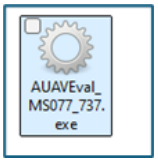
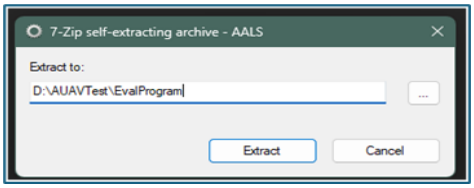
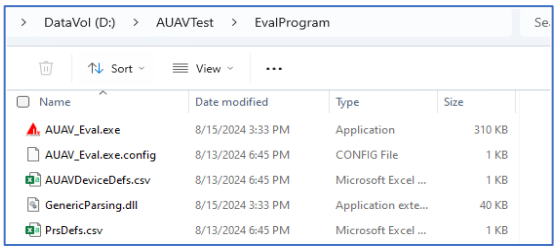
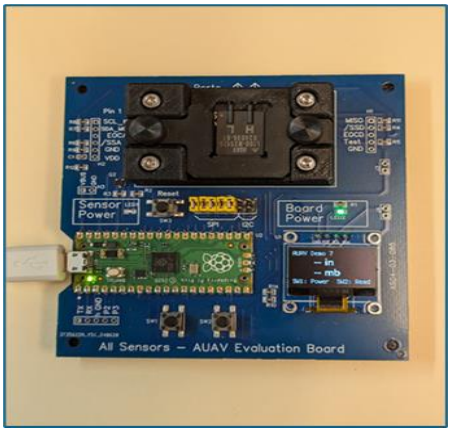
AUAV EVALUATION BOARD USER GUIDE

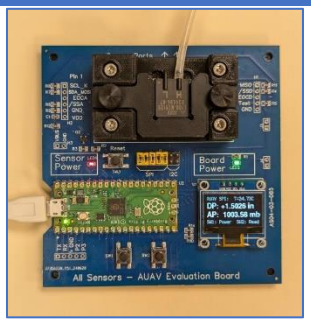
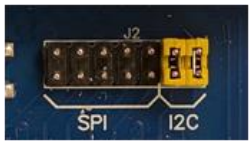
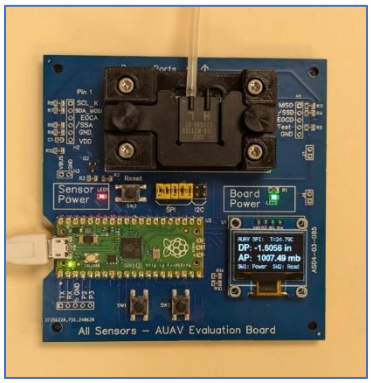
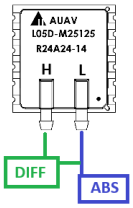
PART NUMBER: EK-AUAV01

Thank you for purchasing the Amphenol All Sensors AUAV Evaluation Board (EK-AUAV01) to assist with testing of our high-performance AUAV series of dual-channel pressure sensors in your design. The EK-AUAV01 simplifies the evaluation process, allowing you to unlock the full potential of our advanced sensor technology.

INSTALLATION

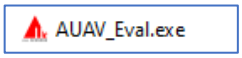
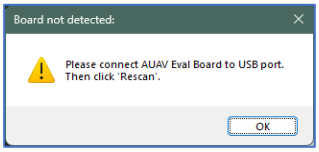
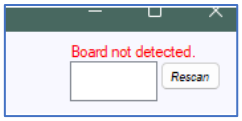
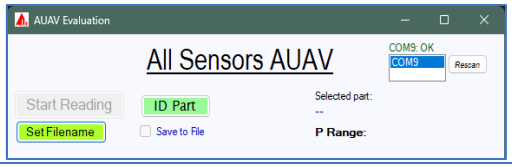
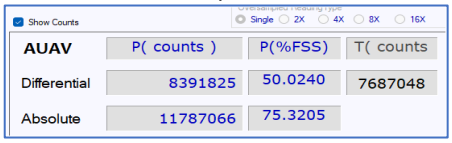
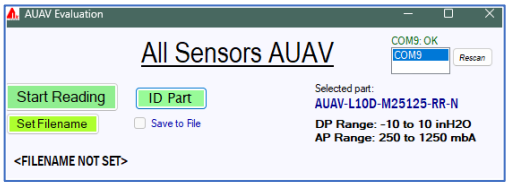
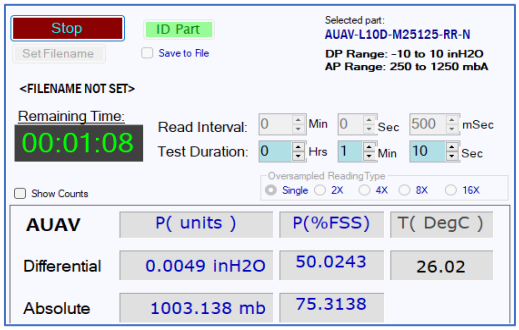
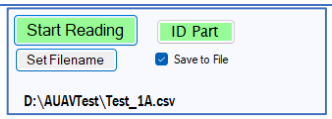
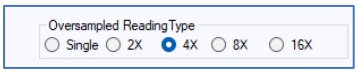
1	Download the latest PC software (Windows 10 or later is required).	https://allsensors.com/news/auav-evaluation
2	Run the downloaded installer file: **`AUAVEval_MS077_nnn.exe`** (nnn is version, which may vary.)	
3	Choose a folder for extracting the program files. The installer will create folders as needed.	
4	The following files will be extracted: This folder may be moved, but all files must remain together in the same folder for correct operation.	
5	Connect the EK-AUAV01 board to a PC USB port, using an A-to-MicroB cable (provided in this kit). After connecting the EKAUAV01 board the idle screen will show.  Windows will create a serial COM port using the in-system standard driver; no additional driver software needed.	

STANDALONE OPERATIONS

1	Install the sensor in the test socket: remove the two thumbscrews and set the sensor in the socket, with ports facing 'North' (as indicated on the edge of the board). Please note: It is strongly advised to *turn off* sensor power when installing or removing the sensor from the socket	
2	Connect pressure source to the sensor; a short segment of tubing is provided for good sealing with the sensor ports.	
3	Select the desired digital interface at J2, installing the jumpers on either the 5 'SPI' locations or the two 'I2C' locations:	 
4	Press SW1 (left button) to turn on sensor power.	
5	Press SW2, the right button, to start readings. The display will update at about a 500ms rate. On the header line, the active interface and the sensor temperature are displayed. The Differential pressure (DP) and Absolute pressure (AP) are shown on the following two lines.  The footer line indicates the function of the two switches. The Absolute sensor is located on the Low side of the differential inputs: for single-ended testing the tubing must be connected to the Low port as shown. For flight simulation, the Absolute pressure source must be connected to both the Low port and one side of the differential pressure source; the other side of the differential source connects to the High port of the sensor.	 
6	For portable operation, the EK-AUAV01 may be connected to a 'power bank' or other source that can provide 5V power at 100mA through a USB-A connector.	

RECORDING DATA USING THE PC SOFTWARE

For data acquisition testing, the software provides an effortless way to collect CSV data for analysis.

1	From the folder containing the extracted software files, run **`AUAV_Eval.exe`**:	
2	If the board is already connected, the COM port will be identified and shown on the top-right of the form. If the board is *not* connected, a dialog will prompt a rescan after software starts. After connecting the board, wait a few seconds for the board to initialize and show the idle screen. Then, clicking *Rescan* will connect to the board, and status will be updated to 'OK' as shown.	  
3	To display pressure in units correctly, the sensor and its calibrated range must be identified. Click *ID Part* to check the installed part; the full part number will be displayed: Now the *Start Reading* button is enabled, allowing a check of the test setup. Adjust the *Read Interval* and *Test Duration* as needed; the test can be cut short with the Stop button. After *Start Reading* is clicked, sensor output is shown, along with remaining time in the test. The *Show Counts* checkbox toggles the display of native sensor output in counts: 	 
4	To save data to CSV file: before starting reading, *Set Filename* and enter a name in the resulting *Save As…* file dialog:	
5	With *Save to File* checked, each sample will be timestamped and saved in the CSV file. Note that repeated tests will be <u>appended</u> to the current file.	
6	To examine the noise-reduction effect of the oversampled-reading commands, select one of the *Reading Type* radio buttons:	

SOFTWARE LICENSING

Certain components of the software and firmware are subject to open-source licensing:

GenericParsing License:
MIT License
Copyright (c) 2019 Andrew Rissing

MicroPython & CircuitPython License:
MIT License
Copyright (c) 2013-2022 Damien P. George and others

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the “Software”), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:
The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

This application utilizes 7-Zip software components, which are distributed under the GNU Lesser General Public License (LGPL). As such, this application complies with the LGPL licensing terms.
The 7-Zip source code and any modifications made to it within this application are subject to the terms of the LGPL. You may obtain a copy of the LGPL license at https://www.gnu.org/licenses/lgpl-3.0.html.
You may access the unmodified source code for 7-Zip (at https://7-zip.org/download.html),
as well as any changes we have made, upon request.
By using this application, you agree to comply with the terms of the LGPL with respect to any usage of 7-Zip within this software. Thank you for respecting open-source licensing!

THE SOFTWARE IS PROVIDED “AS IS”, WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.