UL-MOBI for Windows Instruction Manual

ULVAC, Inc.

Components Division Measurement Instrument Department

1. Models

Windows 10 or later 64-bit operating system

※ Please note that not corresponding to 32-bit.

※ .NET Framework 4.5 or later must be installed.

※ **If the device driver is not installed, Windows will not recognize the connection even if the vacuum gauge is connected. (Unknown device is displayed in the device manager.) Please check Chapter 3 of this manual and install the device driver if necessary.**

USB 2.0 or later Type A connection terminal installed.

・SWU10-U: Please provide a USB Type A-Micro B cable separately.

　(Option for SWU10-U: USB2.0 cable　U2C-CMB15NBK certified product 1.5m)

・SH200/ST200: Please provide a USB Type A-Type C cable separately.

　(Option for SH200/ST200: USB2.0 cable　U2C-AC15NBK certified product 1.5m)

2. Specifications

UL-MOBI for Windows (hereinafter, called this product) is a dedicated application software for setting or monitoring of SWU10-U/SH200/ST200. In each gauge, the following function are available by using this product.

Function	Note	SH200/ST200	SWU10-U
DATA	Real time pressure value and trend graph display	△	◎
DATA LOG	Pressure data logging, csv output	◎	◎
SAMPLING	Sampling interval check/change	◎	◎
FIL·DEGAS	FIL·DEGAS condition display	◎	-
PRESSURE UNIT	Pressure unit change	◎	◎
SETPOINT 1/2/3	Set point check/change	○	-
BAUDRATE	Buarate check/change	●	-
Mode	Mode check/change	●	-

ADDRESS	Address check/change	●	-
CHECKSUM	Check sum valid/invalid change	●	-
ATM. ADJUST	Atmospheric pressure adjustment of SAU·SWU	▲	◎
ADJUST CLEAR	Reset of zero point and atmospheric pressure adjustment of SAU·SWU	▲	◎
STATUS	Error display	△	◎
NEW PASSWORD	Password change	◎	-

◎: Both chaeck and change are available anytime.

○: Check is available anytime, password is required for change setting when applying DC24V.

●: Check is available anytime, change is available only when not applying DC24V.

△: Available when applying DC24V.

▲: Available when applying DC24V and password is required.

3. Installation of Device Driver

This product uses a USB control IC manufactured by FTDI Limited of the UK. For Windows10, device drivers are registered with Windows Update and automatically installed when connected to a network environment. If you need to install it manually, download the driver directly from the website of FTDI and install it.

https://www.ftdichip.com/Drivers/VCP.htm

Please go to the above website and select the driver for Windows* and install it. You can install it easily by selecting "Available as a setup executable" in Comments.

Operating System	Release Date	Processor Architecture							Comments
		x86 (32-bit)	x64 (64-bit)	PPC	ARM	MIPSII	MIPSIV	SH4	
Windows*	2017-08-30	2.12.28	2.12.28	-	-	-	-	-	WHQL Certified. Includes VCP and D2XX. Available as a setup executable Please read the Release Notes and Installation Guides.

When connecting SWU10-U/SH200/ST200 to Windows device via USB cable, a field that is labeled "USB Serial Port (COM??)" is created in "Port (COM and LPT)" in Windows Device Manager. The "COM??" is the port number that is assigned to SWU10-U/SH200/ST200. Select this port when using UL-MOBI.

4. Installation of UL-MOBI

You can install the application by downloading it from the website below and running "setup.exe" in the compressed file.

https://www.ulvac.co.jp/download/en/application/?category=1009
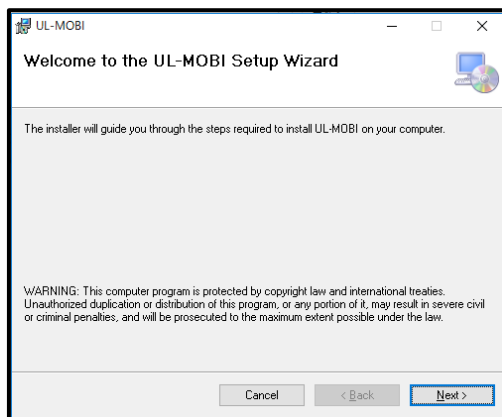
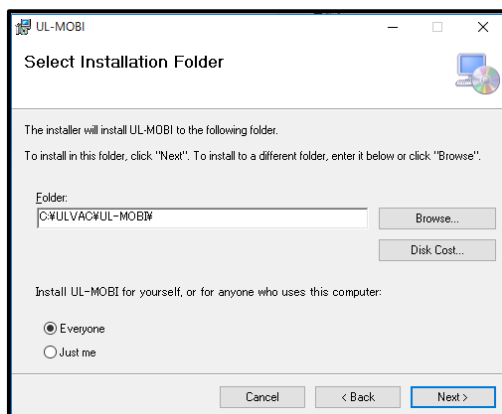The QR code of the URL above is shown on the right.

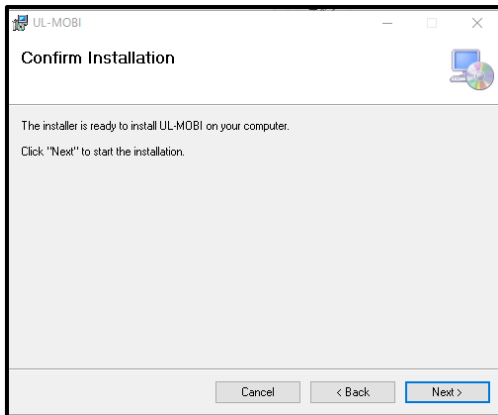4.1 Uncompress the downloaded compressed file and run setup.exe

4.2 Press "Next" in the wizard.

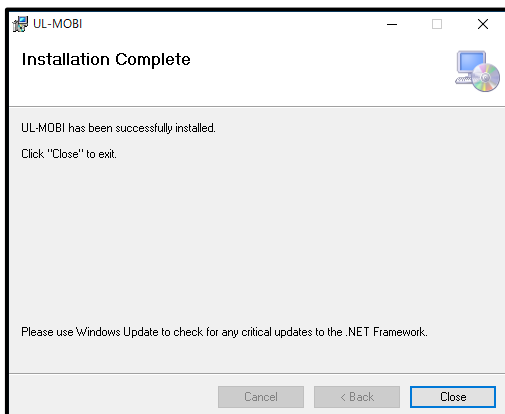4.3 Select the installation folder. Choose either "Everyone" or "Just me" and press "Next".

4.4 When the setting is completed and there is no problem, press "Next" on the "confirmation installation" screen.

4.5 The installation starts. When asked, "Do you want to allow this app from an unknown publisher to make changes to your device?", choose "Yes" to continue the installation.

4.6 When the installation is completed, the following message is displayed. Press "Close".
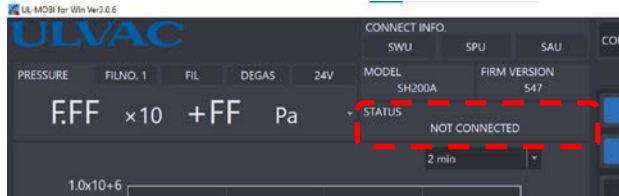

4.7 An icon of UL-MOBI will be created on the desktop. Double-click the icon to use it.

5. How to Use UL-MOBI
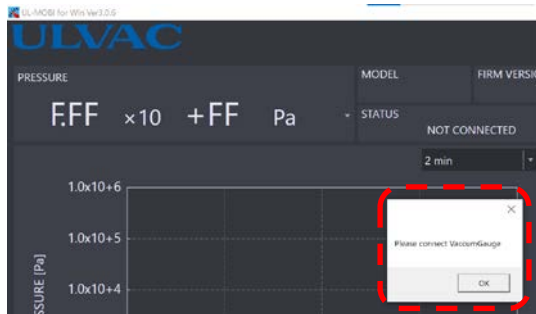
5.1 If you cannot connect

Before confirming the explanation of how to use UL-MOBI from Section 5.2, we will explain the case where you cannot connect.

5.1.1. STATUS section display "NOT CONNECTED"

STATUS at the time of DISCONNECT.

5.1.2. Pop-up screen display "Please connect VacuumGauge"

It is displayed when CONNECT is executed.

① SWU10-U/SH200/ST200 is not connected

Connect the used vacuum gauge (SWU-10U/SH200/ST200) to the Windows terminal using a USB cable.

② The device driver is not installed.

If the device driver for USB control is not installed, Windows will not be able to recognize the vacuum gauge connected by the USB cable. Please install the device driver after confirming Chapter 3 of this manual.

5.1.3. STATUS section display "TIME OUT"

It is displayed when CONNECT is executed.

① The baud rate or port number is not selected correctly.

It occurs when the baud rate set in the vacuum gauge and the baud rate of UL-MOBI do not match. Also, if you are using multiple USB ports, the port to which the pressure gauge is connected may not be selected.

Occurs during CONNECT.

② Communication error due to USB cable dropping/disconnecting during CONNECT
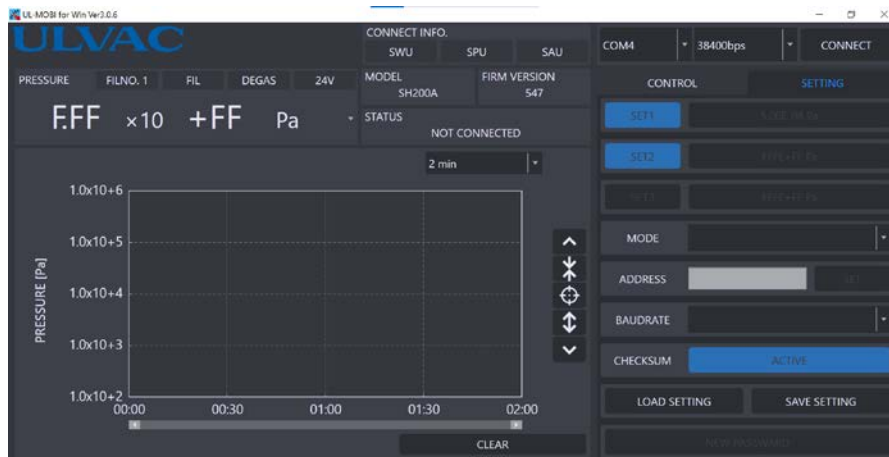
Check the connection status of the USB cable.

③ Communication error due to main unit failure during CONNECT

If there is no problem with the USB cable connection, etc., the main unit may be out of order. Please contact our Components division or the nearest sales office or distributor.
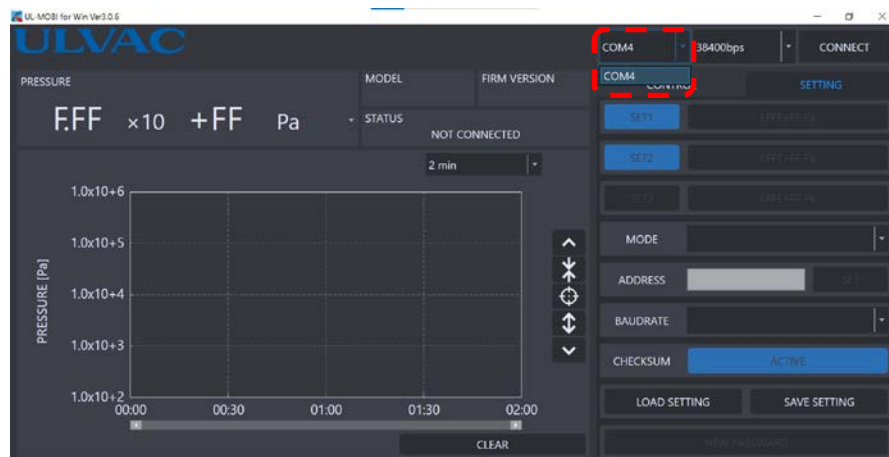
※ You can cancel "TIME OUT" by DISCONNECT.

5.2 Common to SWU10-U/SH200/ST200

Double-click the UL-MOBI icon on the desktop, the screen below will be displayed. Please set your Windows device not to go into sleep mode. If the Windows device goes into sleep mode, the USB connection will be disconnected, and pressure measurement and logging will be interrupted.
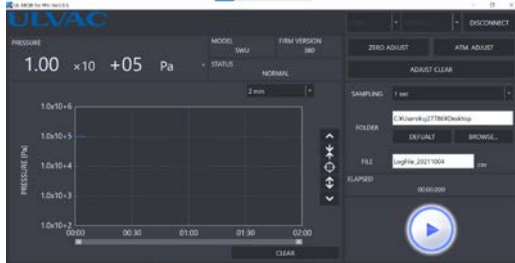

5.2.1 Connect Windows device and controller via the USB cable. Select the port to which controller is connected under the "COM PORT" tab.
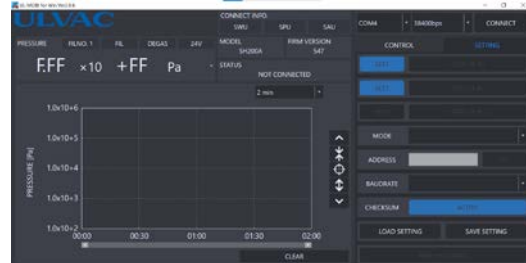

Connection screen

5.2.2 Press the "CONNECT" button to start the measurement. When the connection between Windows device and SWU10-U is established, the SWU information connected will be displayed in the field of "MODEL" and "FIRM VERSION".

Connecting to SWU10-U   Connecting to SH200/ST200

5.2.3 To select pressure unit: Pa

  Select a pressure unit to display the pressure value and trend graph by the selected unit. 【Pa・Torr・mbar・μ】

5.2.4 To clear the graph: CLEAR

  Press the "CLEAR" button at the lower right of the graph to clear the graph.   The graph is cleared, but the data that is being logged is not cleared.

5.2.5 To change the horizontal axis (time axis) of the graph: 2 min

  Select the different time under the tab at the upper right of the graph to change the time axis of the graph.

   【1min,2min,3min,5min,10min,15min,30min,1h,2h】

5.2.6 To change the vertical axis (pressure axis) of the graph.

  Press ∧ button on the right side of the graph to shift the pressure display range upward.

 Press ∨ button to shift the pressure display range downward.

 Press ↕ button to increase the number of digits of the pressure display range.

 Press ⤬ button to decrease the number of digits of the pressure display range.

 Press ◉ button to display the graph in the range of about 2 digits above and below the current pressure value.

5.2.7 To obtain logging data: ▶

Press the " Browse..." button at the upper right to specify the storage destination of the Log file. The file name can be renamed by entering the file name in the "File name". (The default file name is Logfile _ date.csv.)
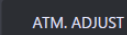
You can change the logging interval with "SAMPLING". Logging starts by pressing the " ▶ " button. The standard folder structure is selected during the installation of the application, and when the current drive letter is C, the logging data is saved in 【C: ¥ULVAC ¥UL-MOBI ¥LOG ¥(Date)】.

New CSV file is created every 24 hours from the start of measurement, and pressure values are stored in "Pa" units only.

Please note that the interval of the elapsed time recorded may vary because of a serial communication via USB.

5.2.8 Adjustment

SWU10-U/SWU10-R can adjust the atmospheric pressure and the zero point. Perform adjustment after the pressure value becomes stable sufficiently. It is also possible to return them into the factory default setting.

・Atmospheric pressure adjustment: ATM. ADJUST

  After 5 minutes or more in the atmospheric pressure and the pressure indicated value is stable, press the "ATM. ADJUST" button to adjust the atmospheric pressure. If adjusting the atmospheric pressure immediately after the vacuum chamber reaches to $1\times10^{+5}$Pa from the vacuum state, the temperature inside the probe is not in equilibrium, which may cause errors. Please do not disconnect the USB cable that connects SWU10-U/SWU10-R and Windows device until the adjustment completes.

  The adjustment range is approximately $1\times10^{+4}$Pa to $2\times10^{+5}$Pa in the unadjusted state. If SWU10-U/SWU10-R does not adjust the atmospheric pressure, it may be caused by the reduction of the probe life due to dirt on the filament.

・Zero point adjustment: ZERO ADJUST

  After 5 minutes or more in the pressure of 1×10^{-2}Pa or lower and the pressure indicated value is stable, press the "ZERO ADJUST" button to adjust the zero point. If adjusting the zero point immediately after the pressure reaches to 1×10^{-2}Pa or

lower, the temperature inside the probe is not in equilibrium, and the error may become significant. Please do not disconnect the USB cable that connects SWU10-U/SWU10-R and Windows device until the adjustment completes.
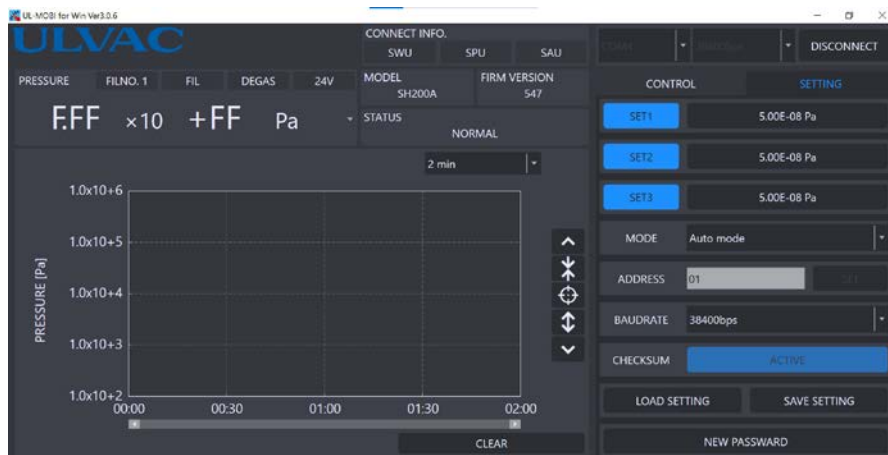
The adjustment range is approximately ±1Pa in the unadjusted state. If SWU10-U does not adjust the zero point, it may be caused by the reduction of the probe life due to dirt on the filament.

・Restore Factory Defaults setting: ADJUST CLEAR

Press the "ADJUST CLEAR" button to clear both the atmospheric pressure adjustment and the zero point adjustment to the factory default settings.

5.3 SH200/ST200

"CONTROL" and "SETTING" screens are available when connecting SH200/ST200.

5.3.1 SETPOINT (1~3) setting: 5.00E-08 Pa

Each set point value set under the SETPOINT tab is displayed. After clicking, numeric keypad appears to input setting value.

※ Password is required because careless setting change when applying DC24V may have an impact on control of vacuum system.
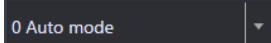
Initial password: 【0000】

5.3.2 SETPOINT (1~3) display: SET1

 SETPOINT button: Turn on 1~3 to indicate SETPOINT on the graph area by broken lines.

   SETPOINT1 (SET1): Red broken lines

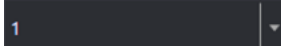   SETPOINT2 (SET2): Yellow broken lines

   SETPOINT3 (SET3): Cyan broken lines

5.3.3 MODE setting: 0 Auto mode

 Click to display selectable modes and select to change.

   【2: Auto mode,　3: Compatible with SH2 mode3 or 4,　9: BMR2 Compatible】

※　Unavailable when applying DC24V.

5.3.4 ADDRESS setting: 1

 Click to display selectable addresses and select to change.

   【1～31】

※　Unavailable when applying DC24V.

5.3.5 BAUDRATE setting: 38400bps

 Click to display selectable baudrate and select to change.

 【38400bps,　19200bps,　9600bps】

※　Unavailable when applying DC24V.

5.3.6 CHECKSUM setting: ACTIVE

 Change valid/invalid of CHECKSUM.

※　Unavailable when applying DC24V.

5.3.7 Parameter backup/restore: LOAD SETTING SAVE SETTING

 Download each setting value of SETPOINT1~3, mode, address and baudrate from Windows device and save them to Windows device.

5.3.8 PASSWORD change: NEW PASSWORD

Change passwords required for change setting value such as SETPOINT, etc.

Initial password: 【0000】

6. Uninstallation of UL-MOBI

For Windows 10, select UL-MOBI in "Apps and features" in the "Settings" and press "uninstall". The message "Do you want to allow this app from an unknown publisher to make changes to your device?" will be displayed, select "Yes" to continue the uninstall.

If the Log file is saved, the folder created during installation will not be deleted. Please delete it manually.
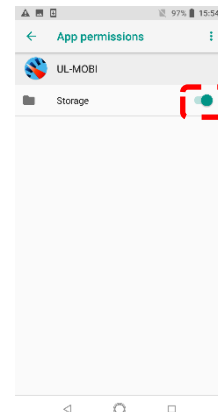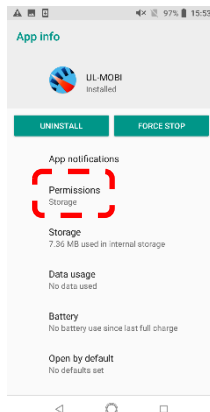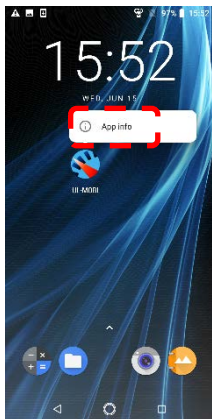
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・Please note that the specification is subject to change for improvement without notice.

7. Android settings

Depending on the Android settings, the CSV file may not be created even if you execute logging.

UL-MOBI may not have the storage permission, so please give the UL-MOBI the storage permission and check the operation again.

① Press and hold the UL-MOBI ②Tap the permission ③Turn on the switch on
　icon and tap the App info. 　　　　　　　　　　the right side of the storage.

* Expressions may differ depending on the manufacturer of the Android device.