DMI410 Digital Display Inclinometer

SPECIFICATIONS

Item No.：DMI410

Description：Digital Display Inclinometer

Production implementation standard reference

- Enterprise quality system standards: ISO9001: 2008 standard (certification number: 128101)
- Tilt sensor production standards: GB / T 191 SJ 20873-2003 inclinometer general specification of Level
- The Academy of metrology and quality inspection Calibrated in accordance to: JJF1119-2004 Electronic Level calibration Specification
- Software development reference standard: GJB 2786A-2009 military software development General requirements
- Product environmental testing standards: GJB150
- Electromagnetic anti-interference test standards: GB / T 17626
- Version:Ver.09
- Date:2014.5.17

For pricing or any further information, please contact Omni Instruments Ltd.

Measurement and data acquisition solutions

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DMI410 Digital Display Inclinometer

General Description

DMI410 is a digital display inclinometer which took RION company three years to develop professional for various industry angle control and measuring.The core of this product is using the micro-mechanical control principle, dual-core measurement unit, can use the Y-axis to compensate X-axis during the measurement process, and then to use RION patent interleaved and temperature compensation model algorithm to play absolute operation advantages of the micro-mechanical electronic principles, to ensure that the instruments measurement with the long-term stability and repeatability. DMI410 is a uniaxial 360deg measurement, resolution 0.01°、accuracy <0.1 degree full-scale、fast response, stable data, products specially designed for the sides and bottom with magnetic adsorption installation, both sides of the benchmark can be measured and using normally, very convenient to use, In addition, supporting the selection of DMI410 (SMI410) with the use of separate measurement, used in combination with the Division LCA series tilt sensor, the transmission mode wireless or wired optional, wireless using one-to-one band transmission, transmission straight line distance> 10m, the cable transmission standard 1 meter (can be customized long distance), DMI410 series has strong scalability, convenient & practical application and industrial reliability, has absolute cost advantage and has an absolute competitive advantage in the international market !

Features:

- ●Accuracy：0.05°
- ●Repeatability：0.05°
- ●Resolution：0.01°
- ●Measuring range：±180°
- ●Fast response
- ●Data hold on function
- ●Absolute/Relative measurement can switch
- ●Both sides and bottom can measure
- ●Double benchmark strong magnet installation
- ●Working Temperature : -20°～ +65℃
- ●Auto-angle interleaved compensation function
- ●Auto temperature drift compensation
- ●User can calibrate by himself
- ●Built-in recharge industry battaries
- ●Night vision fours colors screen
- ●IP54 protection class
- ●°/mm Dual units switch function
- ●100g High anti-impact

Application :

- ●Building construction
- ●Automobile four-wheel testing
- ●Road slope
- ●Machinery installation
- ●Piping installation
- ●Industrial platform
- ●Turntable testing
- ●Cloud deck angle detection
- ●Production jig
- ●Medical instruments

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Ordering information :

Item No.	Desc.	
DMI410	Standard single-axis digital display inclinometer/ Measuring range ±180°(Length 0～±999.99mm/m)	

Technical Data

Parameters	DMI410	UNIT
Angle Measuring range	±180 ° ;	°
MM measuring range	0～±999.9	mm
Measuring axis	Single axis	
Angle measuring accuracy	±0.05 °	°
Angle Measuring resolution	0.01	°
MM measuring accuracy	0.9	mm
MM measuring res	0.17	mm
LCD visible area size	L40*W32	mm
Working temperature	-10°～ +70℃	°/℃
Working humidity	≤85	%RH
Power supply	3.7V Charging Lithium battery	V
Ideal charging time	3	h
Battery design stand-by time	8（±0.5)	h
Connect plugin	Standard 5-Pin USB connector	
Shock proof	10g@11ms、3Times/Axis(half sinusoid)	
Shock impact	10grms、10～100Hz	
Weight	125	g
Waterproof grade	IP54	
Material	Aluminum alloy	
Size	L83*W53*H19.2mm	mm

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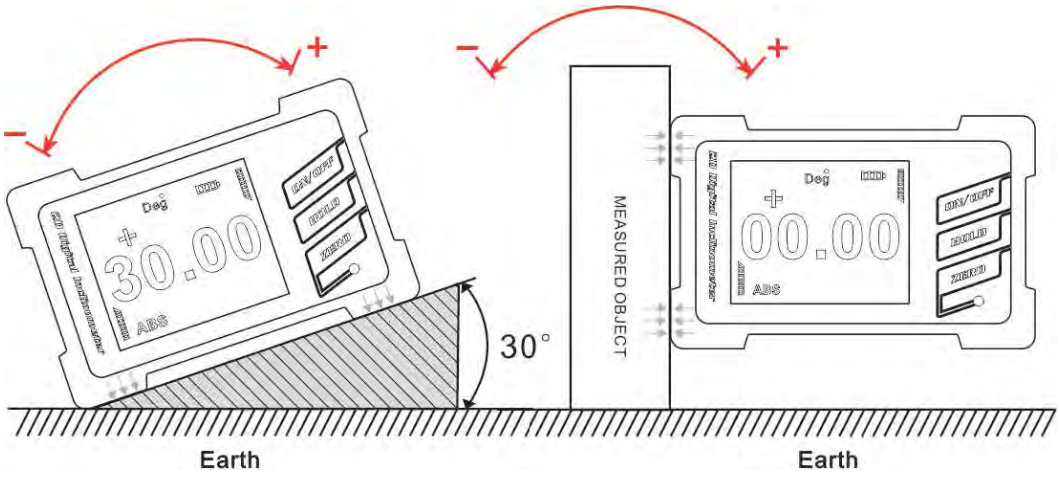
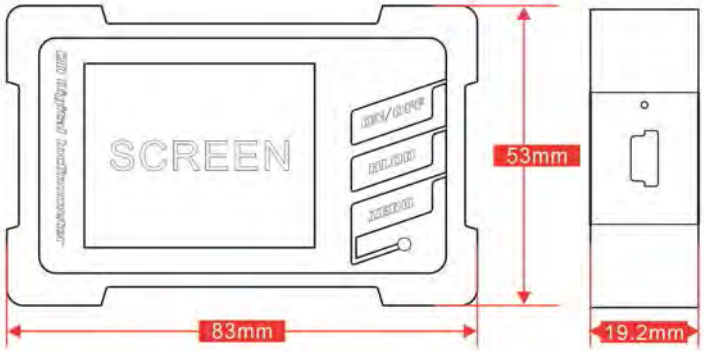
Measuring direction



Size



Products dimension：L83*W53*H19.2mm

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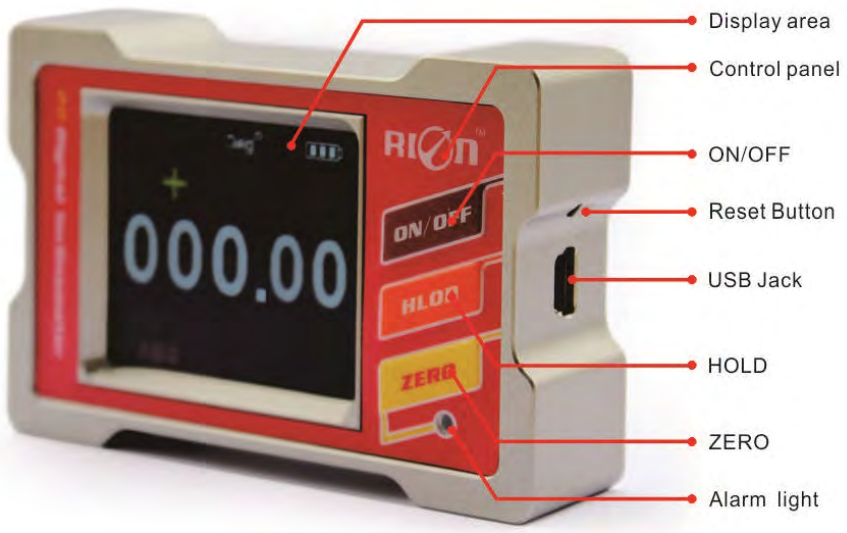
Product Functions:



ON/OFF： Press for 2 seconds to power on or off ;

HOLD： This key to lock the current data, convenient customer records;

ZERO： This button can switch in the absolute and relative measurement mode; (screen display ABS means absolute status, display REL means relative measurement)

HOLD & ZERO: Press HOLD button until the screen appear a small lock sign then press ZERO, can switch in “Angle” and “mm/m” two units of measurement;

ON/OFF&HOLD: Press ON/OFF button until the screen to be black then press the HOLD button , can calibrate the accuracy according to the screen;

ON/OFF&ZERO: Press ON/OFF button until the screen to be black then press the HOLD button , can calibrate the ZERO according to the screen;

RESET HOLE: If the instrument occur a crash in working, key can't operation, can use the needlepoint hard object to insert into the hole for touch the button;

USB JACK： For charging purposes or Angle of external connection, data transmission;

WARNING LIGHT： Charging warning lights, lights up means is charging, light off mens has been filled with power then can take off the charger .(In order to keep the battery with a long life please don't use it as much as possible when it is charging with power.)

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Functional menu instructions :

: This icon appears in the SMI410/420, means the display unit and sensor is connected, if the color icon is red, means the current connection has errors.

: This icon appears in the WMI410/420, means the display unit and sensor is connected, if the color icon is red, means the current connection has errors.

ABS: Means at present the sensor is absolute measurement.

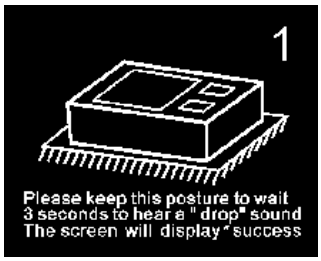
REL: Means at present the sensor is relative measurement.

Deg°: Means at present the measurement unit of sensor is deg.

mm/m: Means at present the measurement unit of sensor is mm/m。

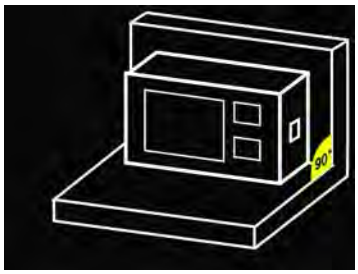
: Means at present the sensor is in screen lock status.

When because of casing attrition etc. Reasons then result in a decline in the sensor precision or ZERO offset , the user can recalibrate through the calibration . The images as below after enter into the calibration:



During calibration, the user needs to maintain the sensor in different attitudes according to the screen indication,precision calibration has six attitude points, the ZERO has two attitude points. Each attitude point system will give one long and one short two tones, place the sensor correctly in accordance with the instructions on the screen, wait for 5-10 seconds, there will be a long tone, then the system will sample, so you need to try to keep a stable environment. Sampling will be conducted for 3-5 seconds, after which there will be a short tone, then keep the sensor to the next attitude. When finished six points after calibration, the system will automatically shut down. Similarly, the zero calibration according to the above steps.

Note: Whether the zero calibration or precision calibration, each attitude point horizontal datum must be the same, otherwise the calibration results may give adverse effects. Therefore, it is recommended first to find a L-shaped calibration fixture (or any object with L-shape surface) , then in each attitude point, the sensor close to the L-shaped surface, as shown below:



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Products maintenance :

1. The digital display angle instrument using 3.7 V rechargeable lithium battery, in order to improve the battery life, please recharge when the battery not completely to be used out.
2. Press power ON without digital display, please recharge in time.
3. The instrument reliability and can be used in the vibration environment, please don't high-altitude fall the instrument to avoid cause permanent damage.
4. If found instrument damage please don't disassemble it by yourself, please contact us at first for professional guidance , such as personal removed , subject to manufacturer shall refuse to repair.

Warning :

1. This product has a high precision sensor and information processing circuit, it is forbidden to drop impact or to tear open outfit, otherwise the consequence is proud.
2. Don't press the multiple keys at the same time, it is easy to affect the service life of the Product.
3. This product should be placed in a safe place where Children can not touch.

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