		]		-	nge of the gyro is configured a			
		factor	r is 2 <sup>12</sup> ;					
		2	2) Acceler	ation speed outp	ut [G] = $\frac{AR_1 \cdot 2^{16} + AR_2 \cdot 2^8 + AR_3}{2^X}$ ;			
			Among	$gAR_1$ Outputs the theorem of the second s	ne upper eight bits of the three	e bytes for the angular		
		veloc	ity of eacl	n axis of the acce	elerometer;			
				$AR_2$ Outputs th	e middle eight bits of the thre	e bytes for the angular		
		veloc	ity of eacl	n axis of the acce	elerometer;			
				$AR_3$ Outputs the	ne lower eight bits of the three	e bytes for the angular		
		veloc	ity of eacl	n axis of the acce	elerometer.			
		2	X is the ta	bulated scale ind	lex, and 10g, 30g, 50g, and 80g	are tabulated for $X = 19$ ,		
		18, 17	7, and 16.					
			3) Tilt spe	ed output [G] $=$	$\frac{R_1 \cdot 2^{16} + AR_2 \cdot 2^8 + AR_3}{2^{22}};$			
			Among	$gAR_1$ Outputs the theorem of the second s	ne upper eight bits of the three	e bytes for the angular		
		veloc	ity per axi	is of the tilt angle	е;			
				$AR_2$ The middle	e eight bit of that three bytes are	e output for the angular		
		veloc	ity of eacl	n axis of the tilt a	angle;			
				$AR_3$ The lower	eight bits of the three bytes are	e output for the angular		
	velocity of each axis of the tilt angle.							
Tracing	-	2	4) Temper	ature output [°C]	$] = \frac{T_1 \cdot 2^8 + T_2}{2^8}$ ? See Figure 5-2 f	for data bit format.		
	1	,	Among $T_1$	Outputs the upp	er eight bits of the two bytes for	each axis temperature.		
Trace		1	_		er eight bits of the two bytes for	_		
ld hass mar	4		<b>1</b> 2		or organ ones of the two bytes for	caon axis temperature.		
ld base map								
Base map					IMU6-1y	EX2.900.012SM		
mop					11v100-1 y	LAZ.200.0125M		

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-			- T <sub>1</sub>					•			- T <sub>2</sub>	-			
Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit C
27	2 <sup>6</sup>	2 <sup>5</sup>	2 <sup>4</sup>	2 <sup>3</sup>	2 <sup>2</sup>	2 <sup>1</sup>	2º	2-1	2-2	2-3	2-4	2 <sup>5</sup>	2-6	2.7	2 <sup>-8</sup>

Figure 5-2 Converting Temperature Output to [°C]

5) Delay time output  $[us] = T_1 \cdot 2^8 + T_2$ 

Where, T<sub>1</sub> is the upper eight bits of the two bytes of the delay time output;

T<sub>2</sub>outputs the lower eight bits of the two bytes for the delay time.

6) CRC check method

CRC checks all bytes from the data frame header to the check bit, using the standard CRC-32 polynomial:

 $x^{32} + x^{26} + x^{23} + x^{22} + x^{16} + x^{12} + x^{11} + x^{10} + x^8 + x^7 + x^5 + x^4 + x^2 + x + 1$ seed = 0xFFFFFFF

See Appendix B for a list of table and table lookup function codes generated from this polynomial.

5.4 Self-check function and real-time output function of working status

The product has the functions of self-checking and real-time output of working status. The data frame contains a byte indicating the status, and the real-time output of product working status information begins after the power-on start is completed. The status bits are defined in Table 5-10.

Bit	Definition
7	0 = normal, 1 = system-wide abnormal
6	0 = normal, 1 = starting
5	0 = normal, 1 = abnormal external environment
4	0 = normal, $1 =$ three axes out of service condition
3	0 = normal, $1 = $ error in three-axis output
2	0 = OK, $1 = Z$ axis out of use condition or error
1	0 = OK, $1 = Y$ axis out of use condition or error
0	0 = OK, $1 = X$ axis out of use condition or error

T	racin	g
Т	race	
01d	base	map

Base

map

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Change

EX2.900.012SM

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Page of 24 No. 23

IMU6-1y

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Tracing

#### 6 Functional testing

#### 6.1 Test equipment and instrumentation required

The equipment and instruments required in the test include: DC regulated power supply, computer, turntable, test tooling and test cable.

#### 6.2 Functional testing

The product is in a static state, and the DC regulated power supply is used to supply power to the product. The power supply requirements meet the requirements of 1.2.2. The specific connection mode of the product is shown in Figure 6-1. Data is received according to the communication protocol, and the angular velocity output of the product is received and displayed by the upper computer receiving software.

Rotate the gyroscope assembly in the positive direction around X, Y and Z respectively (input by the turntable if conditions permit, and rotate by hand if no conditions permit), and the angular velocity output of the corresponding axis can be monitored as the positive angular velocity. Rotate the product reversely around X, Y and Z respectively, and the angular velocity output of the corresponding axis can be monitored to be a negative angular velocity. It indicates that the angular velocity output polarity of the product is correct. The three angular rate values at the output of the product shall be in the vicinity of 0 deg/s under stationary conditions.

The acceleration output of the corresponding axis can be monitored to be 1G when X, Y and Z are respectively in the forward direction. Under static conditions, the acceleration at the output of two axes of the product is about 0 G, and the acceleration at the output of the third axis is about 1 G.

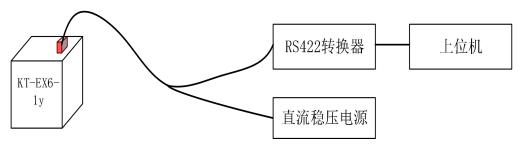


Fig. 6-1 Schematic diagram of IMU test connection

Trace							
01d base	e map						
Base	map					IMU6-1y	EX2.900.012SM
						, j	
		Mark	Change	order	Signature,	Page of 24 No. 24	

Diskette		7 U	se and r	naintenance r	equirements	
CAD		7 0	se and i		equitements	
	]	В	efore use	e, the installation	on position of the system mus	t be checked to ensure
		correc	t installat	tion. Carefully of	check the connection of each si	gnal line to ensure that
		the con	nnection	is correct.		
		В	efore pov	wer-on, check t	he cable network contact and p	ower supply value, and
		the po	wer supp	ly polarity shall	not be reversed.	
		Iı	n use, the	mechanical gro	unding of the system shall be we	ell grounded.
		Т	his produ	ect contains prec	vision instruments. Knocking and	d falling are prohibited.
		Т	his produ	ict should be st	ored in a well-ventilated warehouse	ouse with a temperature
		of (15	~35) °C	, a relative hum	nidity of not more than 75%, and	d free of acid, alkali and
		corros	ive gases.			
Tracing	1					
		A	ndi-	Dooling I tot		
Trace		Арре		Packing List		
01d base map	-			Product Match	ing Table of IMU6-1 Inertial Measur	rement Unit
oru base map						
Base map					IMU6-1y	EX2.900.012SM
					11120019	
	Mark	Change	order	Signature,	Page of 24 No. 25	

	Q 1 1 1	NT.		TT •/	
<b>2</b> 1 <b>2</b>	Serial number	Name	Quantity	Unit	Remark
CAD	1	IMU6-1 Products	1	Taiwan	
	2	Product certificate	1	Share	
	3	Instructions for use	1	Share	
	4	Packing list	1	Share	
	5	Product packing box	1	А	
Tracing					
Trace					
d base map					
d base map ase map			IMU6-1y	E	X2.900.012SM

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### **Appendix B CRC Lookup Table and Lookup Function**

#### Lookup table for B1 CRC32

#### static Uint32 crc\_table[256]={

0x00000000, 0x04c11db7, 0x09823b6e, 0x0d4326d9, 0x130476dc, 0x17c56b6b, 0x1a864db2, 0x1e475005, 0x2608edb8, 0x22c9f00f, 0x2f8ad6d6, 0x2b4bcb61, 0x350c9b64, 0x31cd86d3, 0x3c8ea00a, 0x384fbdbd,0x4c11db70, 0x48d0c6c7, 0x4593e01e, 0x4152fda9, 0x5f15adac, 0x5bd4b01b, 0x569796c2, 0x52568b75, 0x6a1936c8, 0x6ed82b7f, 0x639b0da6, 0x675a1011, 0x791d4014, 0x7ddc5da3, 0x709f7b7a, 0x745e66cd, 0x9823b6e0, 0x9ce2ab57, 0x91a18d8e, 0x95609039, 0x8b27c03c, 0x8fe6dd8b, 0x82a5fb52, 0x8664e6e5, 0xbe2b5b58, 0xbaea46ef, 0xb7a96036, 0xb3687d81, 0xad2f2d84, 0xa9ee3033, 0xa4ad16ea, 0xa06c0b5d, 0xd4326d90, 0xd0f37027, 0xddb056fe, 0xd9714b49, 0xc7361b4c, 0xc3f706fb, 0xceb42022, 0xca753d95, 0xf23a8028, 0xf6fb9d9f, 0xfbb8bb46, 0xff79a6f1, 0xe13ef6f4, 0xe5ffeb43, 0xe8bccd9a, 0xec7dd02d,0x34867077, 0x30476dc0, 0x3d044b19, 0x39c556ae, 0x278206ab, 0x23431b1c, 0x2e003dc5, 0x2ac12072, 0x128e9dcf, 0x164f8078, 0x1b0ca6a1, 0x1fcdbb16, 0x018aeb13, 0x054bf6a4, 0x0808d07d, 0x0cc9cdca, 0x7897ab07, 0x7c56b6b0, 0x71159069, 0x75d48dde, 0x6b93dddb, 0x6f52c06c, 0x6211e6b5, 0x66d0fb02, 0x5e9f46bf, 0x5a5e5b08, 0x571d7dd1, 0x53dc6066, 0x4d9b3063, 0x495a2dd4, 0x44190b0d, 0x40d816ba, 0xaca5c697, 0xa864db20, 0xa527fdf9, 0xa1e6e04e, 0xbfa1b04b, 0xbb60adfc, 0xb6238b25, 0xb2e29692, 0x8aad2b2f, 0x8e6c3698, 0x832f1041, 0x87ee0df6, 0x99a95df3, 0x9d684044, 0x902b669d, 0x94ea7b2a,

0xe0b41de7, 0xe4750050, 0xe9362689, 0xedf73b3e, 0xf3b06b3b, 0xf771768c, 0xfa325055, 0xfef34de2, 0xc6bcf05f, 0xc27dede8, 0xcf3ecb31, 0xcbffd686, 0xd5b88683, 0xd1799b34, 0xdc3abded, 0xd8fba05a,0x690ce0ee, 0x6dcdfd59, 0x608edb80, 0x644fc637, 0x7a089632, 0x7ec98b85, 0x738aad5c, 0x774bb0eb, 0x4f040d56, 0x4bc510e1, 0x46863638, 0x42472b8f, 0x5c007b8a, 0x58c1663d, 0x558240e4, 0x51435d53,0x251d3b9e, 0x21dc2629, 0x2c9f00f0, 0x285e1d47, 0x36194d42, 0x32d850f5, 0x3f9b762c, 0x3b5a6b9b, 0x0315d626, 0x07d4cb91, 0x0a97ed48, 0x0e56f0ff, 0x1011a0fa, 0x14d0bd4d, 0x19939b94, 0x1d528623, 0xf12f560e, 0xf5ee4bb9, 0xf8ad6d60, 0xfc6c70d7, 0xe22b20d2, 0xe6ea3d65, 0xeba91bbc, 0xef68060b, 0xd727bbb6, 0xd3e6a601, 0xdea580d8, 0xda649d6f, 0xc423cd6a, 0xc0e2d0dd, 0xcda1f604, 0xc960ebb3,0xbd3e8d7e, 0xb9ff90c9, 0xb4bcb610, 0xb07daba7, 0xae3afba2, 0xaafbe615, 0xa7b8c0cc, 0xa379dd7b, 0x9b3660c6, 0x9ff77d71, 0x92b45ba8, 0x9675461f, 0x8832161a, 0x8cf30bad, 0x81b02d74, 0x857130c3, 0x5d8a9099, 0x594b8d2e, 0x5408abf7, 0x50c9b640, 0x4e8ee645, 0x4a4ffbf2, 0x470cdd2b, 0x43cdc09c, 0x7b827d21, 0x7f436096, 0x7200464f, 0x76c15bf8, 0x68860bfd, 0x6c47164a, 0x61043093, 0x65c52d24,0x119b4be9, 0x155a565e, 0x18197087, 0x1cd86d30, 0x029f3d35, 0x065e2082, 0x0b1d065b, 0x0fdc1bec, 0x3793a651, 0x3352bbe6, 0x3e119d3f, 0x3ad08088, 0x2497d08d, 0x2056cd3a, 0x2d15ebe3, 0x29d4f654,

0xc5a92679, 0xc1683bce, 0xcc2b1d17, 0xc8ea00a0, 0xd6ad50a5, 0xd26c4d12, 0xdf2f6bcb, 0xdbee767c, 0xe3a1cbc1, 0xe760d676, 0xea23f0af, 0xeee2ed18, 0xf0a5bd1d, 0xf464a0aa, 0xf9278673, 0xfde69bc4,0x89b8fd09, 0x8d79e0be, 0x803ac667, 0x84fbdbd0, 0x9abc8bd5, 0x9e7d9662, 0x933eb0bb, 0x97ffad0c, 0xafb010b1, 0xab710d06, 0xa6322bdf, 0xa2f33668, 0xbcb4666d, 0xb8757bda, 0xb5365d03, 0xb1f740b4

};

Tracing

Trace

Old base r	nap						
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	Mar	rk	Change	order	Signature,	Page of 24 No. 27	

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Diskette
                          B2 Table lookup function
     CAD
                          void CRC32(Uint16 *pch,int len)
                           {
                               Uint32 reg = 0xFFFFFFF; //initial value
                               int i;
                               int Res=0; Remainder of//4
                               if((len%4)!=0)
                                {
                                    Res=4-len%4; //Need to supplement the number of 0 for calculating crc32
                                }
                              for(i = 0; i < len; i++)
                                {
                                    reg = (reg \le 8) \land crc\_table[(((reg \ge 24)\&0xFF) \land pch[i])];
                                }
                                for( i = 0; i < \text{Res}; I + +)//\text{Extra 0} needs to be asked to participate in CRC
                                {
                                    reg = (reg << 8) \land crc table[(((reg >> 24) \& 0xFF) \land 0x00)];
                                }
                               crc_data[0] = (reg>>24) & 0xFF;
                               crc_data[1] = (reg>>16) & 0xFF;
                               crc_data[2] = (reg>>8) & 0xFF;
                               crc_data[3] = reg \& 0xFF;
                               return;
                           }
                          The CRC _ data [0] to the CRC _ data [3] is the calculated CRC32 value.
  Tracing
  Trace
Old base map
Base
                                                                           IMU6-1y
          map
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                                                                      Page of 24 No. 28
                Mark
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                                    order
                                              Signature,
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	Appendix C Product Nami	ng Rules	
CAD		im is designed according	
		$\begin{array}{c c} IU & 3 - 1y - XY \\                                   $	Product       status         number       status         Each status number       represents         represents       a         technical       status:         measuring       range,         bandwidth, sensitive         ct sequence number        :       Basic type         B, C, D: Enhanced         neements       are
Tracing			
Trace			
		IMU6-1y	EX2.900.012SM