

Transducer and measurement systems

Force Calibration Unit UCF-430 Series

 Range: 100 N - 5000 kN



Since 1970
Made in Spain (EU)

www.ibertest.com



FORCE CALIBRATION AND VERIFICATION UNIT

"FAST, INTUITIVE AND EASY TO USE"

Standards: EN ISO 7500, ASTM E4

FORCE CALIBRATION UNIT UCF-430

Ref. 121-101273

Data acquisition system of **high resolution and stability** designed specifically to be used as a measurement bridge of load cells with a sensitivity of up to ± 3 mV/V.

Available up to ± 10 mV/V on demand.

The design facilitates the verification process or the **calibration of force measurement elements** by using reference load cells that its measurements are collected and stored in the internal memory of the equipment.

The equipment has a **very intuitive interface** that stands out in the simplicity and clarity of the information displayed, since all important data for calibration is shown due to its 4.3" touch screen.

It has **high accuracy** that in trials carried out at a controlled temperature of 21°C is:

- › 0,004 % from 10 %.
- › 0,01 % from 5 %.

The equipment provides the measurements in mV/V and also the force reading (kN, N, Kg or Lbf) applying inverse polynomial interpolation up to fifth order.

INCLUDED ITEMS

- › Force Calibration Unit UCF-430
- › PT-100 temperature probe.
- › A/C power supply cable.
- › Pushbutton for load holds.
- › Fitted carrying case.
- › Set of load cells to be selected by customer.



UCF-430 Accessories



Calibration Unit UCF-430



UCF-430 connected to a Load Cell

OTHER ADVANTAGES

It is possible to capture data, saving calibrations **without using additional software**.

USB Port for data recording or data communication with Ibertest WINCAL software or any other software compatible with MGCPlus protocol.

Ambient temperature measurement by means of a manual probe type PT-100 with a resolution of 0.1 °C, possibility of calibration adjustment. **No external equipment is required for temperature measurement during calibrations** since the integrated probe records it.

Temperature measurement inside the equipment with a resolution of 0.1 °C to control and maintain **optimal conditions at the time of the calibration process**.

The temperature inside the equipment is controlled by a **PID system** cooling fan that has the ability to vary its operating speed based on the desired temperature.

The unit has the option of selecting **multiple languages**.

TECHNICAL SPECIFICATIONS

Input type	Full-bridge strain gauge
Input range	Up to 3 mV/V (10mV/V optional)
Excitation voltage	4,7 - 5,2 VDC
Maximum excitation intensity	200 mA
Bridge resistance	200 - 500 Ω
Connection type	4 / 6 threads

MAIN CHARACTERISTICS

Resolution	0,000001 mV/V (7 digits with floating comma)
Rounding	Rounded values to 1, 2, 5, 10, 20, 50 y 100
Internal resolution	24 bits
Update rate	100 Hz
Calibration	Up to 12 points in full range
Filter	Adjustable time up to 24 s
A/D converter method	Sigma Delta
Error limit	± 0.02 % FS
Nonlinearity	0,01 %
Thermal drift	< 3 ppm / °C
Zero drift	< 10 nV / °C
Data base	<p>Allows to register up to 50 load cells including:</p> <ul style="list-style-type: none"> - Stock Number - Load cell capacity (kN) - Direction of applied force - Brand of load cell - Model of load cell - Fabrication Number - The 5 values of the fifth grade interpolation polynomial (kN)
Screen type	Touch screen TFT LCD
Screen size	4,3 ''
Response time	4 ms
Screen protection	IP66 / IP65 / NEMA4X anti-dust and waterproof
Operating temperature	from 0 to + 50 °C
Data storage temperature	from - 20 to + 60 °C
Relative humidity	5 - 95 %
Short-circuit protection	Yes
Power supply	single-phase 110 - 240 Vac, 50 / 60 Hz
Dimensions	300 mm (width) x 150 mm (high) x 300 mm (deep)
Weight	1,5 kg

SOFTWARE

The equipment software is incredibly fast, intuitive and easy to use even for people without previous training with these devices.

Menus are easy to navigate and - as well as the rest of the equipment - have the possibility of being displayed in multiple languages according to the user's preference.

There is also an option to prevent unwanted access to system information by setting a password.

The software allows the registration from up to 50 load cells and its information without connection to a PC.

CELULAS DE CARGA				1 / 50
MARCA	MODELO	Nº FABRICACIÓN		
HBM	RTNC3	00288TW6	Término X4	-0.004564
INVENTARIO	CAPACIDAD	TIPO LECTURA	Término X3	0.034291
0	0100.00 kN	COMPRESIÓN	Término X2	-0.095254
FILTRO LECTURA			Término X1	34.476600
REDONDEO	TIEMPO	BANDA ACTIVA	Término	-0.003486
Redondeo X1	5.00 Sg	0.000100 mV/V		

Load cell registration screen

LOAD CELLS

Ibertest offers the possibility of acquiring, together with the equipment, the load cells that the customers require, with a wide range of available capacities.

TYPE OF LOAD	RANGE
Compression	100 N - 5000 kN
Tensile	100 N - 1000 kN

Force measurement main screen is very visual, it shows the info of the load cell that was previously stored, the type of load applied, the temperature and the force in the units selected by the user.



Force measurement main screen

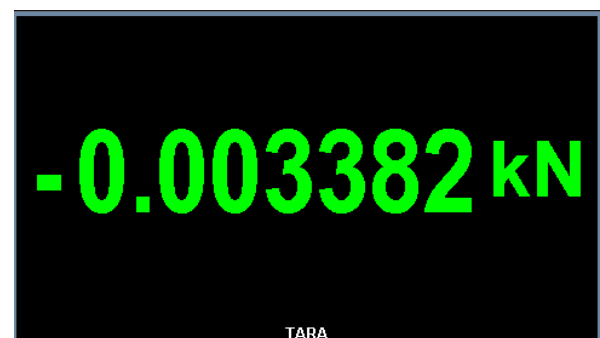


UCF - 430 front view

The equipment also has another option to show a simplified version of its main screen in which only the value of the force is displayed to avoid distractions during the calibration process.



Carrying case



Simplified version of the main measurement screen

"TECHNICAL SUPPORT HAS NEVER BEEN EASIER"

TELEDIAGNOSIS is a remote diagnostic service and maintenance support, available for all IBERTEST equipment and testing machines equipped with data acquisition system by computer.

The immediate attention of TELEDIAGNOSIS service for customers located worldwide, minimizes downtimes and avoids delays in the work of laboratory, while reducing or eliminating the overhead of moving the IBERTEST technicians.

To run TELEDIAGNOSIS a link program is used which establishes a remote connection to control the computer of the machine, quick and safe, ensuring IBERTEST services even at facilities with distant locations.

Thereby, an easy and effective intervention from our Technical Service is possible regardless of the location of the machine, as long as an access to INTERNET is available.

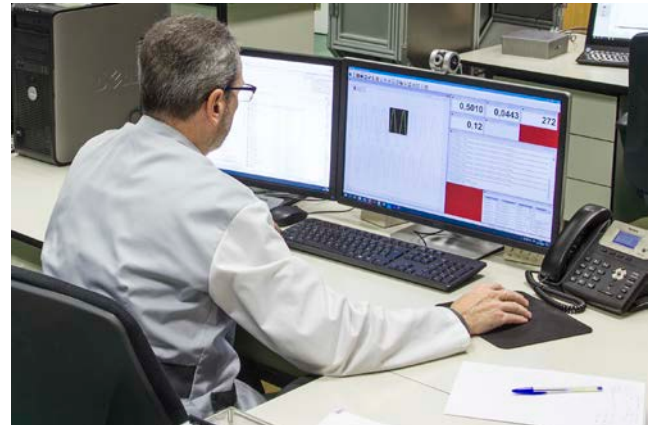
Even on those occasions when the Technical Service must act "in situ", the TELEDIAGNOSIS is helpful to clearly identify the problem in advance and improve first-visit resolution rates.

During a TELEDIAGNOSIS session, the following actions can be performed:

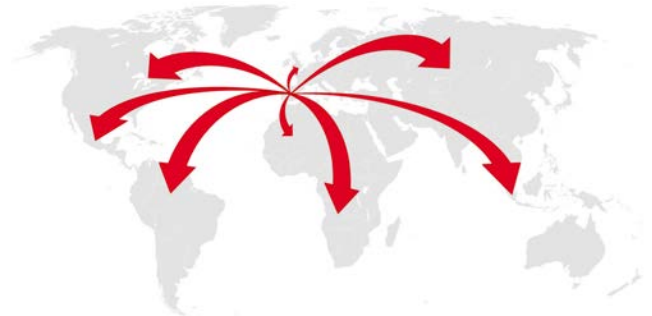
- › **Software revision and correction.** IBERTEST technicians can inspect the software file system, looking for wrong configurations, lost files and directories, corrupted files, viruses or others. Once the errors are detected, only the appropriate libraries and changes are transferred, without reinstalling complete programs.
- › **Remote handling.** IBERTEST technicians can operate the remote machine in real time to perform maneuvers, tests of mechanical movement, installation of testing transducers and accessories, verification of electrical and electronic systems, on/off alarm and security systems, etc.
- › **Videoconference.** Through webcam a videoconference between client and our technicians can be maintained, thus we can get visual-information about the correct operation of the machine's mechanical and hydraulic systems. Also, by written or voice messages, it is possible to exchange views and comments, and give appropriate instructions to the user, when necessary, to perform some physical action in the machine.
- › **Updates.** The software can be easily updated to its latest version, which allows enjoying the advantages resulting from the continuing work of review and program development.
- › **Factory reset.** All machines have a backup, stored in our servers in Madrid, which allows you to restore the original configurations when necessary.

TELEDIAGNOSIS

REMOTE DIAGNOSIS SERVICE



IBERTEST Spain - Madrid Technical Services



Real time TELEDIAGNOSIS link



End-user laboratory (anywhere in the world)

Remote diagnostic service by TELEDIAGNOSIS is free during the first year and during the warranty period.

After the guarantee period, many of our customers require the Annual Telediagnosis Pass, which covers interventions of up to 5 hours a year.

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ibertest



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