

LIS344 dual axis relay output tilt switch

Aerial work vehicles, that is, truck-mounted aerial work platforms, with the development of economic level, the demand for aerial work vehicles is also increasing. As a convenient and efficient high-altitude operation equipment, aerial work vehicles effectively improve the efficiency and safety of aerial work. However, we also see that there are still many high-altitude accidents. The reasons for this are many, and the casualties caused by accidents can often be prevented by alarms from the detection equipment carried by the vehicles. There are two parts of the aerial work vehicle that need to be leveled. One is the working platform, and the other is the turntable (ie, the whole machine). If the leveling fails and cannot be discovered in time, it will seriously affect the safety of the operation.



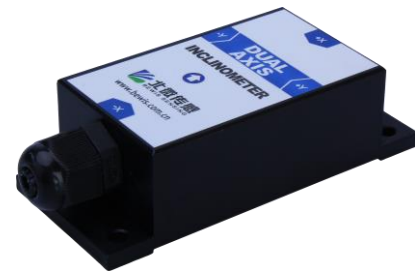
"High-altitude operation vehicle leveling monitoring system" is committed to providing a new scientific and technological means for the construction enterprise equipment safety management department, implementing the whole process intelligent monitoring of the high-altitude operation vehicle use process, and timely alarming, thus achieving the goal of safe production.

Bewis Sensing Technology Co., Ltd. developed a high-precision dual-axis relay output tilt switch LIS344 for the demand characteristics of the leveling monitoring and alarm system of aerial work vehicles. The following mainly introduces the application of the tilt switch in the leveling monitoring system with LIS344 as an example.

The LIS344 series is a dual-axis tilt switch from Bewis-Sensor, measuring +/- 90 degrees. When the measured inclination angle is greater than the alarm threshold, the output line becomes closed (can also be disconnected).

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If the measured inclination does not exceed the alarm threshold, the output line is normally open (also normally closed). Thanks to the built-in solid state relay, the user does not need to reconfigure the relay. The maximum current in the normally closed state can reach 1A. The alarm threshold can be set according to the actual situation of the user. The product is small in size, high in consistency and stability, and the working temperature reaches the industrial grade of -40 ° C -85 ° C. It is a cost-effective tilt switch.



Product real shot

Product Highlights :

- Dual axis tilt monitoring optional
- Alarm threshold can be set arbitrarily
- Two-way alarm output four-wire / single-line optional
- Wide voltage input 9~35V
- Small size, high consistency and stability
- Operating temperature -40 ° C ~ +85 ° C
- High vibration resistance >2000g
- IP67 protection rating for harsh climate

LIS344 dual-axis relay output tilt switch - technical indicators

Electrical index :

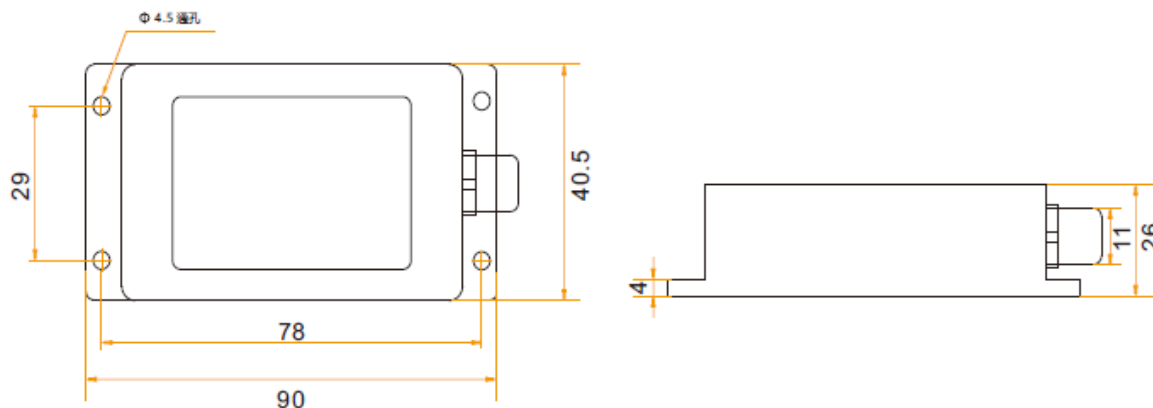
Product number	LIS344			
Power Supply (V)	Conditions	Min	Typical	Max
		9	12	35
Operating current(mA)	Non-loaded		40(DC12V)	
Operating temperature(°C)		-40		+85
Store temperature(°C)		-55		+100
Measuring range(°)		< ±90		
Accuracy(°)		0.1(<±80) ; 0.2(±80-90);		
Resolution(°)		0.01		
Measuring axis		X、 Y		
Alarm axis		X、 Y		
Zero temperature drift(°/°C)	-40~85°C	±0.01		
Frequency response (Hz)		100Hz		
Communication cable		9-core cable, 0.15mm ² for one		
Weight (g)		220 (1.5 m communication cable, package excluded)		

Electrical index :

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

LIS344 Dual Shaft Relay Output Inclination Switch - Dimensions and Connections

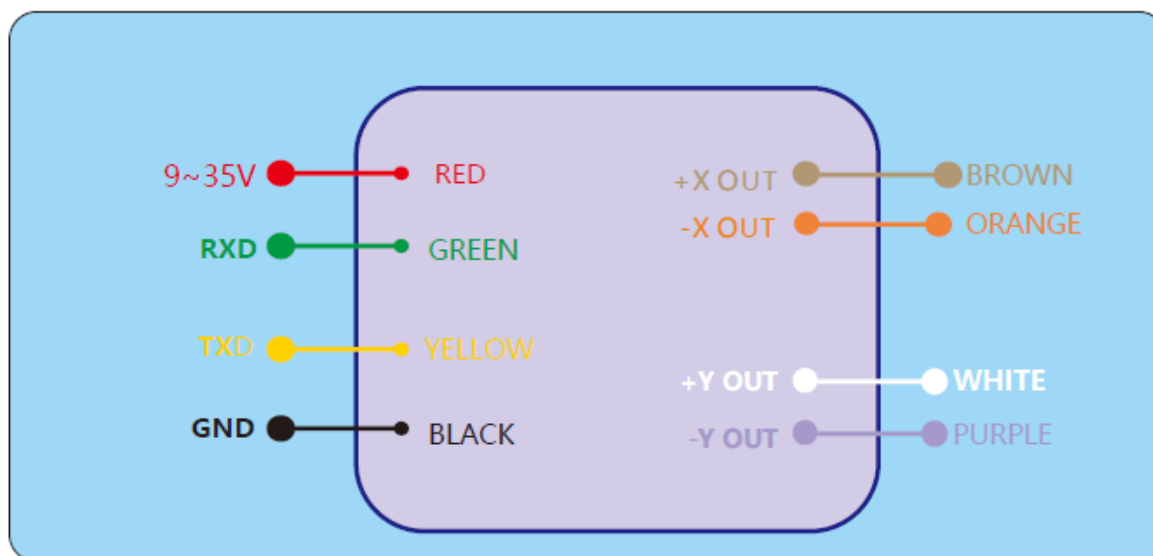
Product plan :



Electrical connections :

Electrical interfaces

Cable color & Function	RED	BLACK	GREEN	YELLOW	WHITE	PURPLE	BROWN	ORANGE
	1	3	4	5	6	7	8	9
	VCC DC 9-35V	GND	RXD	TXD	+Y OUT	-Y OUT	+X OUT	-X OUT



LIS344 Dual Shaft Relay Output Inclination Switch - Success Stories



Work platform installation LIS344 Dual-axis tilt switch, triggers an alarm or brake when the work platform tilt angle exceeds a limited number of degrees

Base Mount LIS344 Dual-axis tilt switch that triggers an alarm or brake when the tilt angle exceeds a defined number of degrees

Aerial work vehicle with tilt sensor solves the problem of working at height

Road signs, wire hubs, base stations and other ground equipment are indispensable devices in people's daily lives. In the past, maintenance, replacement, and cleaning of highway signs, often using slides, loaders, inconvenient operations, and potential safety hazards. In order to solve this practical problem, the Qingyuan County Highway Administration of Zhejiang Province recently purchased an aerial work vehicle with high-pressure cleaning function, which is convenient for maintenance, replacement and cleaning of signage signs, and can solve high-altitude operations such as tunnel lighting maintenance. problem. The aerial work vehicle uses a plurality of tilt sensors to detect the inclination to ensure the safety of the workers.

The live working car slowly stopped at the 10 kV pole in front of a factory door, and two electrified workers sat in the car. Then, two electrified workers worked together to raise the bucket to an altitude of nearly 10 meters above the ground. With the economic and social development of our county, the requirements for electric power construction are getting higher and higher. In the past, the "difficult" live working has become a "conventional project" . In order to replace the load switch, it is a relatively simple project and requires an aerial work vehicle.

The tilt switch is used to detect whether the vehicle body is tilted, and the tilt sensor detects the tilt of the forearm of the aerial work vehicle. The accuracy of the detection is closely related to the quality of the tilt sensor itself. This type of industry also uses travel switches, twist switches, and hour meters.