

Ultra-precision dual-axis tilt sensor - BWS2500

With the development of the world economy and the advancement of science and technology, the inter-regional links have been continuously strengthened, the railway and highway transportation industries have developed rapidly, the scale of bridge construction has been continuously expanded, and the forms are more diverse. Cross-river bridges, sea-crossing bridges, large suspension bridges, large-span cable-stayed bridges have emerged one after another, connecting roads and railways, providing convenience and speed for people's lives and work, and becoming a key part of the transportation network.



Qingdao Jiaozhou Bay Bridge - the longest sea-crossing bridge in the world



Product real shot

桥梁安全

6大威胁因素



交通量不断增大



建桥标准偏低



建设质量问题



超重、超限车辆增多



自然灾害的影响



材料与结构自然老

Product Highlights:

- Tower tilt measurement accuracy of up to 0.001°
- Real-time monitoring of geometric shape changes of the main beam of the bridge
- Good low frequency characteristics and transient response capability
- High data stability and no external influence
- Sensor layout is convenient, shortening the bridge time
- Small size, light weight and long life
- IP67 protection level, resistant to external electromagnetic interference
- Mature technology, wide application and low cost
- The hardware facilities suitable for bridge health diagnosis are pre-buried in new bridges.

Ultra-high precision dual-axis tilt sensor - technical indicators

Mechanical properties :

Connector	Metal connector (standard cable is 1.5m)
Protection level	IP67
Shell material	Magnesium alloy oxidation
Installation	Three M4 screws

Electrical index :

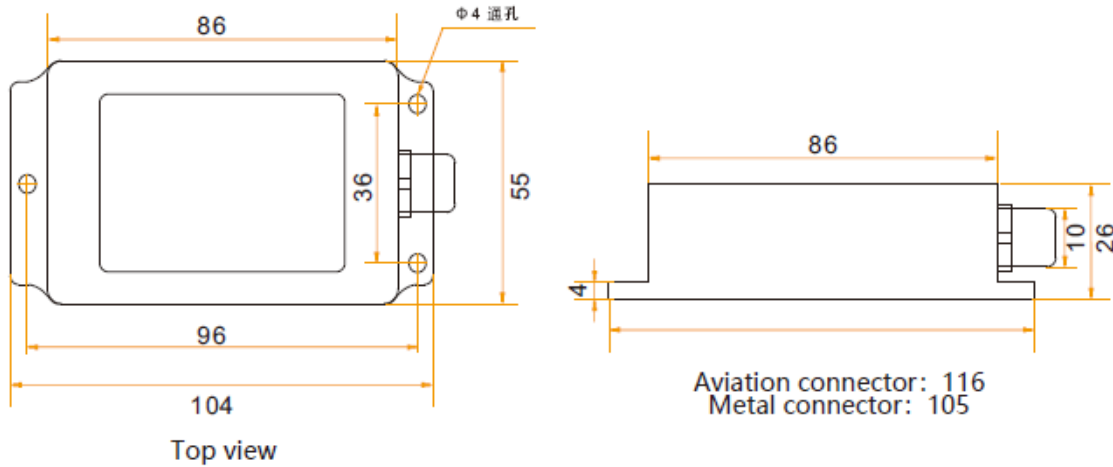
Parameters	Conditions	Min	Typical	Max	Units
Power supply(DC)		9	12	35	V
Operating current	Non-loaded	20	30	40	mA
Operating temperature		-40		+85	°C
Store temperature		-55		+100	°C

Performance :

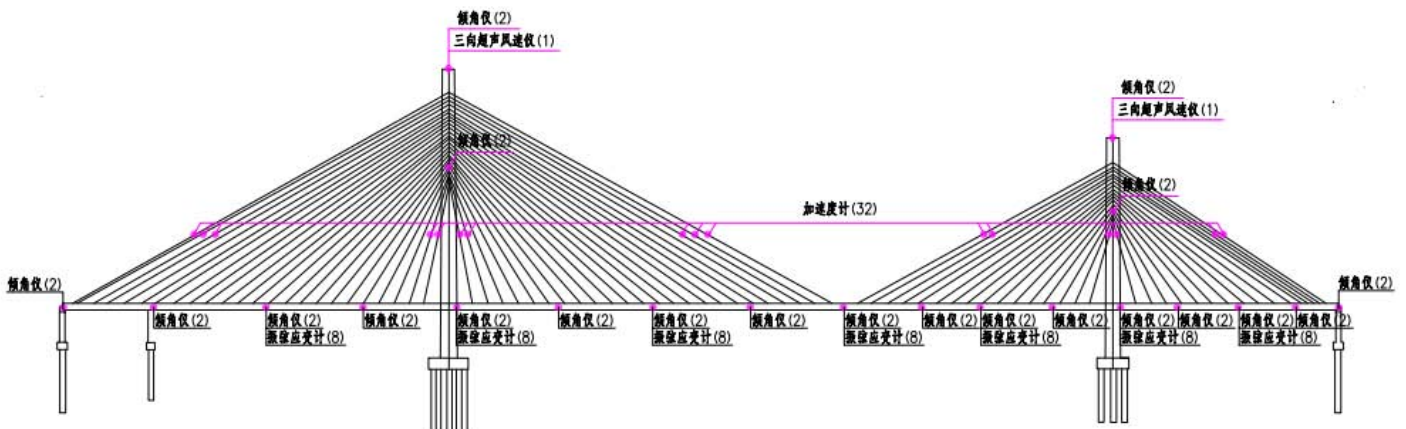
Measuring range(°)	Conditions	±5	±15	±30
Measuring axis	Vertically	X-Y	X-Y	X-Y
Accuracy(°)	Indoor	0.001	0.003	0.005
Resolution(°)	Completely static	0.0005	0.0005	0.0005
Zero temperature drift(°/°C)	-40 ~ 85°C	±0.0007	±0.0007	±0.0007
Cross axis error(°)	Max	0.001	0.001	0.001
Power-on time		<3s	<3s	<3s
Frequency response (Hz)	5 ~ 100Hz (Adjustable)	100	100	100
Baud rate	Adjustable	2400~115200	2400~115200	2400~115200
MTBF	≥90000 hours/time			
Electromagnetic compatibility	according to GBT17626			
Insulation resistance	≥100 MΩ			
Shock resistance	2000g,0.5ms,3times/axis			
Weight (g)	320 (Metal connector) /350 (Aviation connector)			

Ultra-high precision dual-axis tilt sensor - mounting size

Product plan :



Monitoring points :



Ultra-precision dual-axis tilt sensor - success story

Guizhou Beipanjiang Bridge

- (the tallest bridge in the world)



- Wuhai Lake Bridge



- Yangzhou Beichengzi River



- Da Chong Ganjiangte Bridge



- Tianjin Binhai Bridge



- Guizhou Yachi River Bridge



- Guizhou Azhihe Bridge



- Nanjing Weihe Bridge

