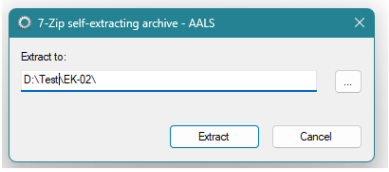
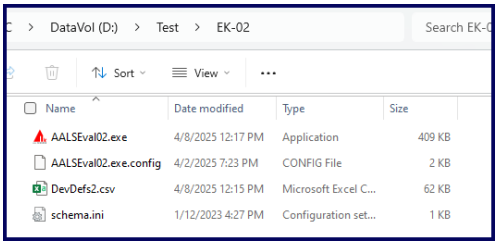
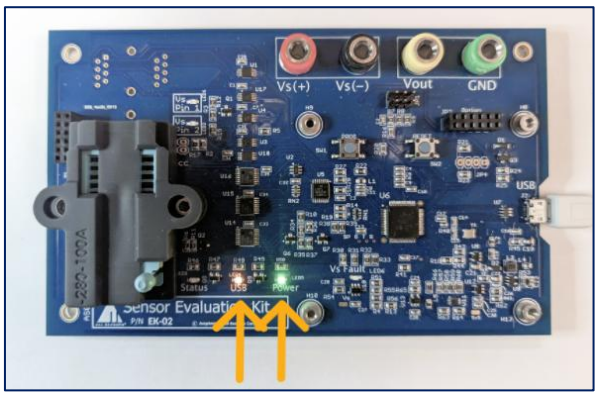
EK-02 EVALUATION KIT USER GUIDE

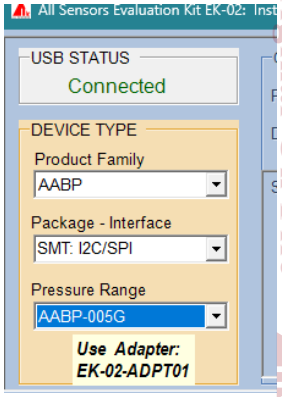
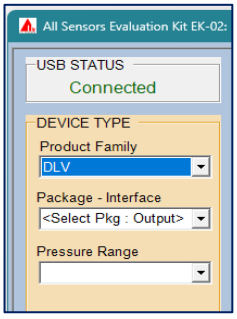
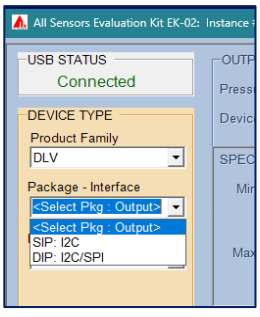
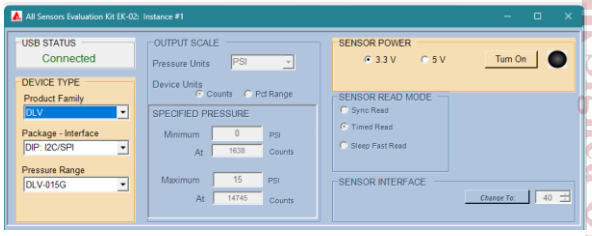
Thank you for purchasing the Amphenol All Sensors Evaluation Kit (EK-02) to assist with the testing of our digital and analog sensor products. The accompanying software allows display and continuous collection of data for further analysis.

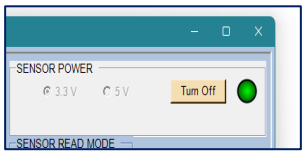
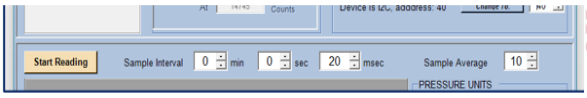
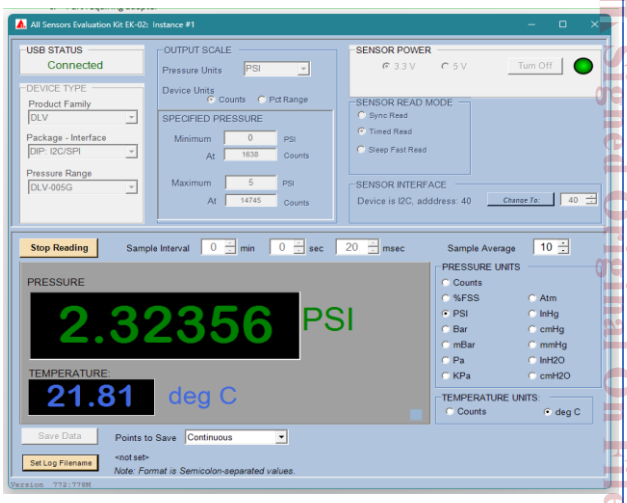
INSTALLATION

1	Download the latest PC software: Windows 10 or later is required.	https://allsensors.com/news/all-sensors-evaluation-kit
2	Run the downloaded installer file: **`EK02_MS058_nnn.exe`** (*nnn* represents the 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. The software is started by executing the ***AALSEval02.exe*** file.	

5	Connect the EK-02 board to a PC USB port using the provided cable or any standard A-to-MicroB cable. The EK-02 will be identified as a generic USB Input Device, supported by Windows without further driver installation. Verify that both the green 'Power' LED and the amber 'USB' LED are illuminated. If not, unplug cable and connect to a different port on the PC.	

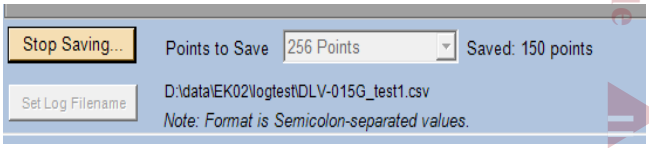
SETUP AND BASIC OPERATION

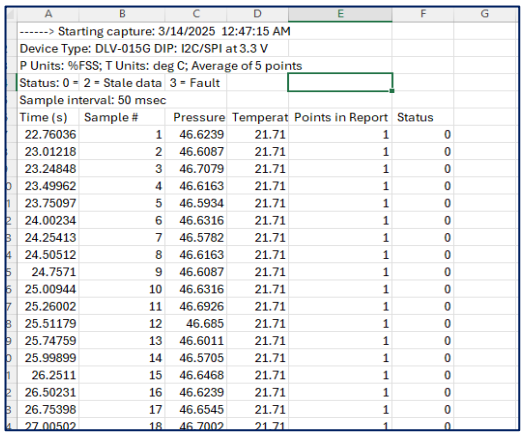
1	It is recommended that sensors be installed or removed only when device power is off: this is indicated by the Status LED being in the OFF state. For all sensors with leads: Open the ZIF socket (handle up, at right angles to board). Insert the device, with Pin 1 at the top-left corner of the socket as shown. Note: Refer to the device datasheet to confirm Pin 1 location: port directions differ across product families. Close the socket by lowering the handle. For Surface-Mount sensors: See the instructions for the respective Device Adapter (as indicated by software Product Family selection). Adapters may be included as an option when ordering the EK-02 or ordered separately at a later date.	 
2	Connect pressure source to the sensor. Refer to the device datasheet for identifying port assignments for correct pressure polarity.	
3	Start the ***AALSEval02.exe*** application. The board does not need to be present initially, software will detect it when connected. Select the Product Family, then Package-Interface corresponding to the sensor being tested.	 
4	Select the sensor pressure range, then the operating supply voltage (if multiple options are available).	

5	Click the Turn On button to switch on power to the sensor. The Status LED will go on, with the Vs indicator showing the pin receiving power.	 
6	At this time, select the sample interval and the number of samples to be averaged before reporting. The method is a simple arithmetic mean of each N samples, so the reading will update every N intervals.	
7	Click Start Reading to display continuously updated values. If supported by the sensor family, temperature values will also be shown. When testing is complete, click Stop Reading, then Turn Off before removing sensor from socket. If at any point the program appears to become unresponsive to button actions, simply disconnect and reconnect the USB cable.	

RECORDING DATA TO TEXT FILE

For data acquisition testing, the software provides an effortless way to collect CSV data for analysis. While the software display is updated at a 200ms interval, the EK-02 hardware and software can record data to text file at up to 1000 points per second (depending on sensor type and PC capability). The format is semicolon-delimited for international file compatibility.

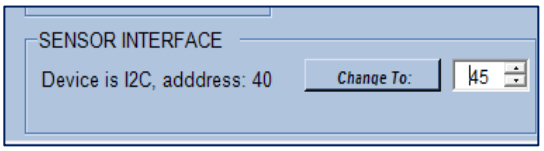
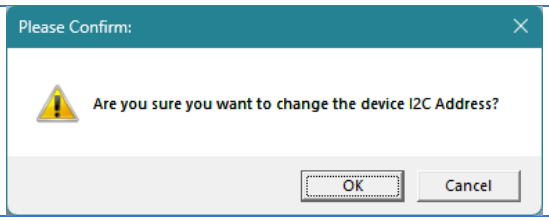
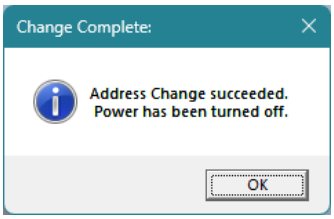
1	When sensor power is ON, the data filename can be set, by clicking 'Set Log Filename'. The size of the saved dataset can be set, either as a fixed limit or unlimited (Continuous)	
2	Once a filename has been defined, the 'Save Data' button is enabled. Note that if the filename is set before reading has started, clicking 'Save Data' will begin reading and saving immediately. Once started, the button changes to 'Stop Saving' to allow ending data capture at any time.	

3	The file format is as shown: The timestamp of the USB data packet is shown, as well as number of points in the packet (Report). Data is saved in the units and averaging selected for display, so the interval between samples will be, similarly, (Interval) x (# samples in average). If available, temperature data is also recorded. Note that if the same filename is used for repeated sessions of 'Save Data', Windows may display a warning dialog regarding overwriting the file, but readings are appended to the existing file, not overwriting existing data.	

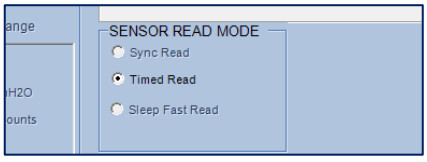
A	B	C	D	E	F	G
------> Starting capture: 3/14/2025 12:47:15 AM						
Device Type: DLV-015G DIP: I2C/SPI at 3.3 V						
P Units: %FSS; T Units: deg C; Average of 5 points						
Status: 0 = 2 = Stale data 3 = Fault						
Sample interval: 50 msec						
Time (s)	Sample #	Pressure	Temperat	Points in Report	Status	
22.76036	1	46.6239	21.71	1	0	
23.01218	2	46.6087	21.71	1	0	
23.24848	3	46.7079	21.71	1	0	
23.49962	4	46.6163	21.71	1	0	
23.75097	5	46.5934	21.71	1	0	
24.00234	6	46.6316	21.71	1	0	
24.25413	7	46.5782	21.71	1	0	
24.50512	8	46.6163	21.71	1	0	
24.7571	9	46.6087	21.71	1	0	
25.00944	10	46.6316	21.71	1	0	
25.26002	11	46.6926	21.71	1	0	
25.51179	12	46.685	21.71	1	0	
25.74759	13	46.6011	21.71	1	0	
25.99899	14	46.5705	21.71	1	0	
26.2511	15	46.6468	21.71	1	0	
26.50231	16	46.6239	21.71	1	0	
26.75398	17	46.6545	21.71	1	0	
27.00502	18	46.7002	21.71	1	0	

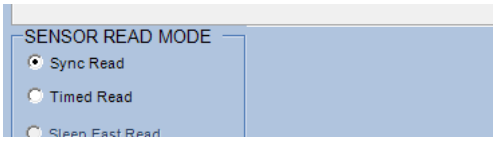
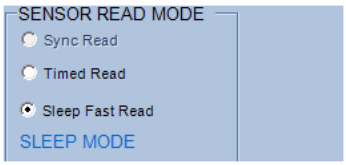
CHANGING I2C ADDRESS

NOTE: Warranty claims for sensor programming corruption as a result of post-calibration modification will not be accepted. While using the EK-02 hardware and software for this procedure is highly reliable, any accidental physical or electrical disturbance to the process may potentially cause corruption of sensor programming. Examples include USB cable disconnection, loose sensor installation, removing sensor during active programming, ESD discharge, etc.
For this reason, if this process is executed particular care must be taken during device installation and removal.

1	For I2C – interface versions of many part types, the I2C address can be changed from the factory default value. After device power-on, adjust the address in the control and then click 'Change To'.	
2	After clicking 'OK' to the confirmation dialog, the sensor will be reprogrammed and then turned off.	
3	After a few seconds, the completion dialog is shown. The sensor may be removed at this time. If multiple parts are to be adjusted, this sequence allows a rapid cycle of each unit through the process.	

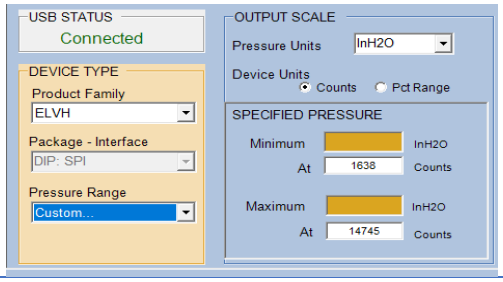
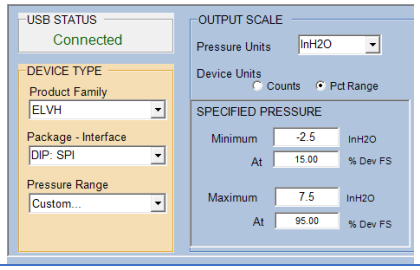
ADDITIONAL DATA ACQUISITION OPTIONS

1	All parts can be read in a timed polling loop, as performed by the Sensor Read Mode 'Timed Read' selection. Analog-output types and some SPI-interface parts are limited to this method only.	

2	Devices with the I2C interface, in packages which include the INT or EOC pin, can also support 'Sync Read' mode. This allows the EK-02 to use the sensor INT/EOC pin to trigger reading the sensor, for fastest possible update rate.	
3	Some product families provide an orderable option of 'Sleep Mode'. When detected by the EK-02 at power-on, this enables the 'Sleep Fast Read' selection. See the product datasheets for further details.	

CUSTOM PRESSURE RANGE SETUP

For sensors with non-standard pressure ranges or transfer functions, the EK-02 software can be configured to correctly report pressure from these devices, as described below:

1	Select the part family and package / interface as appropriate, then select the 'Custom…' pressure range. This enables the customization fields to set the appropriate units and pressure limits of calibration.	
2	The transfer function can also be adjusted, either in native sensor output (counts for digital) or percent of output range (for digital and analog). Software continuously checks the entries; Invalid combinations are highlighted in red.	

SOFTWARE LICENSING

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You may access the unmodified source code for 7-Zip (at https://7-zip.org/download.html),
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