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**ISF-1DF SERIES
DIGITAL FORCE GAGE
OPERATION MANUAL**

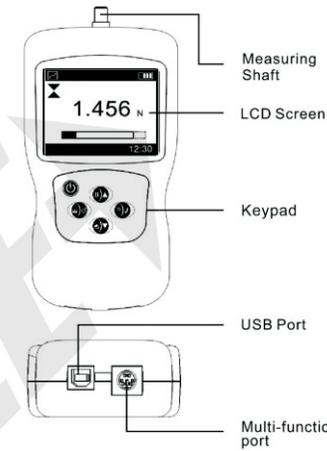


Attention

- ◆ Regardless of whether the unit is ON or OFF, Don't exceed the capacity of the gauge. At 110% of the rated capacity, the display flashes to warn. Never exceeds 150% of the rated capacity, or the load cell will be damaged.
- ◆ Measure in line tension and compression forces only. Don't attempt to measure forces at an angle to the measuring shaft, damage to load cell and/or shaft may result.
- ◆ Don't tear, repair and change this gauge by yourself, because these actions may result in permanent fault of apparatus.
- ◆ Please use and store at the range of stated temperature and humidity, or it may result in apparatus failure.

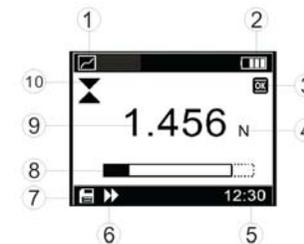
Description

① Structure:



1. Measuring Shaft: Measure tension or compression forces.
2. USB Port: Recharge the internal Ni-MH battery or connect to PC.
3. Multi-function port: connect the printer.

② LCD screen:



1. Test mode icon: Track, Peak, Preset
2. Battery icon: Indicating the battery level or charging status, “” flashes when gauge needs to be recharged.
3. Preset Mode Test status marks:
 - Measuring value between the upper limit and lower limit.
 - Measuring value between the lower limit and 75% of the lower limit.
 - The measured value higher than the upper limit.
4. Test units: N, kgf, ozf, and lbf are selectable.
5. The system time. 6. Data transmission icon. 7. Data storage icon.
8. Analogue bar. 9. The current measured value.
10. Force direction Indicator: tension: “”, compression: “”.

3 Key functions:

- ⏻ ON/OFF: Touch about two seconds the gauge will Power ON or OFF.
- ⏪ Under the measure interface: Storage data, depending on the key default settings. Under the menu Interface : Back or quit.
- ⏩ Under the measure interface: Enter the menu interface. Under the menu interface: Enter or confirmation.
- ⏪ Under the measure interface: Zero the value. Under the menu interface: Shifted up the selection or adjust the value.
- ⏩ Under the measure interface: Change the test mode, Track, Peak or Preset. Under the menu interface: Shifted down the selection or adjust the value.

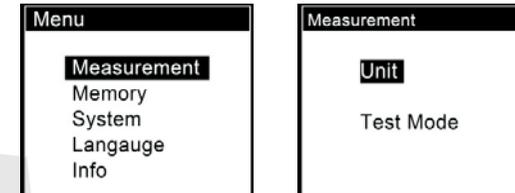
Menu Operations

The Force Gage has multi-level menu interface.

Menu	Measurement	Unit
		Test Mode
	Memory	Browse
		Print
		Delete All
	System	Display
		Auto Power
		Backlight
		Key Sound
		Date/Time
		Calibration
	Default	
	Language	
	Info	

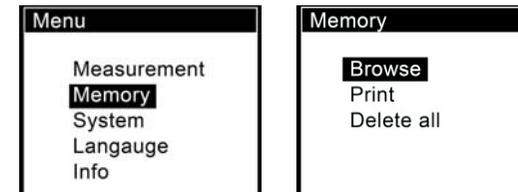
The Force Gage has multi-level menu interface. Under the measure interface, press “⏩” can enter the main menu interface.

1 Measurement item contains the unit and test mode.



- ◆ Unit: The measuring unit can be selected under this menu. Press “⏪” or “⏩” keys to shift to the next position, touch “⏩” to abort, and touch “⏪” to confirm and back.
- ◆ Test mode have Track, Peak and Preset. If the Preset is selected, you can set the Upper limit and Lower limit. Press “⏪” to adjust the number and press “⏩” to move the next digit.

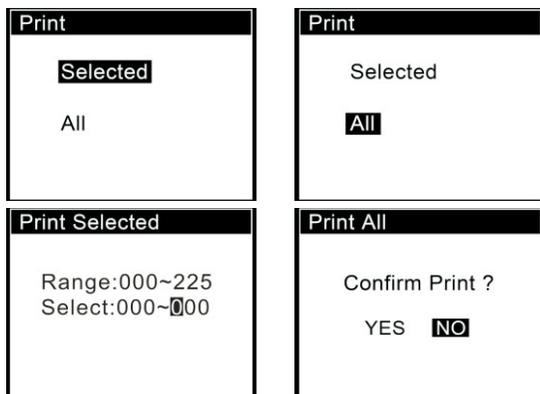
2 Memory item contains three submenus: Browse, Print, Delete all. You can browse or print, and delete some (in browse) or the all of data in memory.



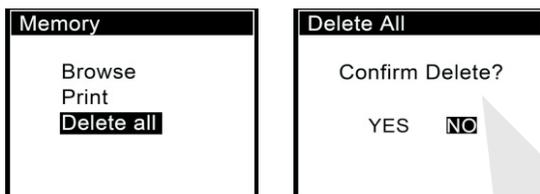
- ◆ Enter Browse, the data in memory can be reviewed in the order saved. Press “⏪” or “⏩” to move and select. Press “⏩”, a small window will pop out. Here you can select Delete or Print. Press “⏪” or press “⏩” to exit.

No.	Force	Dir	No.	Force	Dir
013	0.738 N	↕	013	0.738 N	↕
014	1.958 N	↕	014	1.958 N	↕
015	2.136 kgf	✕	015	2.136 kg	✕
016	0.848 lbf	✕	016	0.848 lb	✕
017	1.799 kgf	↕	017	1.799 kgf	↕
018	29.38 ozf	✕	018	29.38 ozf	✕

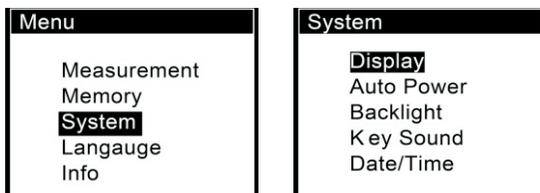
- ◆ You can print the data in memory with a mini-printer (optional). Enter Print, select Selected or All. If Selected is chosen, enter the range of number will be needed. If All is selected, a confirm window will appear to ask you confirm.



- ◆ Delete All: All data can be deleted at one time to empty the memory. A confirm window will appear to ask you confirm. Delete a individual data can be done in Browse.



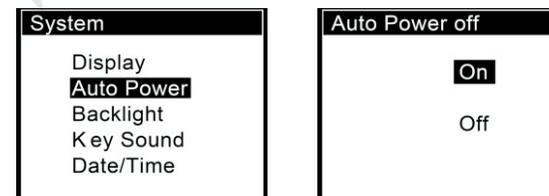
- ③ Under system settings menu, the display, auto power, backlight, key sound and so on can be set.



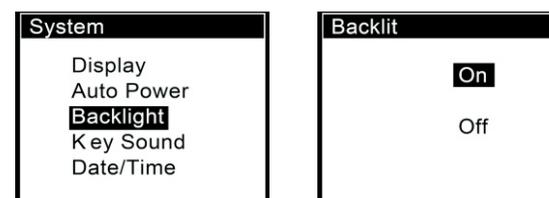
- ◆ Display: There are two display modes: Obverse, Reverse. According to actual needs, select the appropriate display mode.



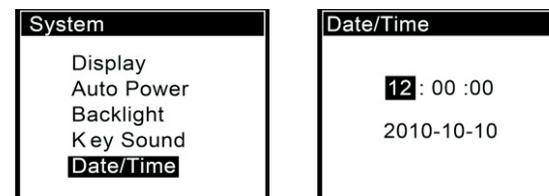
- ◆ Auto Power: This series force gauge has automatic power off function. Turn on the Auto power, when no any operation is performed within 5 minutes it will power off automatically.



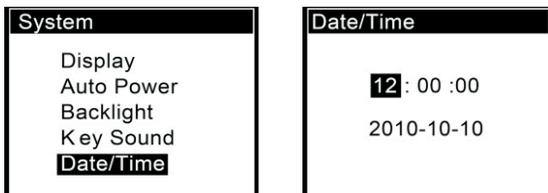
- ◆ Backlight: The backlight can be set to turn on or off. Close the backlight will reduce the consumption of the battery.



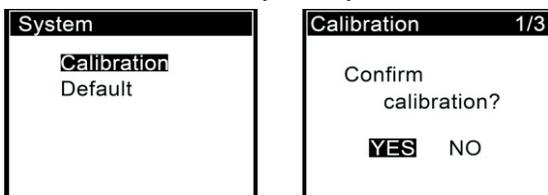
- ◆ Key Sound: Key sound can be turn on or turn off by this setting.



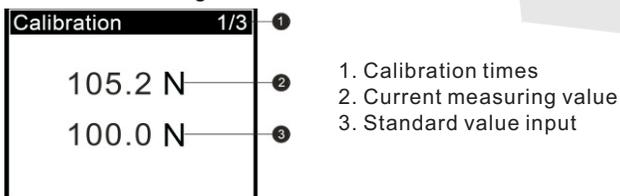
- ◆ Date/time: You can adjust system date and time under this menu.
Press “←” to adjust the number and press “→” to move the next digit.



- ◆ Calibration:
Because of the sensor material performance or the influence of external factors, there may be errors in a certain range after a period of time use.
Should send the force gauge to a specialized testing organization for calibration.
If you have some standard force weights or the other standard load and some test stand, you may calibrate it also.

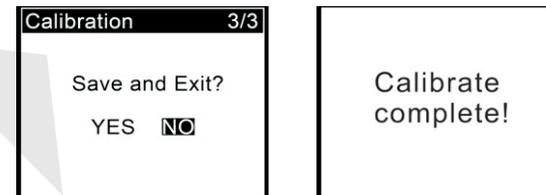


- Mount the force gauge.
- Remove the tare by use of the key “←”.
- Enter Calibration interface and the calibration interface is shown as following.



- Load a standard force. Now the value in standard input area is just equal to the current measured value. Wait a moment for the force stability.

- Press “←” and “→” to input the standard force value.
- Press “←” to enter the next calibration. Press “→” to can interrupt the calibration.
- When the 3 times calibration had been finished or be interrupted, a confirm window will pop up for asking your "Save and Exit"(YES) or not save and exit(NO). If "YES" is selected, "Calibrate complete!" is displayed.



- ◆ Default: With this function, the force gauge can be restored back to the factory settings. Should perform this function under the guidance of professionals usually.
- ④ Language: The force gauge can display with multi-language, set the language desired.
- ⑤ Info: You can find out some information about force gauge such as model, version and serial number.

Maintenance

- ① After use, please keep the instrument body clean, do not let oil and other substances are persistent in the body and the screen so as not to damage the instrument.
- ② Please do not forget remove the load after the measurement. Applying a load for a long time may affect the accuracy of the instrument.
- ③ Unless there is a special need, please do not turn off the Auto Power, cause it can reduce the consumption of the battery and extend batteries life.
- ④ When the battery are low, the icon “” will be displayed. The batteries should be charged immediately. It takes about 3~4 hours for fully charging.