HPT-200B
WIRE CRIMP PULL TESTER

DANIELS MANUFACTURING CORPORATION

DATASHEET

Thank you…

Thank you for purchasing the DMC HPT-200B Wire Crimp Pull Tester.

With proper usage, we are confident that you will get many years of great service with this product. DMC instruments are ruggedly built for many years of service in laboratory and industrial environments.

This User's Guide provides setup, safety, and operation instructions. Dimensions and specifications are also provided. For additional information or answers to your questions, please do not hesitate to contact us. Our technical support and engineering teams are eager to assist you.

Before use, each person who is to use a HPT-200B Wire Crimp Pull Tester should be fully trained in appropriate operation and safety procedures.

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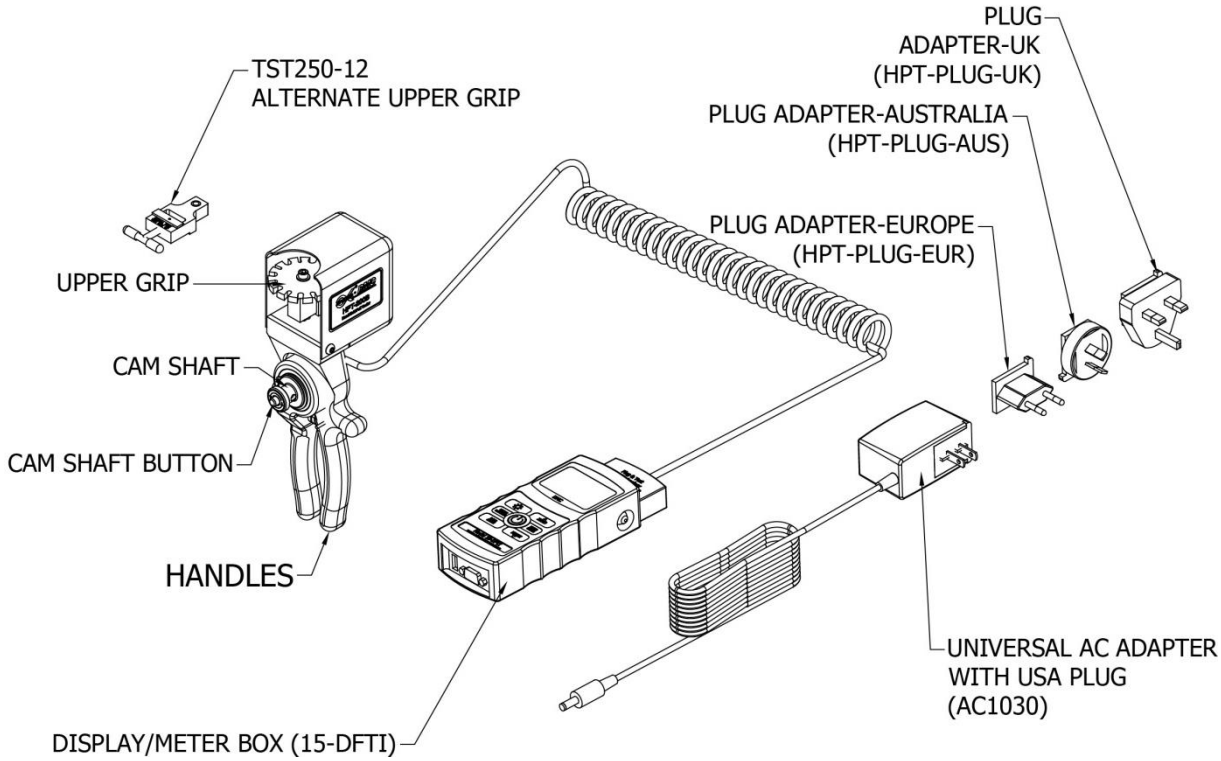

1. OVERVIEW

1.1 General Overview

The HPT-200B Wire Crimp Pull Tester is a portable tool for making pull type force measurements to terminated wire samples, wherever they are required. The HPT-200B can be operated while plugged into wall power or by internal rechargeable batteries. It is only recommended for testing tensile requirements up to 200.0lb (889.6N) (90.7Kg).

The HPT-200B is shipped from the factory assembled, calibrated, and tested. For best results, users should familiarize themselves with the setup and operation of the unit before placing it in service.

The model and serial numbers are identified in the **Information** screen of the indicator.

1.2 Accuracy and Resolution

The total system accuracy is ±0.5% of full scale value from 2lbs-200lbs.

Because accuracy is defined as a *percentage of full scale*, the fixed error is possible anywhere on the scale from 0 to the capacity. As such, this value represents an increasingly large error as *percentage of reading* towards the low end of the scale.

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1.3 Safety / Proper Usage

Read through the following safety instructions thoroughly BEFORE using the HPT-200B:

1. Note the load cell's capacity (200LBS) before use and ensure that the capacity is not exceeded. Producing a load greater than the indicated safe overload value can damage the load cell. An overload can occur whether the load cell's indicator is powered on or off.

2. In order to extend the life of the load cell, avoid repetitive shock and impact loading.

3. When moving the HPT-200B to another location, never lift from the cable or strain relief. This can cause damage to the load cell. Always lift the tool by the grip handles and meter box.

4. Always ensure that load is applied axially with respect to the upper grip and the lower cam.

5. Ensure that the load cell is kept away from water or any other electrically conductive liquids at all times.

6. The load cell and indicator should be serviced by a trained technician only. AC power must be disconnected and the indicator must be powered off before the housing is opened.

7. Always consider the characteristics of the sample being tested before initiating a test. A risk assessment should be carried out beforehand to ensure that all safety measures have been addressed and implemented.

8. Typical materials able to be tested include many contact, terminal, splice assemblies. Items that can shatter in an unsafe manner and any other components that can present an exceedingly hazardous situation when acted upon by a force, SHOULD NOT be tested. Always wear eye and face protection when testing.

9. Ensure grip accessories are securely mounted to the load cell.

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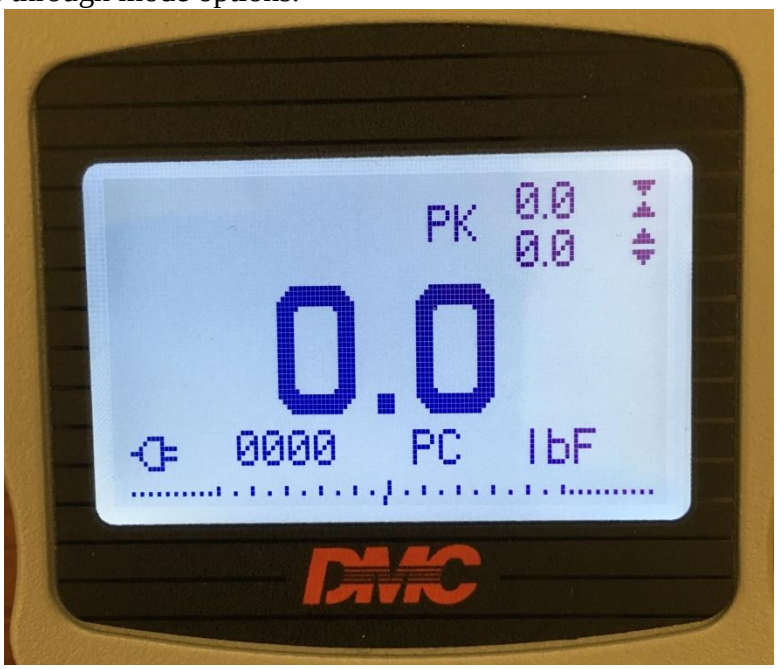
2. Quick Operation Guide

1. Press ⏻ to power unit ON and verify Home Screen is displayed.

2. Verify desired unit of measure is selected, press UNITS button to cycle through unit options.

3. Verify desired mode (preferred mode is Peak Compression-PC) has been selected, press MODE button to cycle through mode options.



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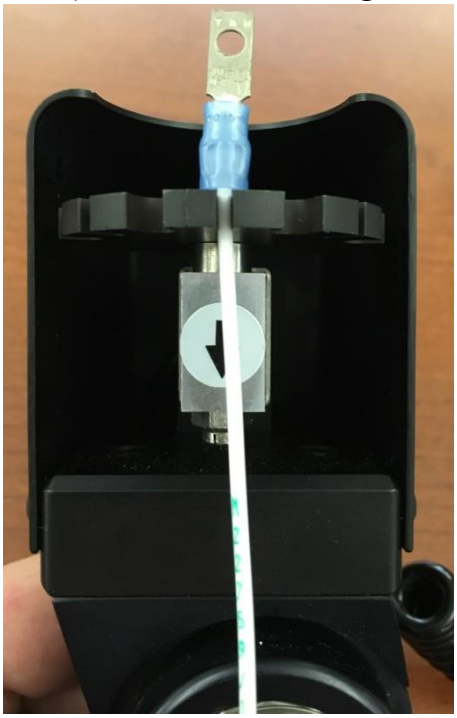
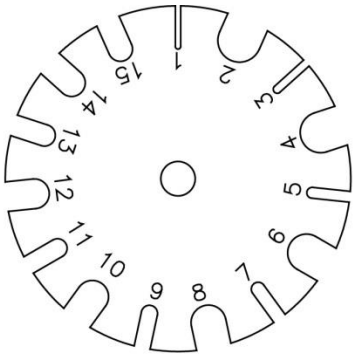
4. Rotate the upper grip and find a slot that is the same width as the wire diameter (see sizing chart below), or one increment larger.





SLOT DIMENSIONS			
NO.	SIZE (INCHES)	NO.	SIZE (INCHES)
1	.031	9	.094
2	.250	10	.188
3	.047	11	.110
4	.236	12	.172
5	.063	13	.125
6	.218	14	.158
7	.080	15	.141
8	.203		

5. Depress the cam shaft button, located on the center of the handles, and insert the end of the wire sample thru the hole located in the cam shaft. Release the cam shaft button.

For best results, wrap the wire at least one full clockwise turn around the cam shaft.

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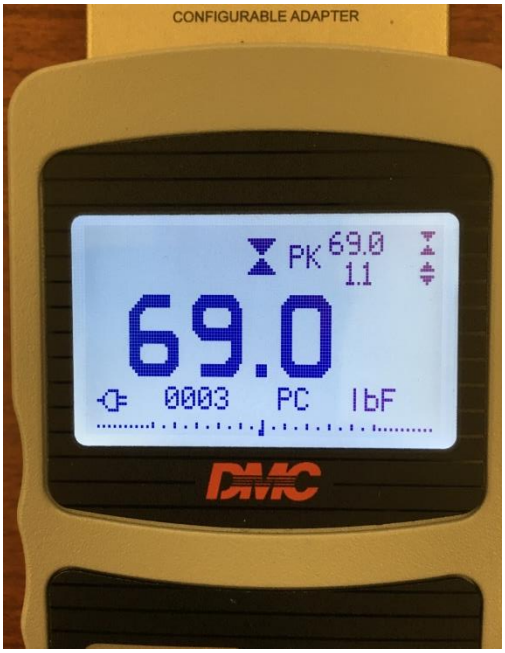
6. Compress and release the handles slowly to apply tension on the sample.

7. After the wire has separated from the termination, the tensile force required for the break can be read directly from the display read out.



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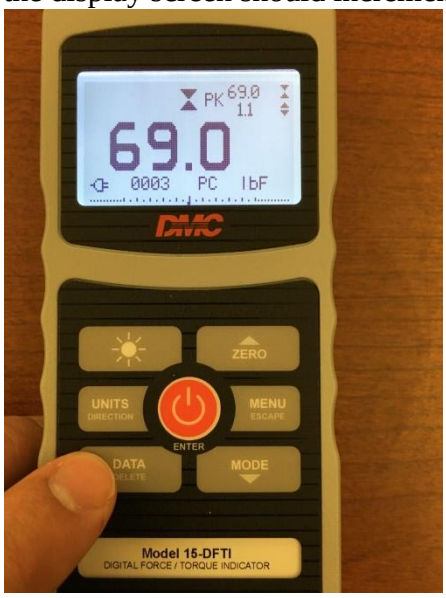
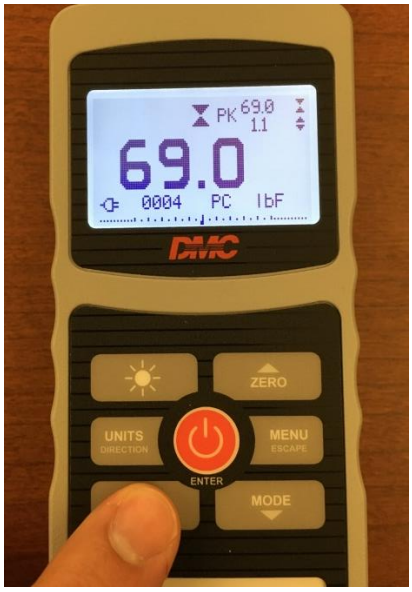
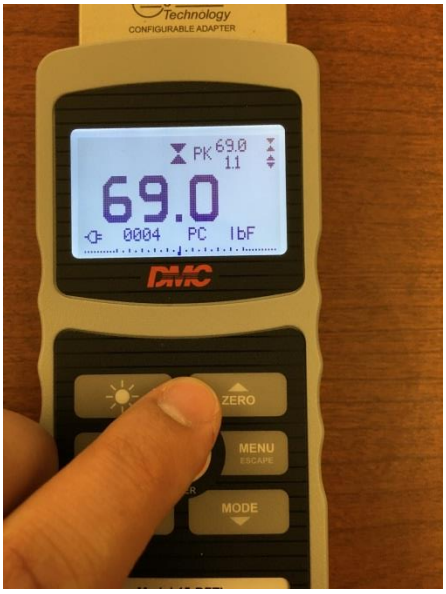
8. To store this reading in the tool's memory, Press the DATA button. The 4-digit number at the bottom of the display screen should increment by one.

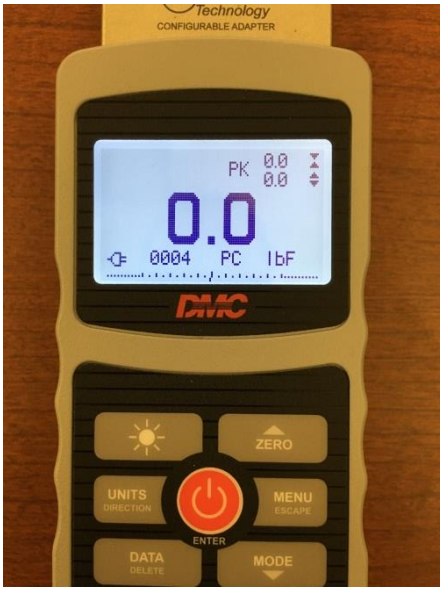




9. Remove any spent parts from the upper grip assembly, and depress the button on the cam shaft to remove the wire.

10. Press the ZERO button to re-zero the unit for the next cycle.





If using alternative upper grip (TST250-12):

The above instructions apply; replacing Step 4 with:

4. Insert the wire/terminal lead in the grip slot and tighten the T-handle on the grip until samples is securely held. DO NOT overtighten grip.

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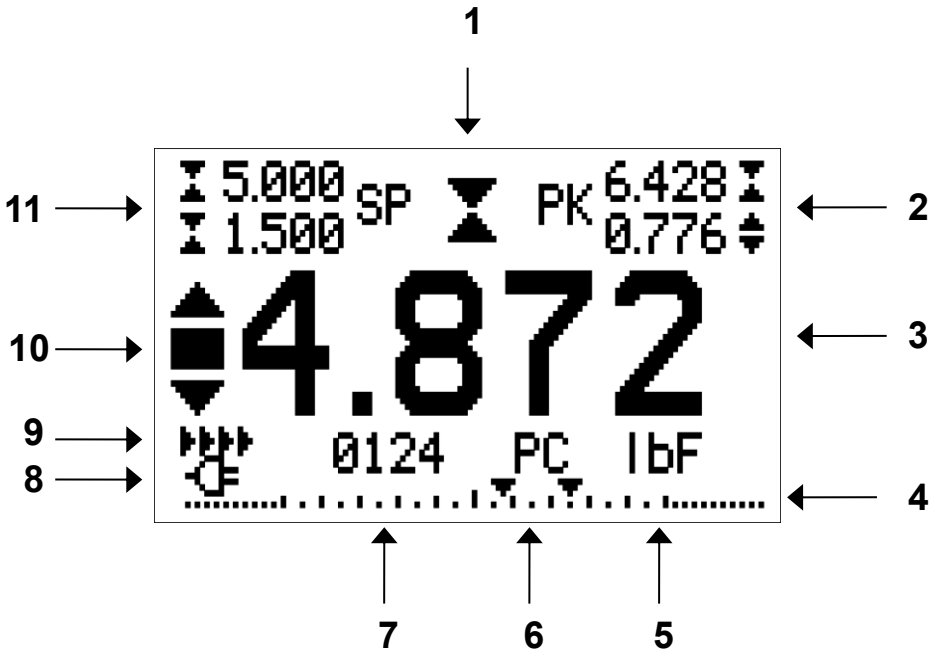
3. HOME SCREEN



No.	Name	Description
1	**Measurement direction indicator**	⧗ – indicates compression direction ⇕ – indicates tension direction These indicators are used throughout the display and menu.
2	**Peaks**	The maximum measured compression and tension readings. These readings are reset by pressing **ZERO** or by powering the indicator off and on.
3	**Primary reading**	The current displayed load reading. See **Operating Modes** section for details. If a load cell is not plugged in, this value will be replaced by a message, as follows: LOAD CELL NOT CONNECTED
4	**Load bar**	Analog indicator to help identify when an overload condition is imminent. The bar increases either to the right or to the left from the midpoint of the graph. Increasing to the right indicates compression load, increasing to the left indicates tension load. If set points are enabled, triangular markers are displayed for visual convenience. This indicator reflects the actual load, which may not correspond to the primary reading (depends on operating mode). The **ZERO** key does not reset the load bar. See **Operating Modes** section for details.
5	**Units**	The current measurement unit. Available units and their abbreviations are as follows: lbF – Pound-force ozF – Ounce-force

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		kgF – Kilogram-force gF – Gram-force N – Newton
6	**Mode**	The current measurement mode. Abbreviations are as follows: RT – Real Time PC – Peak Compression See **Operating Modes** section for details about each of these modes
7	**Number of stored data points**	The number of stored data points in memory, up to 1000. Displayed only if **Memory Storage** is enabled for the **DATA** key.
8	**Battery / AC adapter indicator**	Either the AC adapter icon or battery power icon will be shown, depending on power conditions. Refer to the **Power** section for details.
9	**Automatic data output indicator**	If **Auto Output** has been enabled under **Serial / USB Settings**, this indicator is displayed. When automatic data output is occurring, the icon becomes animated. See **Communications** section for details.
10	**High / low limit indicators**	Correspond to the programmed set points. Indicator definitions are as follows: ▲ – the displayed value is greater than the upper load limit ■ – the displayed value is between the load limits ▼ – the displayed value is less than the lower load limit
11	**Set points**	The programmed load limit values. Typically used for pass/fail type testing. One, two, or no indicators may be present, depending on the configuration shown in the **Set Points** menu item.

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4. CONTROLS

Primary Label	Primary Function	Secondary Label	Secondary Function
⏻	Powers the indicator on and off. Press briefly to power on, press and hold to power off. Active only when the home screen is displayed.	**ENTER**	Various uses, as described in the following sections.
ZERO	Zeroes the primary reading and peaks.	▲ *(UP)*	Navigates up through the menu and sub-menus.
MENU	Enters the main menu.	**ESCAPE**	Reverts one step backwards through the menu hierarchy.
MODE	Toggles between measurement modes.	▼ *(DOWN)*	Navigates down through the menu and sub-menus.
DATA	Stores a value to memory, transmits the current reading to an external device, and/or initiates automatic data output, depending on setup.	**DELETE**	Enables and disables **Delete** mode while viewing stored data.
UNITS	Toggles between measurement units.	**DIRECTION**	Toggles between tension and compression (or clockwise and counter-clockwise) directions while configuring set points and other menu functions.
☀	Turns the LCD backlight on and off.	**N/A**	N/A

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4.1 Menu navigation basics

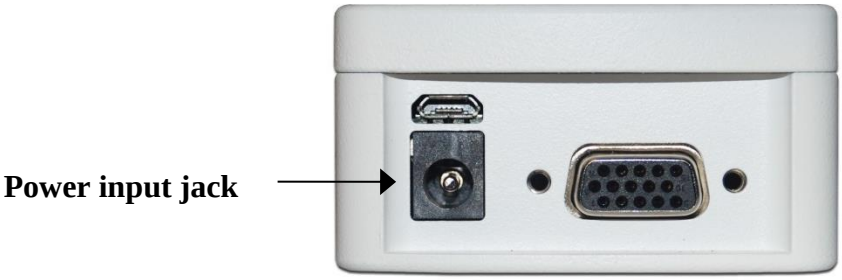
Most of the indicator's various functions and parameters are configured through the main menu. To access the menu press **MENU**. Use the **UP** and **DOWN** keys to scroll through the items. The current selection is denoted with clear text over a dark background. Press **ENTER** to select a menu item, then use **UP** and **DOWN** again to scroll through the sub-menus. Press **ENTER** again to select the sub-menu item.
For parameters that may be either selected or deselected, press **ENTER** to toggle between selecting and deselecting. An asterisk (*****) to the left of the parameter label is used to indicate when the parameter has been selected.

For parameters requiring the input of a numerical value, use the **UP** and **DOWN** keys to increment or decrement the value. Press and hold either key to auto-increment at a gradually increasing rate. When the desired value has been reached, press **ENTER** to save the change and revert back to the sub-menu item, or press **ESCAPE** to revert back to the sub-menu item without saving. Press **ESCAPE** to revert one step back in the menu hierarchy until back into normal operating mode.

Refer to the following sections for details about setting up particular functions and parameters.

5. POWER

The HPT-200B is powered either by an 8.4V NiMH rechargeable battery or by an AC adapter. Since these batteries are subject to self-discharge, it may be necessary to recharge the unit after a prolonged period of storage. Plug the accompanying charger into the AC outlet and insert the charger plug into the receptacle on the indicator (refer to the illustration below). The battery will fully charge in approximately 8 hours.



Caution!
Do not use chargers or batteries other than supplied or instrument damage may occur.

To power the unit on, briefly press  . Unit should power on and cycle through startup display and then the home screen will appear.

If the AC adapter is plugged in, an icon appears in the lower left corner of the display, as follows: 

If the AC adapter is not plugged in, battery power drainage is denoted in a five-step process:

1. When battery life is greater than 75%, the following indicator is present: 

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2. When battery life is between 50% and 75%, the following indicator is present:
3. When battery life is between 25% and 50%, the following indicator is present:
4. When battery life is less than 25%, the following indicator is present:

5. When battery life drops to approximately 2%, the indicator from step 4 will be flashing. Several minutes after (timing depends on usage and whether the backlight is turned on or off), a message appears, "BATTERY VOLTAGE TOO LOW. POWERING OFF". A 4-tone audio indicator will sound and the indicator will power off.

The indicator can be configured to automatically power off following a period of inactivity. Refer to the **Other Settings** section for details.

6. MENU HIERARCHY

Press MENU button to enter the MENU Screen. The following sub-menus are found there:

6.1 Memory

The HPT-200B has a storage capacity of 1,000 data points. Readings may be stored, viewed, and output to an external device. Individual, or all, data points may be deleted. Statistics are calculated for the data presently in memory.

Note: Data is NOT retained while the gauge is powered off. However, the gauge protects against accidental or automatic power-off.

To view, edit, and output stored readings and statistics, highlight **Memory** from the menu and press ENTER.

Memory
Set Points
Filters
Average Mode
External Trigger
DATA Key
Serial/USB Settings

The MEMORY Sub-menu screen appears as follows:

MEMORY
View Data
View Statistics
Output Data
Output Statistics
Output Data & Stats
Clear All Data

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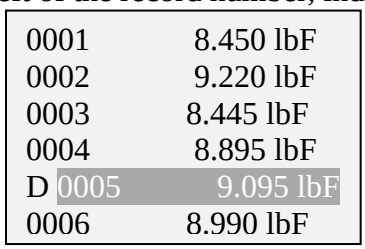
6.1.1 View Data

All the saved data points may be viewed by highlighting VIEW DATA and pressing ENTER. The record number is displayed, along with the corresponding value and presently set unit of measurement. Any readings may be deleted individually. To do so, scroll to the desired reading and press **DELETE**. The letter "D" appears to the left of the record number, indicating that the indicator is in **Delete** mode, as follows:

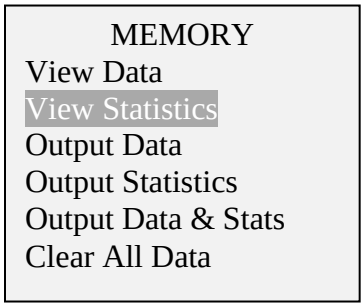


Press **ENTER** to delete the value. To exit **Delete** mode, press **DELETE** again. Any number of readings may be individually deleted; however, all readings may also be cleared simultaneously. Refer to the **Clear All Data** section for details.

Press ESCAPE to return to the MEMORY sub menu.

6.1.2 View Statistics

Statistical calculations for the saved values can be viewed by highlighting VIEW STATISTICS and pressing ENTER. Calculations include number of readings, minimum, maximum, mean, and standard deviation.



Press ESCAPE to return to the MEMORY sub menu.

6.1.3 Output Data-NOT USED IN THIS TOOL

6.1.4 Output Statistics-NOT USED IN THIS TOOL

6.1.5 Output Data & Stats-NOT USED IN THIS TOOL

6.1.6 Clear All Data

Highlight CLEAR ALL DATA and Press **ENTER** to clear all data from the memory. A prompt will be shown, "CLEAR ALL DATA?". Select **Yes** to clear all the data, or **No** to return to the sub-menu.

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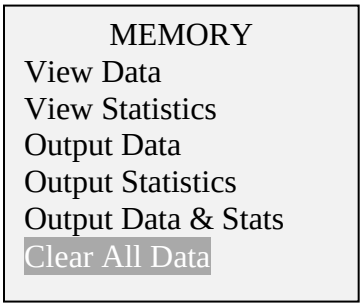

Shortcut for clearing all data: In the main menu, highlight **Memory** and press **DELETE**. The same prompt will be shown as above.

Note: Data is not retained while the gauge is powered off. However, the gauge protects against accidental or automatic power-off. If manually powering the instrument off, or if the inactivity time limit for the **Automatic Shutoff** function has been reached, the following warning message appears:

If no option is selected, this screen will be displayed indefinitely, or until battery power has been depleted.

If data is not storing, verify memory storage is enabled, select **DATA Key** from the menu, then scroll to **Memory Storage** and press **ENTER, an asterisk will appear**. Then exit the menu. In the home screen, the data record number **0000** appears below the primary reading. Press **DATA** at any time to save the displayed reading. The record number will increment each time **DATA** is pressed. If **DATA** is pressed when memory is full the message "MEMORY FULL" will be flashed at the bottom of the display and a double audio tone will be sounded.

6.2 Set Points

Set points are useful for tolerance checking (pass/fail). Two limits, high and low, can be specified and stored in the non-volatile memory of the instrument and the primary reading is compared to these limits.

To enable, view, or edit set points, highlight **Set Points** from the menu and press ENTER.

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Memory
Set Points
Filters
Average Mode
External Trigger
DATA Key
Serial/USB Settings

The screen appears as follows:

SET POINTS
Upper Disabled
* Upper Enabled
5.000
Lower Disabled
* Lower Enabled
3.500

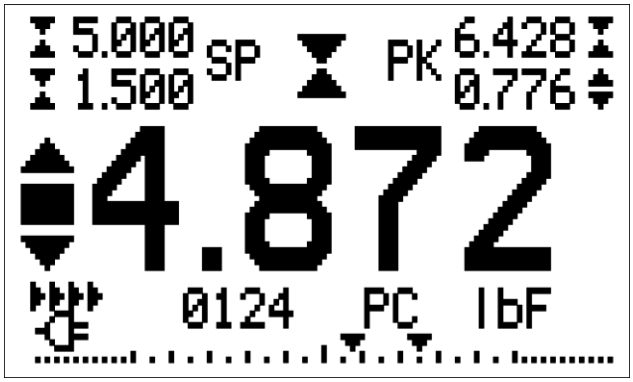
To enable a set point, scroll to Upper Enabled / Lower Enabled and Press ENTER. An Asterisks * will appear next to the words indicating that the set point is enabled.

To disable a set point, scroll to Upper Disabled / Lower Disabled and Press ENTER. An Asterisks * will appear next to the words indicating that the set point is disabled.

To set a value for an enabled set point, scroll to Upper Enabled / Lower Enabled after it has been enabled and press ENTER. The cursor will highlight the value which can be changed using the UP/DOWN arrows. When desired value is reached, press ENTER to lock that value in.

One, two, or none of the set points may be enabled and set. If two set points have been enabled, they are displayed in the upper left corner of the home screen (see below item 11). If only one set point has been enabled, the word "OFF" appears in place of the value. If no set points have been enabled, the upper left corner of the display will be blank.

11 →



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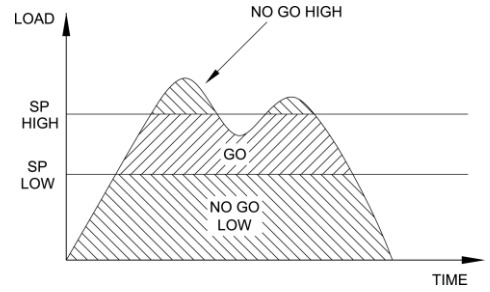
When set points are enabled, the following indicators are shown to the left of the primary reading:



▲ – the displayed value is greater than the upper load limit (NO GO HIGH)

■ – the displayed value is between the limits (GO)

▼ – the displayed value is less than the lower load limit (NO GO LOW)

Note: Set point indicators and outputs reference the displayed reading, not necessarily the current live load. To return to the MENU screen press ESCAPE.

6.3 Filters

The FILTERS Sub-menu is not used in this tool and should not be accessed.

Memory
Set Points
Filters
Average Mode
External Trigger
DATA Key
Serial/USB Settings

6.4 Average Mode

The AVERAGE MODE Sub-menu is not used in this tool and should not be accessed.

Memory
Set Points
Filters
Average Mode
External Trigger
DATA Key
Serial/USB Settings

6.5 External Trigger

The External Trigger Sub-menu is not used in this tool and should not be accessed.

Memory
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Filters
Average Mode
External Trigger
DATA Key
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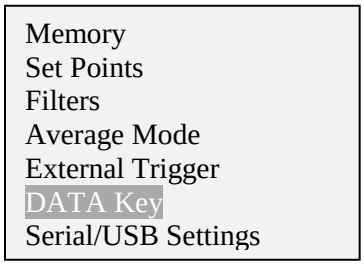
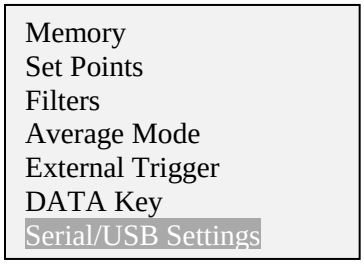
6.6 DATA Key

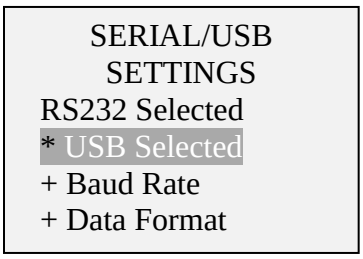
Highlight DATA Key and press ENTER to view settings for DATA key operation. Verify that MEMORY STORAGE has an * next to it. Press ESCAPE to exit menu.



6.7 Serial/USB Settings

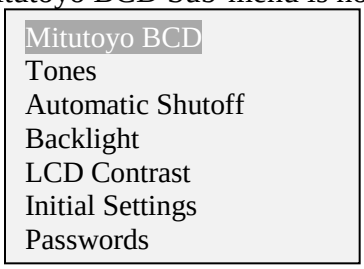
Highlight Serial/USB and press ENTER to view settings for Serial/USB operation. Verify that USB SELECTED has an * next to it. Press ESCAPE to exit menu.





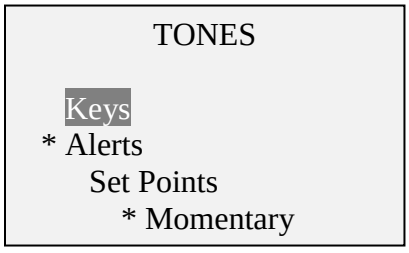
6.8 Mitutoyo BCD

The Mitutoyo BCD Sub-menu is not used in this tool and should not be accessed.



6.9 Tones

The Tones Sub-menu can be used to toggle on/off audible alerts for Keys and Set Points. To enter the Tones Sub Menu, highlight TONES and press ENTER.



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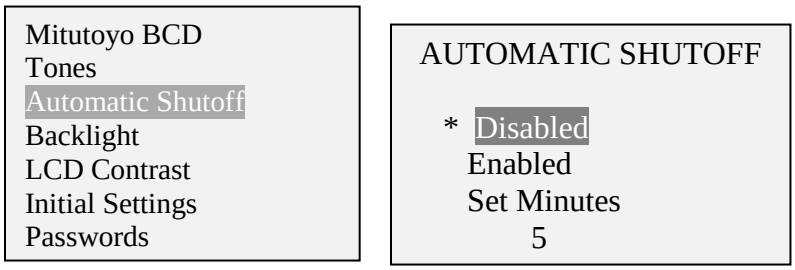
Tool will play tone for items selected with *. To remove tone, select item and press ENTER and * will disappear.

Press ESCAPE to return to menu.

6.10 Automatic Shutoff

The Automatic Shutoff Sub-menu can be used to enable/disable automatic shutoff of tool and set the corresponding timer for shutoff. To enter the Automatic Shutoff Sub Menu, highlight AUTOMATIC SHUTOFF and press ENTER.



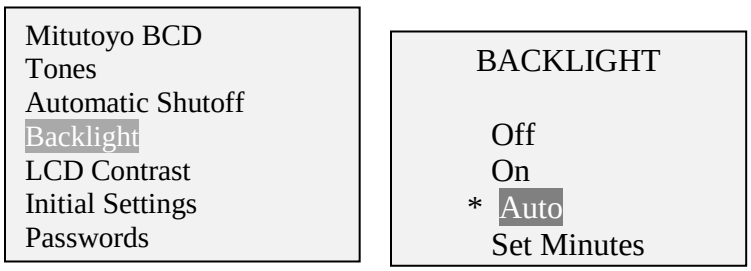
To Disable Automatic Shutoff, highlight DISABLED and press ENTER; an * will appear next to DISABLED.
To Enable Automatic Shutoff, highlight ENABLED and press ENTER; an * will appear next to ENABLED.

Scroll down to SET MINUTES, press ENTER, and use UP/DOWN ARROWS to change the automatic shutoff time interval. Press ENTER when desired time interval is displayed. Press ESCAPE to return to main menu.

Note: If the AC adapter is plugged in, the indicator will ignore these settings and remain powered on until the **POWER** key is pressed.

6.11 Backlight

The Backlight Sub-menu can be used to turn the display backlight on/off and set time interval. To enter the Backlight Sub Menu, highlight BACKLIGHT and press ENTER.



To Disable Backlight, highlight OFF and press ENTER; an * will appear next to OFF.
To Enable Backlight, highlight ON and press ENTER; an * will appear next to ON.
To Enable Automatic Backlight, highlight AUTO and press ENTER; an * will appear next to AUTO.

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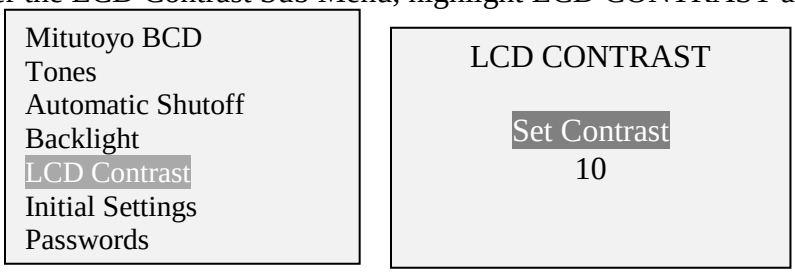
Scroll down to SET MINUTES, press ENTER, and use UP/DOWN ARROWS to change the backlight time interval. Press ENTER when desired time interval is displayed. Press ESCAPE to return to main menu.

Note: If the AC adapter is plugged in, the indicator will ignore these settings and keep the backlight on, unless the **BACKLIGHT** key is pressed.

6.12 LCD Contrast

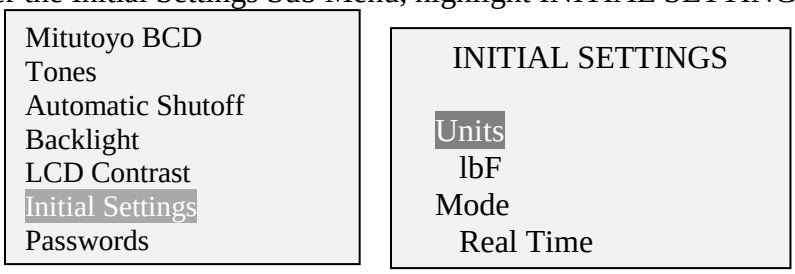
The LCD Contrast Sub-menu can be used to adjust the contrast of the display for different lighting conditions. To enter the LCD Contrast Sub Menu, highlight LCD CONTRAST and press ENTER.



Scroll to SET CONTRAST, press ENTER, and use UP/DOWN ARROWS to change the contrast level. Select a value from 0 to 25, 25 producing the most contrast. Press ENTER when desired level is displayed. Press ESCAPE to return to main menu.

6.13 Initial Settings

The Initial Settings Sub-menu can be used to adjust the Units and Mode that appear upon powering on the tool. To enter the Initial Settings Sub Menu, highlight INITIAL SETTINGS and press ENTER.



To change Units, scroll to UNITS, press ENTER, and use UP/DOWN ARROWS to change the Units. Press ENTER when desired level is displayed. Press ESCAPE to return to main menu.

To change Mode, scroll to MODE, press ENTER, and use UP/DOWN ARROWS to change the Mode. NOTE: Only REAL TIME OR PEAK COMPRESSION should be selected for this tool. Press ENTER when desired level is displayed. Press ESCAPE to return to main menu.

6.14 Passwords

The Passwords Sub-menu can be used to set password access to various menus and functions of the tool. To enter the Passwords Sub Menu, highlight PASSWORDS and press ENTER. Two separate passwords may be set to control access to the Calibration section and to the menu and other keys.

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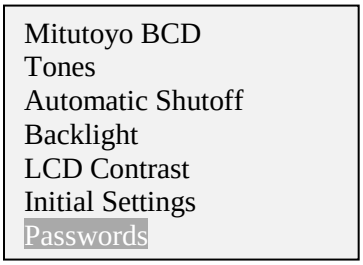
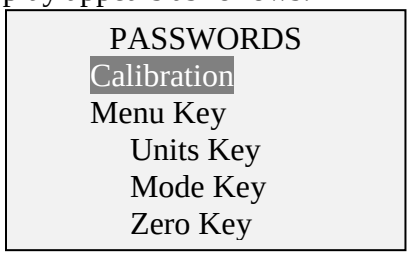
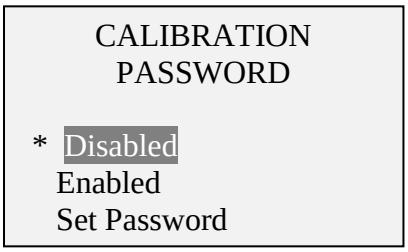


The display appears as follows:



6.14.1 Calibration Password

Select **Calibration** from the sub-menu. The display appears as follows:



To set the password, select **Enabled**, then **Set Password**. Use the **UP** and **DOWN** keys to increment and decrement the value, from 0 to 9999. When the desired value has been selected, press **ENTER**, then **ESC** to exit the sub-menu.

6.14.2 Menu Key Password

If enabled, every time the **MENU** key is selected, a password must be provided. Select **Menu Key** from the sub-menu. Follow the same procedure as described above.

6.14.3 Locking Out Other Keys

Other keys may be locked out individually. Select any combination of keys (**UNITS**, **MODE**, **ZERO**, **DATA**) by pressing **ENTER** in the **Passwords** sub-menu. Pressing a locked key will prompt the message "KEY PROTECTED" and then revert to the previous screen.

6.14.4 Password Prompts

If passwords have been enabled, the following will be displayed when pressing the **MENU** key or accessing the **Calibration** section:

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Use the **UP** and **DOWN** keys to select the correct password, then press **ENTER** to continue.

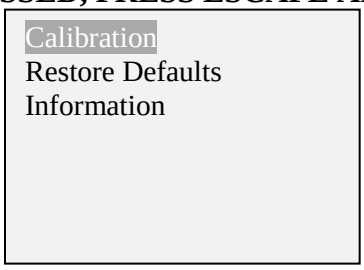
If the incorrect password has been entered, the display appears as follows:

To re-enter the password, press ESC to exit to the home screen. Then, access the desired function and enter the password again when prompted.

If the password has been misplaced, it can be reset. Press **ENTER** to generate a *request code*. The *request code* must be supplied to DMC, who will then provide a corresponding *authorization code*. Enter the *activation code* to disable the password.

6.15 Calibration

WARNING: THIS MENU SHOULD NOT BE ACCESSED BY END USERS. IF ACCIDENTALLY ACCESSED, PRESS ESCAPE AND CHOOSE EXIT W/O SAVING



6.16 Restore Defaults

The Restore Defaults Sub-menu can be used to Restore Factory Defaults (shown in the SPECIFICATIONS section) to the tool. To enter the Restore Defaults Sub Menu, highlight RESTORE DEFAULTS and press ENTER.

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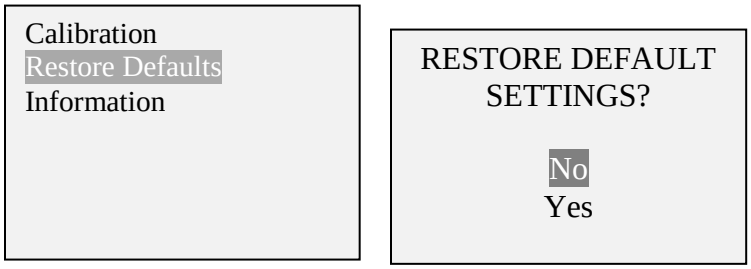
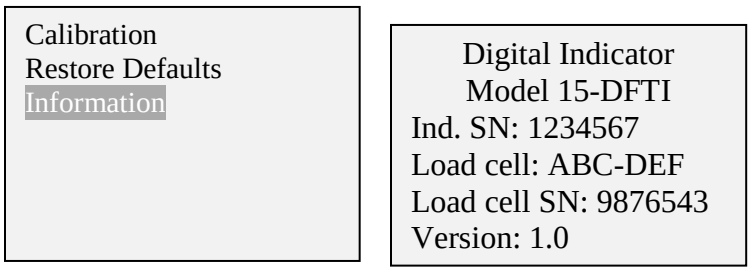


Select "YES", and Press Enter, the System will restore factory default settings and return to the menu screen.

6.17 Information

The Information Sub-menu can be used to view Information of the tool. To enter the Information Sub Menu, highlight INFORMATION and press ENTER. The Information Screen will be displayed. Press ESCAPE to return to the menu screen.



7. OPERATING MODES

Caution!

In any operating mode, if the capacity of the instrument has been exceeded by more than 110%, the display will show "OVER" to indicate an overload. A continuous audible tone will be sounded until the MENU key has been pressed or the load has been reduced to a safe level.

Several operating modes are possible with the 15-DFTI indicator. To cycle between the modes, press **MODE** while in the home screen.

7.1 Real time (RT)

The primary reading corresponds to the live measured reading.

7.2 Peak Compression (PC)

The primary reading corresponds to the peak compression reading observed. If the actual load decreases from the peak value, the peak will still be retained in the primary reading area of the display. Pressing **ZERO** will reset the value.

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8. SPECIFICATIONS

8.1 General

Accuracy:	±0.5% of full scale from 2-200LBS
Sampling rate:	7,000 Hz
Power:	AC or rechargeable battery. Low battery indicator appears when battery level is low, and indicator powers off automatically when power reaches critical stage.
Battery life:	**Backlight on:** up to 7 hours of continuous use **Backlight off:** up to 24 hours of continuous use
Outputs:	**USB / RS-232:** Fully configurable up to 115,200 baud.
Weight:	0.7 lb [0.3 kg]
Environmental conditions:	40 - 100°F, max. 93% humidity, non-condensating
Warranty:	90 days (see individual statement for further details)

8.2 Factory Settings

Parameter	Setting
Set points	
Upper	Disabled (defaults to 80% of full scale when enabled)
Lower	Disabled (defaults to 40% of full scale when enabled)
Filters	
Current	8
Displayed	512
Average mode	Disabled
Initial Delay	0
Trigger Force	10% of full scale
Averaging Time (sec.)	5.0
External Trigger	Disabled
DATA Key Functions	
RS-232/USB Output	Enabled
Mitutoyo Output	Disabled
Memory Storage	Enabled
Backlight	Auto
Minutes	1
Serial/USB	
RS-232 Output Selected	Enabled
USB Output Selected	Disabled
Baud Rate	115,200
Data Format	Numeric + units
Auto Output	Disabled
Outputs per Sec.	125
Mitutoyo BCD Output	Disabled
Automatic Shutoff	Enabled
Minutes	5
Tones	
Keys	Enabled
Alerts	Enabled
Set Points	Momentary
Initial Settings	
Units	lbF
Mode	Real Time
Passwords	All passwords disabled

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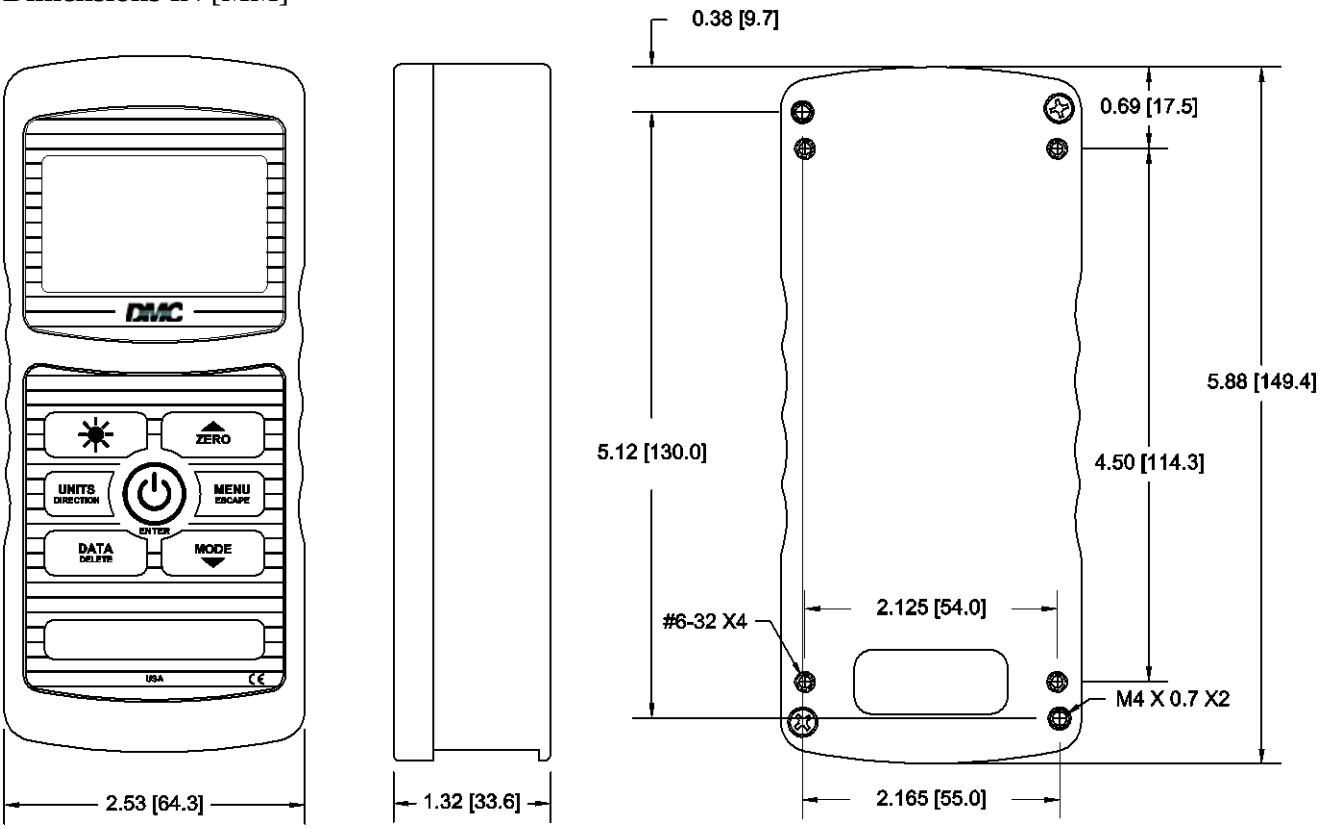
8.3 Dimensions IN [MM]



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9. SOFTWARE INSTALLATION/USAGE

The HPT-200B comes with a USB Memory Stick which contains the software installers to load the MESUR™ Lite software used to capture data from the meter/display box (15-DFTI). The following guide is used to install and use this software:

MESUR™ Lite software is developed to collect and tabulate data from digital force and torque measuring instruments, as well as export directly to *Microsoft Excel*.

This User's Guide provides detailed operating instructions. Please read through it before use.

1 STARTUP

1.1 Computer Requirements

MESUR™ Lite is compatible with PCs running Microsoft Windows XP or later operating system. Minimum monitor resolution is 1024 x 768. A USB or RS-232C serial port is required to communicate with an instrument. If USB communication is required, be sure to install the provided USB driver.

1.2 Installation

NOTE: INSTALL USB DRIVER FIRST BEFORE PLUGGING DISPLAY UNIT INTO COMPUTER

A. USB-Serial Port ("COM Port") Driver Installation:

Before connecting your force gauge to your PC, the USB-Serial Port driver must be installed.
NOTE: The driver is for the USB-Serial Port hardware of the gauge, and is provided by the chip manufacturer. It is signed and certified under Microsoft Windows Hardware Qualification Testing to be safe for your computer.

Insert the installation USB memory stick into the computer's USB drive. Locate the Folder named "1. INSTALL FIRST-USB Driver"

To install the driver, please navigate to the "CP210x_VCP_Windows Driver V6.6.1" sub-folder and run (double-click with a mouse or select and press Enter) one of these following two programs, depending on the number of bits of your Windows operating system (OS), Windows 2000 through Windows 8:

For 32-bit OS run: CP210xVCPInstaller_x86.exe

For 64-bit OS run: CP210xVCPInstaller_x64.exe

Follow the prompts on the screen.

When the installation is complete, you may connect one end of the supplied USB cable to the gauge's micro-USB port, and the other end to the PCs USB port. Again, please follow the prompts, depending on the OS. The newer OSs provide for a "silent installation". In those cases you will see pop-up notifications on your screen informing you of the progress of the installation. When it is complete, make a note of the COM Port number that was assigned by Windows. (If you missed it, you may check it in Device Manager. Please consult your Windows Help on how to launch and use Device Manager.) Your gauge is now ready for use.

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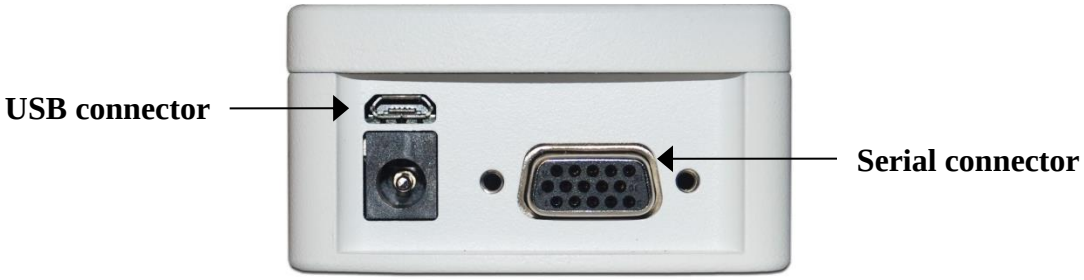

B. **MESUR Lite Installation:**
On the USB drive, locate the Folder named "2. INSTALL SECOND-MESURE Lite Software Installer"
Locate and double-click the file "setup.exe" in that folder. Follow the installation prompts.

1.3 Display Setup for Use

Prior to Launching the Software verify the following conditions are met:

1. In the MENU----SERIAL/USB SETTINGS sub menu, verify USB Selected (or RS232 if connecting with RS232) has an * next to it, if not, highlight it and press ENTER.
2. Verify there is stored data to acquire by looking at the 4-digit number at the bottom of the Home Screen.
3. Place display in the Home Screen mode, it must not be in any menu or sub-menu.

1.4 Launching the Software

When the installation is complete, run MESUR™ Lite by clicking the Windows **START** button, locating "MESUR Lite" under "Programs", and then clicking "MESUR Lite".

Windows Administrator Settings

You may have to enable full Administrator privileges on your PC for proper operation.

Failure to enable appropriate privileges may result in certain issues, such as not saving test setup files.

Procedure for *Windows 7 / 8 / 10*

1. Log on to *Windows* as an administrator or as a user with administrator privileges.
2. Right-click on the MESUR™ Lite software icon on the Desktop, select *Properties*, and then click the *Compatibility* tab.
3. At the bottom of the screen, check the box *Run this program as an administrator*. Then click the button below it, labeled Change settings for all users. Then, click OK.

Procedure for *Windows XP*

1. Log on to *Windows* as an administrator or as a user with administrator privileges.
2. Right-click the MESUR™ Lite software icon on the Desktop, select *Properties*, then click *Find Target*. Navigate to the program folder directory in *Windows Explorer* where MESUR™ Lite was installed (default location is C:\MESUR Lite).
3. Right-click the MESUR Lite folder and select *Properties*. In the Security tab click Advanced, then click on all of the users or groups desired and click *Edit*. Check the *Allow Full control* box. Then click OK three times to close the dialog boxes.

If further instructions are required, consult your IT administrator.

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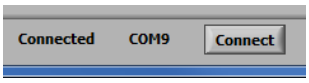
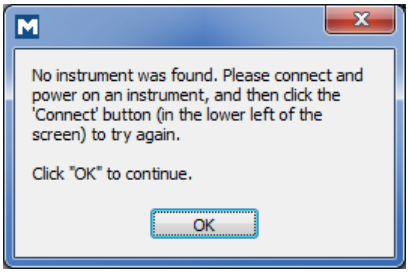
1.5 *Auto Connect*

When the software is launched, *Auto Connect* will automatically attempt to establish a connection with an instrument. If USB communication is desired, ensure that the USB driver has been installed. The connection status may be seen in the lower left corner of the screen, as follows:



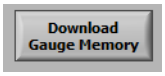
If an instrument cannot be identified or is not connected, the following message appears:



If the instrument is properly connected and configured but this message still appears, the COM port connection may be manually configured. Refer to the communication flowchart below and the following sections for details.

1.6 Download Memory

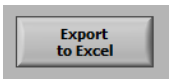
Before clicking **Download Memory**, ensure that the Reading Mode in the **Settings** tab is set to "Single Readings". Also ensure that the **START** button is not clicked before downloading saved data. The "Acquiring Data" indicator should be off during this time.



Downloads saved data from a compatible instrument. The instrument must be in the main operating mode (i.e. not in a menu or configuration area).

A communication error message will appear if an incompatible instrument is used or if it is not in the main operating mode.

1.7 Export to Excel



Clicking this button launches *Excel* (if installed, sold separately) and populates a worksheet containing reading numbers, load, and relative time stamps (only if the Reading Mode is set to *Continuous Readings*).

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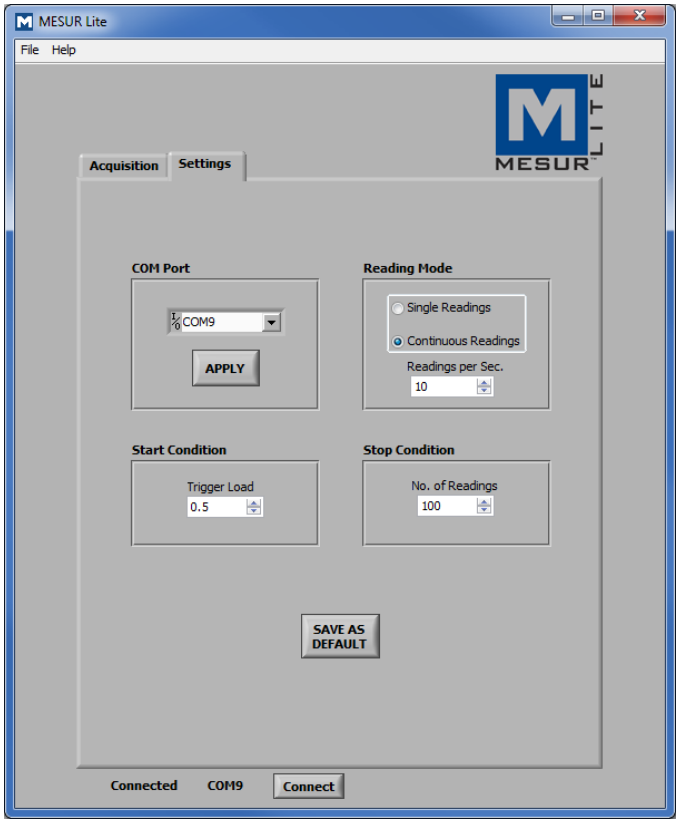
2 SETTINGS TAB



Use this tab to select the PC's COM port number, reading mode, and start and stop triggers. These settings can be saved as default.

2.1 Compatible Instruments

An appropriate instrument with RS-232 or USB output may be used with MESUR™ Lite.

2.2 COM Port

If *Auto Connect* cannot establish a connection with the instrument, manually select the appropriate COM port from the drop-down list. Clicking **Refresh** updates the list with all installed ports. The COM port associated with the instrument can be identified under the Ports sub-section of Device Manager in *Windows*.

Apply

Click after changing the COM port number or after making any communication setting changes in the instrument while MESUR™ Lite is running.

2.3 Reading Mode

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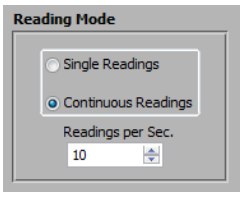


Single Readings

Discrete readings are transmitted from the instrument each time **Read** is clicked in the **Acquisition** tab, or the **DATA** button on the instrument is pressed.

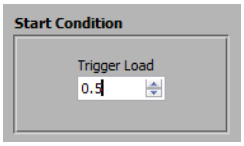
Continuous Readings

When selected, readings are requested from the instrument at a rate set in the *Readings per Second* field.

Readings per Second

Set the data acquisition rate for *Continuous Readings* mode. Available range is 0.1 to 10 readings per second.

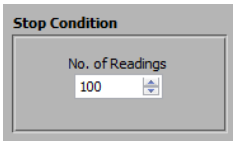
2.4 Start Condition



Pressing **START** in the **Acquisition** or **Digital Display** tab starts data acquisition when a load trigger has been reached. Type the desired load into this field. The unit of measurement matches the unit set in the instrument. Setting a value of 0 will start data acquisition as soon as the **START** button is pressed in the **Acquisition** tab (refer to the next section for details).

Note: The start condition applies for *Continuous Readings* only.

2.5 Stop Condition



Data acquisition stops when the programmed number of readings has been collected. Up to 5,000 readings may be collected.
Note: The stop condition applies for *Continuous Readings* only.

2.6 Save as Default

All parameters in the **Settings** tab are saved as default. They are restored any time MESUR™ Lite is launched.

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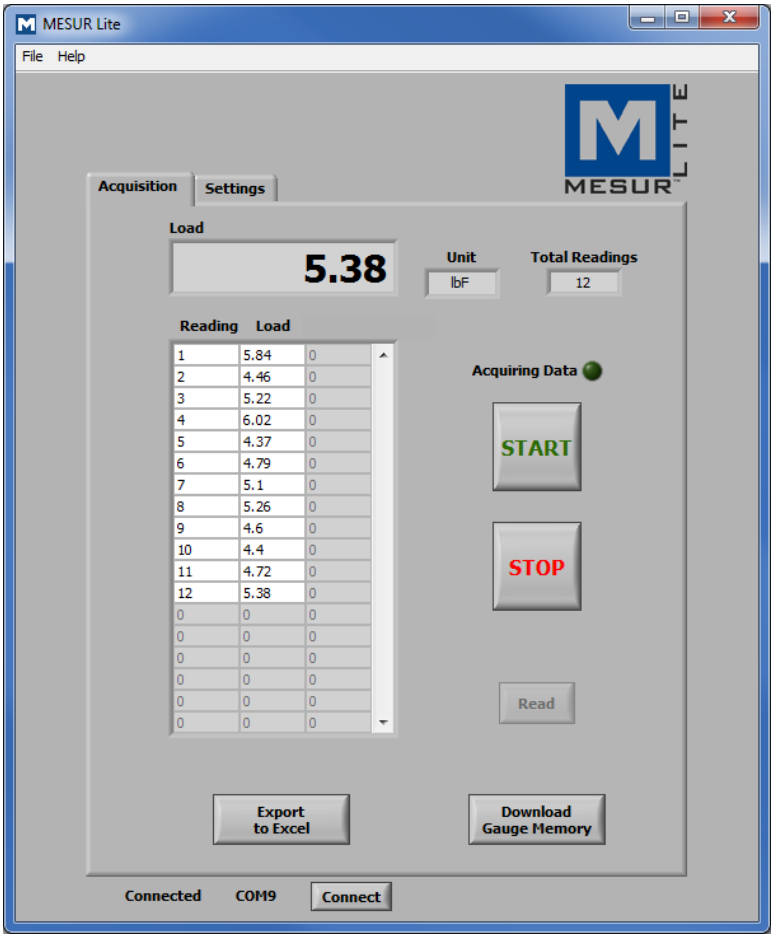
3 ACQUISITION TAB

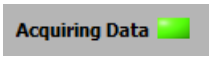


Use this tab to start and stop the test and observe the collected data in tabular format. From this tab, it is also possible to download saved data from a compatible instrument's memory, and also to export data to Microsoft Excel.

Note: To communicate with MESUR™ Lite, the instrument must be in the main operating mode, not in a menu or configuration area. A communication error message will appear if an incompatible instrument is used.

3.1 START

Starts a test. Data acquisition from the instrument commences when the start condition in the **Test Setup** tab is met. When data is being captured, the "Acquiring Data" indicator above the **START** button illuminates, as follows:



3.2 STOP

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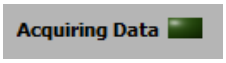
Stops data acquisition.

In *Continuous Readings* mode, data acquisition will stop automatically when the stop condition in the **Settings** tab has been met. For Single Readings mode, **STOP** should be pressed after all desired data has been collected. When the test is completed, the "Acquiring Data" indicator turns off, as follows:

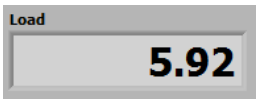


3.3 Read

Requests the currently displayed value from the instrument.

Note: This button is only visible when *Single Readings* mode is selected. It is located below the **STOP** button.

3.4 Load



The current load value acquired from the instrument.

3.5 Unit

The unit of measurement received from the instrument. The instrument must be configured to send data with units, otherwise this field will be blank. Refer to the instrument's user's guide for details.

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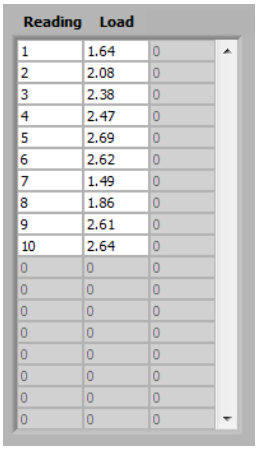
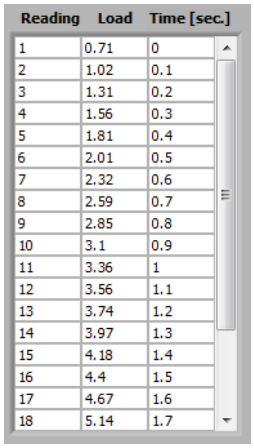
3.6 Table

Contains the reading number, load reading, and relative time stamp (if the Reading Mode is set to *Continuous Readings*) for each data point. The table appears as one of the following configurations:



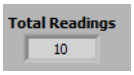
Reading	Load	
1	1.64	0
2	2.08	0
3	2.38	0
4	2.47	0
5	2.69	0
6	2.62	0
7	1.49	0
8	1.86	0
9	2.61	0
10	2.64	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

or



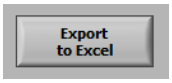
Reading	Load	Time [sec.]
1	0.71	0
2	1.02	0.1
3	1.31	0.2
4	1.56	0.3
5	1.81	0.4
6	2.01	0.5
7	2.32	0.6
8	2.59	0.7
9	2.85	0.8
10	3.1	0.9
11	3.36	1
12	3.56	1.1
13	3.74	1.2
14	3.97	1.3
15	4.18	1.4
16	4.4	1.5
17	4.67	1.6
18	5.14	1.7

3.7 Total Readings



The total number of readings acquired during the test.

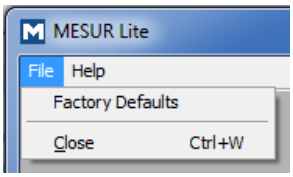
3.8 Export to Excel



Clicking this button launches *Excel* (if installed, sold separately) and populates a worksheet containing reading numbers, load, and relative time stamps (only if the Reading Mode is set to *Continuous Readings*).

3.9 Menu Items (available in all tabs)

1. **File**



Factory Defaults
Restore factory default settings.

Close
Exit MESUR™ Lite.

2. **Help**

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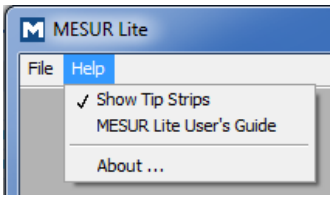


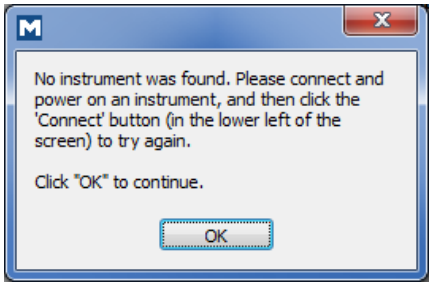
Show Tip Strips
Check this selection to show "tip strips" - instructive text boxes which appear when the cursor hovers over an object or area of the screen.

MESUR™ Lite User's Guide
Open the user's guide as a PDF document (Adobe Reader is required). Guide is also found on USB Stick under MESURE Lite folder.

About
Click "About" or the logo in the upper right corner to display general software information.

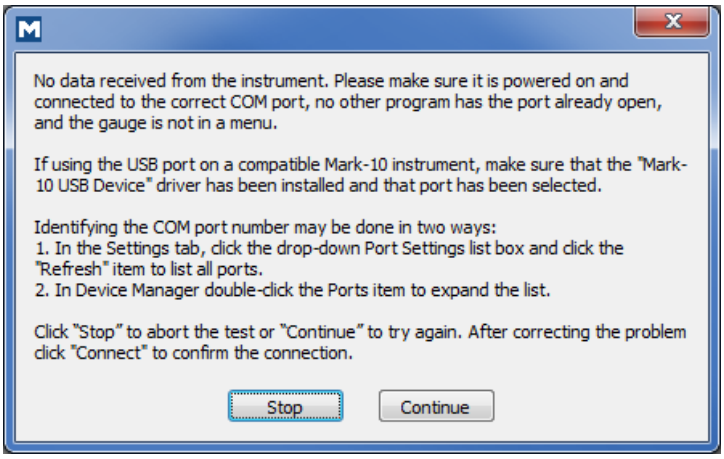
4 TROUBLESHOOTING

1. Error message: "No instrument was found…"



This message appears after opening the software if no instrument is detected. Confirm that the instrument is connected, powered on, and configured appropriately.

2. Error message: "No data received from the instrument..."



This message appears after clicking **START** if communication has not been achieved between the instrument and the software, due to a number of possible causes. If unable to establish communication based on these instructions, try a different USB / COM port, or a different PC.

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10. SERVICE

Repair and calibration services for the HPT-200B Wire Crimp Pull Tester are available from the factory. Spare parts are also available.

Should it be necessary to return the unit for service, please ship to the address on this bulletin, freight prepaid. Enclose a letter, or purchase order with company name, address, phone number, the individual to be contacted, and the reason for return.

DMC offers complete refurbishing and recalibration services.

DMC specially engineers and manufactures complete tool kits to satisfy individual customer requirements, such as total aircraft support general shop maintenance or production, on board ship and vehicle service, etc.

Limitation of Liability

DANIELS MANUFACTURING CORPORATION IS NOT LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY NATURE OR KIND RESULTING FROM THE USE, OR MISUSE, OF ANY OF ITS PRODUCTS. OWNERS AND USERS OF DMC PRODUCTS ASSUME FULL RESPONSIBILTY FOR INSTRUCTING THEIR EMPLOYEES IN THE PROPER AND SAFE USE OF SUCH PRODUCTS.

Limited Warranty

DMC (Daniels Manufacturing Corporation) warrants each new product sold by it to be free from defects in material and workmanship under normal use and service. DMC's obligation under this warranty is limited to the free correction or, at DMC's option, the refund of the purchase price of any such product which proves defective in normal service within ninety (90) days after delivery to the first user, provided that the product is returned to DMC with all transportation charges prepaid and which shall appear to DMC's satisfaction, after DMC's inspection, to have been defective in material and workmanship, it being understood that DMC products are not consumer products. This warranty shall not cover any damage to any product which, in the opinion of DMC, was caused by normal wear, misuse, improper operation, tampering, neglect or accident. This warranty is in lieu of all other warranties express or implied. No warranty, express or implied, is made or authorized to be made or assumed with respect to products of Daniels Manufacturing Corporation other than those herein set forth.

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