



Advanced Test Equipment Corp.

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# VIBXPERT® II

## Short instructions

**db** PRÜFTECHNIK





# **VIBXPERT® II**

**FFT data collector**

**Signal analyzer**

**Field balancer**

## Short instructions



Version 3.2x  
Edition December 2019  
LIT 53.102.EN

## **LEGAL NOTES**

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## Contents

|  |    |
|--|----|
| Contents.....                                  | 3  |
| About this manual .....                        | 3  |
| Safety notes.....                              | 4  |
| Symbols used .....                             | 4  |
| Intended use .....                             | 4  |
| Conformity .....                               | 4  |
| General safety notes .....                     | 5  |
| Environmental influences .....                 | 5  |
| Description .....                              | 6  |
| Overview.....                                  | 6  |
| Keyboard .....                                 | 7  |
| LED display.....                               | 8  |
| Power supply .....                             | 9  |
| Connection to the PC.....                      | 10 |
| Operation .....                                | 11 |
| Basic functions .....                          | 11 |
| Examples for typical operation procedures..... | 12 |
| Off-route measurement ('Multimode').....       | 15 |
| Route measurement.....                         | 17 |
| Measuring with a machine template .....        | 19 |
| Measuring a route with VIBCODE.....            | 21 |

### About this manual

This short instruction manual is intended to provide a handy day-to-day reference for the most important functions of the instrument and basic program operation procedures.

For truly complete information, however, the full-length VIBXPART II operating manual (LIT 53.201.EN) contains detailed explanations of all functional features as well as considerable background information on condition monitoring.

The operation of the optional 'Balancing' module is described in the 'VIBXPART II - Balancing' operating manual (LIT 53.202.EN).

Both documents are stored as a PDF file on the supplied storage medium.

## Safety notes

### Symbols used



Attention!

Warning of operating errors that can lead to data loss or equipment damage.



Note

Information and tips on operating the data collector.

### Intended use

- The measurement device may only be used for the measurement of machine signals in industrial environments while taking into consideration the technical specifications.
- Transducers and cables may be used only for their respective intended uses as defined in the corresponding sales leaflets.

Any other use shall not be considered an intended use and is impermissible. Incorrect or impermissible use and failure to observe the instructions in this manual result in a loss of warranty from PRÜFTECHNIK.

### Conformity

The product complies with the relevant European directives. The declaration of conformity is available as a PDF and may be downloaded from the PRÜFTECHNIK homepage at:

<https://www.pruftechnik.com/com/About-us/Company/Certificates-and-Material-Safety/>



## General safety notes

The following notes must be carefully read and completely understood before the device is put into service. Also observe the general safety instructions in the user manual - LIT 53.201.EN!

- During measurement on machines with rotating parts exposed, ensure that no brackets, cables etc. can become caught in rotating machine parts. Danger of injury!
- The measurement device may only be operated if it is undamaged, dry and clean.
- Operation and maintenance are to be performed only by properly trained personnel.
- Repairs to the device may be carried out only by a PRÜFTECHNIK-authorized service technician.
- Only original spare parts and accessories may be used.
- Only properly functioning, regularly-maintained electrical equipment may be used. Any defects such as broken plugs or loose sockets must be corrected immediately. Damaged cables must be replaced by an authorized service technician.
- Any alterations that affect device design or operating safety are not permitted.

## Environmental influences

- Portable radio-based devices can interfere with proper functioning of the device when operated nearby. In case of doubt, check the connecting cable between the device and its transducer.
- Avoid exposing the device, its transducers and cables to environmental conditions that exceed the tolerances listed in the 'Technical Data sheets'.
- Keep the protective caps on the connector sockets when they are not in use to keep them clean.

## Description

### Overview

① **Full color display** - large, backlit, high-contrast.

② **Light sensor** controls key board illumination.

③ **LEDs** indicate:

- Alarm condition
- Measurement error
- Battery charge status.

④ **Keyboard** can be comfortably operated with the thumb.



⑤ **A / B** - Measuring channels for analog signals and charging sockets.

⑥ **Temperature** - interface for thermo couple type K

⑦ **Digital input / analog output** for:

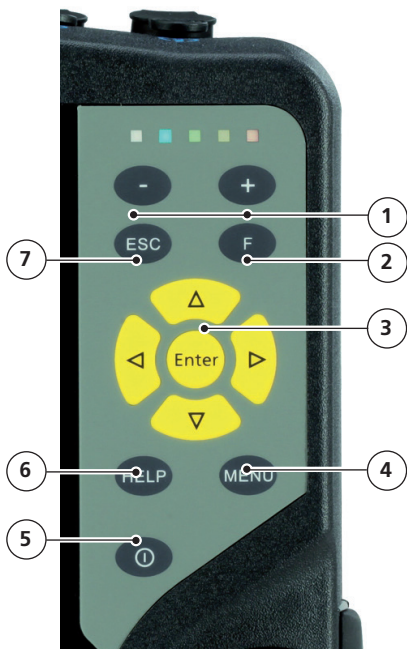
- Trigger / RPM sensor
- Data transfer via RS 232
- Headphone / Oscilloscope
- Strobe control

⑧ **Communication** via Ethernet / USB



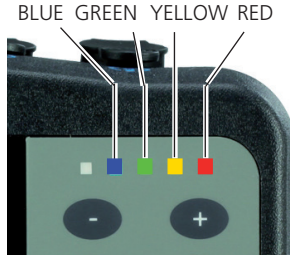


## Keyboard



- ① **Plus (+) / Minus (-) key**
  - Zoom for X axis
  - Change tab
- ② **F key** for special functions such as tab, fast menu, search,...
- ③ **Navigation keys and Enter key**
- ④ **MENU key** opens the menu with context-sensitive functions
- ⑤ **On/Off key** for switching on, switching off and restarting VIBXPERT.
- ⑥ **HELP key** opens context-sensitive help page.
- ⑦ **ESC key** is used to cancel an operation, to page back and to switch off VIBXPERT in the start screen.

## LED display



## Status indication during measurement

| LED                  | RED <span style="color: red;">■</span> | YELLOW <span style="color: yellow;">■</span> | GREEN <span style="color: green;">■</span> | BLUE <span style="color: blue;">■</span> |
|----------------------|--|--|--|--|
| <b>constant</b>      | Alarm                                  | Warning                                      | Prewarning                                 | Meas. OK                                 |
| <b>flashing slow</b> | Signal overload                        | Signal unstable                              | Display off/<br>Measur. incomplete         | Battery almost empty                     |
| <b>flashing fast</b> | Battery empty<br>(when switching on)   |  | Trigger signal                             |  |

Flashing LEDs have the higher priority.

Examples:

Signal overloads and exceeds the alarm level => RED flashes.

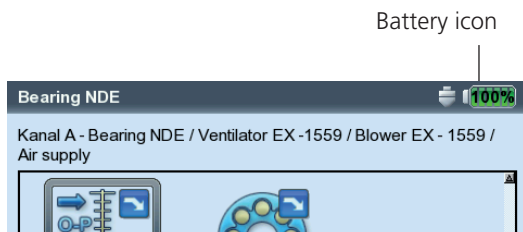
Signal unstable and exceeds the alarm level => YELLOW flashes.

## Battery status during charging

| LED             | RED <span style="color: red;">■</span> | YELLOW <span style="color: yellow;">■</span> | GREEN <span style="color: green;">■</span> | BLUE <span style="color: blue;">■</span> |
|-----------------|--|--|--|--|
| <b>constant</b> | Error                                  | Battery charging                             | Battery full                               | ---                                      |

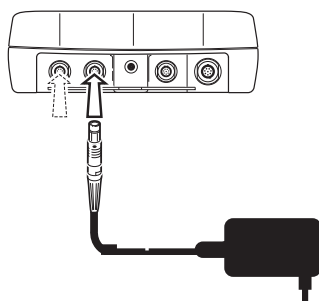
## Power supply

VIBXPERT is supplied with energy by a Lithium-Ion rechargeable battery. With the power on the battery icon on the display indicates the residual charge of the battery.



If the battery is almost empty, a message appears on the display and the blue LED flashes. The battery can be charged either in the device or in the external charging station (option, VIB 5.324) using the VIBXPERT charger (VIB 5.320-INT).

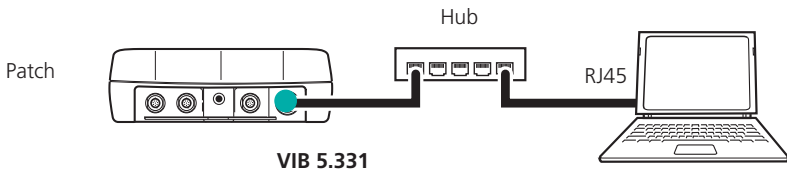
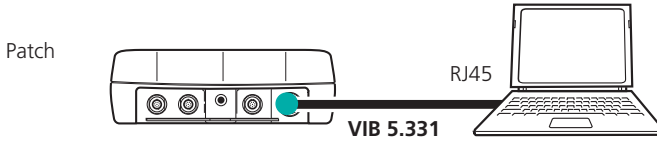
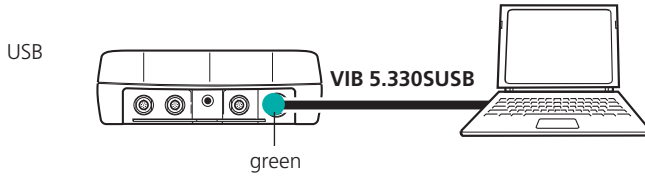
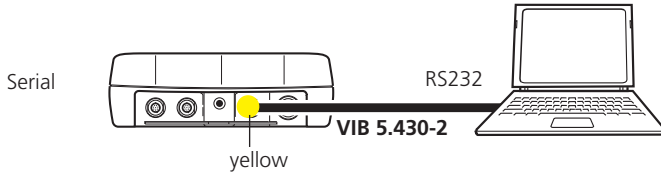
Follow the safety notes enclosed with the charger.



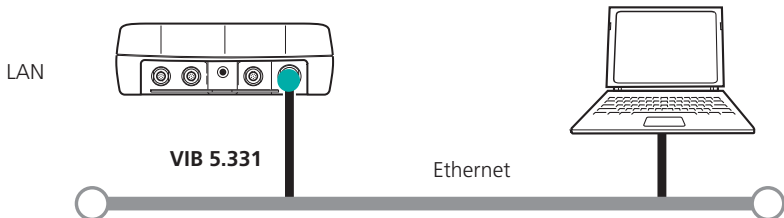
Connect the VIBXPERT charger either to channel A or to channel B.

## Connection to the PC

### Direct connection




### Connection via a network




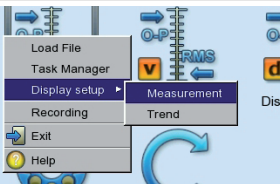
## Operation


### Basic functions

|   |   |   |
|---|---|---|
|  | <p>Switching on, switching off, resetting VIBXPERT.</p> | <p>Switching on:</p> <ul style="list-style-type: none"> <li>• Hold the key down for 2 seconds.</li> <li>• The start screen appears after approx. 30 seconds.</li> </ul> <p>Switching off:</p> <ul style="list-style-type: none"> <li>• Hold the key down for 2 seconds.</li> <li>• Confirm the query to switch off with 'YES'.</li> </ul> <p>Resetting:</p> <ul style="list-style-type: none"> <li>• Hold the key down for 5 seconds until the device switches off and restarts.</li> </ul> |
|---|---|---|

|   |                         |  |
|---|-------------------------|--|
|  | <p>Move the cursor.</p> | <ul style="list-style-type: none"> <li>• Press the respective navigation key.</li> </ul> |
|---|-------------------------|--|


|   |                           |  |
|---|---------------------------|--|
|  | <p>Confirm selection.</p> | <ul style="list-style-type: none"> <li>• Press the Enter key.</li> </ul> |
|---|---------------------------|--|

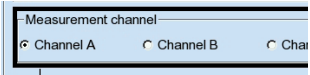
|   |                         |   |
|---|-------------------------|---|
|  | <p>Open the 'Menu'.</p> |  |
| <p>The functions of the current program section are found in the 'Menu'.</p>        |                         |   |

|   |   |  |
|---|---|--|
|  | <p>Cancel operation and close current screen.</p> | <ul style="list-style-type: none"> <li>• Only in the start screen: Switch off device.</li> </ul> |
|---|---|--|


## Examples for typical operation procedures

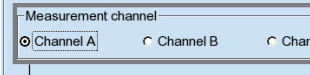
### Example 1: How to change the setting in a field


 Select the respective field.





Black frame


 Confirm selection and start edit mode.





Grey frame (edit mode)


 Select new setting.





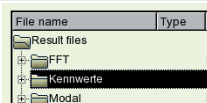
Selection has dotted frame.


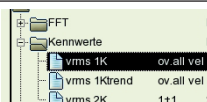

 Save new setting.





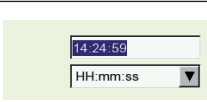
The Edit mode is closed. The cursor can be moved over the entire screen again.


### Example 2: How to navigate in a tree view (File manager,...)




|  |  |   |
|--|--|---|
| <br> | <p>Select a tree node in the same hierarchy.</p> |  |
|--|--|---|

|   |   |   |
|---|---|---|
|  | <p>Open the parent node and show the child nodes.</p> |  |
|---|---|---|



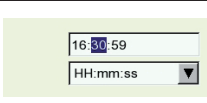
### Example 3: How to enter numbers (Time, Date, IP address,...)



|  |                                     |   |
|--|-------------------------------------|---|
| <br> | <p>Select the respective field.</p> |  |
|--|-------------------------------------|---|

|   |                         |   |
|---|-------------------------|---|
|  | <p>Enter Edit mode.</p> |  |
|---|-------------------------|---|


|   |                                   |  |
|---|-----------------------------------|--|
| <br> | <p>Increase / decrease value.</p> |  |
|---|-----------------------------------|--|

|   |                           |   |
|---|---------------------------|---|
|  | <p>Select next value.</p> |  |
|---|---------------------------|---|

|  |                                   |   |
|--|-----------------------------------|---|
| <br> | <p>Increase / decrease value.</p> |  |
|--|-----------------------------------|---|

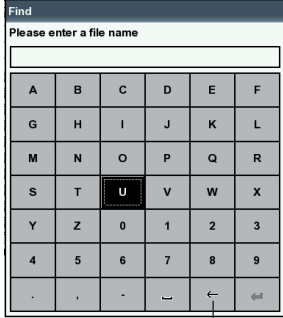
|   |  |   |
|---|--|---|
|  | <p>Confirm changes and exit edit mode.</p> |  |
|---|--|---|

**Example 4: How to enter a text** (name, comment, ...)




Select the respective character.

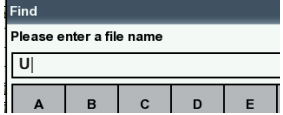
- Changing character table -> 0.1
- Deleting text -> 0.2
- Special characters (, + /) are not allowed in a file name



Backspace 'key'

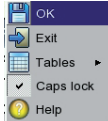


Confirm selection, and enter the next character.













Finally save the text.









|  |  |
|--|--|
| <p>0.1 Changing character table:</p>   |    |
| <p>0.2 Deleting text:</p> <ul style="list-style-type: none"> <li>- Position the cursor in the text field.</li> </ul> |    |
| <ul style="list-style-type: none"> <li>- Delete the character left to the cursor with the Backspace 'key'</li> </ul> |     |


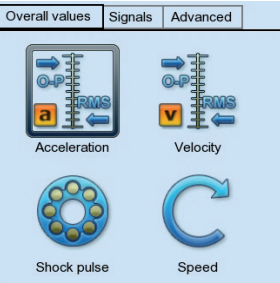



## Off-route measurement ('Multimode')

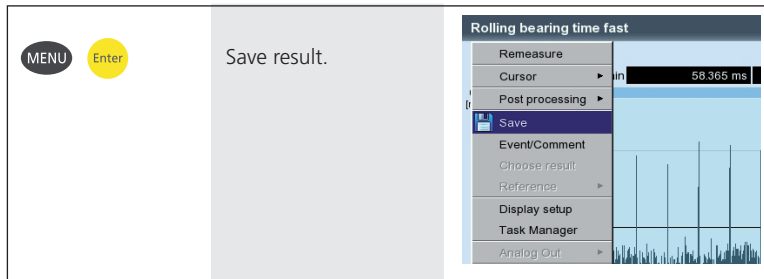
|   |                     |   |
|---|---------------------|---|
|  | Switch on VIBXPERT. | <ul style="list-style-type: none"> <li>• see section 'Basic functions', p. 12.</li> </ul> |
|---|---------------------|---|

|   |                    |   |
|---|--------------------|---|
|  | Start 'Multimode'. |  |
|---|--------------------|---|

|  |  |   |
|--|--|---|
| <br> | Open tab for overall, signal or advanced measurements. |  |
|--|--|---|

|   |                          |   |
|---|--------------------------|---|
|  | Select measurement icon. |   |
|   |                          | <ul style="list-style-type: none"> <li>• Changing the meas. task -&gt; 1.1</li> <li>• New / edit task -&gt; 1.2</li> <li>• Connecting the sensor -&gt; 1.3</li> </ul> |

|   |                    |   |
|---|--------------------|---|
|  | Start measurement. | <ul style="list-style-type: none"> <li>• Sensor connection is checked, if sensor detection is enabled.</li> <li>• Green LED is flashing during meas: Trigger OK.</li> <li>• Blue LED lights up after the meas.: Measurement OK.</li> <li>• Live mode: Keep the Enter key pressed when the measurement starts.</li> <li>• Repeating the measurement -&gt; 1.4</li> </ul> |
|---|--------------------|---|



1.1 Changing the measurement task:

Overall values | Signals | Advanced

Task

- Overall acceleration / 10 - 1000 Hz
- Overall acceleration / 10 - 10000 Hz
- Overall acceleration / 1 - 1000 Hz
- Overall acceleration / 0.5 - 1000 Hz
- Overall acceleration / 2 - 1000 Hz
- Overall acceleration / 10000 - 40000 Hz
- user

1.2 New task / edit task:

MENU

- Load File
- Task Manager
- Display setup ▶

1.3 Sensor and measurement channel are displayed in the info field.

Task: Overall acceleration / 10 - 1000 Hz

Channel A: VIB 6.142


Channel B:




RPM-Channel:




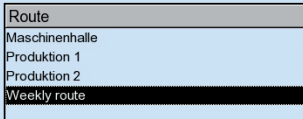
1.4 Repeating the measurement:  
In the measurement screen press 'Enter' twice.




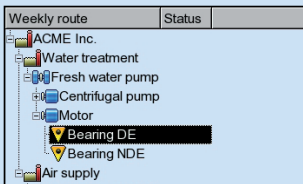
Enter Enter


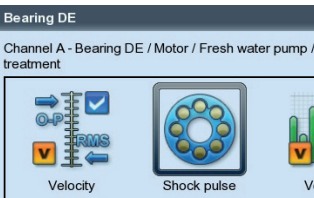
## Route measurement


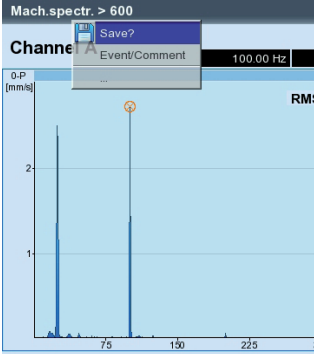
|   |                     |   |
|---|---------------------|---|
|  | Switch on VIBXPERT. | <ul style="list-style-type: none"> <li>• see section 'Basic functions', p. 12.</li> </ul> |
|---|---------------------|---|

|   |                     |  |
|---|---------------------|--|
|   | Start 'Route' mode. |  <p>Route</p> |
|---|---------------------|--|

|   |               |   |
|---|---------------|---|
|    | Select route. |  <ul style="list-style-type: none"> <li>• Prerequisite: Route contains <u>no</u> VIB-CODE location.</li> </ul> |
|---|---------------|---|











|   |                              |  |
|---|------------------------------|--|
|    | Select measurement location. |  <ul style="list-style-type: none"> <li>• Change view: tree or list -&gt; 2.1</li> <li>• No meas. location in tree view visible? -&gt; 2.2</li> <li>• Skip route element -&gt; 2.3</li> </ul> |
|---|------------------------------|--|

|   |                          |  |
|---|--------------------------|--|
|  | Select measurement icon. |  <ul style="list-style-type: none"> <li>• Reference measurement must be carried out first.</li> <li>• Skip task -&gt; 2.3</li> <li>• Connecting the sensor -&gt; 1.3 (p. 17)</li> </ul> |
|---|--------------------------|--|


|   |   |
|---|---|
| <p> Start measurement.</p> |  <ul style="list-style-type: none"> <li>• Meas. tasks with the same sensor are performed automatically one after the other.</li> <li>• Results are saved automatically, if 'AutoSave' is enabled (-&gt; 2.4).</li> <li>• 'Route is finished' appears, if all measurements have been completed.</li> </ul> |
|---|---|









**Note**




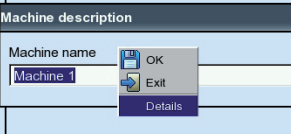


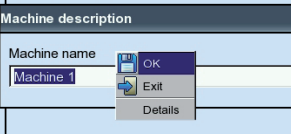

|   |   |
|---|---|
| <p>2.1 Route view mode:</p>                           |       |
| <p>2.2 Show meas. locations in tree view:</p>         |    |
| <p>2.3 Skip element (considered to be completed):</p> |     |
| <p>2.4 AutoSave:</p>                                  |    |



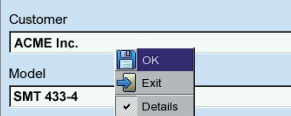
## Measuring with a machine template

|   |                    |   |
|---|--------------------|---|
|  | Switch on VIBXPRT. | <ul style="list-style-type: none"> <li>see section 'Basic functions', p. 12.</li> </ul> |
|---|--------------------|---|


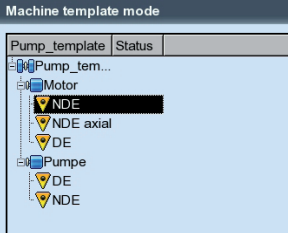
|   |                                |   |
|---|--------------------------------|---|
|   | Start 'Machine template' mode. | <br>Machine Template |
|---|--------------------------------|---|


|   |                          |  |
|---|--------------------------|--|
|    | Select machine template. | <div style="border: 1px solid black; padding: 5px;"> <p><b>Machine Template</b></p> <ul style="list-style-type: none"> <li>- Fan_template</li> <li>- Pump_template</li> <li>- Maschine 1</li> <li>- Maschine 2</li> <li>- Test Machine Template</li> </ul> </div> <ul style="list-style-type: none"> <li>Machines where measurements have already been carried out appear subordinate to the associated template.</li> </ul> |
|---|--------------------------|--|


|   |   |   |
|---|---|---|
|    | A:<br>Click on 'Details' and enter the necessary machine data, or |   |
|     | B:<br>confirm the preset machine name with OK, or                 |  |
|    | C:<br>change the machine name in the text editor.                 |   |

|   |                                      |   |
|---|--------------------------------------|---|
|   | With A:<br>Save machine description. |  |
|---|--------------------------------------|---|

## Operation: Measurement

|   |                                     |  |
|---|-------------------------------------|--|
|  | <p>Select measurement location.</p> |  <p>A machine template is set up like a route and resembles a route in operation and workflow.</p> |
|---|-------------------------------------|--|

|   |                                 |   |
|---|---------------------------------|---|
|  | <p>Select measurement icon.</p> | <ul style="list-style-type: none"> <li>• see section 'Route'.</li> <li>• Connecting the sensor -&gt; 1.3 (page 17)</li> </ul> |
|---|---------------------------------|---|

|   |                           |  |
|---|---------------------------|--|
|  | <p>Start measurement.</p> | <ul style="list-style-type: none"> <li>• see section 'Route'.</li> </ul> |
|---|---------------------------|--|

## Measuring a route with VIBCODE

|  |                     |   |
|--|---------------------|---|
|  | Switch on VIBXPERT. | <ul style="list-style-type: none"> <li>• see section 'Basic functions', p. 12.</li> </ul> |
|--|---------------------|---|

|  |                     |  |
|--|---------------------|--|
|  | Start 'Route' mode. |  |
|--|---------------------|--|

|  |               |  |
|--|---------------|--|
|  | Select route. |  |
|--|---------------|--|

|  |   |   |
|--|---|---|
|  | Connect the VIBCODE transducer to the VIBCODE measurement location. |   |
|  |   | <ul style="list-style-type: none"> <li>• Measurements start automatically, if the location is found in the route.</li> <li>• If the meas. location is in the VIBCODE pool:<br/>First measurement starts automatically, all other measurements must be triggered manually with the 'Enter' key.</li> </ul> |



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