

Operating Manual CENTOR FIRST



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Revision	Date	Description

I. INTRODUCTION TO THE CENTOR FIRST

Thank you for choosing the CENTOR First gauge manufactured by Andilog Technologies.

This force gauge is the result of 25 years experience in force and torque measurements with new electronic technologies offering a higher-performance and more reliable instrument.

Though it is a very comprehensive instrument, the CENTOR First force gauge is easy to use. This instruction manual will guide you to set your first measurements.

II. HANDLING

CAUTION - Unpacking: Your CENTOR First force gauge has been supplied in its carrying case. Check that it has not been damaged during transportation. If you have any doubt, please contact us, and our service support will guide you through simple checks to ensure that the gauge has not been damaged.

1. Unpacking

The CENTOR First gauge is supplied with:

- Carrying case (according to your setup)
- Extension rod (Internal sensor only)
- Hook (Internal sensor only)
- Compression plate (Internal sensor only)
- Power plug adaptor
- Certificate of calibration

2. Recommendation before first use

a. Battery

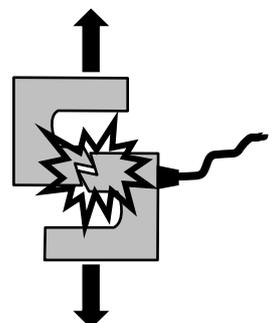
The battery reaches its maximum capacity after several charges. This is very important! A new force gauge has a battery that does not have its full capacity at the first power on. The force gauge will shut down automatically if the battery is too low.

The battery life is 8 hours under a normal use. The gauge should be charged after normal use. You should charge it every 3 weeks, to ensure a maximum life time of the batteries.

It is recommended to use the original power adaptor supplied by ANDILOG Technologies. The power adaptor has the following specifications: 6 V, 1 A

b. Sensor

Never connect accessories (hook, plate . . .) directly to the sensor rod. Use the extension rod delivered with your instrument.



In spite of its mechanical protection, sensor overload can damage the instrument. The instrument stops if the capacity has been exceeded 10 times. You have to return it to ANDILOG TECHNOLOGIES for checking.

It is important that measured values are under 90% of the sensor capacity.

c. Test Stand

The gauge can be affixed to a test stand via two M5 screws, which should not extend through the back cover more than 3 mm. Please contact ANDILOG Technologies if you need more information or if you need a fixture to mount your force gauge to a test stand.

d. Conditions

- Working Temperature: 0°C to +35°C
- Stock Temperature: -20°C to +45°C
- Humidity: 5% to 95%
- Altitude: 3000m

III. Operation Overview

1. Charging the Batteries

Connect the AC charger to the CENTOR FIRST charger socket located at the right hand side of the gauge next to the display and charge the batteries for 14-16 hours. Only use the adaptor/charger supplied.



2. Low Battery Warning

A low battery symbol will blink in the display approximately two minutes before the gauge powers down automatically.

The CENTOR FIRST can also be powered directly from the AC adapter/charger.



3. Fitting Accessories

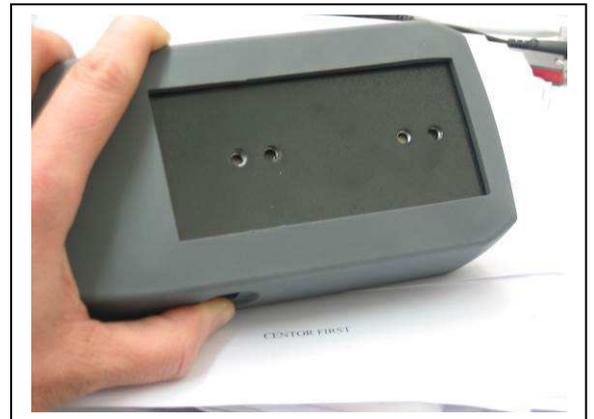


Affix the extension rod to the load cell probe in the hole at the bottom of the gauge by tightening it gently with the fingers.

Note: When fitting a grip ensure that it is screwed finger-tight only. Excessive torque can damage the load cell.

4. Mounting to a Test Stand

. On the rear of the gauge there are two M5 threaded holes, which can be used for mounting the gauge to an ANDILOG test stand. Each ANDILOG test stand is supplied with a dedicated dovetailed mounting bracket and screws for this purpose. If you wish to mount to another type of stand, ensure that the screws used are threaded into the gauge to a maximum depth of 0.21 inch. The final thread is peaned but if screws are fitted beyond this depth, damage to internal parts of the PCB may occur.



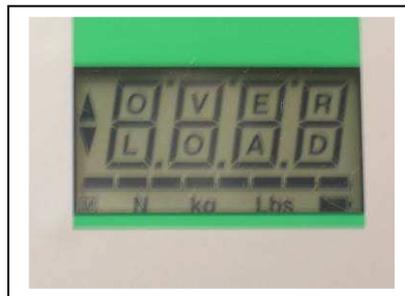
IV. Turn on your Centor First

Please note that CENTOR FIRST is measuring very low forces may not show zero if it is moved during the self test routine. Once it is properly mounted and zeroed the reading will be stable. As shown in Figure 1 the control panel has four keys.



Figure 1 CENTOR FIRST control panel

To power up the gauge press the red On/OFF key: A short self test runs at power on



Then the display will show the model and capacity in Newtons.



After the self test, providing no load has been applied to the instrument, the display will show all zeroes. This is because the gauge zeroes itself during the self test routine.

If a force is applied via the load cell probe (hole at bottom of CENTOR FIRST), the reading on the display will register the applied force.



If a force of more than 20% of the maximum capacity is applied via the load cell probe (hole at bottom of CENTOR FIRST), the display will show 'OVERLOAD'



All the current settings are saved when the gauge is turned off and the gauge will function in the same mode when powered up again.

V. How to use your Centor First

1. Display of Tension/Compression

Tensile forces are displayed on the CENTOR FIRST and recognized by the symbol ▲
Compressive forces are displayed on the CENTOR FIRST and recognised by the symbol ▼

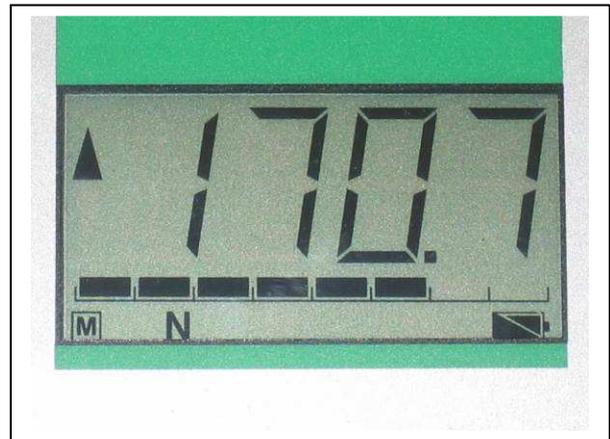
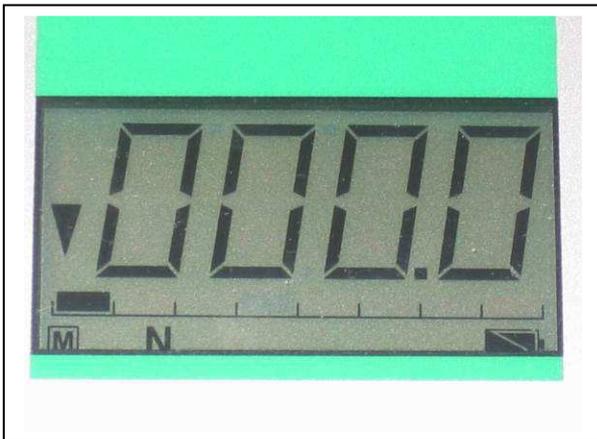


Figure 2 Tension and compression displays

A load indicator bar alerts the operator to how much load has been applied to the load sensor. As the load approaches the maximum rating of the load sensor, the indicator bar changes appearance when above approx. 80% of the rated capacity. This warns you that steps should be taken to prevent excessive load being applied 2.

2. Zeroing the Gauge

During the operation of the gauge it is often necessary to zero the display – e.g. when you wish to tare out the weight of a grip, so it does not become part of the measured reading. Press and release the ZERO key. The display will blink momentarily as the zero operation is carried out.



3. Changing the Unit of Measure

You can choose from the following units of measure depending on the capacity of your gauge: Newtons, kilogram-force, or pound-force. To change the display unit press and release the key. Each successive key press will select the next available unit until the gauge returns to its original setting. The CENTOR FIRST automatically converts readings as new units of measure are selected. A N, Kg, Lbs will appear in the screen.

4. Max (peak) Readings / “Max” Mode

The gauge detects and stores maximum (peak) force in both compressive and tensile directions.

Press the MAX key. The display will show the letter M together with the highest tensile force detected during the test.

Press the MAX key again. The display will show the letter M together with the highest compressive force detected during the test.

The current load being applied to the load sensor can also be displayed pressing again the key MAX



Figure 3a Max Compression



Figure 3b Max Traction

5. Auto-off

An Auto-off feature conserves battery power , the gauge powers down after 15 minutes since the last key press.

To power down the gauge press the red key.

WARNING

If the CENTOR FIRST has suffered a serious overload condition, the load indicator bar will be partially displayed even when no load is present. This is a warning that the load cell is damaged and you should immediately contact your supplier to arrange repair.

Do not overload the load sensor. This will cause irreparable damage

. Forces greater than 100% of fullscale will produce a blinking display until load is released.

. Forces greater than 120% of fullscale will produce the word OVERLOAD display until load is released.

The sensor will support 200% of fullscale without damage. In case of a permanent OVERLOAD is displayed, consult your supplier to arrange repair.

6. Invert Display

The display may be inverted or “reversed”, so that the operator can read it more comfortably. Press and hold the ZERO and UNIT keys This feature is remembered after power down

Pressing again ZERO and UNIT key will place the display in original position.



VI. Dimensions

