



Appearance patent no. . . . ZL 201830752874.1

V2.1

DIGITAL SINGLE/DUAL AXIS INCLINOMETER

RION LCA316T/LCA326T

Technical Manual

LCA316T/LCA326T DIGITAL INCLINOMETER

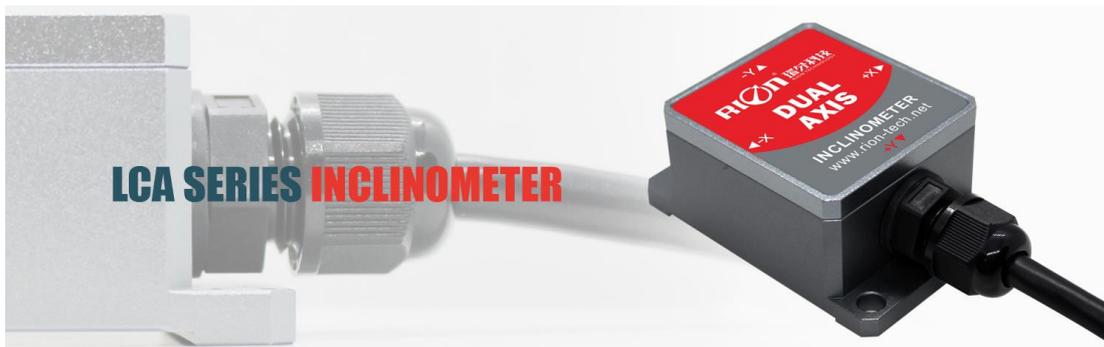


RION-TEHC QUALIFICATION CERTIFICATION

- Quality management system certification: GB/T19001-2016 idt ISO19001:2015 standard (certificate no.: 128101)
- High-tech enterprise (certificate No.: GR201844204379)
- CE certification: AT18250EC100244
- China National Intellectual Property Appearance Patent (Patent No. : ZL 201830752874.1)
- Revision date: 2022-1-4

Note: Product functions, parameters, appearance, etc. will be adjusted as the technology upgrades, please contact our pre-sales business to confirm when purchasing.

LCA316T/LCA326T DIGITAL INCLINOMETER



► PRODUCTION

LCA316T & LCA326T series products are a new generation of digital small volume MEMS tilt sensor launched by RION Technology. It has a built-in dual-channel earth gravity tilt unit, which can be converted into tilt angle changes by measuring static gravity acceleration. So that the tilt angle of the sensor output relative to the horizontal plane can be measured. Output method RS232, RS485 or TTL. Because it is a built-in MCU control system, which correct the linearity of the sensor output twice, making up the accuracy drop for the analog type because of insufficient correction.

This product adopts non-contact measurement of the original quantity, which can output the current attitude and inclination in real time. It is simple to use. Is industrial automation control,

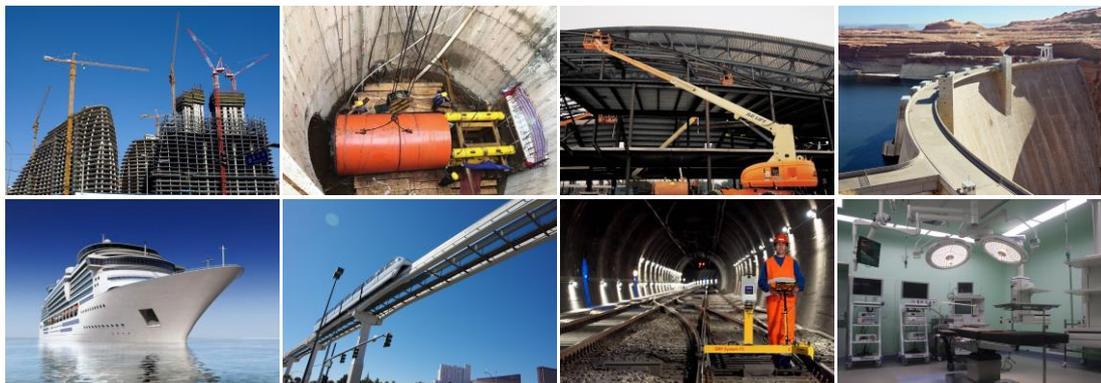
It is an ideal choice for measuring posture of industrial automation console. It has strong resistance to external electromagnetic interference and can adapt to long-term work in harsh industrial environments. This product is mainly suitable for static and slow changing dynamic measurement, but not for fast changing dynamic measurement.

► MAIN FEATURE

- ★ Single / dual axis inclination measurement
- ★ Range $\pm 10 \sim \pm 90^\circ$ optional
- ★ Wide temp. operation $-40 \sim +85^\circ\text{C}$
- ★ Output mode RS232 / RS485 / TTL
- ★ High anti-vibration performance $> 3500\text{g}$
- ★ Resolution 0.02°
- ★ DC3.6-7V input
- ★ IP67 protection level
- ★ Small size $55 \times 37 \times 24\text{mm}$ (customizable)

► APPLICATION

- ★ Electric blind chair leveling
- ★ PTZ operation monitoring
- ★ Satellite antenna positioning
- ★ Medical equipment leveling
- ★ Car chassis measurement
- ★ Four-wheel positioning system
- ★ Various engineering machinery angle control



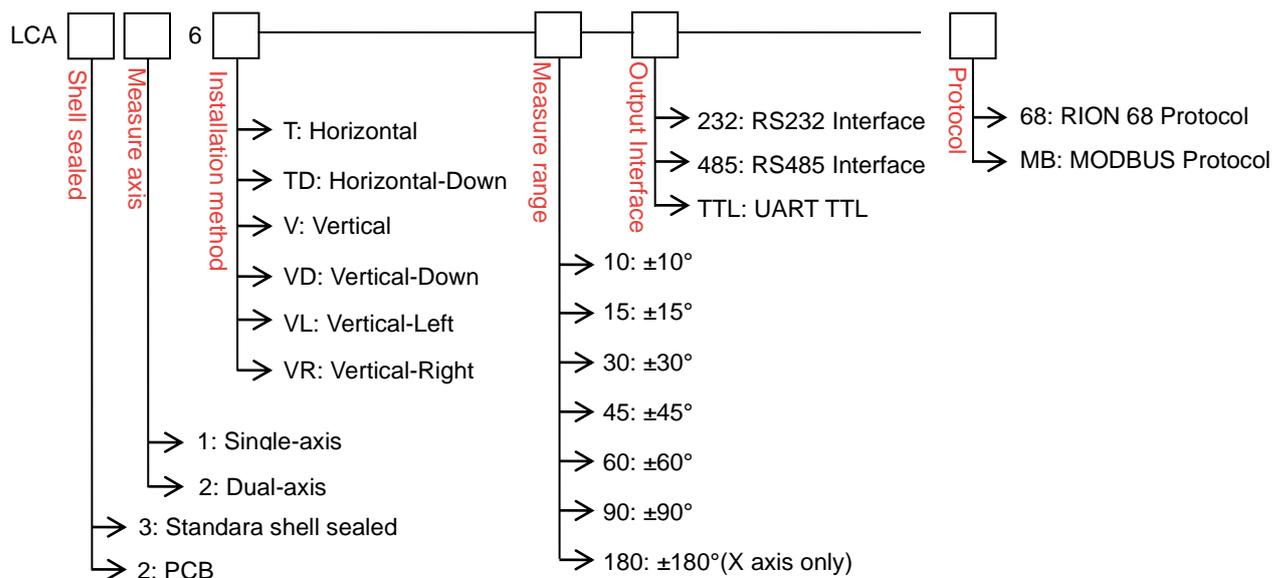
LCA316T/LCA326T DIGITAL INCLINOMETER

▶ PARAMETER TABLE

LCA316T&326T	CONDITION	PARAMETER				UNIT
Measure range		±10	±30	±60	±90	°
Measure axis		X Y	X Y	X Y	X Y	Axis
Resolution		0.02	0.02	0.02	0.02	°
Measure accuracy	@25°C	0.1	0.1	0.1	0.1	°
Zero Temp. coefficient	-40 ~ 85°C	±0.02	±0.02	±0.02	±0.02	°/°C
Sensitivity temp. coefficient	-40 ~ 85°C	≤150	≤150	≤150	≤150	ppm/°C
Power on start time		0.5	0.5	0.5	0.5	S
Response time		0.02	0.02	0.02	0.02	s
Output rate	5Hz、15Hz、35Hz、50Hz, can be set					
Output signal	RS232/RS485/TTL					
EMC	According to EN61000 and GBT17626					
MTBF	≥45000 hours/times					
Insulation Resistance	≥100 MΩ					
Shockproof	100g@11ms、3 Axial Direction (Half Sinusoid)					
Anti-vibration	10grms、10 ~ 1000Hz					
Protection grade	IP67					
Cables	standard configuration: 1 meter wearproof、grease proofing、wide temperature、Shielded cables 4*0.3mm2					
Weight	≤135g (including 1 meter cable)					

* This performance parameter only lists ± 30 °, ± 60 °, ± 90 °, ± 360 ° series as a reference, for other measurement ranges, please refer to the adjacent parameters.

▶ ORDER INFORMATION

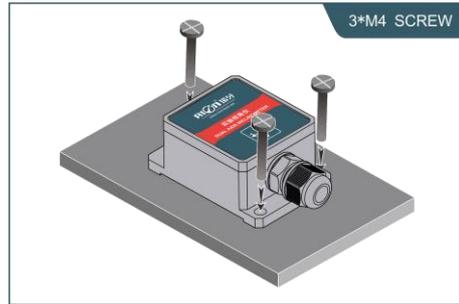


E.g.: LCA326T-10-232-68: Standara shell sealed / Dual axis / standard type / ± 10 ° measure range / RS232 output / Rion 68 protocol.

LCA316T/LCA326T DIGITAL INCLINOMETER

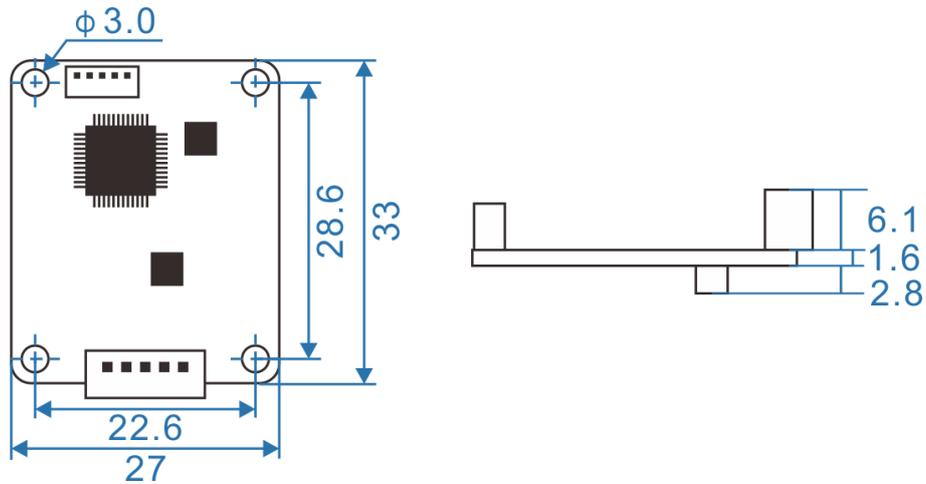
► MECHANICAL PARAMETERS

- Connector: 1m straight lead (customizable)
- Protection level: IP67
- Shell material: aluminum alloy frosted and oxidized
- Installation: Three M4 screws



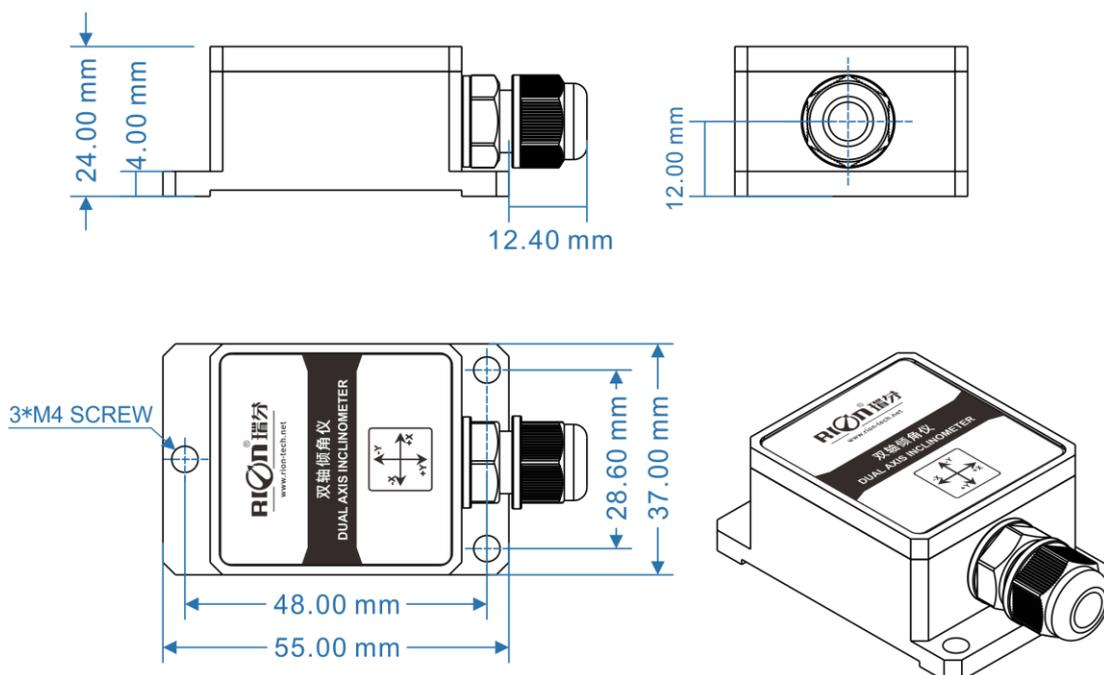
► SIZE

PCBA SIZE



SIZE: L27×W33×H10.5mm

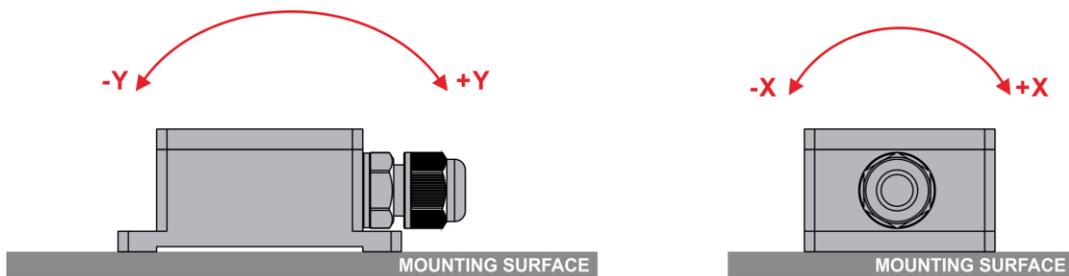
SHELL SIZE



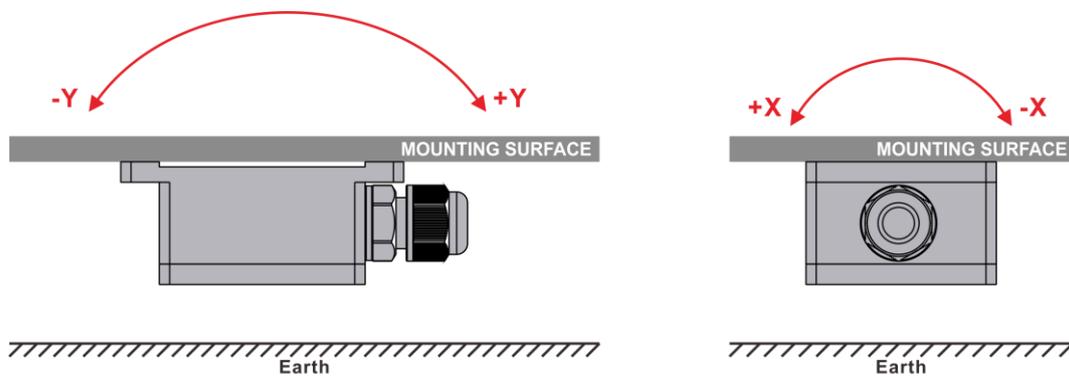
SIZE: L55mm×W37mm×H24mm

► **INSTALLATION DIRECTION**

During installation, keep the sensor mounting surface parallel to the target surface to be measured, and reduce the impact of dynamics and acceleration on the sensor. This product can be installed horizontally or vertically, please refer to the following diagram for the installation method:

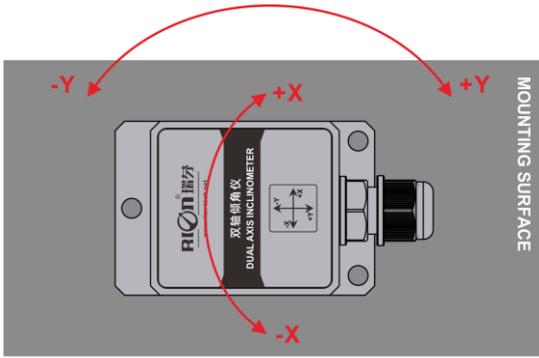


Horizontal installation

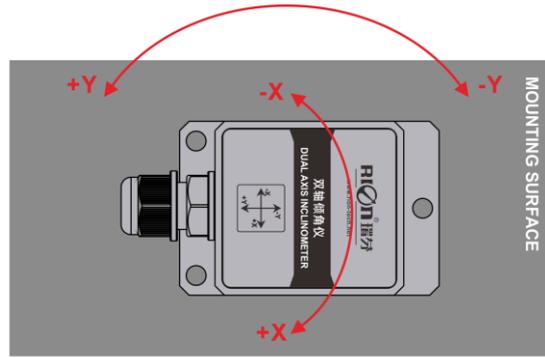


Horizontal-down installation

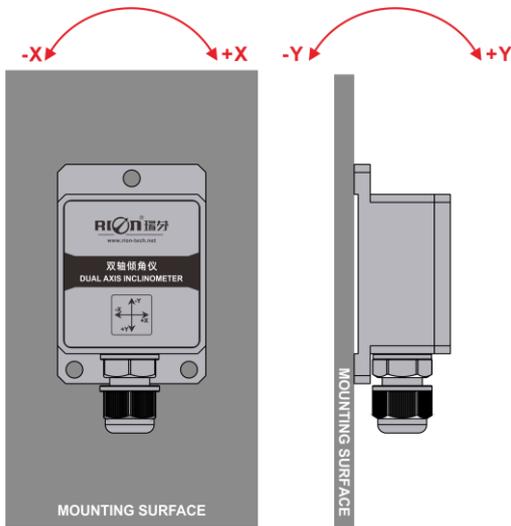
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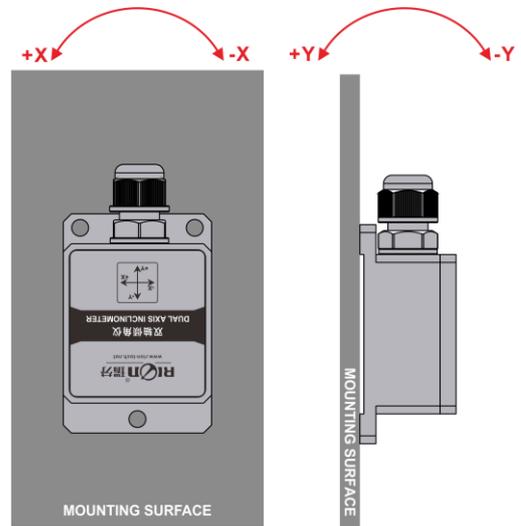
Vertical-left installation



Vertical-right installation



Vertical installation



Vertical-down installation