RION 瑞分
www.rion-tech.net

V1.3

Digital Display Inclinometer

RION DMI825

Technical Manual

Production implementation standard reference

- Enterprise quality system standard：ISO9001:2008 standard (certification number: 128101)
- Inclination sensor production standard: GB/T 191 SJ 20873-2003 General specification for inclinometer and level
- Software Development Reference Standard: GJB 2786A-2009 General Requirements for Military Software Development
- Revision time: 2019.07.09
- Note: Product functions, parameters, appearance, etc. will be adjusted with the upgrade of the technology. Please contact the pre-sales business of the company for confirmation when purchasing.

DMI 高精度数显倾角仪

★ 远程可外接传感器
★ 内置大容量电池
★ 宽温工作
★ 测量模式多元化

▶ GENERAL DESCRIPTION

DMI825 is a digital display inclinometer which took RION company three years to develop professional for various industry angle controling 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. DMI825 is a uniaxial 90deg measurement, resolution 0.001 °、 the highest accuracy <0.005 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 DMI825 (SMI825) with the use of separate measurement, used in combination with the Division HCA 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), DMI825 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

- Best accuracy：<0.003°
- Repeatability：0.003°
- Maximum measuring range：±90°
- User can set the alarm value by himself
- Absolute/Relative measurement can switch
- Angle resolution：0.001°
- Working Temperature : -10°～ +70℃
- Auto temperature drift compensation
- User can calibrate ZERO by himself
- IP54 protection class
- °/mm/m Dual units switch function
- Filter frequency optional
- Three kinds of measurement mode selectable (radian, angle, mm)
- Data store function

▶ APPLICATION

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

▶ TECHNICAL DATA

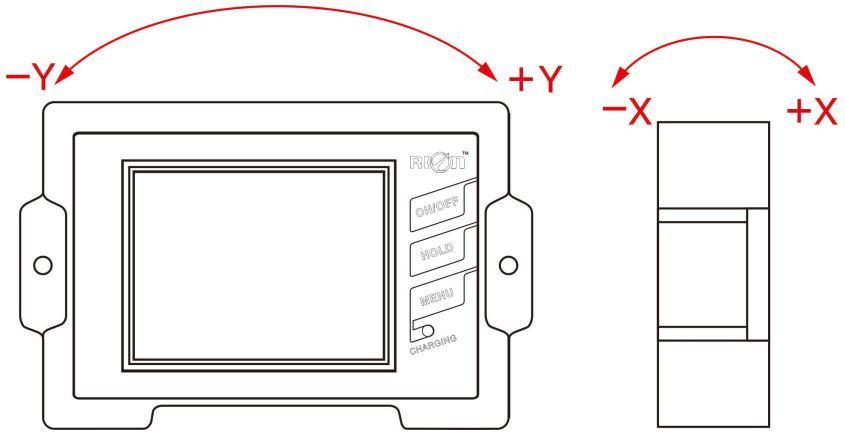
DMI825	Parameter	
Angle Measuring range	DMI825:±15 ° ;	DMI825:±30 ° ;
MM measuring range	267 mm/m	577 mm/m
Meausring axis	Dual axis	Dual axis
The highest meausring accuracy	<0.005° （Full measuring range）	<0.01° （Full measuring range）
Angle Measuring resolution	0.001°	0.001°
MM measuring accuracy	0.1 mm/m	0.2 mm/m
Three measurement mode selectable	radian, angle, mm measuring can be selected	
MM measuring res	0.02 mm/m	
LCD	64 true colors night vision display screen	
LCD visible area size	L57.6*W43.2mm	
Working temperature	-10°～ +70°/℃	
Working humidity	85%RH	
Equipped with PC software	VC software	
Data output signal	RS485/RS232	
Connect plug in	Standard 5Pin USB connector	
Shock resistance	10g@11ms、3Times/Axis(half sinusoid)	
Shock impact	10grms、10～100Hz	
Weight	300g	
Waterproof grade	IP54	
Material	Metal	
Size	L117*W75*H27.1mm	

▶ ORDERING INFORMATION

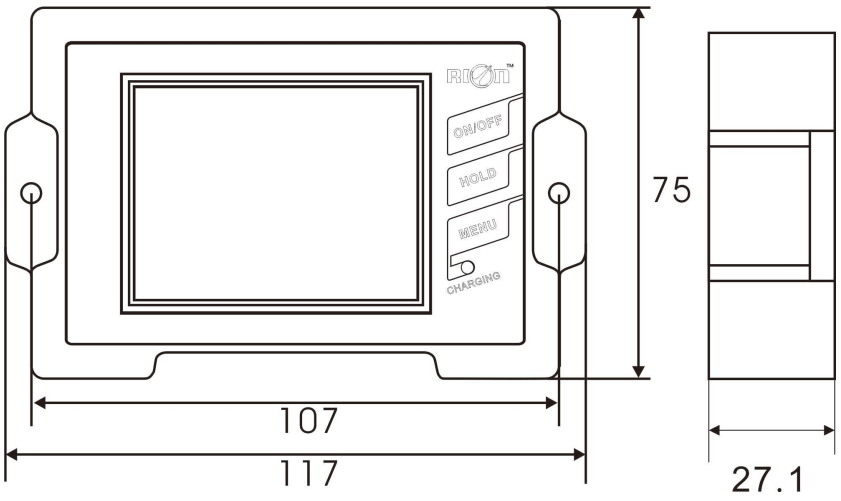
Item No.	Desc.
DMI825-15	Standard dual-axis digital display inclinometer ±15°
DMI825-30	Standard dual-axis digital display inclinometer ±30°

E.g:DMI825-15 is standard Dual-axis digital display inclinometer with measuring range ±15°

▶ MEASURING DIRECTION



▶ PRODUCT DIMENSION DIAGRAM



Dinmension：L117*W75*H27.1mm

▶ PRODUCT FUNCTIONS

① Metal shell structure

② Display area

③ Fixed installation

④ USB/charge hole

⑤ Reset hole

⑥ ON/OFF

⑦ HOLD

⑧ MENU

⑨ CHARGING

SHELL STRUCTURE : metal casing;

DISPLAY AREA : 64 color true color luminous display;

FIXED INSTALLATION : can be fixedly mounted on the object to be measured;

USB/CHARGING HOLE : For charging and USB1.1 output data;

RESET HOLE : If the instrument crashes during work, the button cannot be operated, and the hard object can be inserted into the hole for resetting;

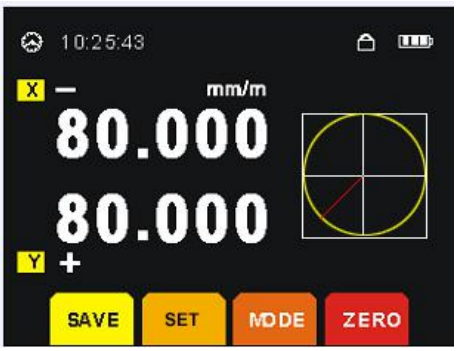
ON/OFF : Press 2 seconds to turn on or off;

HOLD : This button locks the current data for customer record;

MENU : Press MENU to disappear the menu and press again;

CHARGING : The charging indicator light, when it is lit, indicates that the battery is fully charged when the battery is off, and the charger can be removed. (In order not to reduce the battery life, please try not to use it when charging).

▶ FUNCTIONAL MENU INSTRUCTIONS



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

2. Press the " MENU" and "HOLD" keys at same time to enter the touch screen calibration.

2.1 Click "OK" enterinto nex step ,click "EXIT" to Exit touchscreen calibration.

2.2 Click the red dot with a small pen to move the red finish four points automatically exit calibration.

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

A. DELETE ALL DATA

B. SAVE THE SINGLE POINT

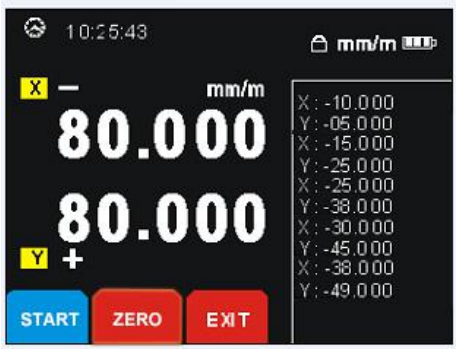
C. SAVE MULTIPLE POINT（Saved frequency selectable 1，5，10，20）

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.

② SET：Click the SET button to enter the setup interface six button options and features:



A. ALARM : Angle alarm value setting

B. CALI. : Calibration setting

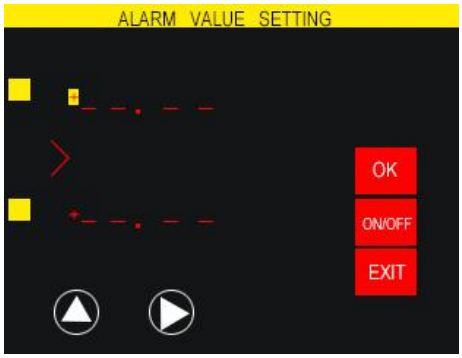
C. FILTER : Filter frequency setting

D. DATE : Date settting

E. FAC.RESET : Factory default setting

F. EXIT : Exit the setting interface

A.ALARM



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 angel -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.FILTER

Default 20HZ

Select 1HZ : Output frequence after filting

OK : Select success

EXIT : Exit selection

D.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

E.FAC.RESET

Restore the factory Settings：

The parameters of the recovery has alarm value, filtering frequency,calibration angle

③ Unit mode selection

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

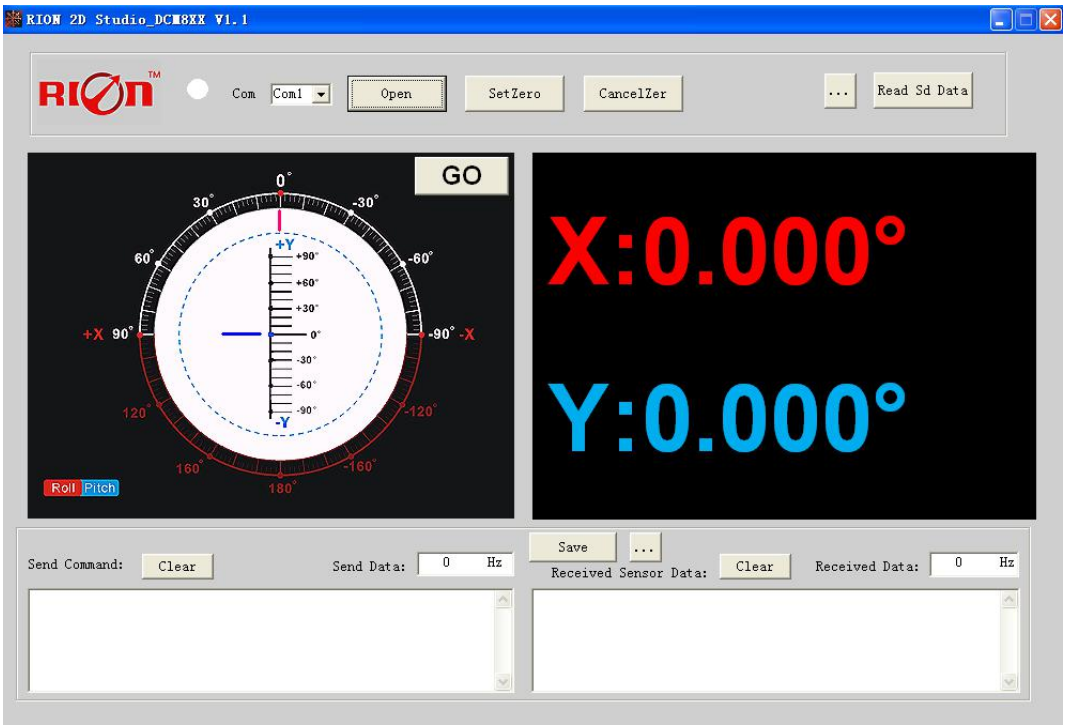
④ ZERO/ABS : Absolute Relative

ZERO: click to set the current angle to ZERO

ABS: click on the switch to absolute zero

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

⑥ Upload the SD card to access the data using the software to store data.



▶ PRODUCTS MAINTENANCE

1. The instrument reliability and can be used in the vibration environment, please don't high-altitude fall the instrument to avoid cause permanent damage.

2. 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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