AUTOMATIC PICKUP WiNDER

Written by: Louie Gonzalez

MINI PICKUP WINDER

The Mini Pickup Winder has a small footprint that will fit on any bench or desktop. The Winder utilizes a Raspberry Pi to operate. Included in the functions is the ability to automatically traverse allowing for automating the winding process.

Specification:
Speed: 350 to 3000 RPM
Turns: 1 to 99999 count
Wire GA: 40 to 46
Traverse set: Left and Right
Spindle Dir: CW or CCW
Unit of measure: Inches or mm
PGM(settings): 1 to 999
Layer indication
Coil thickness indication
Wire gauge diameter indication
Between flatwork width indication
Number of Wraps
Full key pad function
Start, Stop, Pause function
and more

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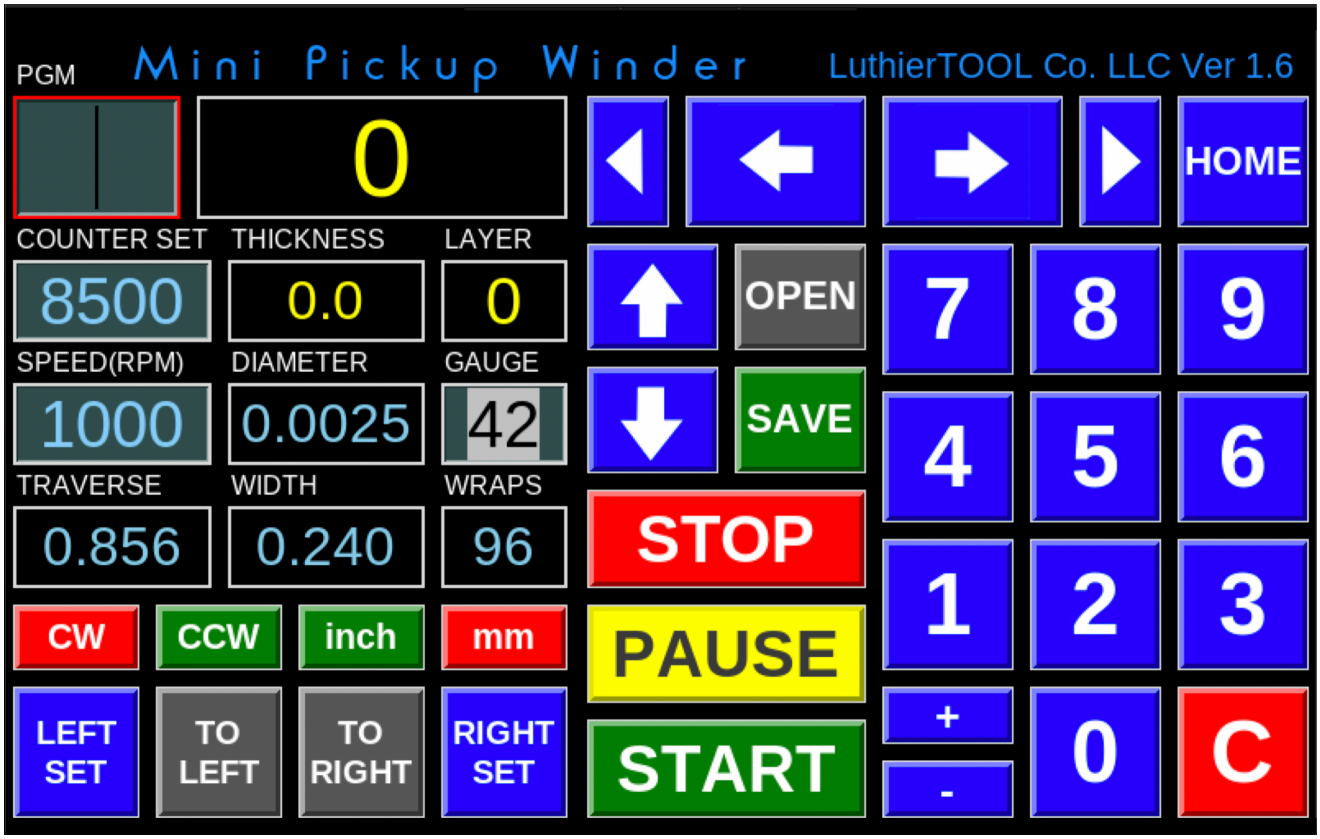
USER INTERFACE



The Mini Pickup Winder is operated via the touch display and interface. This interface is designed to be as simple and effective as possible without causing any confusion. In short, the design allows for pickup winders of any level, novice or expert, to start winding in a short time. There are no hidden menus or deep menu diving involved.

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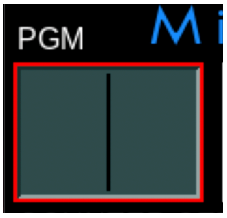
PROGRAM

There are 999 possible presets that can be programmed with the Mini Pickup Winder.



COUNTER SET

Counter Set section is where the desired wind count will be added. The Wind Count will not exceed 99999 winds.

SPEED(RPM)

The Mini Pickup Winder starts as a speed of 350 RPM and tops at 3000 RPM. The speed can be changed at anytime as long as the Winder is Paused not Stopped.

TRAVERSE

This section provides the distance the traverse motor will travel. This is based on the Left and Right traverse limits.

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THICKNESS

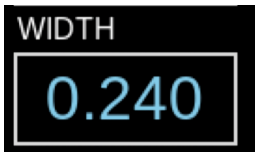
Tracks the radial buildup of wire on the pickup bobbin as winding progresses.

DIAMETER

Displays the wire diameter being used for the pickup winding, which is critical for calculating proper traverse movement and wrap counts.

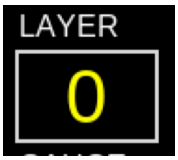
WIDTH

Displays the calculated bobbin width between the left and right traverse limits, which determines the winding area for the pickup.



LAYER

Tracks the current winding layer as the pickup coil is built up, showing how many complete layers of wire have been wound.



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COUNTER

Provides real time counts as the motor is winding.

GAUGE

Specifies the wire gauge (AWG) being used for winding.

WRAPS

Displays the calculated number of wire wraps that fit in one layer across the bobbin width.

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CW/CCW

These buttons allow you to select the direction of the motor. The motor can spin Clock Wise (CW) or Counter Clock Wise (CCW).

INCH/MM

These buttons allow to change the unit of measurement between inches or millimeters.

LEFT SET/TO LEFT

These buttons are tied to the Automatic Traverse function. LEFT SET will set the left traverse limit. TO LEFT will bring the motor back to the left traverse limit.

TO RIGHT/RIGHT SET

These buttons are tied to the Automatic Traverse function. RIGHT SET will set the right traverse limit. TO RIGHT will bring the motor back to the right traverse limit.

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OPEN/SAVE

These buttons allow you to open and save a program.

STOP/PAUSE/START

These buttons control the winder.

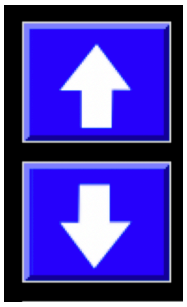
STOP provides complete system reset.

PAUSE allows safe inspection without losing progress.

START starts the winder.

It is important to understand the difference between STOP and PAUSE. Pushing the STOP button will cause the winder to clear the settings and revert back to the saved state in which the program was in. The STOP button is only to be used as an EMERGENCY stop function or if the winding process needs to be ended before the wind count assigned to the program.

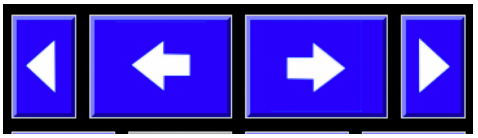
ARROW UP/ARROW DOWN



These buttons will jog the winder motor without starting the process. The ARROW UP button will jog the motor CW while the ARROW DOWN button will jog the motor CCW.

LEFT/RIGHT ARROWS

The four arrow buttons are used to set the Left and Right traverse limits. The Large Arrow Buttons allow for a continuous movement while the Small Arrow Buttons allow for moving the traverse motor in smaller increments allowing to fine tune the location.

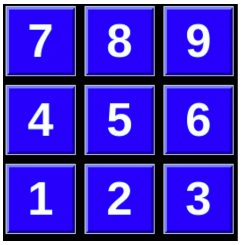


HOME

HOME button returns the traverse motor to its home position (Left Traverse Limit). HOME button is essential for maintaining accurate traverse positioning throughout the pickup winding process.

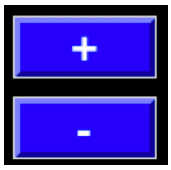
NUMERIC PAD

Used to input numeric values for the PGM, Counter, Speed, and Gauge fields.



+/-

These buttons provide precise control over wire diameter settings beyond the standard gauge table values. Changing the DIAMETER value with affect the WRAPS value.



CLEAR

The Clear button will clear the settings. When this button is pushed two prompts will appear. The First prompt will ask if the settings are to be cleared. The second prompt will ask if the FILE needs to be cleared. Selecting Yes to the second prompt will clear the PGM.

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