



Electronic Counter Tool Usage and Life Management

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TULMan Electronic Counter

- What is it?
- Tracks small pneumatic power tools usage in time and cycles



Product Analogies

“An odometer/tripometer for your small pneumatic power tools”

“A fitbit TM for your small pneumatic power tools”

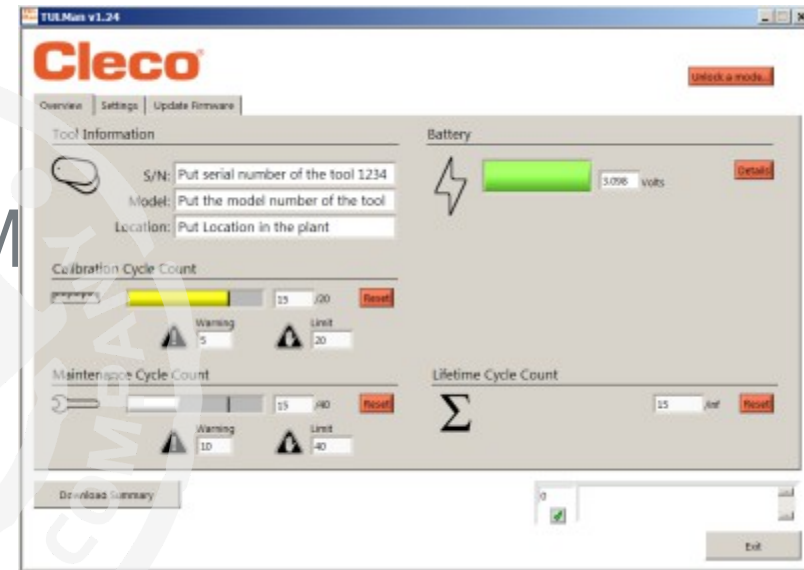
Product Overview

Cleco[®]



TULMan Electronic Counter Software

- Free WEB download
- Multiple Password Access Modes
 - BASIC to view and file download only
 - TOOL ROOM to reset only
 - PROGRAMMING to set parameters
 - PASSWORD MANAGER
- PROGRAMMING
 - By cycles or run time
 - Minimum time for a cycle can be set



Example Solution

- Used on 19 series pistol and angle assembly tools
- Tracking usage between calibrations - system is currently calendar based
- Will know when some tools are used more than others and can balance their usage
- Data being gathered to review implementing a usage based calibration and extend the calibration period

Major Aerospace OEM

Click icon to add picture



Major Aerospace OEM

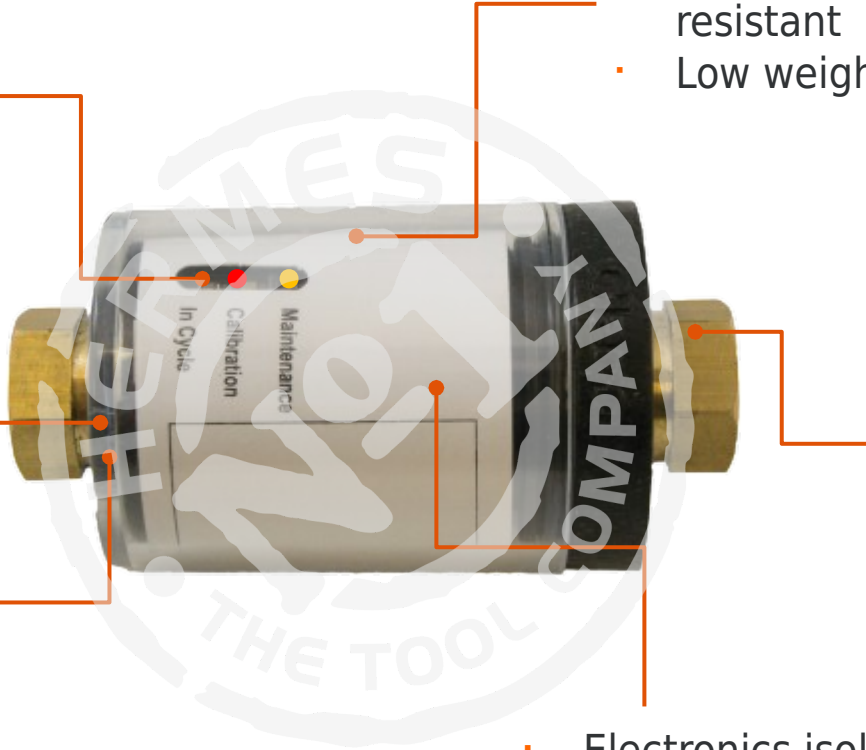
- Using on competitor pistol drill
- Tracking usage
- Use to monitor time between failure
- Evaluate tool life over time

Click icon to add picture



Design Features



- LED's turn YELLOW Warning when Cycle or Run Time Limits are being reached
 - LED's turn RED when Cycle or Run Time Limits are reached
 - Micro USB connection for Program Set Up and Data Download
 - Tamper proof cover for micro usb access requires T10 torx driver
 - Rugged Polymer construction drop tested and crush-resistant
 - Low weight 2.8oz/80g
 - 1/4" NPT Outlet and Inlet making in Easy to Install on ANY Small Pneumatic Tool *
 - Electronics isolated from air to prevent contamination
- 

Small pneumatic tools based on airflow min 5cfm/145 lpm - Max 20cfm/570lpm - If tool requires greater air flow tool performance will be affected

Design Features

- Associate with tool and Plant Location

- Password Management

- Password protected Access to Tool Room, Programming and Password Admin

The screenshot shows the TULMan v1.24 software interface. At the top, there's a menu bar with 'Overview', 'Settings', 'Update Firmware', and 'Change PW'. Below this, the 'Tool Information' section has input fields for 'S/N: Put serial number of the tool 1234', 'Model: Put the model number of the tool', and 'Location: Put Location in the plant'. To the right, the 'Battery' section shows a green battery icon and '3.08 Volts'. Below these are 'Calibration Cycle Count' and 'Maintenance Cycle Count' sections, each with a progress bar, 'Warning' and 'Limit' indicators, and a 'Reset' button. The 'Lifetime Cycle Count' section at the bottom right shows a counter at '15 / inf' with a 'Reset' button. A 'Download Summary' button is at the bottom left, and an 'Exit' button is at the bottom right. A large watermark 'THE TOOL COMPANY' is visible across the center.

- Set count warnings and limits for LED warning actuation

- Download results file in csv format

- Life can be reset to zero to move to a new tool

Design Features

- Define cycle parameters e.g. minimum time to be a cycle, time between cycles
- Define LED on/off and number of blinks – can conserve battery life
- Set count to be either cycles or run time

The screenshot shows the TULMan v1.24 software interface. The title bar reads "TULMan v1.24". The main window features the Cleco logo at the top left and a navigation bar with tabs: "Overview", "Settings", "Update Firmware", and "Change PW". A red button labeled "Unlock a mode..." is in the top right. The "Settings" tab is active, displaying two sections: "Operation" and "LEDs".

Operation Section:

- Cycle Registration: 1 ms
- Lockout Period: 50 ms
- Self-Resetting Lockout: ☐

LEDs Section:

- Green LED On Duration: 20 ms
- Status LED On Duration: 500 ms
- Status LED Off Duration: 500 ms
- Status LED Blinks: 40
- Status Cycles or Runtime: Cycles (dropdown menu)

Buttons "View Examples" and "Set Defaults" are located to the right of the Operation settings. A "Download Summary" button is at the bottom left. A status bar at the bottom right shows a green checkmark icon and the number "0", with an "Exit" button below it.

- Pneumatic Assembly Tools



Reduce Incidence of
Calibration for Torque Tools

Estimated annual
value \$170* per tool

PM vs Repair when failed

Estimated annual
value \$300** per tool



Knowing tool has not
completed too many cycles
and is producing correct
quality

Priceless

*Based on saving 2 hrs at \$85 per hour

** Based on More Uptime (10%), less parts cost (10%), less time to PM vs Repair

- Material Removal – Hand Drills



PM vs Repair when failed

Estimated annual
value \$300** per tool

* Based on More Uptime (10%), less parts cost (10%), less time to PM vs Repair

- Material Removal – Sanders, Grinders Polishers



PM vs Repair when failed

Estimated annual
value \$300** per tool

* Based on More Uptime (10%), less parts cost (10%), less time to PM vs Repair

Click icon to add table

- There is currently NO product like this on the market.
- There are counters for “process” control e.g. Torque Verifier – TVP but these are NOT targeted at Tool Usage and Life Management. They are larger and more expensive.
- This product can be used on Competitive small pneumatic tools.

What if you knew?

How long, where, when tools were actually used over time?

The Power of Data





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