



## SPECIFICATIONS

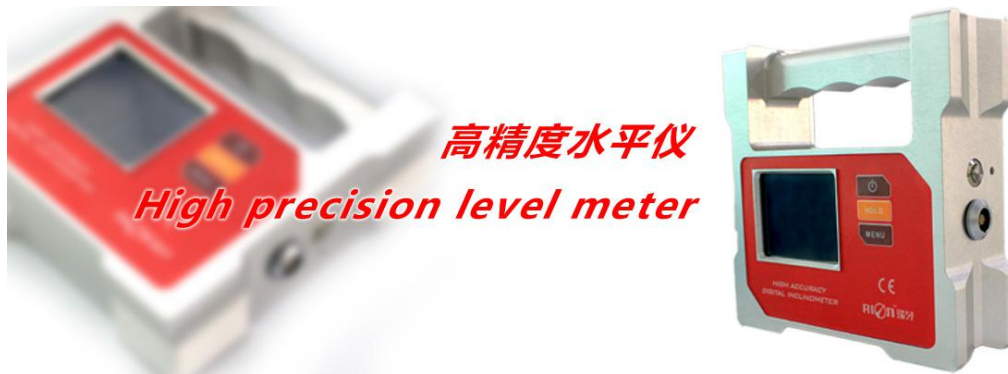
Item No.: DMI900

Desc.: Super High Precision Digital 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. 1
- RevisionDate: May 9<sup>th</sup>, 2016

# DMI900-Super High Precision Digital Inclinometer



## General Description

DMI900 is one Single axis Digital Inclinometer developed by RION company based on high precise angle measurement platform, it adopts the quartz pendulum slice of the earth's gravity induction component to solve the object level tilt angle. The built-in 32 bit microprocessor and collocation 32 bit high precision analog-to-digital converter, can highly subdivision sampling for the front weak current current and signal ratio of inclination , can meet the highest level accuracy of 0.001 degrees, the resolution is up to 0.0002 degrees. With Built-in large capacity rechargeable battery, continuous working time up to 12 hours. The product integrates USB serial interface, can real-time transmission of current measurement results to the external port, also can read the measurement data level of internal storage, data playback and analysis can be carried out on site chart, is the best instrument and measurement of high precision adjustable platform.

## Key Features

- Best accuracy: <0.001°
- Maximum measuring range:  $\pm 30^\circ$
- Absolute/Relative measurement can switch
- Double benchmark strong magnet installation
- Auto-angle interleaved compensation function
- User can calibrate ZERO by himself
- Night vision fours colors screen
- °/mm/m Dual units switch function
- Three kinds of measurement mode selectable (radian, angle, mm)
- Repeatability: 0.002°
- User can set the alarm value by himself
- Both sides and bottom can measure
- Working Temperature :  $-10^\circ \sim +70^\circ\text{C}$
- Auto temperature drift compensation
- Built-in rechargeable industry batteries
- IP54 protection class
- Filter frequency optional
- Angle resolution: 0.0002°
- Data store function

## Application

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

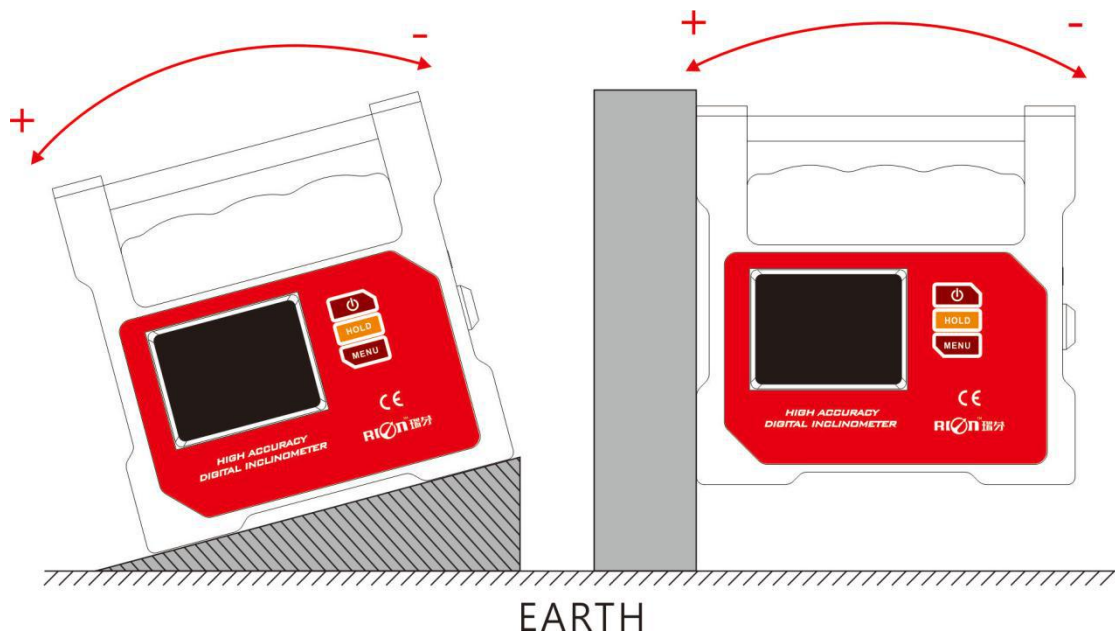
## Ordering Information :

Item No.	Desc.
DMI900-30	Standard dual-axis digital display inclinometer $\pm 30^\circ$ (USB interface)

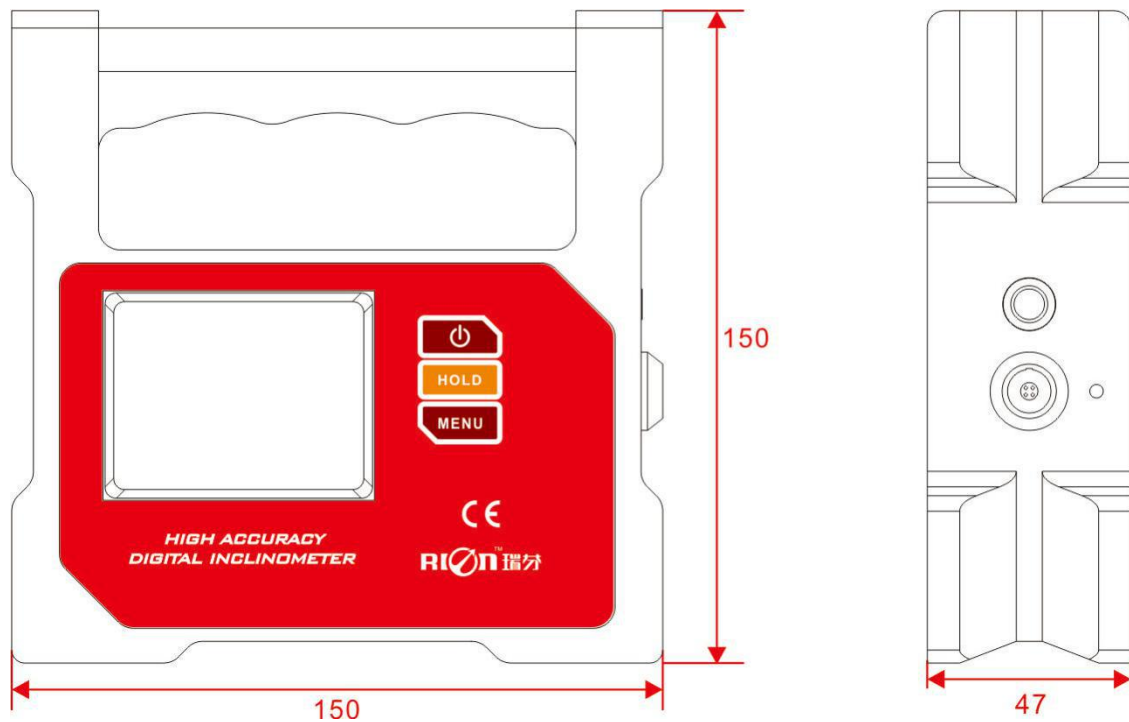
## Technical Data

Parameter	DMI900 -30	
Angle Measuring range	±30	°
Measuring axis	Single axis	
Best Accuracy	<0.001 (Full range)	°(RMS)
Angle Measuring Resolution	0.0002	°
3 measurement mode selectable	radian, angle, mm measuring can be selected	/
LCD	64 true colors night vision display screen	/
LCD visible area size	L57.6*W43.2	mm
Working temperature	-10°~ +70℃	°/℃
Working humidity	85	%RH
Power supply	3.7VCharging Lithium battery	V
Ideal charging time	10	Hours
Battery continuous working time	12	Hours
Data output signal	USB1.1 (Virtual serial port device)	/
With PC software	VC application software	/
Connector	Standard USB connector, charging function	/
Shock resistance	10g@11ms、3Times/Axis(half sinusoid)	g
Shock impact	10grms、10~100Hz	g
Weight	1200G	g
Waterproof	IP54	/
Material	Anodic oxidation of aluminum alloy	/
Dimension	L150*W150*H47mm	mm

## Measuring Direction



## Dimension



Dimension : L150\*W47\*H150mm

## Product Functions



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

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

MENU: Press MENU menu disappears, then re-press appears.。

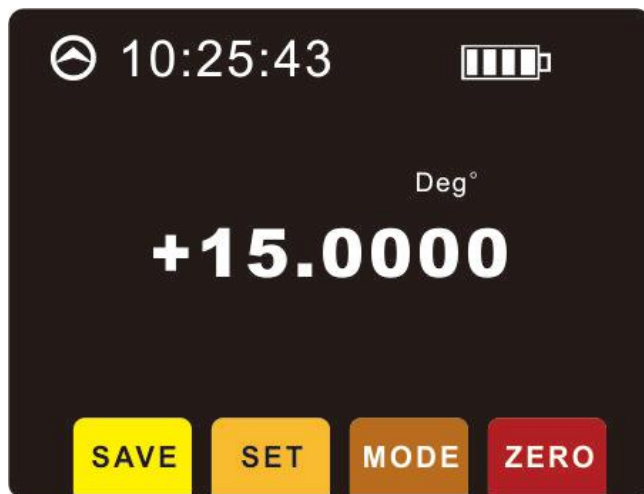
RESET HOLE: If the instrument occur a crash in working, key can't operation, can use the needlepoint hard object to insert into the hole for touch the button;

Charging /Communication Port: For charging purposes or USB1.1 protocol output data ;

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.)

## Functional menu instructions

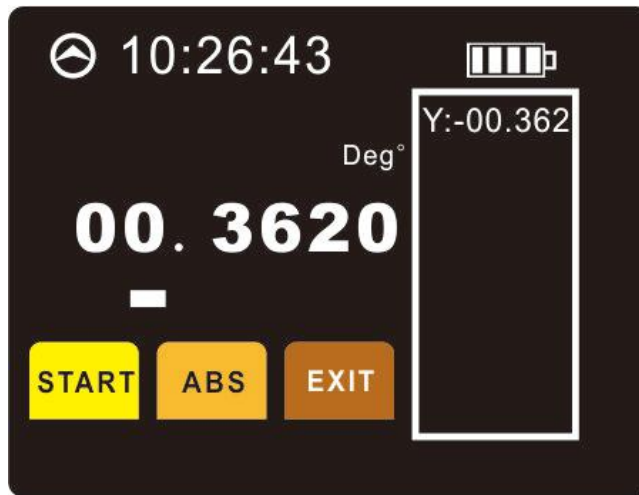
- 1.ON/OFF press 3 seconds or so, when heard “beep...”Let go,startup/shutdown .
- 2..Press “HOLD” button to lock , re-press to unlock , Upper right corner of the monitor icon display.
3. Press MENU menu disappears, then re-press appears.。
- 4 . Press the “ MENU” and “HOLD” keys at same time to enter the touch screen calibration.
  - 4.1 Click “OK” enterinto nex step ,click “EXIT” to Exit touchscreen calibration.
  - 4.2 Click the red dot with a small pen to move the red finish four points automatically exit calibration.



①Click the **SAVE** button to enter the touch screen save option

- A. DELETE ALL DATA
- B. SAVE THE SINGLE POINT
- C. SAVE MULTIPLE POINT (Saved frequency selectable 1, 5, 10, 20)
- D. Click “OK “to choose “success”
- E. EXIT Give up selection to keep the original

Select “save the single point” to enter into interface

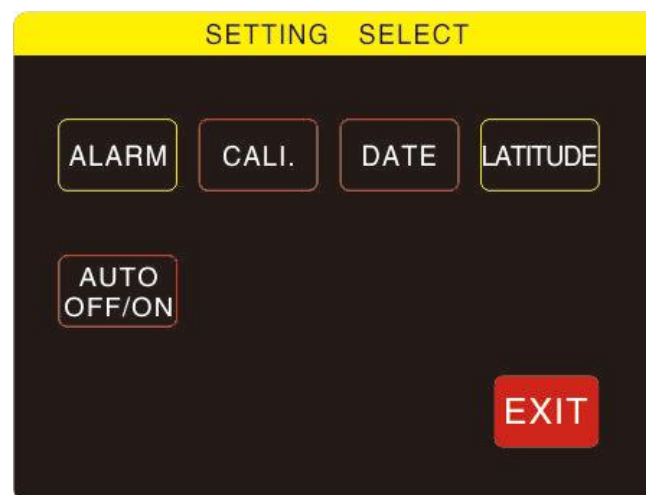


Save then click START ,Saved the related data in SD card  
, and display at the right corner of the interface , Right corner of the six sets of data can be displayed, and then refresh

ABS/ZERO Switch keys

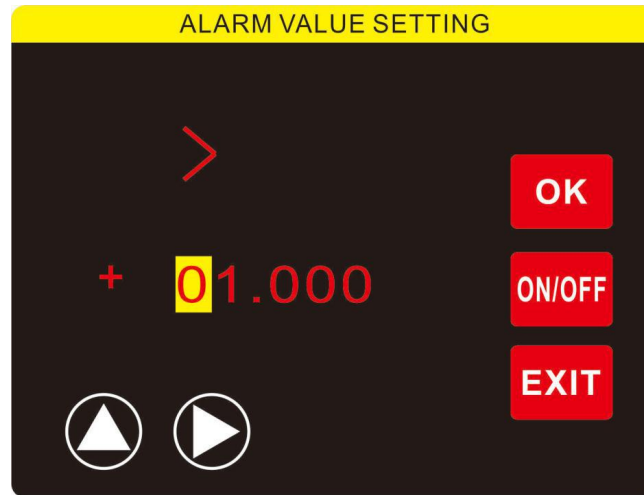
EIXT: Exit saving function

②SET



Click the SET button to enter the setup interface six button options and features:

- A. ALARM : Angle alarm value setting
- B. CALI. : Calibration setting
- C. DATE : Date settting
- D. LATITUDE : Current Latitude Setting
- E. AUTO ON /OFF : Auto power OFF setting



1. Click ON / OFF and open the angle alarm setting, display numbers, closed setting then shows "-----."
2. Click on the X or Y axis data point select the appropriate axis angle setting.
3. Click the up: Changing the corresponding bits of data and symbols.  
Left: Change the corresponding bit of the direction keys.  
Angle symbol is +: When the angle is greater than the corresponding alarm  
-: When the angle is less than the corresponding alarm  
+ / -: Outside this range alarm

For example:

Set X: +03.00 means when the X axis angle +3.3, is greater than 3 degrees then alarm;  
Set Y: -04.00 means when the Y axis angle -4.6, is less than -4 degrees then alarm;  
Set Y: + / -05.00 angle when the Y axis angle -6, exceed -5 to +5 degrees then alarm

4. Click "OK " to save the setting angle, then to take effect
5. EXIT: Exit set the angle saving

## **B. CALI**

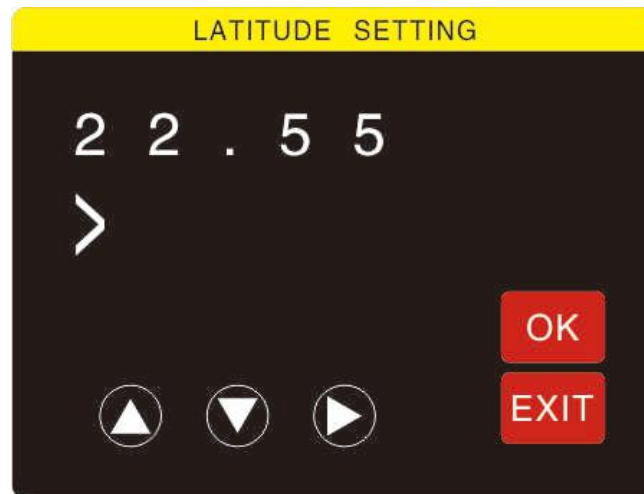
**Click" OK" then to operate according to related action**

## **C.DATE**

Setting data & time to display the correct time of saved data  
To the left: choose the time (date) (month) (year), the location of the hours, minutes and seconds, recycled  
The up button: adding the corresponding value  
The down keys: reduce the corresponding numerical values  
OK: save Settings  
EXIT: quit Settings date interface, no save




D. LATITUDE: Local Latitude setting

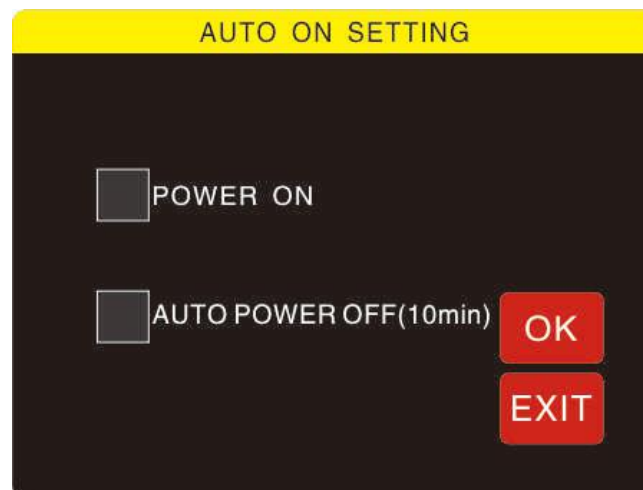




Setting local latitude value, because the earth's gravity field around the different, customers only need to set the local latitude, product automatic computing local gravity field, correct the accuracy error.

In Figure 2-2 : click "Latitude setting" .

1. Click on the "up" button  to increase the corresponding bit number 0-9
  2. Click on the "down" button  to reduce the corresponding numerical 0-9
  3. Click on the "right" button  to the right to choose corresponding 10 bits, very, percentile, cycle
  4. Click OK to save the Settings of latitude.
  5. Click the EXIT: quit setup
- E. AUTO ON/OFF:





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(图: 2—13)

As shown in figure: 2-13, select "power on" product in keep on;Select "AUTO POWER OFF" (10 min) for 10 minutes without operation, product automatic shutdown (product default Settings).

OK: save Settings

EXIT: don't save Settings and EXIT

### ③Unit mode selection

MODE press each time to display unit mode change DEG, degree,minutes and seconds, mm/m switching cycles

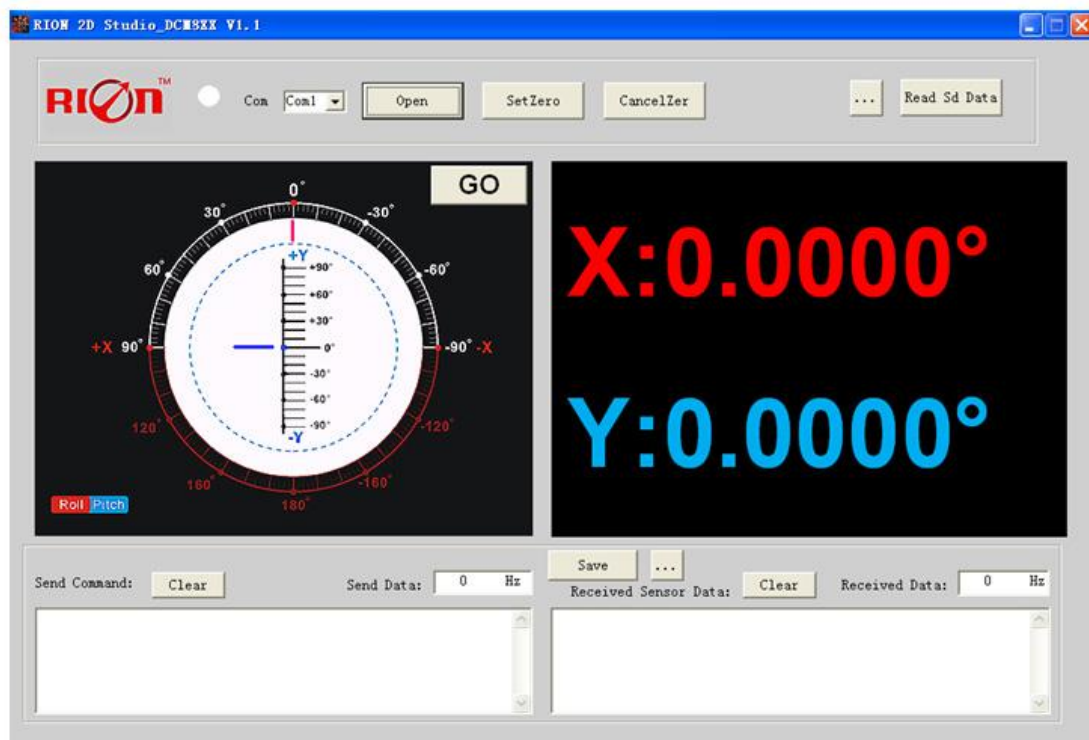
### ④ZERO/ABS : Absolute Relative

ZERO: click to set the current angle to ZERO

ABS: click on the switch to absolute zero

⑤When crashing to restart with needle to press the holes under the lamp to reset

⑥Charging and upload the SD card to access the data using the software to store data



### 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

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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.



※More products information, please refer to the company's Website :

[www.hamburg-engineering.de](http://www.hamburg-engineering.de)

(Product upgrades, changes, without notice())

