Linear Measurement Instruments, Corp.

LMI ConX Software Wedge

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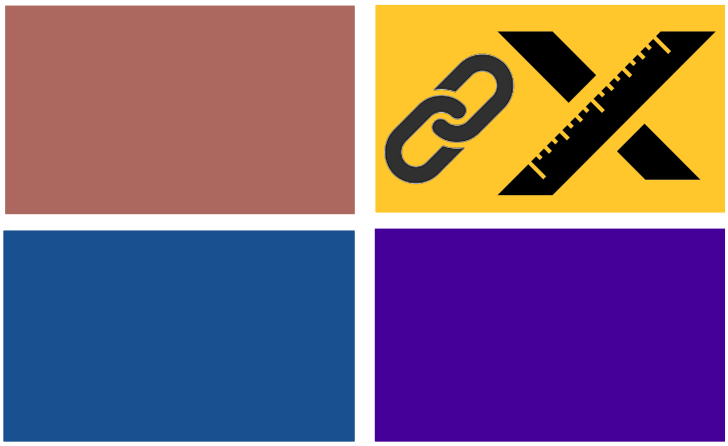

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What Is LMI's ConX software?

ConX is designed to function as a "keyboard wedge" bridging the gap between LMI's X-Series gauges and the user's data collection software. It allows the user to press a button on the gauge and then see those readings in an Excel sheet, notepad file, or a third-party SPC program such as QC Calc. **If using LMI's UGI Data Collection Software Package, you do not need to use ConX.**

This manual will give you a brief introduction to the installation and configuration of the ConX software using Excel and notepad as examples destinations

Computer Requirements and Installation

LMI ConX software will run on Windows 10 and Windows 11 PCs.

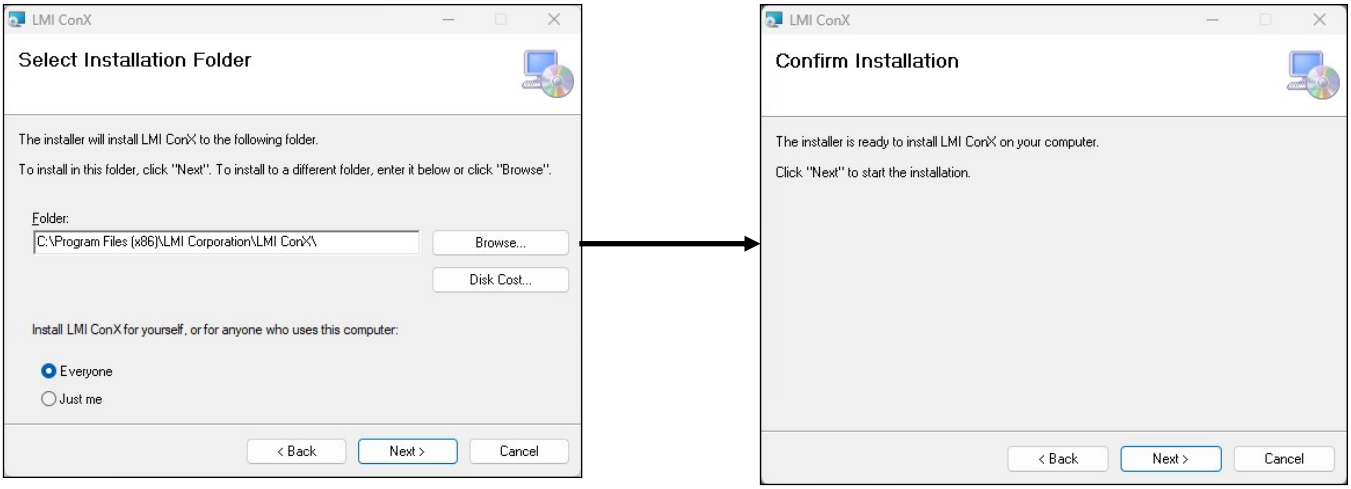
Minimum Specs:

Intel i3
16 GB DDR5 RAM
Windows 11 Pro or Enterprise

Recommended Specs:

Intel i7
32 GB DDR5 RAM
Windows 11 Pro or Enterprise

ConX can be found on the X-Utility USB drive that shipped with the sensor(s) or downloaded from www.lmicorporation.com.



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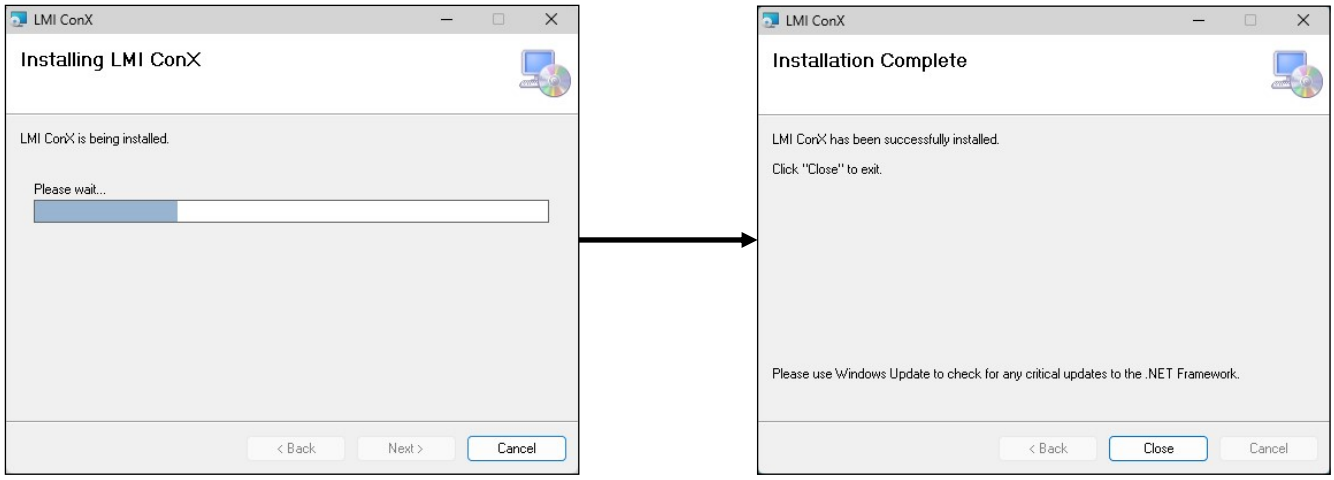
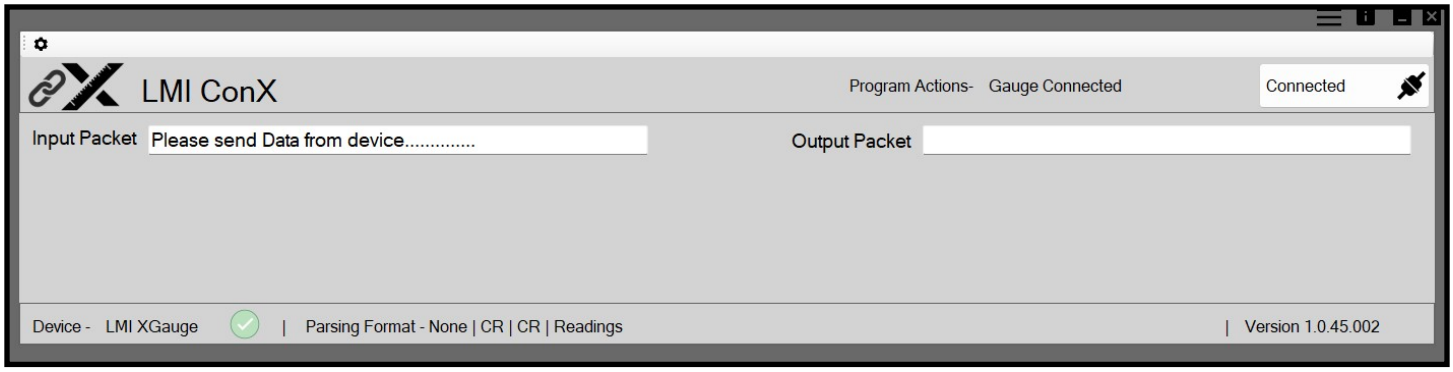
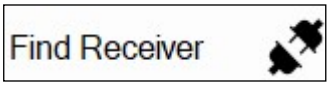


After the installation is complete, plug in the dongle and double-click on the ConX icon shown below to start the program.

Main Display Interface and Controls





Find Receiver/Connected: Displays whether or not the software is connected to the LMI X-Gauge dongle.

Settings (Gear icon): Opens Settings window for parsing configuration (see next page).

Whitelist: Once the Find Receiver button is pushed, an additional icon will appear on the window ribbon next to the minimize button. This button can be used to see what other gauges are on the dongle's whitelist.

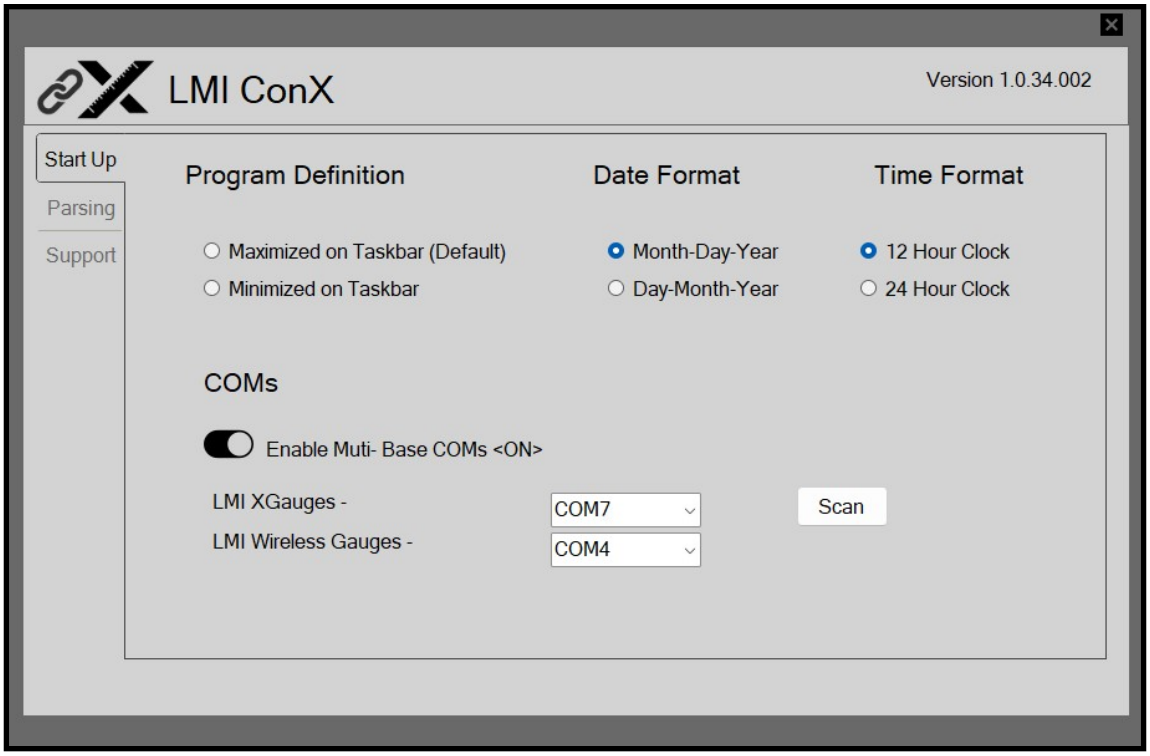
Info/About: Displays version number and copyright information.

Shutdown: Disconnects any connected gauges and shuts down the software.

Input Packet: Displays the incoming message from the gauge.

Output Packet: Displays the output data to be passed to the receiving software.

Settings - Start Up



To access the Settings window, click on the gear icon in the upper left-handed corner of the main display window. There are three tabs to choose from: Start Up, Parsing, and Logging.

Program Definition: Determines whether the program stays displayed on the desktop when in use or is minimized to the taskbar when running.

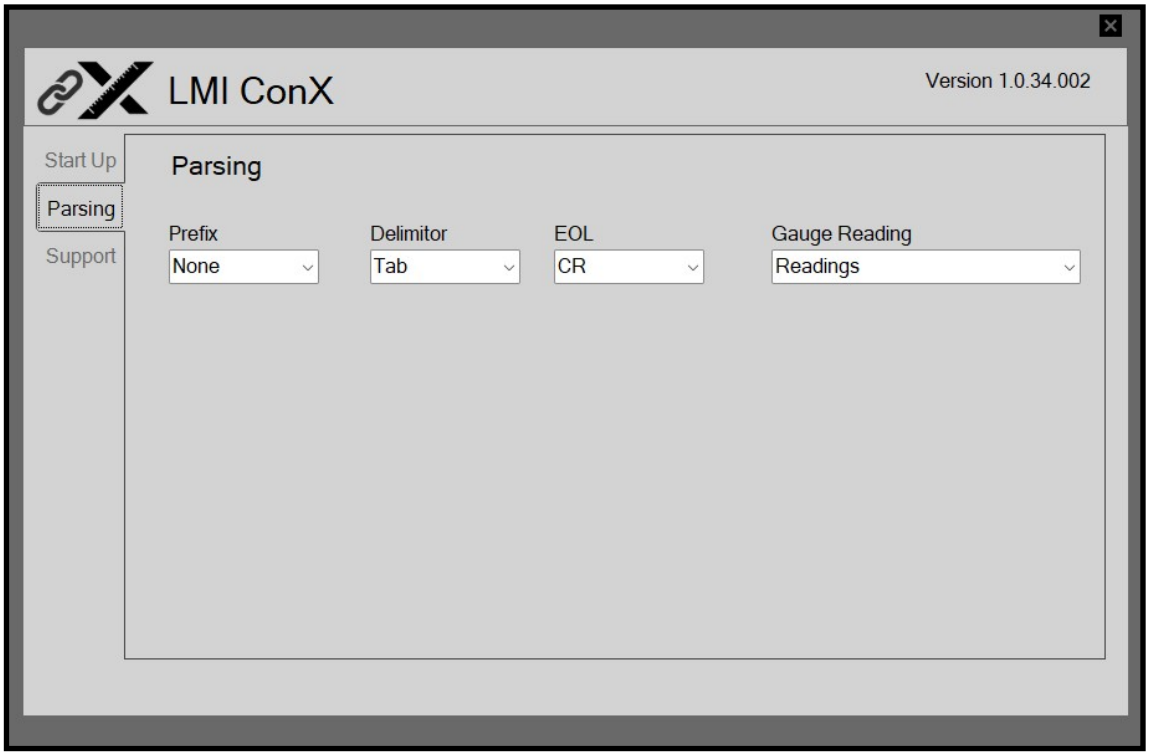
Date Format: If including date in the output packet, this setting allows the user to choose between MDY format or DMY format.

Time Format: If including the date and the time in the output packet, this setting allows the user to choose between the use of a 12 hour clock or 24 hour clock.

COMs:

If using LMI W-Series and X-Series gauges together, the Enable Multi-Base COMs must be turned on. The user can manually select the COM port for the MicroRidge base and the LMI dongle, or press the scan button to automatically detect which port each base is plugged into. **NOTE: This should be done before pressing the Find Receiver button on the main ConX page.**

Settings - Parsing and Support



Parsing: This tab determines what the output packet will look like when a reading is sent to the focused software.

Prefix: Determines if the Date and Time are appended to the output string for traceability within the focused software.

Delimiter: Determines what separates one reading from another when using a dual-output gauge such as a True Position X or 241X. Choose between CR, Tab, or comma.

EOL: Allows the user to choose between a carriage return or tab as the “End of Line” character.

Gauge Reading: Determines if the Gauge ID is sent with the readings, or only the readings.

Support:

Enable Logging: Allows the user to enable a logging feature for troubleshooting.

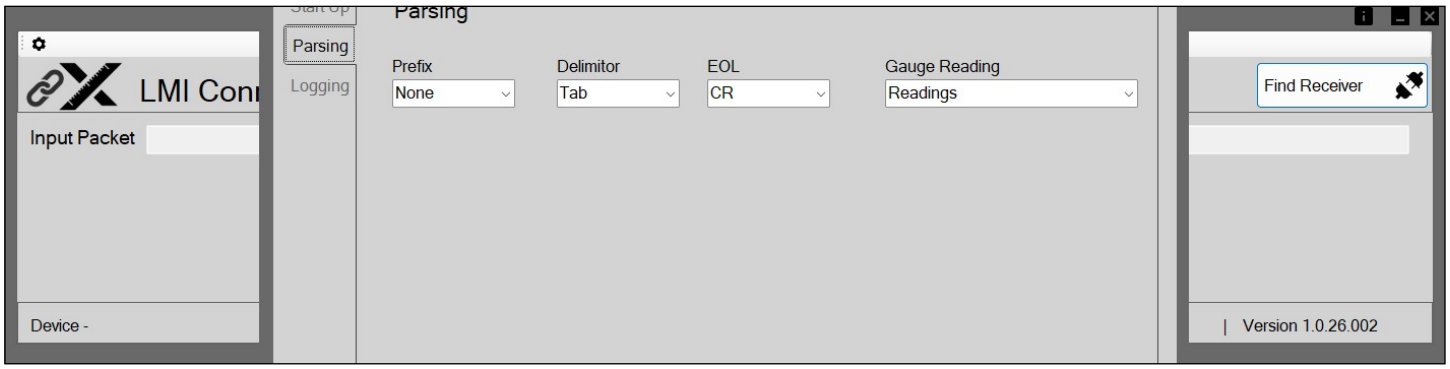
To save the changes and exit the Settings window, click on the X in the upper right-hand corner of the window.

Setup Example using a 241X and 200X into Excel

The example below represents a typical setup for data collection into an Excel workbook. **NOTE:** This assumes the gauges are already associated with the LMI dongle plugged into a USB port on the PC.

Step 1: Open the ConX software and click on the Settings icon in the upper left hand corner of the window. Click on the Parsing tab and chose:

Prefix: None **Delimiter:** Tab **EOL:** CR **Gauge Readings:** Readings



Step 2: Close the Settings window, then click on the Find Receiver button and check the display on the gauge for the connection icon to appear.

Step 3: Open Excel and select *Blank workbook*. Name Column 1A *Flush*, Column 1B *Gap*, and Column 1H *Sag*. Click on cell 2A and press the button on the 241X. Readings will populate into 2A and 2B and the focused cell (denoted by a green border) will now be 3A. Press the button again to send a reading to this cell and 3B. Continue until all flush and gap measurements have been captured.

	A	B	C	D	E	F	G	H
1	Flush	Gap						Sag
2	1.23	-1.84						
3	1.24	-1.84						
4								
5								

Step 4: Click on column H2 and press the green button on the 200X. The reading should populate and now the focus box is on 3H. Continue take all the Sag readings until completed.

	A	B	C	D	E	F	G	H
1	Flush	Gap						Sag
2	1.23	-1.84						-4.98
3	1.24	-1.84						-4.98
4	1.24	-1.84						-4.98
5	1.26	0.61						-4.98
6	1.28	0.57						4.45
7	1.28	0.57						4.83
8	1.28	0.57						1.25
9	1.28	0.57						-2
10	1.28	0.57						-4.98
11								

Step 5: Save the workbook and then click on the X in the upper right-hand corner of the ConX window. Both gauges will shut off and the program will exit.

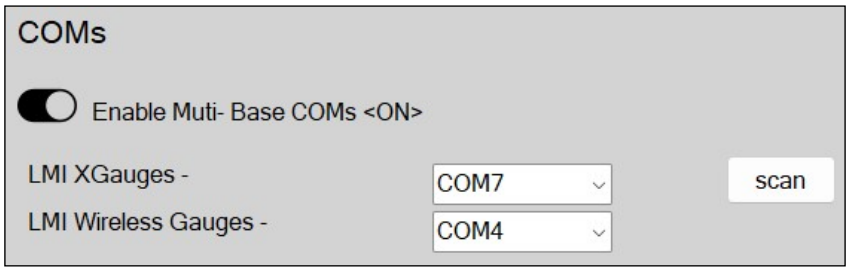
Setup Example using a 241X and 200W into Excel

The example below represents a typical setup for data collection into an Excel workbook using both a 241X flush and gap gauge with a legacy 200W surface probe. **NOTE:** This assumes the gauges are already associated with the LMI X-series dongle and MicroRidge MobileCollect USB base, respectively.

Step 1: Connect both the LMI X-Series dongle and MicroRidge MobileCollect base into their respective USB ports on the PC. Open the ConX software and click on the Settings icon in the upper left-hand corner of the window.

Prefix: None **Delimiter:** Tab **EOL:** CR **Gauge Readings:** Readings

Step 2: Slide the Enable Multi-Base COMs to the <ON> position. Press the scan button to automatically find the bases or, alternatively, manually select the COM ports from the drop down menus.

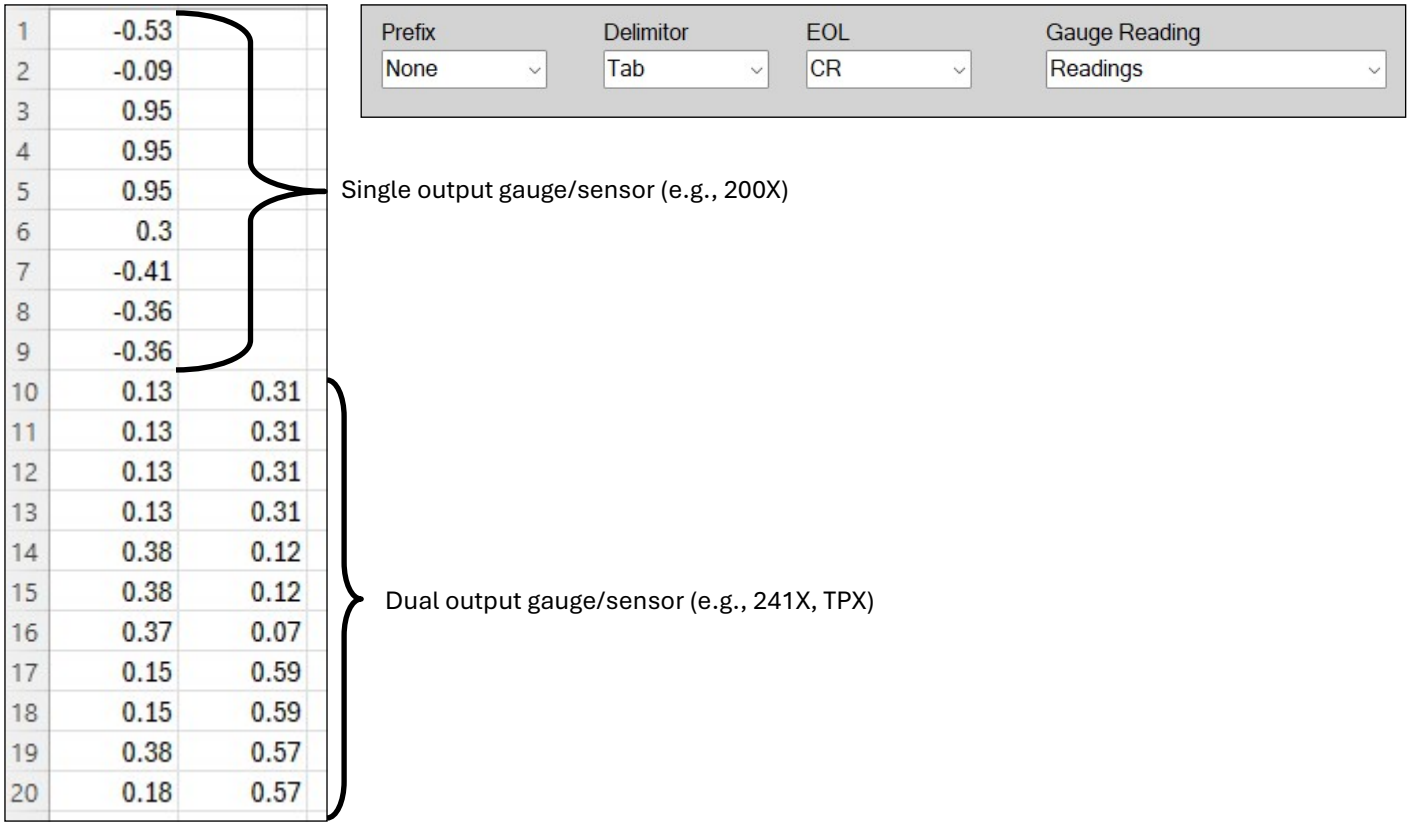


Step 3: Close down the Settings window and click on the Find Receiver button. Wait for the 241X to show the wireless icon in the upper left-hand corner of the gauge display (see picture to the right).

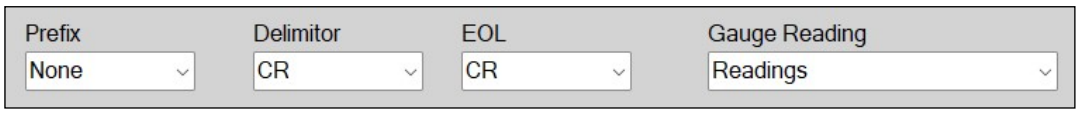
Open Excel and click on the cell where the data should be sent. Press the button on the gauge to send data to that particular cell.

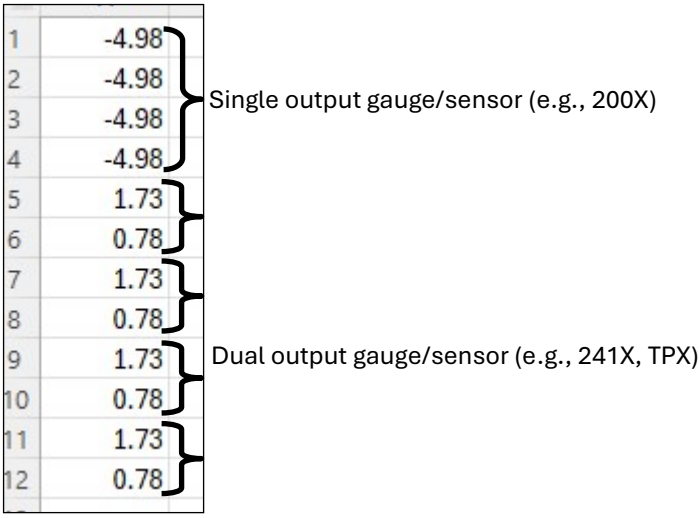
Step 4: When finished collecting data for the shift, close down ConX by clicking on the X in the upper right-hand corner.

Parsing Examples in Excel



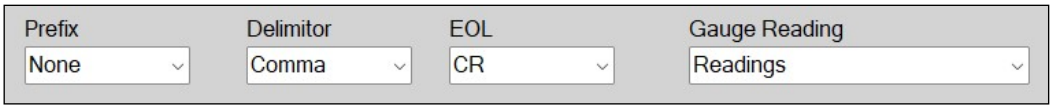
1	-0.53	
2	-0.09	
3	0.95	
4	0.95	
5	0.95	
6	0.3	
7	-0.41	
8	-0.36	
9	-0.36	
10	0.13	0.31
11	0.13	0.31
12	0.13	0.31
13	0.13	0.31
14	0.38	0.12
15	0.38	0.12
16	0.37	0.07
17	0.15	0.59
18	0.15	0.59
19	0.38	0.57
20	0.18	0.57





1	-4.98
2	-4.98
3	-4.98
4	-4.98
5	1.73
6	0.78
7	1.73
8	0.78
9	1.73
10	0.78
11	1.73
12	0.78

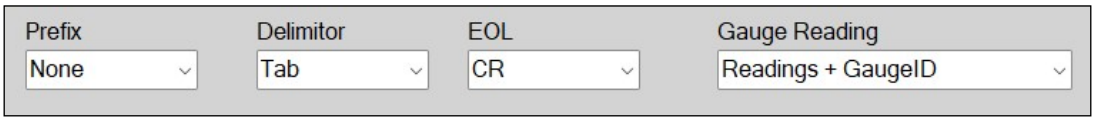
Parsing Examples (continued)



1	-4.98
2	-4.98
3	-4.98
4	-4.98
5	-4.98
6	1.72,0.84
7	1.72,0.84
8	1.71,0.84
9	1.72,0.84
10	1.72,0.84

Single output gauge/sensor (e.g., 200X)

Dual output gauge/sensor (e.g., 241X, TPX)



	A	B	C
1	-4.98	98F86C	
2	-4.98	98F86C	
3	-4.98	98F86C	
4	-4.98	98F86C	
5	-4.98	98F86C	
6	1.71	0.85	F4DDB7
7	1.71	0.85	F4DDB7
8	1.71	0.85	F4DDB7
9	1.71	0.85	F4DDB7
10	1.71	0.85	F4DDB7

Single output gauge/sensor (e.g., 200X)

Dual output gauge/sensor (e.g., 241X, TPX)

Notes: