

## XW-TS1120/1130倾角传感器



XW-TS1120/1130是双轴倾角传感器，通过测量重力加速度在其敏感轴上的分量，解算出传感器相对于水平面的倾斜角度。产品内置温度传感器，可提供传感器内部温度值及进行温度漂移的补偿。也可根据用户需求定制单轴倾角传感器或OEM产品。

XW-TS1120/1130主要适合静态情况下载体姿态测量，因此载体的姿态角变化速度越小越好。XW-TS1120出厂标配的数据更新速率为1Hz，XW-TS1130出厂标配为7Hz，用户也可通过发送指令对其进行修改。

### 产品特点

- 微机械传感器测量以水平面为参考面的双轴倾角变化，输出角度以测量基准面为参考；
- 用户通过发送指令可再次设定倾角相对零点的输出位置；
- 产品防水等级IP55，抗外界电磁干扰能力强；
- 承受冲击震动能力强。

### 应用领域

- 工程车辆调平
- 大坝检测
- 高空平台安全保护
- 地质设备倾斜监测
- 天枰调平
- 火炮炮管初射角度测量
- 雷达天线角度对准
- 盾构顶管应用
- 路政桥梁检测
- 卫星通信车姿态检测和天线角度测量

### XW-TS1120/1130 Tilt Sensor

XW-TS1120/1130, a double-axis tilt sensor, offers resolution of sensor's inclination angle relative to the horizontal plane, by measuring the gravitational acceleration components on its sensitive axes. Embedded with temperature sensor, the product can offer sensor's internal temperature value and carry out compensation for temperature drift. Single axis tilt sensors and OEM products are available for custom orders.

XW-TS1120/1130 is mainly suitable for measuring carrier's attitude in static situation. Hence, the carrier's attitude angle change rate is the smaller the better. XW-TS1120's data refresh rate has a standard configuration of 5Hz, and that of XW-TS1130 is 10Hz. They can be modified when user sends command.

### Product features

- MEMS sensor measures the change of double-axis whose reference plane if the horizontal plane. Output angle uses measurement base level as reference.
- The output position, relative to the null point, of inclination angle can be re-set when user sends command.
- Waterproof grade: IP55, excellent anti external electromagnetic interference ability
- Outstanding anti shock and vibration ability

### Application fields

- Engineering vehicle leveling
- Dam inspection
- High latitude platform safety protection
- Geological equipment inclination monitoring
- Balance leveling
- Cannon barrel initial launch angle measurement
- Radar antenna angle alignment
- Shield machine pipe jacking application
- Road administration bridge detection
- Satellite communication vehicle detection and antenna angle measurement

## 技术指标 / Technical specifications

指标 Specifications	型号 Model	XW-TS1120		XW-TS1130	
响应速度 response speed		10Hz (可调adjustable)		10Hz (可调adjustable)	
测量范围 measurement range		双轴±15° double-axis±15°	双轴±30° double-axis±30°	双轴±60° double-axis±60°	
分辨率 resolution		0.002°		0.02°	
精度 (室温) precision (room temperature)	≤±5°	0.005°	0.005°		
	≤±15°	0.01°	0.01°	0.04°	
	≤±30°		0.02°	0.06°	
	≤±60°	—	—	0.1°	
零位误差 null position deviation		±0.005°		±0.02°	
温度漂移 -40℃到70℃ temperature drift -40℃到70℃		±0.002° /℃		±0.005° /℃	
交叉耦合误差 Cross-coupling error		≤0.02°			
工作电压 operation voltage		9~24VDC			
工作电流 operation current		≤50mA (12VDC)			
工作温度 operation temperature		-40℃~+70℃			
接口特性 interface feature		出厂默认RS-232 (RS-422/485可定制); 9600, n, 8, 1 factory default RS-232 (RS-422/485 customized available); 9600, n, 8, 1			

