PRÜFTECHNIK

VIBXPERT® EX

Short instructions

VIBXPERT® EX

FFT data collector and signal analyzer with intrinsic safety

Short instructions

CE

Version 2.3x
Edition January 2017
LIT 53.101.EN

LEGAL NOTES

Contents

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 operating manual (VIB 9.805.G) 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 'Balancing' operating manual (VIB 9.806.G).

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

Safety notes

The following applies in **potentially explosive environments**:

- For vibration measurements, you may only use
  > LineDrive transducers of the VIB 6.1xx DEX model series
  > VIBCODE transducers (VIB 8.660 HEX)
- Under no circumstances may you take measurements with the following sensors:
  > TIPTECTOR hand-held probe,
  > LineDrive transducers of the VIB 6.1xx EX model series
  > LineDrive transducers of the VIB 6.1xx REX model series.
- The connection cable for extra-low signal current (VIB 5.434) and extra-low signal voltage (VIB 5.433) may not be used with VIBXPERT EX.
- Under no circumstances should you recharge the battery.
- Under no circumstances should you use the VIBXPERT case (VIB 5.329 X).
- The protective film must be removed from the display.

How to deal with rechargeable batteries

- Charge the battery only outside the EX area.
- Do not send devices with defective battery by air freight.
- Defective batteries may only be replaced by authorized PRÜFTECHNIK personnel.

Also observe the safety notes in the operating manual.

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:

www.pruftechnik.com/
downloads/certificate-overview/ce-certificate-overview.html

Interface parameters for VIBXPERT EX

Analog output circuit

In type of protection intrinsic safety Ex ib IIC, only suitable for the connection to devices intended for this

U_O = 28V	C_i = 54nF	L_i = 300µH
I_O = 63mA	C_O = 83nF	L_O = 7mH
P_O = 300mW		

The sensors of the VIB 6.1***DEX model series can also be connected to this interface. The sensors of the VIB 6.1***EX model series should not be connected to this interface.

Temperature sensor circuit

In type of protection intrinsic safety Ex ib IIC, only suitable for the connection to NiCr-Ni-thermocouple

U_O = 6V	C_O = 40µF
I_O = 6mA	L_O = 0.8H
P_O = 8mW	

Digital output circuit

in type of protection intrinsic safety Ex ib IIC only suitable for the connection to devices intended for this

U_O = 12V	C_O = 1,41µF
I_O = 188mA	L_O = 0.8mH
P_O = 600mW	

LAN/USB circuit

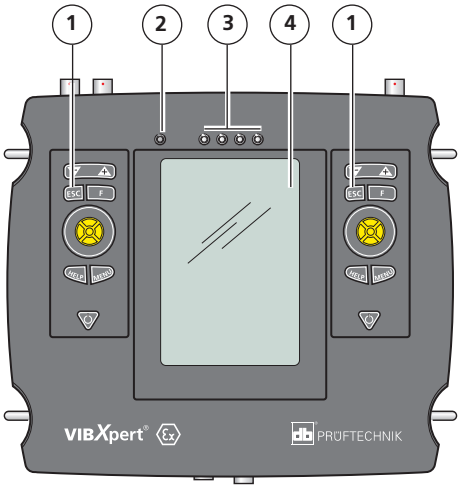
Do not use this interface in an explosive environment! Only devices with V_m < 6V or the communication adapter for VIBXPERT EX (order no. VIB 5.330 UNV) may be connected for data transmission purposes.

Battery load circuit

Do not use this interface in an explosive environment!
To charge the batteries, use charger VIB 5.322-INT only!

Description

Overview



(1)
Keyboard: suitable for right-hand-/ left-hand operation. The keys and the joystick can be comfortably operated with the thumb.

(2)
Light sensor controls key board illumination.

(3)
LEDs indicate:
- Alarm condition
- Measurement error
- Battery charge status.

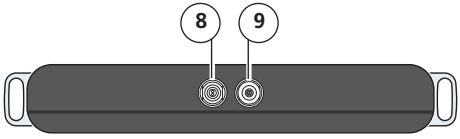
(4)
Display - large, backlit, high-contrast.

Top view

(5)
Channel A / B measure analog sensor signals.

(6)
Temperature - interface for thermo couple type K

(7)
Digital input / analog output for:
- Trigger / RPM sensor
- Data transfer via RS 232
- Headphone / Oscilloscope
- Stroboscope control

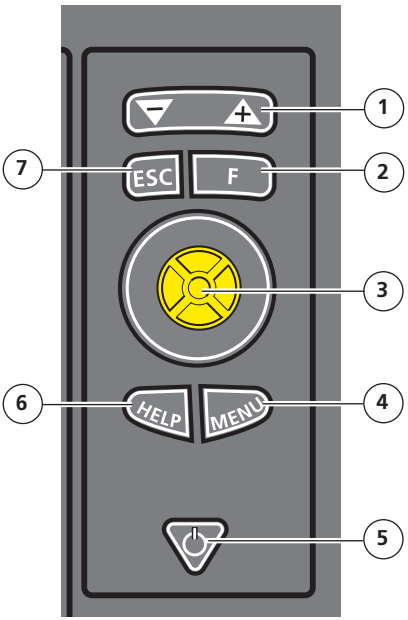


Bottom view

(8)
Charging socket

(9)
Communication/ printer
Connect PC / printer via universal communication adapter VIB 5.330-UNV.

Keyboard



① **Rocker key +/–** :
- Zoom for X axis
- Change tab

② **F key**:
special functions such as tab, fast menu, search,...

③ **Joystick:**
- Navigation
- ENTER

④ **MENU key:**
- Menu functions (context-sensitive)

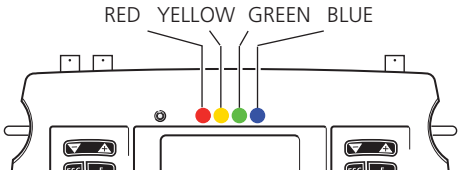
⑤ **On/Off key:**
- Switch on
- Switch off
- Restart ('Reset')

⑥ **HELP key:**
- Help page

⑦ **ESC key:**
- Cancel
- Return
- Switch off

(in the start screen)

LED display



Status and alarm indication

LED	RED ●	YELLOW ●	GREEN ●	BLUE ●
constant	Alarm	Warning	Prewarning	Meas. OK
flashing	Signal overload, Battery empty	Signal unstable	Trigger signal	Battery almost empty

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

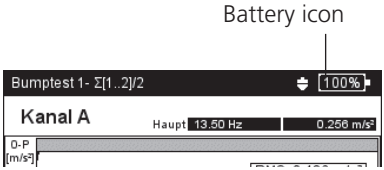
LED	RED ●	YELLOW ●	GREEN ●	BLUE ●
constant	Error	Battery charging	Battery full	---

Power supply

The rechargeable battery is permanently installed in the housing and can be charged using the VIBXPERT EX charger (VIB 5.322-INT). The residual charge of the battery is displayed in the battery icon.

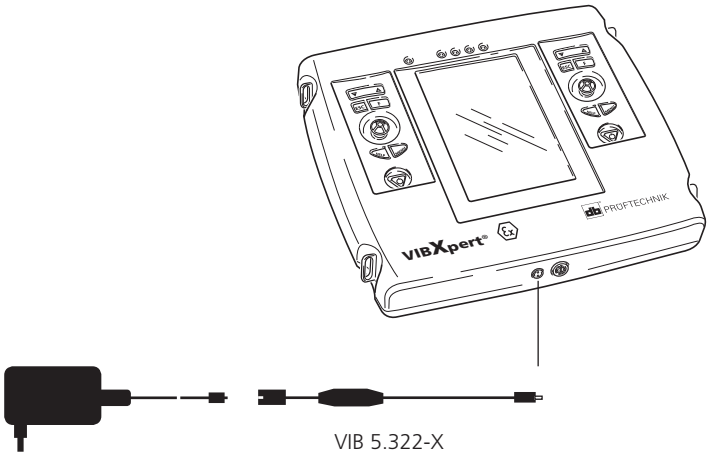
Battery full

Battery half empty



Charge the battery only outside the EX area.
Permissible charging temperature: 0°C to 50°C.

Attention!



VIB 5.322-INT

VIBXPERT EX charger (VIB 5.322-INT) =
Standard charger (ALI 50.651) + connection adapter (VIB 5.322-X)

Connection to the PC

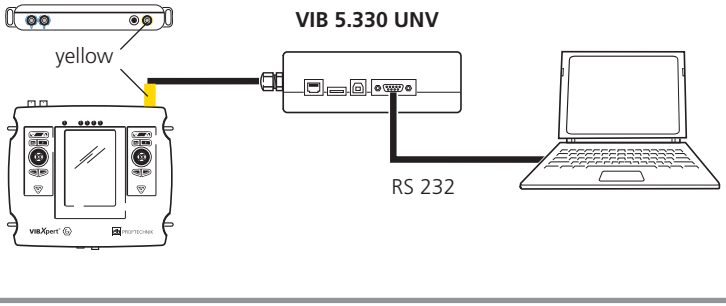
A PC or Laptop must be connected to VIBXPERT EX via the universal communication adapter (VIB 5.330 UNV).

Attention!

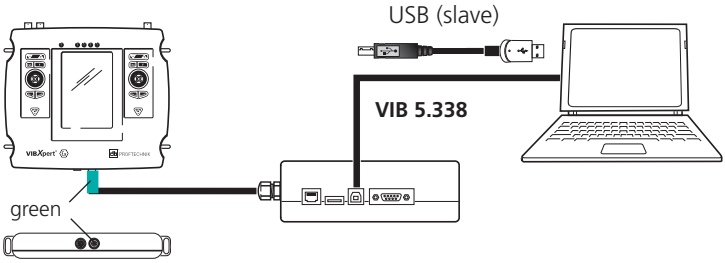
Do not use the adapter in a potentially explosive environment!

Direct connection to the PC / laptop

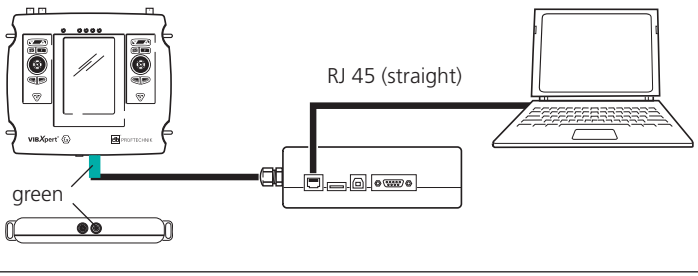
Serial



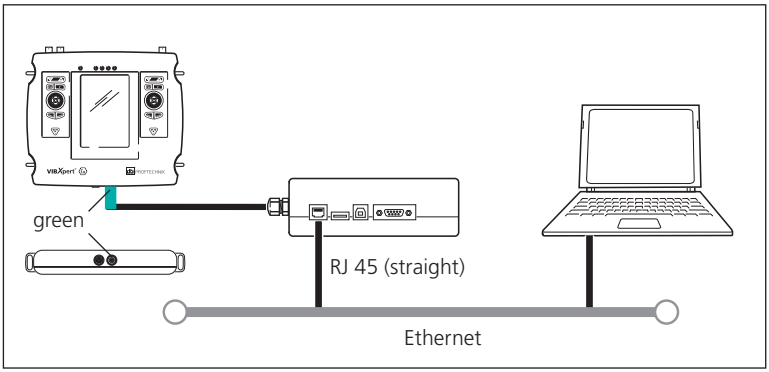
USB



Patch



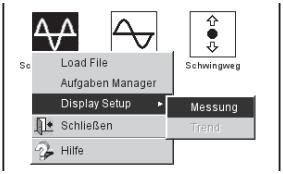
Connecting the PC / laptop via a network



LAN

Operation

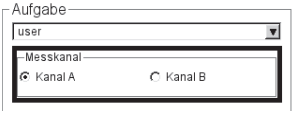
Basic operating functions

Switching on, switching off, resetting VIBXPERT.	Switching on: • Hold the key down for 2 seconds. • The start screen appears after approx. 30 seconds. Switching off: • Hold the key down for 2 seconds. • Confirm the query to switch off with 'YES'. Resetting: • Hold the key down for 5 seconds until the device switches off and restarts.
Navigation: Move the cursor in the screen and select an element.	• The joystick can be shifted in vertical or horizontal direction respectively.
Confirm selection with ENTER.	• Press (click) the joystick.
Open the 'Menu'.	 The functions of the current program section are found in the 'Menu'
Cancel operation and close current screen.	• Only in the start screen: Switch off devive.

Examples for typical operation procedures

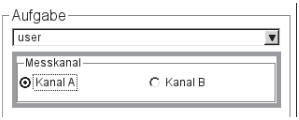
Example 1: How to change the setting in a field

Select the respective field.



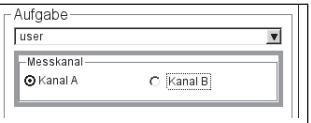
Black frame

Confirm with ENTER.



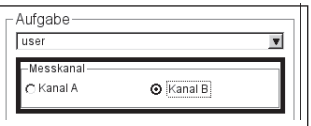
Grey frame (edit mode)

Select new setting.



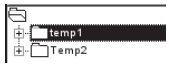
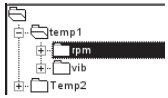
Selection has dotted frame.

Confirm with ENTER.

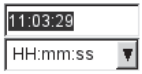
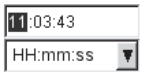
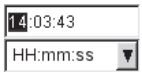
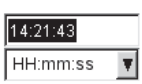


The Edit mode is closed. The cursor can be moved over the entire screen again.

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

Select a tree node in the same hierarchy.	
Open the parent node and show the child nodes.	

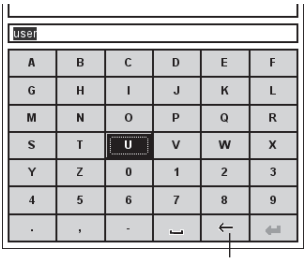
Example 3: How to enter numbers (Time, Date, IP address,...)

Select the respective field.	
Enter Edit mode.	
Increase / decrease value.	
Select next value.	
Increase / decrease value.	
Confirm changes and exit edit mode.	

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



Confirm selection, and enter the next character.

Finally save the text.

0.1 Changing character table:

0.2 Deleting text:

- Position the cursor in the text field.

- Delete the character left to the cursor with the Backspace 'key'

Note

Off-route measurement (‘Multimode’)

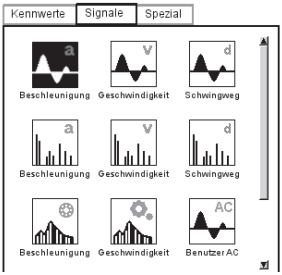
Switch on VIBXPERT.

- see section ‘Basic operating functions’.

Start ‘Multimode’.

Open tab for overall, signal or advanced measurements.

Select measurement icon.

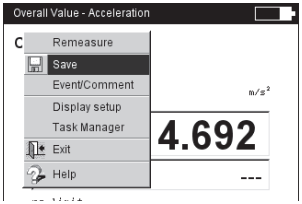


- Changing the meas. task -> 1.1
- New / edit task -> 1.2
- Connecting the sensor -> 1.3

Start measurement with ENTER.

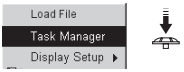
- Sensor connection is checked, if sensor detection is enabled.
- Green LED is flashing during meas: Trigger OK.
- Blue LED lights up after the meas.: Measuement OK.
- Live mode: Keep the joystick pressed when the measurement starts.
- Repeating the measurement -> 1.4

Save result.

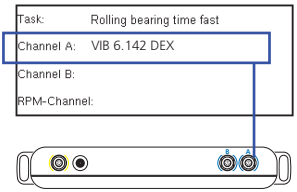


1.1 Changing the measurement task:

1.2 New task / edit task:



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



1.4 Repeating the measurement:
Press ENTER twice, if safety note appears.

Note

Route measurement

Switch on VIBXPERT.

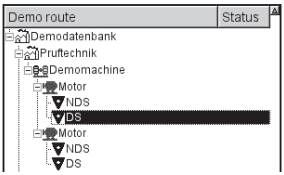
- see section 'Basic operating functions'.

Start 'Route' mode.

Select route.

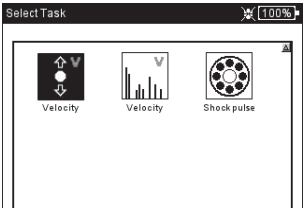
- Route contains no VIBCODE location.

Select measurement location.



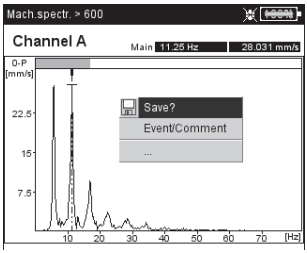
- Change view: tree or list -> 2.1
- No meas. location in tree view visible? -> 2.2
- Skip route element -> 2.3

Select measurement icon.



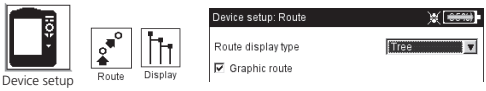
- Reference measurement must be carried out first.
- Skip task -> 2.3
- Connecting the sensor -> 1.3

Start measurement with ENTER.

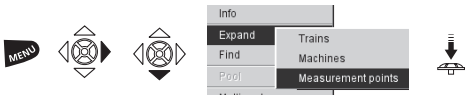


- Meas. tasks with the same sensor are performed automatically one after the other.
- Results are saved automatically, if 'AutoSave' is enabled (-> 2.4).
- 'Route is finished' appears, if all measurements have been completed.

2.1 Route view mode:



2.2 Show meas. locations in tree view:



2.3 Skip element (considered to be completed):

2.4 AutoSave:

Note

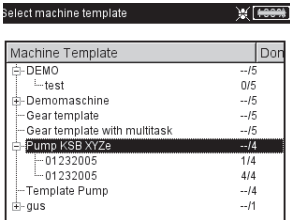
Measuring with a machine template

Switch on VIBXPERT.

- see section ‘Basic operating functions’.

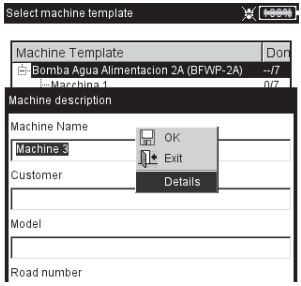
Start ‘Machine template’ mode.

Select machine template.



- Machines where measurements have already been carried out appear subordinate to the associated template.

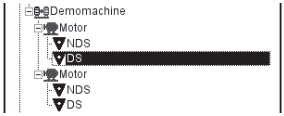
Click on ‘Details’ and enter the necessary machine data.



- Click on OK, if you only want to accept the recommended name.

Save machine description.

Select measurement location.



A machine template is set up like a route and resembles a route in operation and workflow.

Select measurement icon.

- see section ‘Route’.
- Connecting the sensor -> 1.3

Start measurement with ENTER.

- see section ‘Route’.

Measuring a route with VIBCODE

Switch on VIBXPERT.	• see section ‘Basic operating functions’.
Start ‘Route’ mode.	 Route
Select route.	
Connect the VIBCODE transducer to the VIBCODE measurement location.	 • Measurements start automatically, if the location is found in the route. • If the meas. location is in the VIBCODE pool: First measurement starts automatically, all other measurements must be triggered manually with the joystick.

Printed in Germany LIT 53.101.EN.01.2017

PRÜFTECHNIK
85737 Ismaning, Germany
info@pruftechnik.com
www.pruftechnik.com

Productive Maintenance Technology