

TECHNICAL SPECIFICATION

FORCE

RANGE 100 – 1000N
RESOLUTION 1 NEWTON

ENERGY

RANGE 2 – 14J
RESOLUTION 0.1 JOULES

DIMENSIONS

OVERALL LENGTH 340mm
DIAMETER 38mm
DISPLACEMENT 30mm

POWER

BATTERY 12Volts D.C.
BATTERY LIFE >1500 OPERATIONS



CENTRAX



TYPE 2020
POWERED DOOR
CLOSING FORCES
&
IMPACT ENERGY
GAUGE

CENTRAX TYPE 2020



The company has a policy of continuous design & development and we reserve the right to change part or all of the design without prior notification

TROUBLE SHOOTING

<u>SYMPTOMS</u>	<u>POSSIBLE CAUSES</u>	<u>RECOMMENDED ACTIONS</u>
Device fails to switch on	Failed or exhausted battery Low ambient light level Insufficient shock to activate vibration sensor	Return to manufacturer for battery replacement Turn the device towards a stronger light source before activating It is recommended that the device is held by the hand grip and lightly tapped with the heel of the other hand
Display does not read but the LEDs illuminate when a force is applied	Display is held because the light sensor is covered Display is held because of insufficient ambient light	Remove any debris obscuring the light sensor Turn the device towards a stronger light source
Inconsistent or erroneous readings on display	Erratic impacts to the device will sometimes hold erroneous readings due to switching transients	Trying to apply a simulated impact by hand will sometimes show erroneous energy results Try to apply a smooth impact similar to that seen by the device when impacted by a closing door
Device fails to switch off	There is a large variation on power down times between devices due to component tolerances	Once activated the device will power down and not reactivate if the light sensor is covered

POWER

The CENTRAX 2020 is micro-powered using four button cell batteries wired to give an out voltage of 12Volts and are mounted within the end cap of the device forming the battery module

The module is then connected to the circuit board using a uni-directional three pin connector

The available output power is in excess of 500mA/hrs which with a current draw of 1 to 2 mA gives a total running time of approximately 350 hours continuous operation. With the added battery saving design this should give sufficient battery life under normal conditions to last between service and calibration intervals of two years

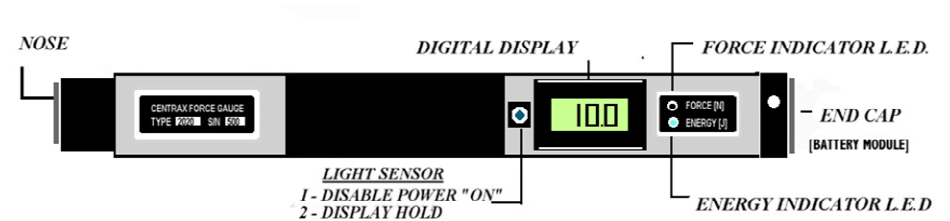
REPLACING THE BATTERY MODULE

The Centrax 2020 is a sealed unit and has no serviceable parts. The battery has a two year warranty and will be replaced free of charge within this period.

Although a new battery module is available on request we recommend that the device be returned to the manufacturer for fitting at which time a check will be carried out to ensure correct system function.

As part of the recalibration procedure a new battery will be fitted as standard.

INTRODUCTION



The CENTRAX 2020 is a micro-powered self contained measuring instrument which has been specifically designed to measure the forces and closing impact energy exerted by power operated doors as described in EN81-1 & EN81-2

This device has two main functions:-

APPLIED FORCE

The device operates as a standard force gauge. A blue LED indicates that the device is in its force mode measuring in units of Newtons

On the application of a force to the nose piece the digital display will read the value of the applied force to the nose against the spring resistance.

IMPACT ENERGY

The device operates as an impact energy gauge. A red LED indicates that the device is in its energy mode measuring in units of Joules

On the application of an impact to the nose piece the digital display will read the maximum value of the impact energy applied

OPERATION

To activate , hold the hand grip and tap the end cap lightly with the heel of the other hand

The CENTRAX 2020 has a built in **movement sensor** to “power up” the device and on activation will remain powered up for approximately five minutes without any further movement but will refresh on the detection of movement during use.

There is a built in **light sensor** which has two functions:-

1. - To stop the device “powering up” whilst in its transit tube to extend battery life
2. - To act as a display hold in the force mode.

IN USE

On activation, the digital display reads directly in force units

The application of a force of approximately 40N to the nose will illuminate the “FORCE” blue LED indicator

When the force exceeds 300N the “ENERGY” blue LED indicator will be illuminated and will remain on, holding the maximum impact energy for approximately 10 seconds after the removal of the applied force.

Covering the light sensor before the automatic reset occurs will hold the display whilst covered

FORCE MEASUREMENT

The force measurement mode does not have a maximum hold facility and will follow a varying applied force to the nose.

Measurement of the door stall point (<150N) is achieved by pushing the gauge against the closing door and at its stall point covering the light sensor , this will hold the current force display until it can be re-positioned for ease of reading.

In this situation the “blue LED” indicator will extinguish when the force is removed

ENERGY MEASUREMENT

The energy mode has a maximum hold facility to hold the maximum value of impact energy. The display will hold this value for approximately 10 seconds before automatically resetting to its primary force measurement function.

In the normal operating mode the maximum impact energy function will automatically switch when a force greater than 300N(impact energy of approximately 1.6 Joules) is applied to the nose.

FORCE ONLY

The device can be configured in a force only mode for forces up to 1000N. This facility is non-standard but can be configured at the customers request when ordering or for an additional charge can be returned for re-configuring by the manufacturer

ADDITIONAL FEATURES

The nose has a rubber pad of **5cm²** to facilitate the measurement of the mechanical strength of the landing doors. The switching of the indicator LEDs occur at 300N and these can therefore be used as a visual indication when the 300N force has been achieved