FireFly

ThermoCut

FireFly Thermocut

Dear customer,
Please read safety and operating instructions before using your FireFly Thermocut for the first time.

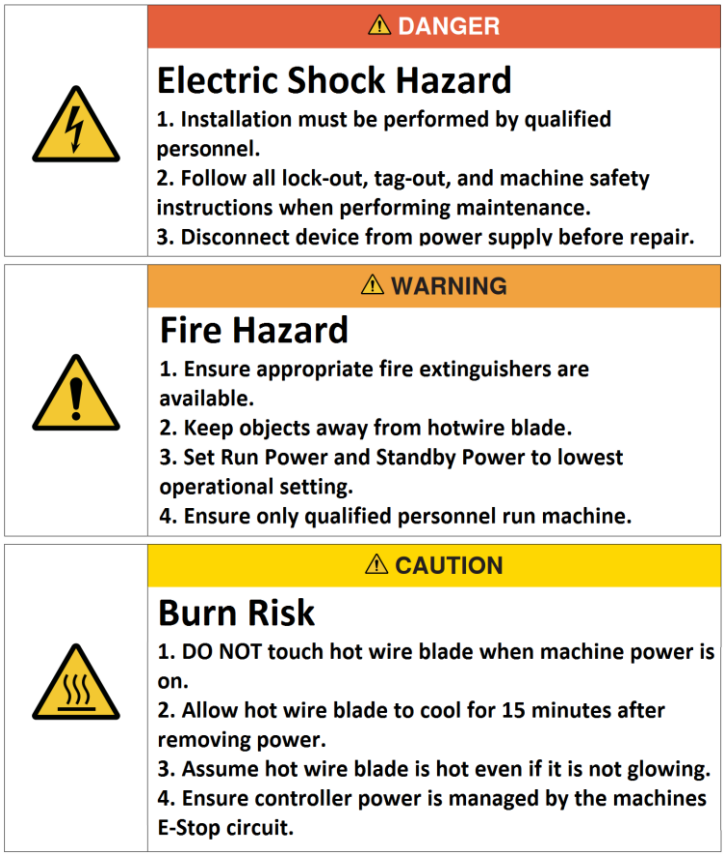
Contents

Description

With the FireFly Thermocut controller, you can cut plastic based fabrics, thin polystyrene sheets, plastic film, and other materials where hot wire cutting is appropriate. Hot wire blades can be ordered to fit your machine.

Safety Instructions

1. Provide good ventilation, when using the device.
2. Observe the material safety instructions when cutting.
3. Observe all warnings on the device and in the documentation of the machine on which this device is installed.
4. Assume cutting wire is hot even if it is not glowing.
5. Use proper hot wire blades to avoid over current or damage to blade and material.
6. Any use of the device beyond the intended purpose of the device is considered improper use.
7. This device is not intended for use with non-fusible material such as cotton, viscose, or wool.



Technical data

Control Unit:

Voltage- In Min. 20VDC,
In Max 28VDC
Power rating- Max. 135 watts
Current- Max. 15 Amps

Power Supply (not included):

Voltage- 24 VDC
Current- 360 Watt min.

Hot Wire Blade (not included):

Wire- 20 Gauge, Round
Material- Kanthal A1
Resistance- 1.1Ω – 1.4Ω

Note: *Use 10 gauge wire to connect hot wire blade*

Wiring Guide

Figure 1

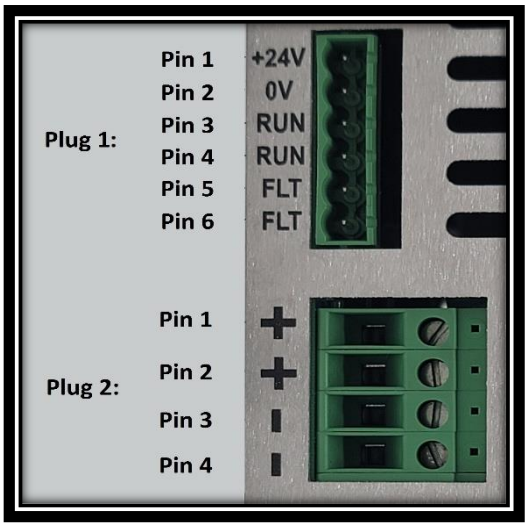


Figure 2

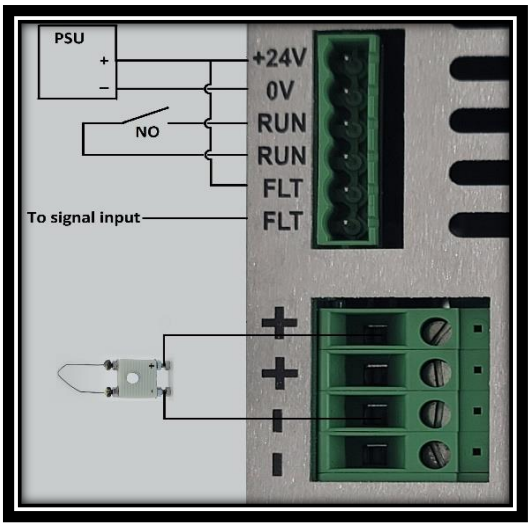


Figure 3

1. Connect hot wire blade to cutting arm using set screw. See Figure 1.

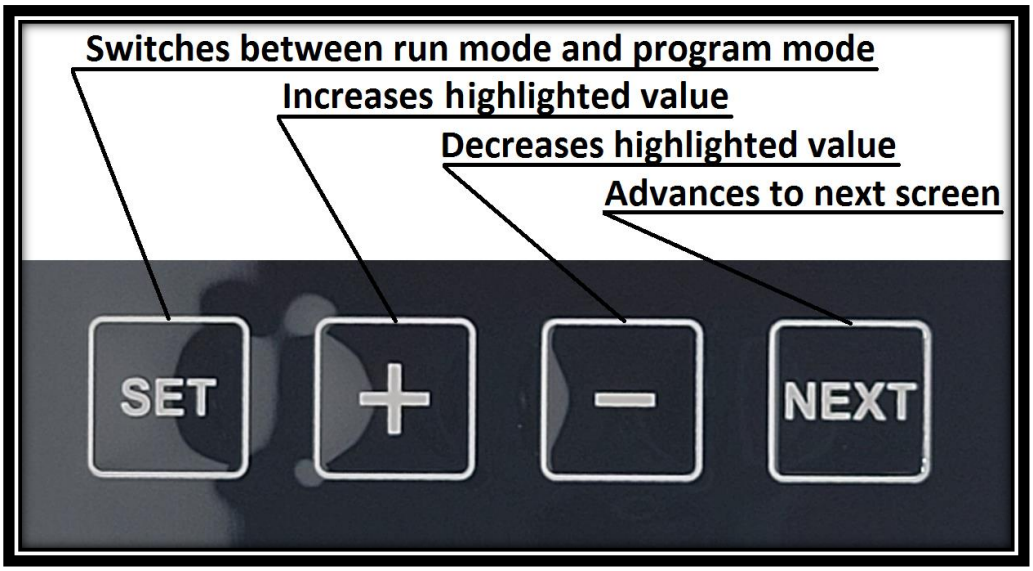
2. Connect wire leads to hot wire blade terminals. See Figures 1, 2 & 3.
Note: *Use 10 gauge wire to connect hot wire blade*
2.1 Connect Pin 1 or 2 "+" of plug 1 to positive lug on hot wire blade.
2.2 Connect Pin 3 or 4 "-" of plug 1 to negative lug on hot wire blade.

3. Connect switch or relay to control "Run Power" and "Standby Power" modes. See Figure 2 & 3.
3.1 When Pin 3 & 4 of plug 1 are closed, the controller will switch to "Run Power" mode.
3.2 When Pin 3 and 4 of plug 1 are open, the controller will switch to "Standby Power" mode.

4. Pin 5 “FLT” and Pin6 “FLT” of plug 1 are closed (internal contact) when power is good during burn mode.
4.1 Connect common to Pin 5
4.2 Pin 6 is the signal output (use as needed).

5. Connect power to control unit.
5.1 24VDC from power supply to Pin 1 “+24V”
5.2 0VDC from power supply to Pin 2 “0V”

Program Mode



1. Press “SET” to toggle between Run mode and Program mode.
2. Select program mode.
3. Use “NEXT” button to cycle through five set-up screens.
4. In the **Run Power** screen, set the current. This is the high power or burn mode.

5. With the **Standby Power** screen selected, set the current. This is low power mode.

6. With the **Preheat Time** screen selected, enter the preheat time. This is how long the controller will apply the preheat current when switching from **Standby Power** mode to **Run Power** mode.

7. With the **Preheat Power** screen selected, enter the additional current required as a percentage of the **Run Power** setting.

Example: If **Run Power** is set to 10 Amps, and **Preheat Time** is set to 2 seconds, and **Preheat Power** is set to 135% the controller will output 13.5 Amps then return to 10 Amps after 2 seconds when switching from **Standby Power** mode to **Run Power** mode.

Note: *The hotwire blade must be connected according to these instructions before initializing the unit.*

8. With the **INIT** screen selected, press the "+" button. This will calculate and save the initial load requirement. This is only necessary on initial setup.

Run Mode

Note: *All values are saved to nonvolatile memory when switching back to run mode.*

Caution- Burn Hazard: When switching to run mode the hot wire blade can be very hot even when **Standby Power** mode is active.

1. To exit **Program** mode and enter **Run** mode press the "SET" button.
2. If the controller is in **Standby Power** mode, "RUN" pin 3 and "RUN" pin 4 external contact must be closed to enter into **Run Power** mode.
3. To remove current from hotwire blade you must remove 24VDC from controller at pin 1 or enter program mode.

Notes

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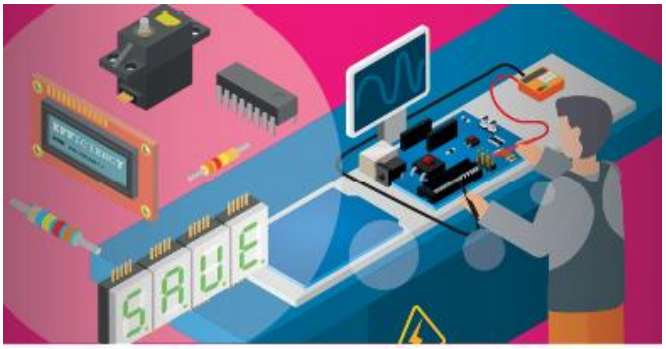

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