

Sensor Calibration Software

User Manual

Commercial in Confidence

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NOTE:

1 Introduction

The Analox Device Calibration Software Tool is a PC based application which allows a USB capable Analox Sensor to be calibrated for use in its intended environment.

The software allows for both low and high point calibration and provides a real time display of the devices current activity and measurements.

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THIS MANUAL ONLY COVERS INSTALLATION ON WINDOWS 8 & 10

2 Requirements

2.1 Operating system

Windows 8 or above

NOTE:

2.2 Software

• The Microsoft .NET Framework 2.0 is required to run the Calibration Software. This should already be installed but is also available as a download from Microsoft if required.



WINDOWS 8 & 10 DEVICES WILL AUTOMATICALLY INSTALL THE APPROPRIATE FTDI DRIVER REQUIRED FOR THE USB SERIAL CONVERTER.

2.3 Hardware

• USB cable (Type A Male to Type B Male).

3 Installation details

1] Download the software from:

https://drive.google.com/file/d/0B 7yOP8oV zLTVBidkFUeU5aRWc/view

2] Create an appropriately named folder on your desktop and extract the downloaded files into it.



3] Run setup, this will check for the components required by the Calibration Software and install the software. A warning box may appear as shown below. Seek advice from the System Administrator before continuing. To proceed click Run.

			Open File	- security warning	
A P0124-801	Sensor Calibration Software	06/	The purchase of the purchase o	iblisher could not be verified. Are you sure you want to s software? Name:nsor Calibration Tool\P00124-310\v1.1\setup.ex Publisher: Unknown Publisher Type: Application	e
🕄 catura ava		10		From: P:\Software Bank\Release\P0124 - Sensor Calibr	.
Secup.exe	2	10/		Run Cancel	
			8	This file does not have a valid digital signature that verifies its publisher. You should only run software from publishers you trust. How can I decide what software to run?	

4] The welcome page of the installer will appear. Click Next > to continue.

🛃 AnaloxCalibrationTool		-		×
Welcome to the AnaloxC Wizard	alibrationToc	ol Setup	<u>4NAL</u>	<u>.0X</u>
The installer will guide you through the ste computer.	ps required to install /	AnaloxCalibration1	Гool on your	
WARNING: This computer program is pro Unauthorized duplication or distribution of or criminal penalties, and will be prosecute	tected by copyright la this program, or any p ad to the maximum exl	w and internation portion of it, may re ent possible unde	al treaties. esult in severe er the law.	e civil
	Cancel	< <u>B</u> ack	<u>N</u> ext	2

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- 5] Ensure the Folder box contains the directory you wish the software tool to be installed in. Use the Browse button if you wish to change the target folder.
- 6] Select the appropriate level of access for the tool Select Everyone if the software will be accessible by all users of the computer. Select Just me if the software tool will be useable only by the user account currently performing the installation.
- 7] Click Next > to continue.

🛃 AnaloxCalibrationTool			-		×
Select Installation Folde	r		4	NAL	<u>.0X</u>
The installer will install AnaloxCalibrationT	ool to the following I	folder.			
To install in this folder, click "Next". To in	stall to a different fo	lder, enter it be	low or c	lick "Brow	/se".
Eolder:					
U:\Program Files (x86)\Analox\Analox	Calibration I ool\			Browse	
			<u>[</u>	<u>)</u> isk Cost.	
Install AnaloxCalibrationTool for yoursel	lf, or for anyone who	uses this com	puter:		
Everyone					
◯ Just <u>m</u> e					
	Cancel	< <u>B</u> ack	· · · · · ·	<u>N</u> ext	>

8] Click Next > to confirm the installation.

🖟 AnaloxCalibrationTool		-	-	×
Confirm Installation			ANAL	<u>.0X</u>
The installer is ready to install AnaloxCalil Click "Next" to start the installation.	prationTool on your i	computer.		
	Cancel	< <u>B</u> ack	<u>N</u> ext	× _

9] A warning box may appear during the installation asking for administrator login details. Seek advice from the System Administrator before continuing. To proceed with the installation click Run once administration login details have been entered.

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10] The installation is now complete. Click Close.

Analox Calibration Tool			-		×
Installation Complete			Æ	AL	.ОХ
AnaloxCalibrationTool has been success Click "Close" to exit.	fully installed.				
Please use Windows Update to check fo	or any critical updat	es to the .NET Fr	amework	ς.	
	Cancel	< <u>B</u> ack		<u>C</u> lose	<u>}</u>

11] Create an appropriately named folder on your desktop and extract the drivers into it.

Сору	-		×
Copy to:			
Folders: 3 (4 321 210 bytes) Files: 5 (120 123 bytes) Size: 4 441 333 bytes C:\Users\poliver\Downloads\CDM v2.12.28 WHQL Certified.zp\ amd64 1386\ Oution		~	
Static\ ftd2x.h ftdibus.cat			
ок С		Cancel	

3.1 Windows 8 & 10 driver installation:

1] The appropriate driver will automatically be installed for the USB Serial Converter, so no other installation is required.

4 **Operating instructions**

- 1] From the desktop navigate to Start > All Programs > Analox > Analox Calibration Tool > Analox Calibration Tool.
- 2] The window below will appear.

Device Status	Device Communications		
Net Composited	Select a device		
Not Connected	Refresh Connect		
Device Pressure Reading	Calibration		
	Calibration Value (%)		
Device Sensor Readings	Atmospheric Pressure (mbar)		
	Collection Date:		
	Calibrate		

- 3] Insert the USB cable into a USB port on the PC. Ensure that the cable is also connected to an Analox USB sensor.
- 4] Click Refresh. This refreshes the list of devices in the drop down box.
- 5] Click the small arrow of the drop down box. The newly connected sensor will appear in this list.

6] Select the device from the list and click Connect.

Not Connected	Device Communications 553-003048 Refresh Connect
Device Pressure Reading	Calibration Calibration Value (%)
Device Sensor Readings	Atmospheric Pressure (mbar)
	Calibration Point
	Calibrate

7] The device will now connect and may perform a warmup procedure as shown below.



NOTE:

A SENSOR ENTERS WARMUP MODE ON POWER UP. WARMUP TYPICALLY TAKES 30-60 SECONDS.

Device Status Device warmup	Device Communications 5S3-003048 Refresh Disconnect
Device Pressure Reading	Calibration Calibration Value (%)
Device Sensor Readings	Atmospheric Pressure (mbar)
	Calibration Point

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8] After the device has completed its warmup procedure, the device status will change to Connected and the Pressure Reading/Sensor Readings will begin to update.

Device Status Connected	Device Communications 553-003048
Device Pressure Reading 1016.45 mbar Device Sensor Readings	Calibration Calibration Value (%) Atmospheric Pressure (mbar)
11.1 ppm 0.00 % 0.0 mbar	Calibration Point

9] The software displays the following measurements from the sensor

Device Pressure Reading (mbar) – This is the atmospheric pressure as determined by the sensor, measured in mbar.



NOTE:

NOT ALL SENSORS ARE FITTED WITH LOCAL PRESSURE GAUGES. IN THIS CASE THE READING WILL DISPLAY 1000MBAR AND WILL NOT CHANGE.

Device Sensor Readings (ppm, %, mbar) – These readings are the current gas values as determined by the sensor and conversions from the native units.

10] To perform a calibration, fill in the fields in the Calibration section of the window.



Calibration Value (%) – The certified bottle value which will be used for calibration. NOTE: THIS FIELD REQUIRES A PERCENTAGE VALUE. ANY PPM MEASUREMENTS MUST BE CONVERTED INTO A PERCENTAGE BEFORE BEING ENTERED.

Atmospheric Pressure (mbar) – The pressure, in mbar, of the atmosphere in which the sensor currently resides.

Calibration Point - High or Low calibration point as required.



FOR CO2 SENSOR LOW CALIBRATION, A 0% CO2 GAS AND CALIBRATION VALUE MUST BE USED.

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- 11] After entering these values into the fields and selecting a Calibration point, click Calibrate.
- 12] After a short time a notification window will appear informing of the successful calibration and the device will enter warmup again. Repeat the calibration again for the second Calibration Point.

evice Status	Device Communications
Decise means	5S3-003048
Device warmup	Refresh Disconnect
evice Pressure Reading	Calibration
Calibration Result	Calibration Value (%)
	0
Calibration successful	Atmospheric Pressure (mbar)
	1000
	Calibration Point
	Low Calibration
	Calibrate

13] In the event of an unsuccessful calibration the notification window will inform of the error code and the reason for the failed calibration. Common errors are detailed in section 5 Trouble Shooting.

5 Troubleshooting

lssue	Solution
A connected sensor does not appear in the Device Communication drop down	Ensure the USB cable is properly attached to the PC and the sensor.
	Ensure the correct FTDI USB drivers are properly installed.
A Calibration Error message (listed) appears after attempting to calibrate a device:	
Calibrations too close	The high and low calibration points are too close in value. Ensure that the calibration gas values chosen are sufficiently separated with respect to the range of the sensor
 Calibration correction too negative 	The negative calibration correction required for the given gas value is too large for the current sensor reading. Ensure that the correct calibration value is entered, in the correct units and check that the correct calibration point has been selected.
Calibration correction too positive	The positive calibration correction required for the given gas value is too large for the current sensor reading. Ensure that the correct calibration value is entered, in the correct units and check that the correct calibration point has been selected.
Calibration value too small	The calibration value supplied is too small to correctly calibrate the sensor. Ensure that the correct calibration value is entered, in the correct units and check that the correct calibration point has been selected.
Calibration value too large	The calibration value supplied is too large to correctly calibrate the sensor. Ensure that the correct calibration value is entered, in the correct units and check that the correct calibration point has been selected.