



Electronic Counter Software Tool Usage and Life Management

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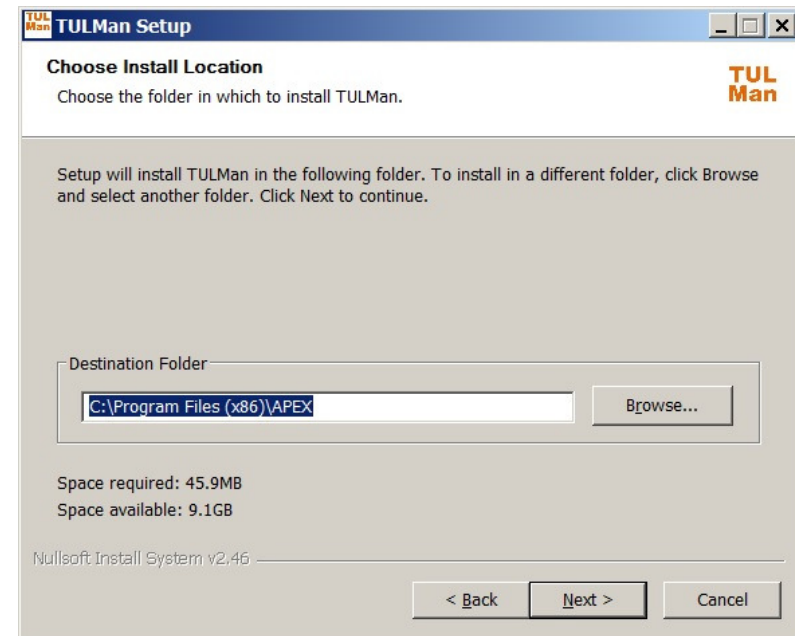
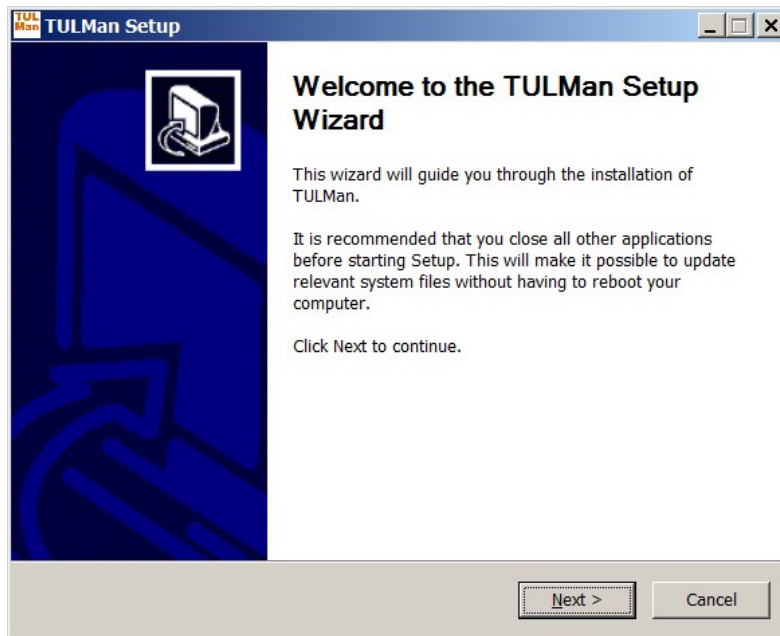
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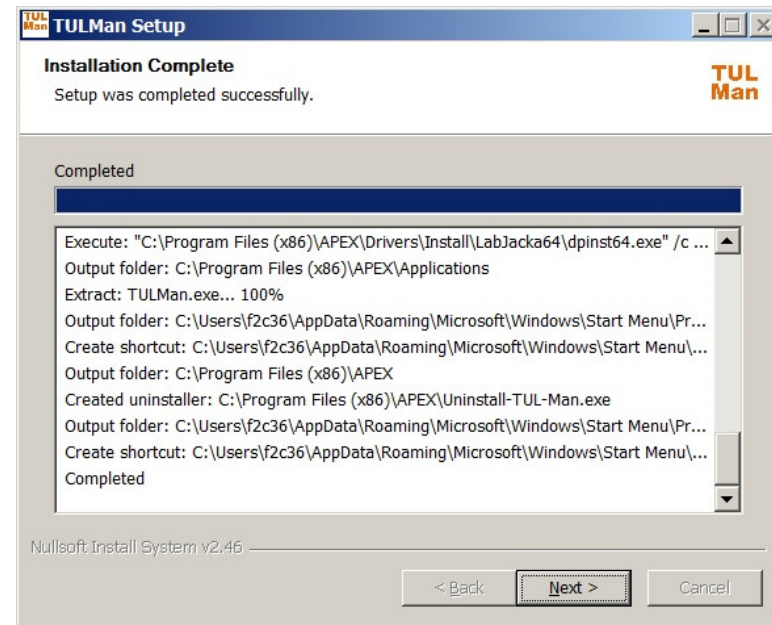
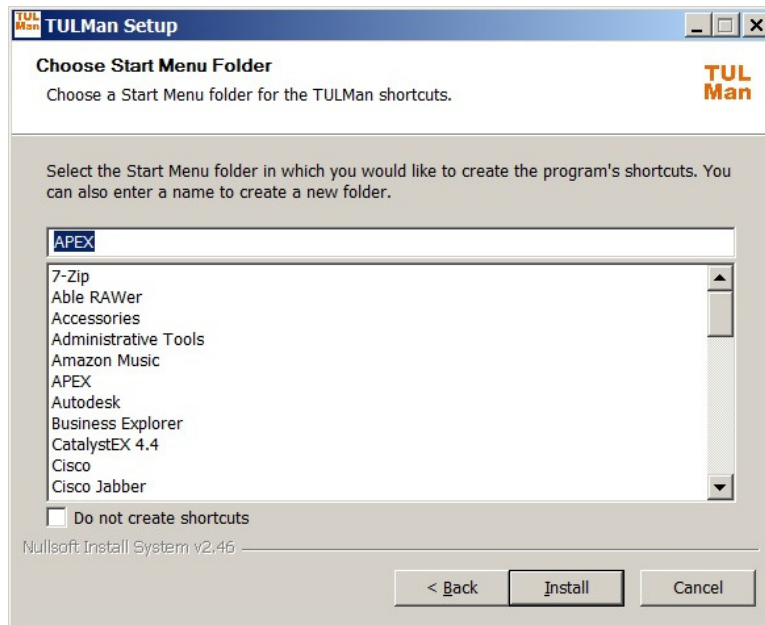
Software Installation

- Launch the executable file and follow the on screen instructions

 TULMan+Setup.exe

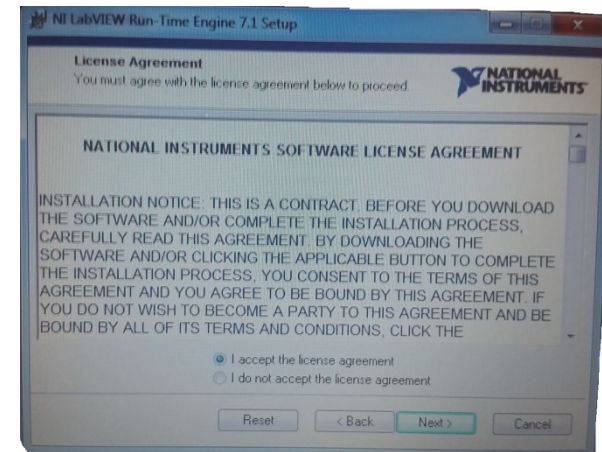
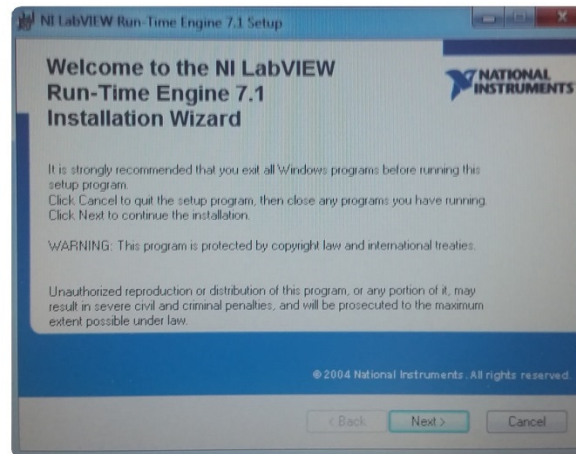
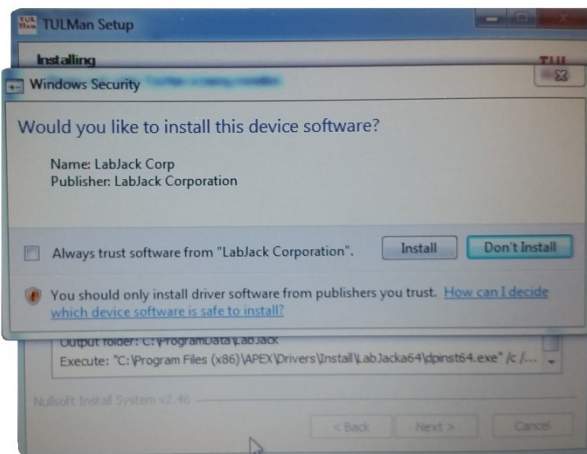


Software Installation

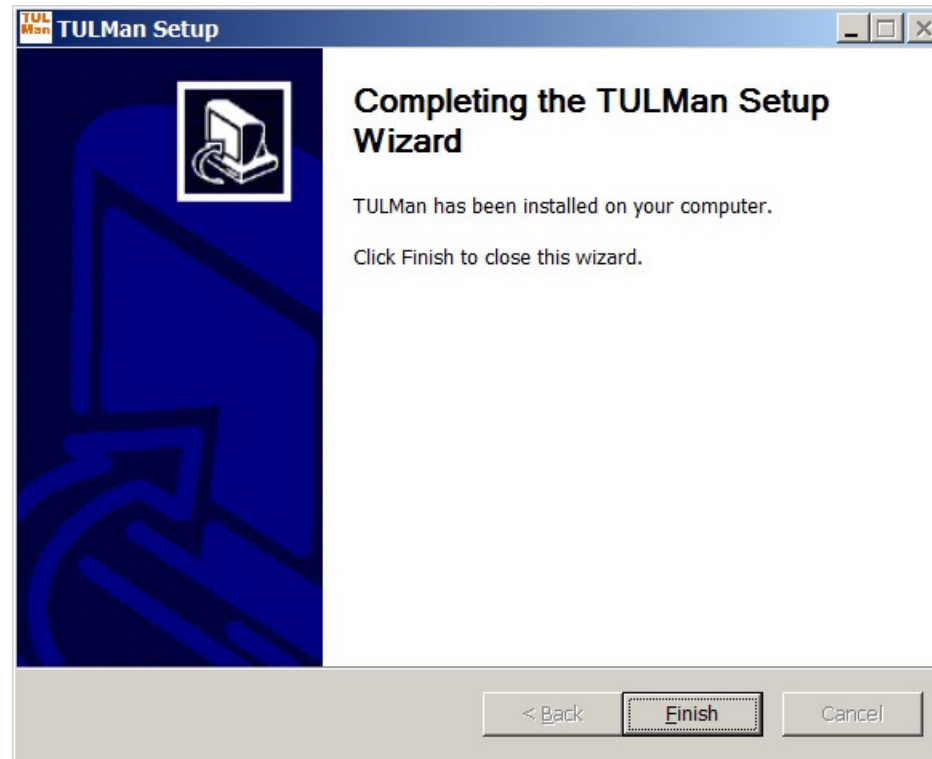


- Note: Required drivers to access the TULMan product will also be installed, accept installation of these drivers

Software Installation

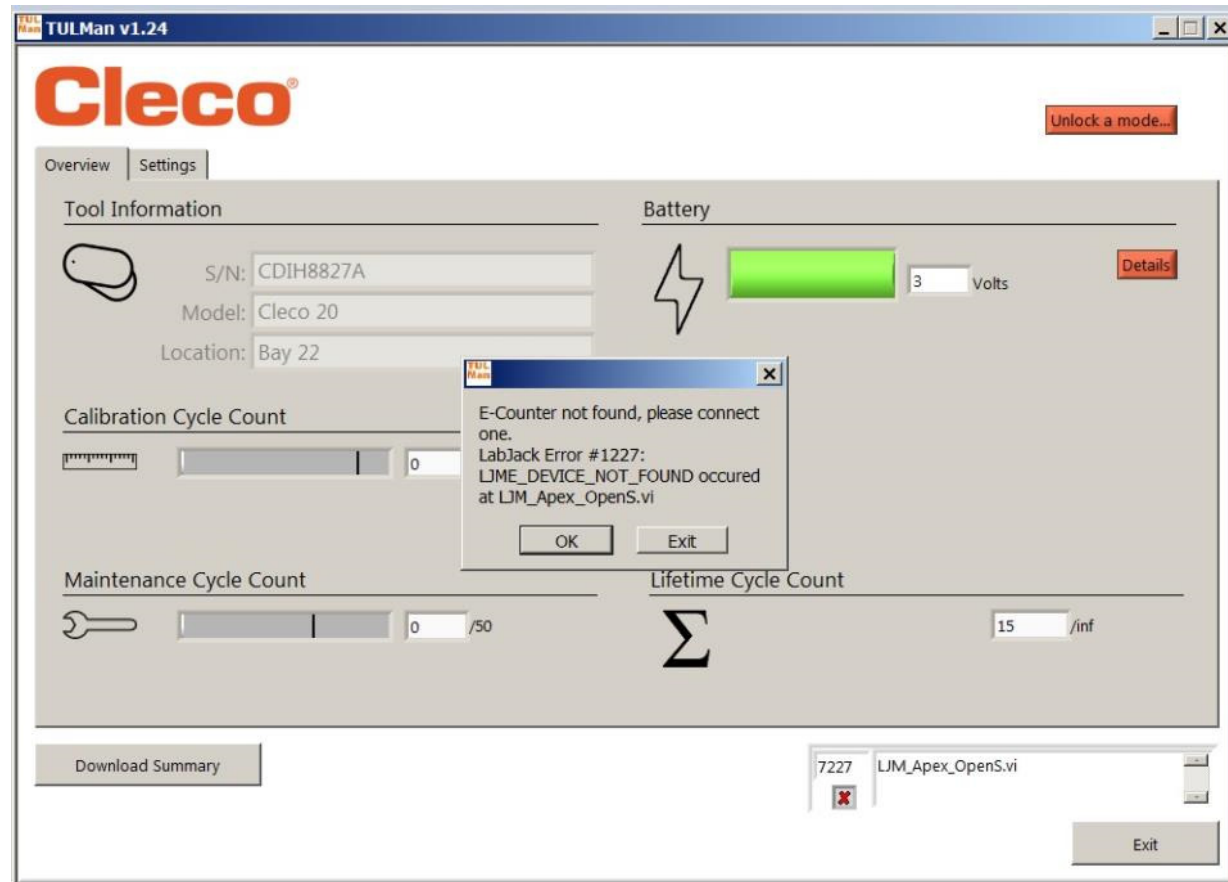


- Note: Required drivers to access the TULMan product will also be installed, accept installation of these drivers and follow the on screen instructions

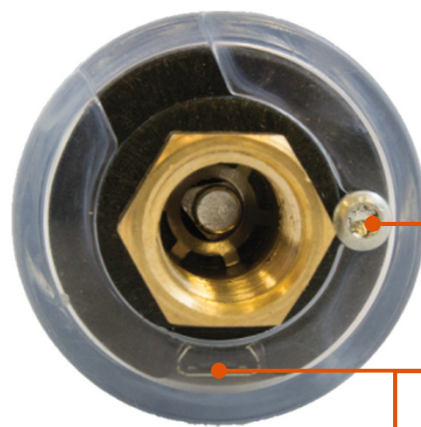


- Launch the TULMan software

Error occurs if TULMan is not connected



- Connect TULMan using a micro USB cable



Note: Screw must be removed with a no. 10 torx bit and cover rotated to access the micro usb port

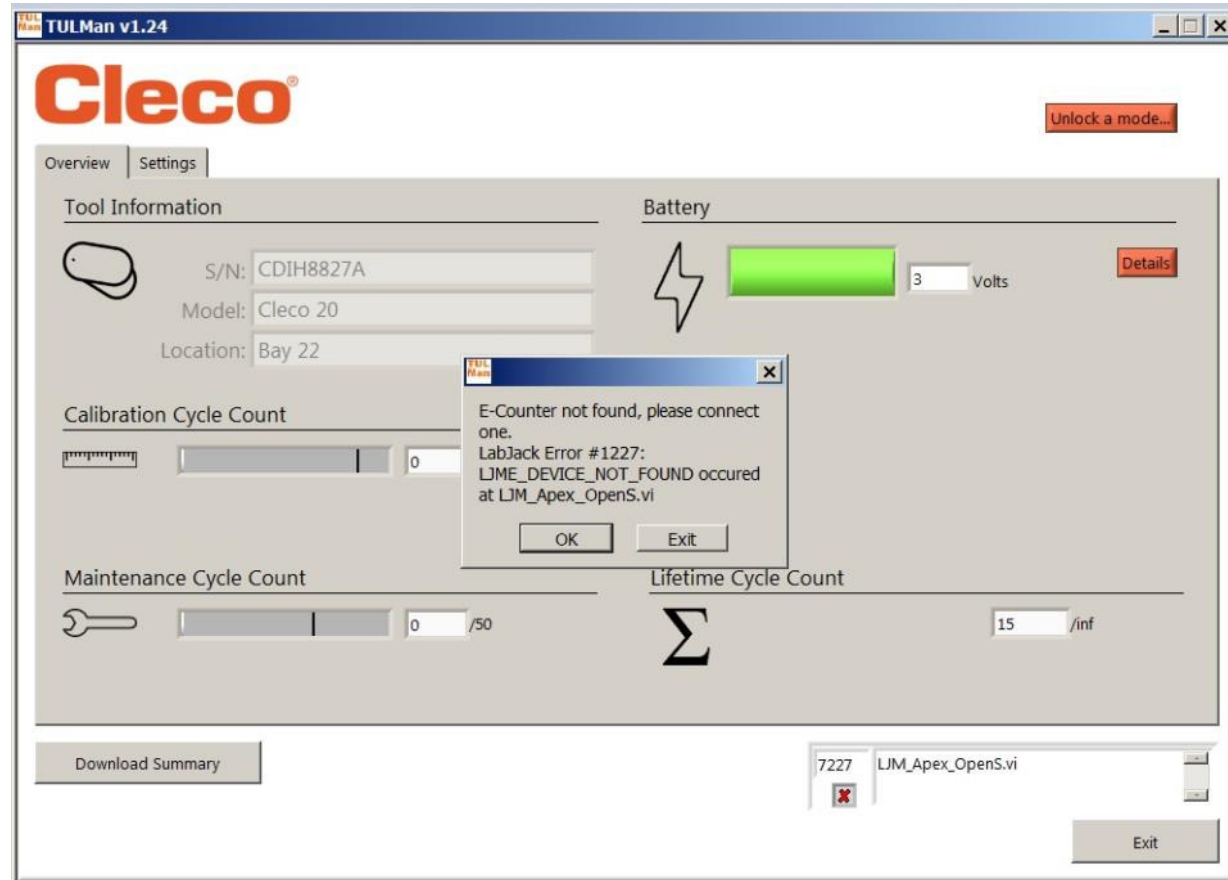
micro usb port



Software Launch and Connection



- Click OK



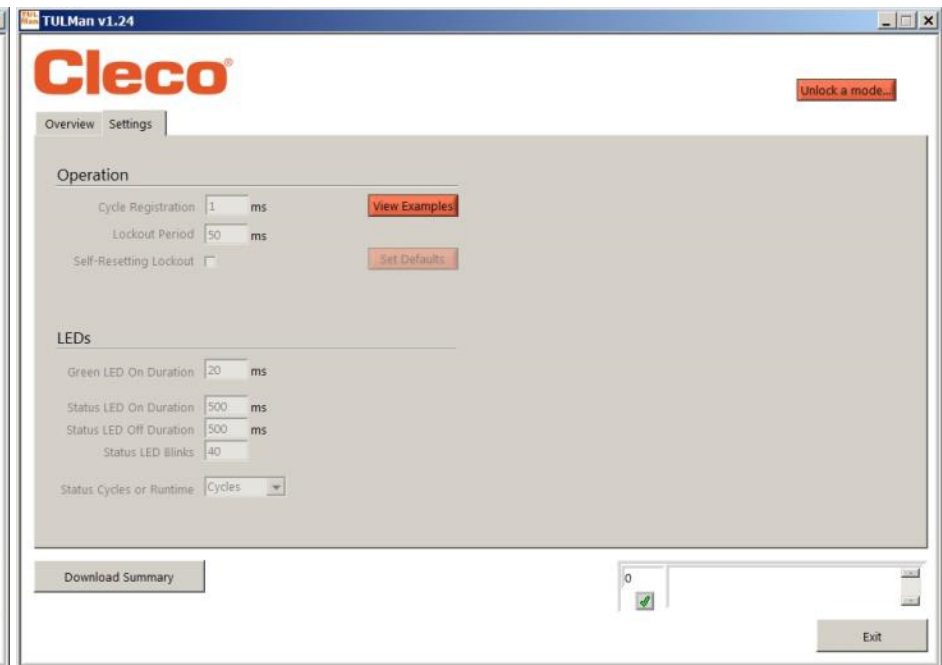
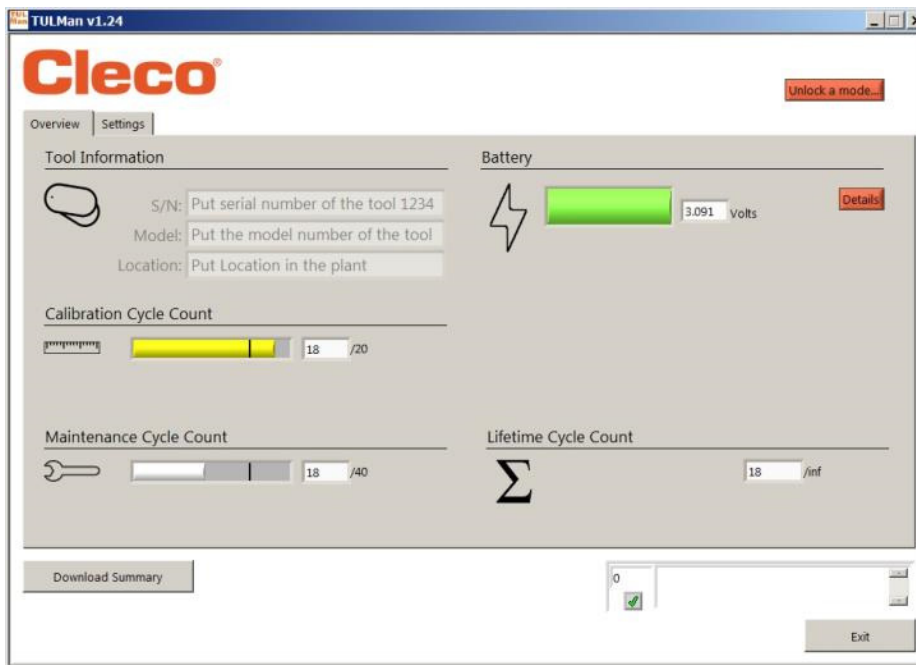
Software Launch and Connection



- Click OK and you can view the data on the counter

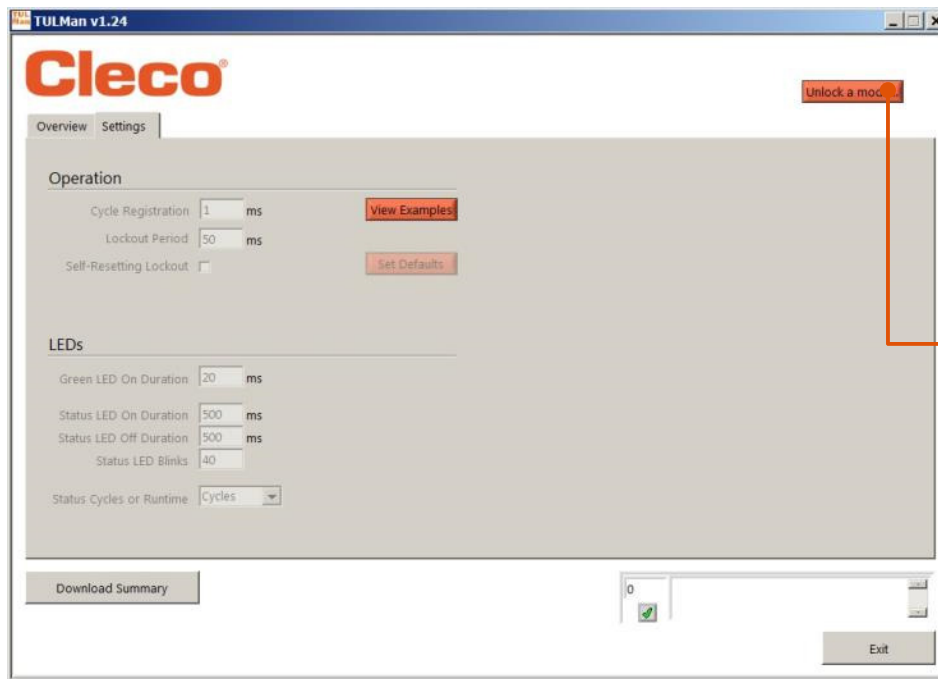
Overview tab

Settings tab

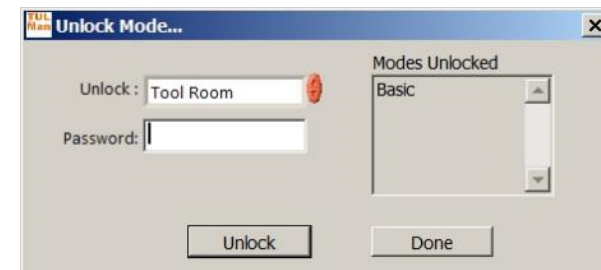


Unlock a Mode

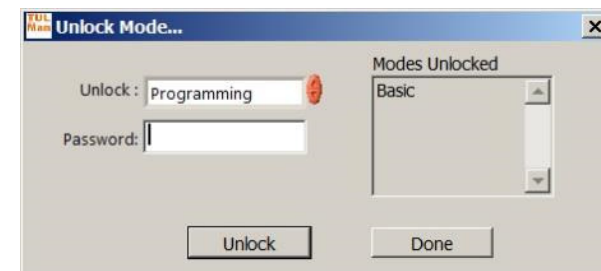
- On the settings tab you can unlock one of the 3 modes



Tool Room – Default PW - Tool



Programming – Default PW - Programming



Password Manager – Default PW - Password

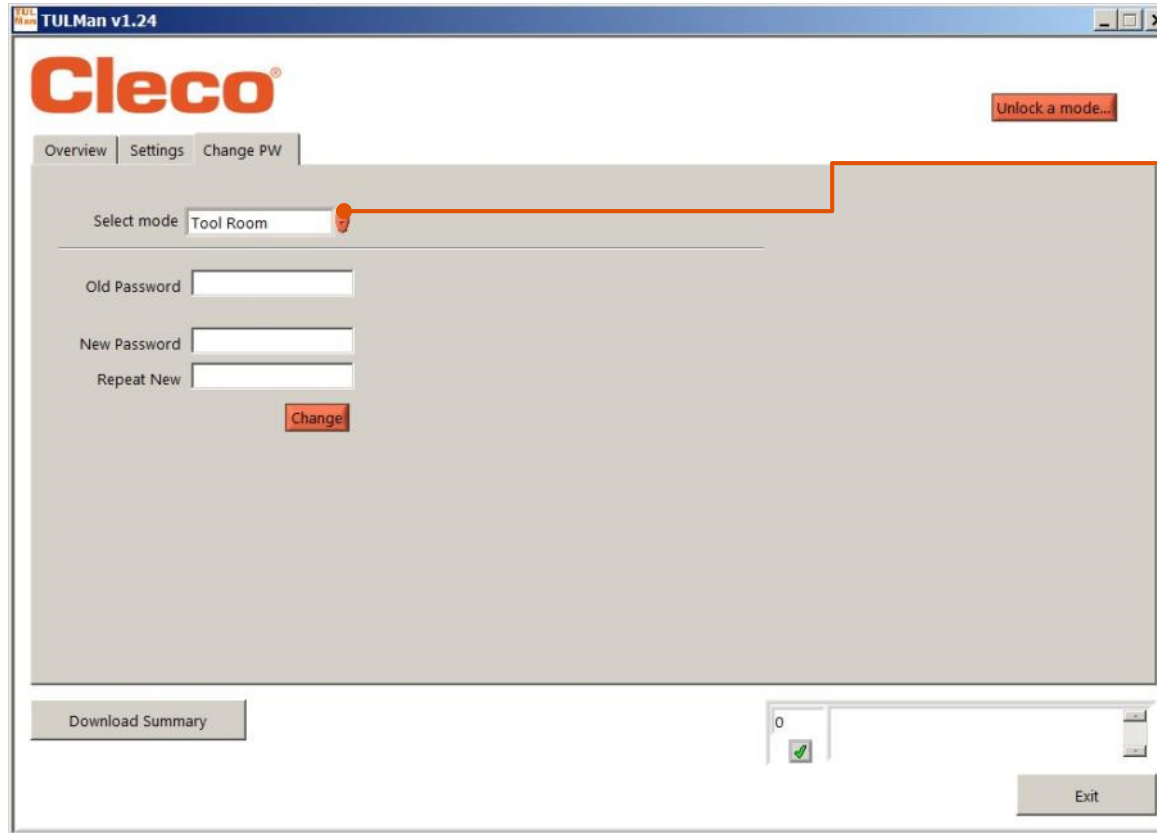


NOTE: There are 2 additional modes for factory use only Advanced and Factory

Password Mode



- On the settings tab you can unlock one of the 3 modes

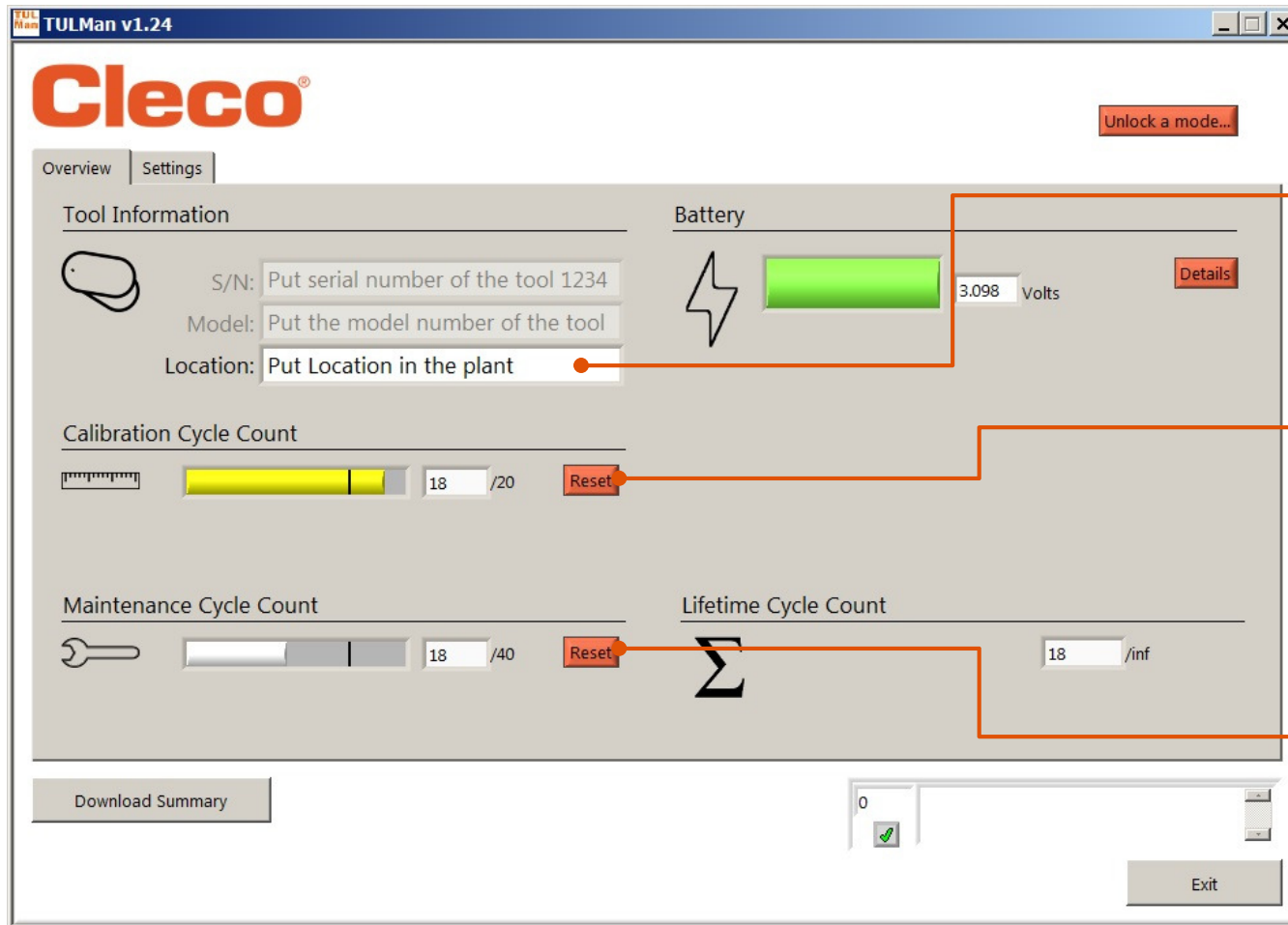


- Allows Passwords to be changed for
- Password Manager
 - Tool Room
 - Programming

Warning:
Please maintain a record of the passwords set – if a password is forgotten it is NOT possible to recover

NOTE: The Passwords can not be changed for the factory use only modes Advanced and Factory

Tool Room Mode

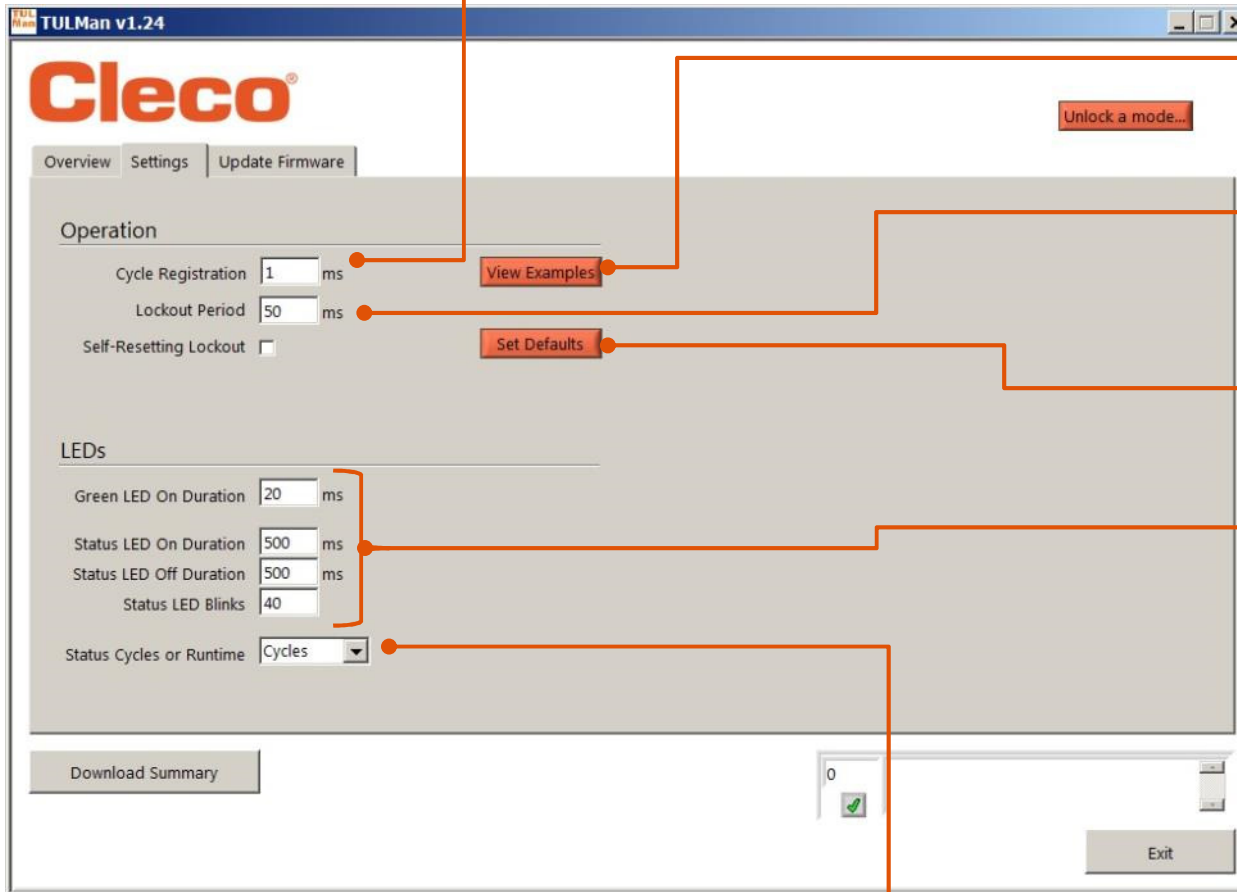


Allows tool location to be changed

Allows Calibration Cycle/Run Time Count to be reset

Allows Maintenance Cycle/Run Time Count to be reset

Programming Mode - Settings



Set minimum time for a cycle

See examples of cycle setting

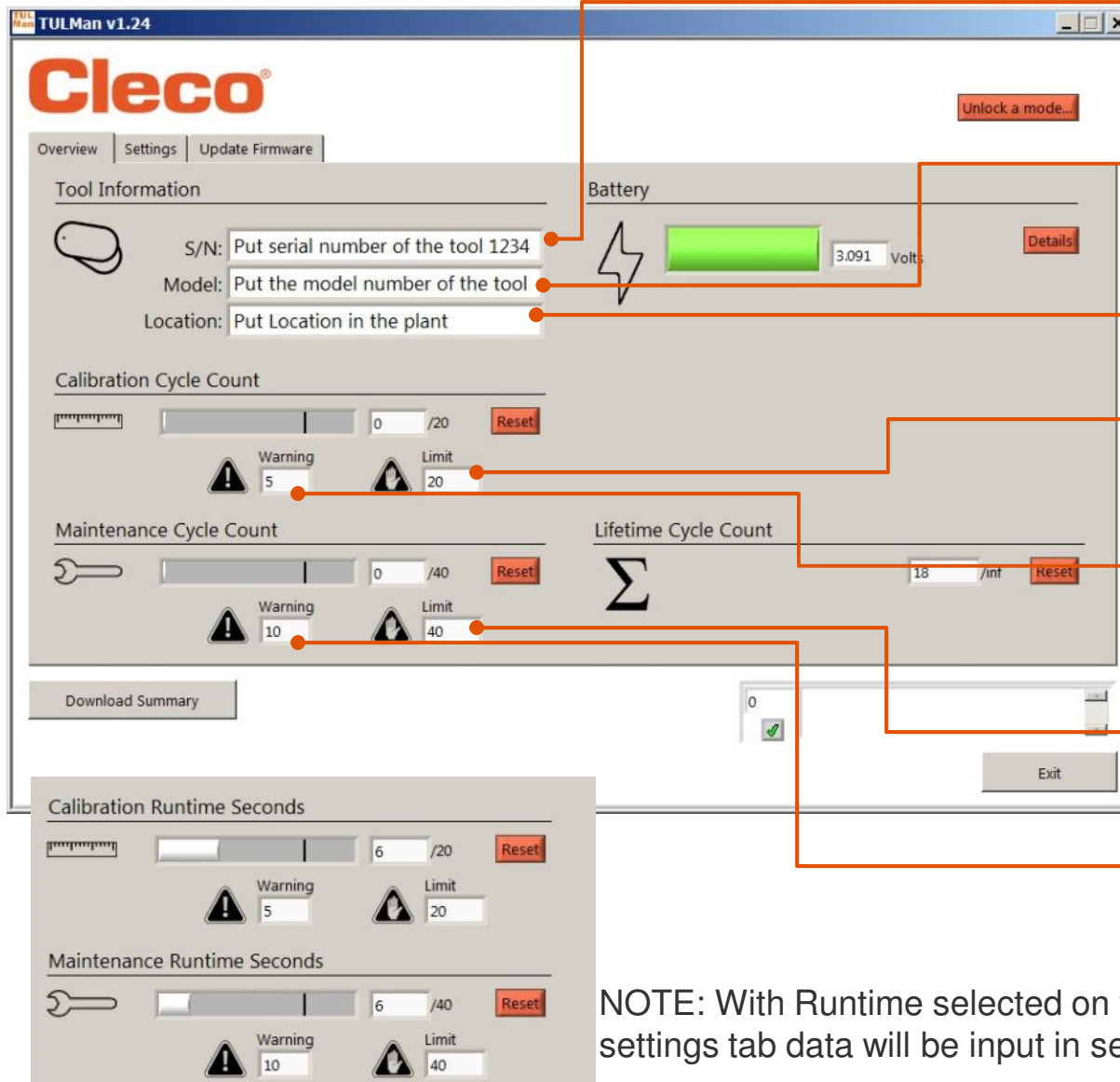
Set minimum time between cycles

Reset to factory defaults

Set LED behaviour
Note keeping LED's on for too long can reduce battery life

Set Count by Cycles or Runtime

Programming Mode - Overview



Set Serial Number of the tool that counter is mounted on

Set Model number of the tool that counter is mounted on

Set Location in the plant tool is used

Set Limit for RED light for Calibration LED

Set Warning for YELLOW light for Calibration LED
This is Cycles Remaining

Set Limit for RED light for Maintenance LED

Set Warning for YELLOW light for Maintenance LED
This is Cycles Remaining

NOTE: With Runtime selected on the settings tab data will be input in seconds

Quick Guide to Programming



1. On the settings tab select Cycle or Runtime
 - Use Cycle for torque controlled Screwdrivers with clutches
 - Use Runtime for varying cycle time tools such as Drills, Sanders

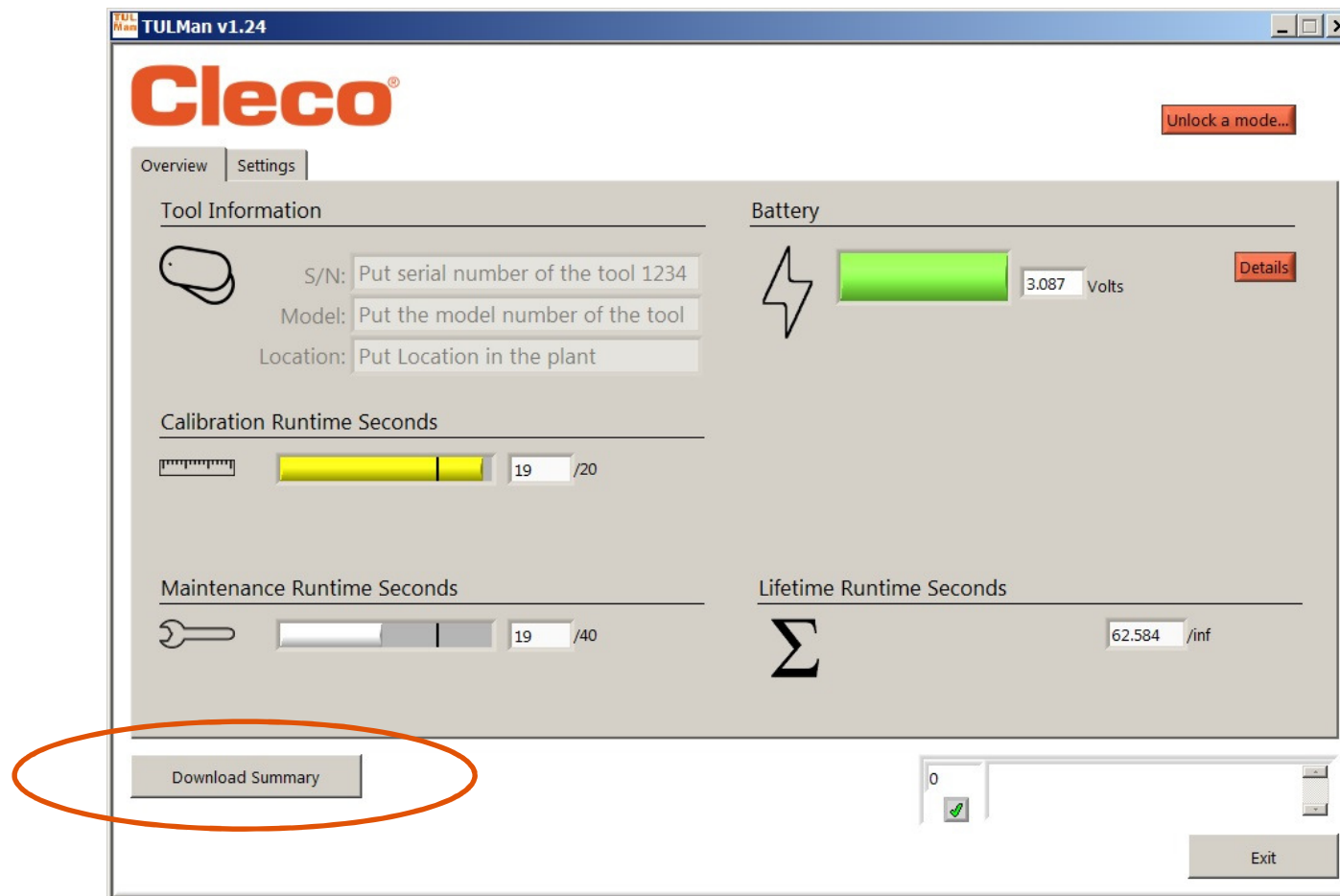
2. In Cycle mode additional settings can be used for a more accurate cycle count, these are NOT used with Runtime. Refer to the examples in the Software or in Appendix. Consult the tool manufacturer or use previous data to establish warnings and limits for the Calibration and Maintenance setting. It is recommended that the warning is at least one shift before the limit

3. In Runtime mode time should be input in seconds. Consult the tool manufacturer or use previous data to establish warnings and limits for the Calibration and Maintenance setting. It is recommended that the warning is at least one shift before the limit. For hours to seconds conversion see Appendix Runtime Calculator

File Download

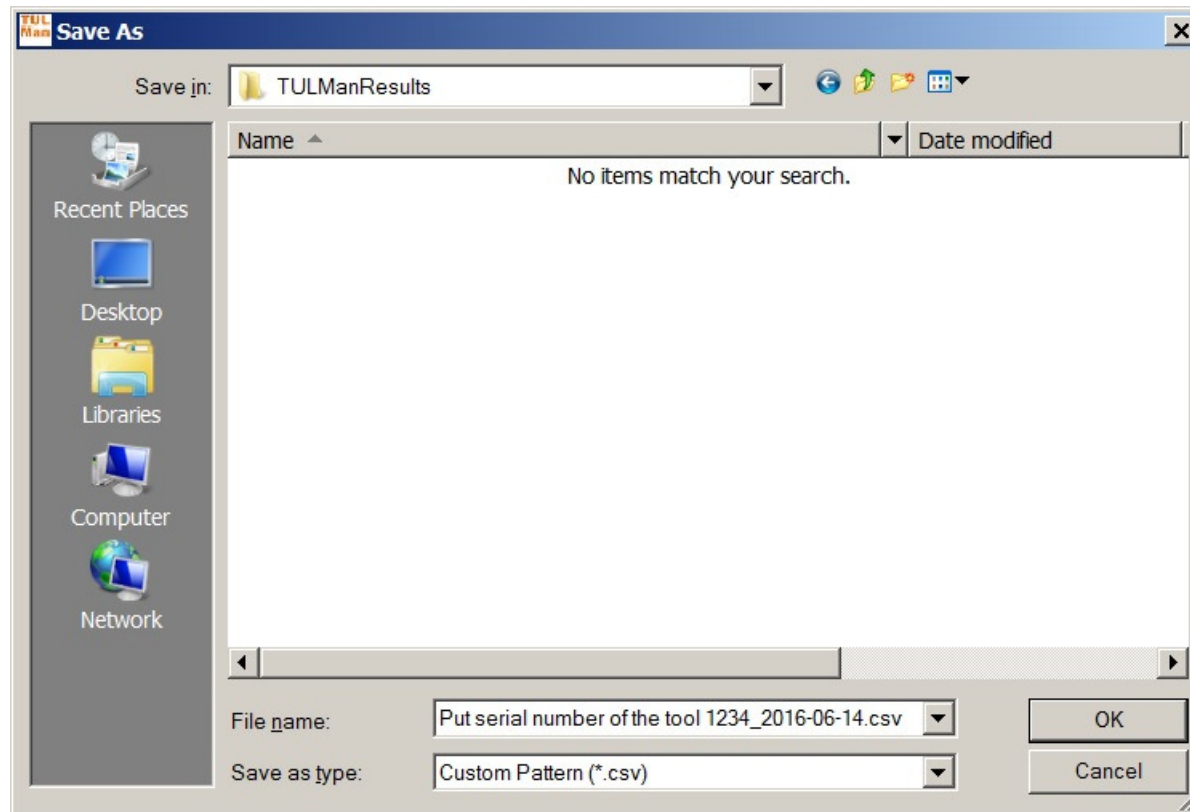


- File download is allowed in any Mode – click the Download Summary box on the Overview tab.



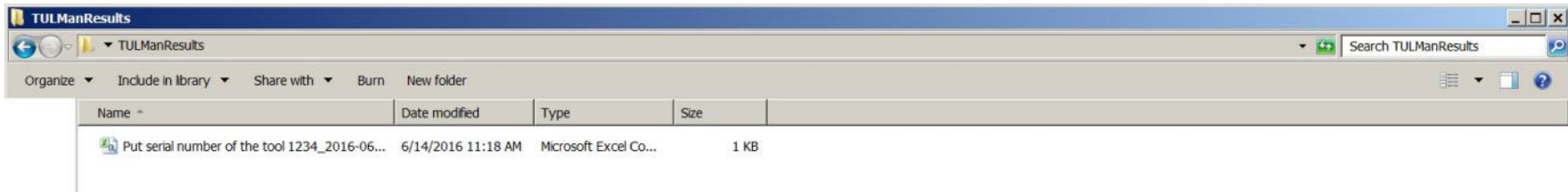
File Download

- A dialog box will open to save the file with a default file name of:
Tool serial number_year_month_day.csv
- Select a location on your computer to save the .csv file – it is recommended that you create a folder specifically for the results files



File Download

- The csv file can be opened in microsoft excel either through file open, select file type .csv or locating the file in windows explore and double clicking



File Data



- The csv file contains all information for the counter for cycles and run time

Tool Model No	Tool S/N	Tool Location	Apex ID	Electronics S/N	Date	Time
Put the model number of the tool 19RAA	Put serial number of the tool 1234	Put Location in the plant	LJ ID_0003	224000003	6/14/2016	11:18:29

Since Last Calibration	Limit LED D2 (red)	Warning LED D2 (yellow)	LED D2 Association	Runtime Counter A	Since Last Maintenance
6	20	5	Runtime Counter A	19.184	6

Limit LED D3 (red)	Warning LED D3 (yellow)	LED D3 Association	Runtime Counter B	Lifetime Cycles	Lifetime Runtime	Battery Voltage
40	10	Runtime Counter B	19.184	24	62.584	3.087

Cycle Registration Period	Lockout Period	Self-Reset Lockout?	Cycle Counter C	Runtime Counter C	Cycle Counter D (Factory)	Runtime Counter D (Factory)	Oscillator interruptions	Status LEDs Cyc or RT
1	50	Disabled	1092	967.588	1092	967.588	1	Runtime

Counter A = Calibration Counter, LED 2
 Counters C and D are Factory Use Only

Counter B = Maintenance Counter, LED 3

- Appendices
 - Runtime Calculator
 - Cycle Count Examples
 - End User License Agreement

Appendix Runtime Calculator



Hours	Seconds
1	3600
8	28800
16	57600
24	86400
50	180000
100	360000
200	720000
300	1080000
500	1800000
1000	3600000

Appendix Cycle Examples

Usage examples
✕

Select Example

Example 1: Short Pulses ▾

Signal Description: Repeated short pulses.

Objective: Register only a single cycle for many pulses.

Time (s)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
Signal																												
Cycle Registration (1s)		1																										
Lockout (6s) self-reset = enabled		X																										
			6																									
				6	5																							
						6	5																					
								6																				
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																		6										
																			6									
																				6								
																					6							
																						6	5	4	3	2	1	
																											k	

Legend

X Register a cycle, blink green LED

k Lockout complete, ready for new cycle

Switch closed, tool is on

Switch opened, tool is off

Done

Appendix Cycle Examples



Usage examples
✕

Select Example

Example 2: Short Pulses ▾

Signal Description: Repeated short pulses.

Objective: Register each pulse as a separate cycle.

Time (s)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Signal																											
Cycle Registration (1s)		1				1			1			1			1		1			1							
Lockout (0s) self-reset = disabled		X				X			X			X			X		X			X							

Done

Legend

X Register a cycle, blink green LED

k Lockout complete, ready for new cycle

Switch closed, tool is on

Switch opened, tool is off

Appendix Cycle Examples



Usage examples
✕

Select Example

Example 3: Varied Pulses ▾

Signal Description: Pulse duration varies.

Objective: Register only the long pulses as cycles

Time (s)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
Signal																												
Cycle Registration (5s)		1	2	3	4	5			1			1			1	2		1	2	3	4	5						
						X																X						
Lockout (1s)							1			1			1			1							1					
self-reset = disabled							k			k			k			k							k					

Done

Legend

X
 Register a cycle, blink green LED

k
 Lockout complete, ready for new cycle

Switch closed, tool is on

Switch opened, tool is off

Appendix Cycle Examples

Usage examples
✕

Select Example

Example 4: Varied Pulses ▾

Signal Description: Pulse duration varies.

Objective: Register each pulse as a separate cycle.

Time (s)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Signal																											
Cycle Registration (1s)		1							1			1		1			1										
Lockout (0s) self-reset = disabled		X							X			X		X			X										

Legend

X Register a cycle, blink green LED

k Lockout complete, ready for new cycle

Switch closed, tool is on

Switch opened, tool is off

Appendix Cycle Examples



Usage examples
✕

Select Example

Example 5: Varied Pulses ▾

Signal Description: Pulse duration varies, signal is unknown.

Objective: Register a maximum of one cycle every 16 seconds.

Time (s)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Signal																											
Cycle Registration (1s)		1																									
Lockout (16s) self-reset = disabled																											
		X																									
			16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1									
																		k									

Done

Legend

X Register a cycle, blink green LED

k Lockout complete, ready for new cycle

Switch closed, tool is on

Switch opened, tool is off

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