MANUAL

High Precision

DIGITAL PRESSURE INDICATOR

RPI-HT

BRIEF PROFILE

An ISO 9001-2015 certified Instrumentation company (since 1972) serving Industries in India & Worldwide thro' the Manufacture & Supply of World-Class Calibration Instruments & Systems like Temperature, Pressure & Signal Calibrators, Black Body Calibration Sources, Pneumatic & Hydraulic Hand Pumps, Dead Weight & Comparison Testers, Calibration Test Benches, etc..

Dear User,

Thank you for selecting Nagman's Digital Pressure Indicator (High Precision) and becoming a proud owner of this Calibration Instrument.

We have strived hard to ensure the accuracy of the contents of this manual. We would appreciate any suggestions/feedback to correct any errors noticed and to improve the quality of contents of this Manual

Specifications are subject to change owing to continuous development and we reserve rights to effect Changes / Modifications to this Manual.

Read the Instructions before starting to use the Product.

Wishing you for a long association with us.

For any service related issues, please contact service@nagman.com

VERSION CONTROL

Version No.	Updated on	Updated by
V 1.1	11-11-2022	Nagman

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1. INTRODUCTION

Precision digital pressure gauge, an instrument of high precision, single range and multifunction, is mainly used in laboratories of electric power, metallurgy, petroleum, chemical and many other sectors or work-sites to measure pressure in real time or to check pressure gauge. We use microprocessors to compensate instruments zero draft and non-linearity automatically. Also, we use imported high performance devices such as high stability pressure sensors, 24bit A/D converters to ensure accuracy and reliability of the gauges.

2. SPECIFICATION

Display	6-digit display. graphical Pressure percentage display
Alarm	Buzzer and Indication if pressure is over range 1.15 times
Pressure Measuring	Measuring range: (-0.1~250) MPa (optional within the range) Accuracy grade: 0.02
Unit switching	mmH_2O, inH_2O, mmHg, inHg, psi, bar, mbar, kgf/cm^2, kPa, MPa, Pa
Storage mode	storage capacity : 1200 records Peak record : Automatic recording of maximum and minimum values While pressure measuring
Display Speed	10 times/sec, 5 times/sec, 2 times/sec, 1 time/sec
Communication method (optional)	RS232, Bluetooth
Power supply	4.2V lithium battery
Charging power supply	5V 2A Power adapter
Overall dimension	105mm×170mm×48mm
Weight	0.6kg

3. STANDARD DELIVERY & OPTIONAL ACCESSORIES

Standard Delivery

- Basic Instrument
- Carrying Case
- Instruction Manual

Optional Accessories

- Computer Interface
- Calibration Certificates are issued in Accordance with our Scope as granted by NABL per ISO/IEC 17025:2017 Standards

4. **PARTS IDENTIFICATION** (Typical Photo)

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Long press the key to turn on or turn off the instrument

“LIGHT” : Backlight on or off, Move the cursor to the left when entering data

“CAL” : Enter the calibration procedure and see the calibration method for details

“ZERO” : Measured pressure status: zero clearing

Peak display status: reset the peak record value

Move the cursor to the right when entering data

“SAVE” : Long press to enter storage mode

“UNIT” : Switch pressure units, the numbers loop

5. CONNECTION DIAGRAM *(Typical photo)*

RPI-HT as a Master in Comparison Tester

6. SAFETY INSTRUCTIONS

Symbols Used

S. No.	Symbol	Description
1.		Read the user manual before operating the instrument.
2.		Warning- conditions that may pose hazards to the user.
3.		Caution-conditions that may damage the instrument.
4.		Special Information
5.		Hot surface- areas which are at high temperature
6.		Electric shock- condition that may pose shock to the user.

- Please do not use it out of range, use the instrument within range, or the sensor will break down which can cause the instrument to be damaged completely

- Please do not use “calibration” function, The “calibration” function key must be operated or guided by professional staff. If not, the stored data in the instrument can be lost and the instrument cannot be used any more

- Please do not dismantle the instrument, Dismantling the internal parts of the instrument may cause personal injury or cause the instrument to be damaged. It can be repaired only by professional staff. If there is any breakdown, please call customer service staff of our company or repair it under the guidance of them

- Please don't dismantle the gauge when there is pressure in the system, It may cause personal injury If dismantling the gauge when there is pressure in the system

- Please charge in time and use the supply charger provided by our company. This machine has a built-in lithium battery. When there is one grid left on the upper left of the screen, it means that the battery is low and should be charged in time; after it is fully charged, the power symbol will not move.

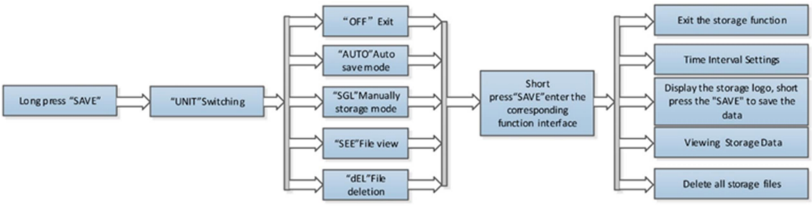
7. OPERATING INSTRUCTION

Long press Turn on the device, Display in sequence: model RPI-HT, range lower limit, range upper limit, measurement display interface.

Pressure measuring

1. Fix the digital pressure gauge into one of the pressure source outlets and you should make sure that the pressure gauge is within range before compressing
2. Press “UNIT” and choose your pressure unit
3. In the state of pressure relief to zero, If the pressure gauge shows non-zero (zero-drift), Press “ZERO” to clear
4. Fix the waiting instrument into the other outlet of the pressure source
5. Slowly compress to the needed range. Adjust the waiting instrument according to the rules of operation.

Storage Function



1. Long press “SAVE” to enter the storage function selection interface
2. Shows “OFF”, “UNIT” cycle switching “AUTO”, “SGL”, “SEE”, “dEL”, short press “SAVE” enter the corresponding function interface

3. `“AUTO” auto save mode : short press “SAVE” Enter the storage interval setting : Displays 10 seconds by default, The cursor can be circularly moved left and right through “LIGHT”, “ZERO”, “UNIT” number loop, Enter the time that needs to be set (minimum setting is 2 seconds), “SAVE” confirm, machine returns to the measurement interface, storage sign flashing, enter to automatic storage, “CAL” Release storage mode

4. “SGL” Manually storage mode : short press “SAVE”, Return to the measurement interface, show storage sign short press “SAVE”, save the current display data, “CAL” Release storage mode

5. “SEE” file view : can through “LIGHT”, “ZERO” Toggle display of stored data, “CAL” Return to storage function selection

6. “dEL”file deletion : “SAVE”confirm deletion

7. “OFF” Exit the storage function interface.

Display rate adjustment

1. Long press “LIGHT”, Enter to the display rate adjustment interface

2. Default Display “5”, can through “UNIT” Cycle display “10”, “5”, “2”, “1” respectively : 10 times/sec, 5 times/sec, 2 times/sec, 1 time/sec, Select the desired rate and press “SAVE” to confirm, and “ACCEP” is save successfully.

Peak Check

Short press “CAL”, cycle displays the minimum value (LO), maximum value (HI), Exit the peak checking interface.

Calibration Method

1. Two point calibration

1) Long press “CAL” To enter the interface of inputting calibration code.

Press “ZERO”, “LIGHT” Cursor cyclic, “UNIT” Digital cyclic input calibration code（password:5000）, Press“SAVE”Confirm to enter the two-point calibration interface.

2) According to the value displayed on the screen, the standard pressure source is boosted to the corresponding pressure value

3) Press “SAVE” confirm when screen display “ACCEP” then press “SAVE” to save

4) Press “ZERO” or “LIGHT” switch to second point, Boost the pressure to the corresponding pressure value according to the standard pressure source displayed on the screen press “SAVE”

confirm screen display the “ACCEP” then press “SAVE” to save

5) Press “CAL” exit back.

2. Insert calibration point

1) Long press “CAL” Enter to the calibration password input interface :

Press “ZERO”, “LIGHT” Cursor cyclic, “UNIT” Digital cyclic input calibration password (password:5100), Press “SAVE” Confirm to enter the calibration point insertion interface.

2) Press “ZERO”, “LIGHT” Cursor cyclic, “UNIT” Digital cyclic input the calibration point to be inserted

3) Press “SAVE” confirm, when screen display the “ACCEP”, then press “SAVE” to save

4) Repeat the above steps until all required calibration points are inserted, then press “CAL” to return.

3、Multi-point calibration

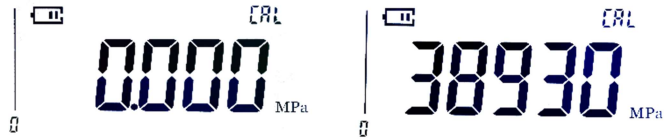
1) Long press “CAL” Enter to the calibration password input interface :

Press “ZERO”, “LIGHT” Cursor cyclic, “UNIT” Digital cyclic input the calibration password (password:5050), Press “SAVE” Confirm to enter the multi-point calibration interface.

2) Press the value displayed on the screen to boost the standard pressure source to the corresponding pressure value;

3) Press “SAVE” confirm,when screen display “ACCEP”,then press “SAVE” to save

4) “UNIT” Switchable display of calibration points, Check the current meter measurement value, sensor AD value



5) Through “LIGHT”, “ZERO”, switch calibration point, Follow to the step 2), 3） for the remaining calibration points.

Take (0～16)MPa, 9 calibration points as an example:

1. Enter to the calibration interface. By default, the first point is the lower limit of 0MPa, which can be confirmed by pressing “SAVE” under the atmospheric state, when screen display “ACCEP”, then press “SAVE” to save

2. “LIGHT”, “ZERO” switch calibration point, the meter shows 2MPa, The standard pressure source is boosted to 2MPa, After stabilization, Press “SAVE” to confirm, screen shows “ACCEP”, then press “SAVE” to save;

3. “LIGHT”, “ZERO” switch calibration point, the meter shows 4MPa, The standard pressure source is boosted to 4MPa, After stabilization, Press “SAVE” confirm, when screen display “ACCEP”, then press “SAVE” save

4. Repeat step 2) until the calibration reaches 16MPa and all 9 calibration points are calibrated, then press “CAL” to return.

8. TROUBLESHOOTING / MAINTENANCE

Failure	Cause	Action
The pressure is not stabilizing	The system may be leaking.	Check all connections
	The compression of media includes air.	You may have to adjust the pressure for few times, before the pressure is stable enough for calibration.
	Due to the pressure hose expansion.	***
	Adiabatic and thermodynamic effects are present within all pressure systems.	The effect will disappear rapidly.

Adjusting and calibrating the instrument

You are advised to return the calibrator to Nagman, Chennai - INDIA or to an accredited laboratory at least once a year for calibration.

Returning the calibrator for Service

When returning the calibrator to the manufacturer for service, please provide complete information about the problems faced for clear analysis of the problem. The calibrator should be returned in the original packing.

Nagman‘s liability ceases if :

- Parts are replaced / repaired using spare parts which are not identical to those recommended by the manufacturer.

Nagman‘s liability is restricted to errors that originated from the factory.

For more details, write to :

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