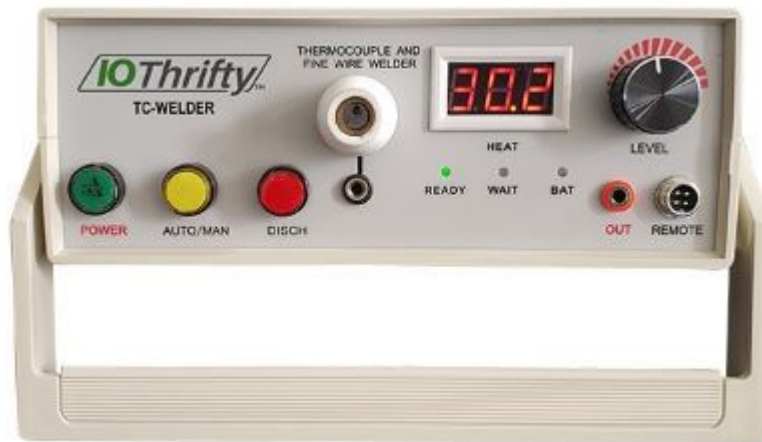




User's Guide



TC-WELDER

Thermocouple Welder

REV 1.5

Warning!!

Never weld without using protective glasses!

The IOThrifty TC-WELDER is a low cost, full featured spot welder used for making thermocouples. We have seen welders advertised at three to four times the price with a less impressive feature set. With the TC-WELDER thermocouple welder you can create professional welds even with no prior experience. The TC-WELDER is easy to use; just grasp your thermocouple leads together with the included welding pliers and touch the thermocouple leads to the carbon electrode to make a professional thermocouple weld.

Weld with or Without Argon Gas

The welder can be used with or without Argon gas. The Argon gas acts as a shield isolating the weld from the atmosphere. To use Argon gas, connect the gas line to the back of the welder and manually apply the gas using the included foot switch. The welder also has an AUTO mode which will apply the Argon gas automatically when the weld is made.

Powered by AC or Battery

The welder comes with a choice of power options. It accepts 110vac or 220vac. Included with the welder is a 110vac power cord but a standard 220vac cord may also be used. The welder also contains an internal battery which is charged by the ac power. When disconnected from the ac power the battery power can be used to make weld after weld.

LED Heat Indicator for Repeatable Results

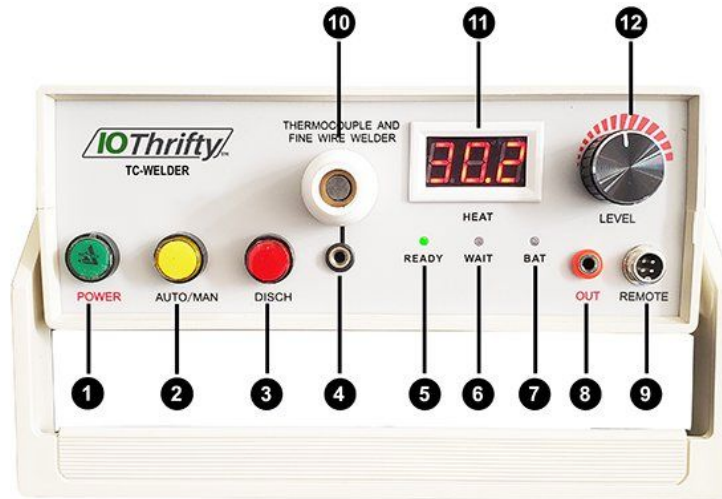
The LED Heat indicator on the front of the TC-WELDER allows you to set the power used for the weld. This visual indicator makes it easy to adjust the power for different wire sizes and wire types in order to provide consistent and repeatable welds.

Everything is Included that You Need to Get Started*

The TC-WELD includes all of the accessories you need to start making thermocouple welds (**thermocouple wire and Argon gas are not included*). It includes:

- Welding Pliers
- Protective Eyeware
- Welding Clamp
- One Electrode plus a spare
- Foot-switch
- 110 vac power cord

Front Panel Operations



1	Power Button – When the switch is turned on, the power button has two conditions: light or no light, When the light is on, it indicates that the welder is operating from AC power. If the light is off, the welder is operating from the internal rechargeable battery,
2	AUTO/MAN Button – Automatic or manual Argon flow control. When set to AUTO, the flow of Argon is activated automatically when a weld is made. In the MAN (manual) mode, the REMOTE switch is used to activate the flow of Argon. The manual mode is recommended.
3	DISCH Button – Discharge Button. When the welding energy is lowered, the DISCH button is used to discharge the internal capacitor and release the excess energy. Hold the button until the WAIT light turns on. The HEAT meter will also change in real time. Please use this button with care. DO NOT hold the button after the wait light comes on as it may cause damage to the welder.
4	Electrode Clamp Port – This port accepts the connection of the included clamp which may be used in place of the integral welding electrode.
5	READY Indicator – When the light is on, the welder is ready to be used.
6	WAIT Indicator – When the light is on, it indicates that welder is building charge and in a non-welding state.
7	BAT Indicator – When the light is on, it indicates that the battery power is insufficient. Please charge or connect the external power supply.
8	OUT Output Port – This port is used to connect the included welding pliers for the welding operation.
9	REMOTE Port – Used to connect the included Foot Switch which controls the flow of Argon gas when the AUTO/MAN switch is in the MAN state.
10	Welding Electrode – Electrode and protective cover used for welding.
11	Welding Power Indicator – Provides a real time display of the welding power level.
12	LEVEL Knob – Used to adjust the welding thermal energy. Since different thermocouple wire sizes require different heat levels, you can adjust the amount of thermal energy.

Rear Panel Operations



1	ARGON Input Port – Connect Argon gas to this port. This is optionally used only when welding with Argon.
2	INPUT – AC power input, input voltage is AC90-265V/50-60HZ
3	ARGON PRESSURE Knob: Used to adjust the flow of Argon gas.

Welding Operation

Warning! - Never weld without using protective glasses

Argon Welding

1. Connect the argon line.
2. Connect the power supply (this step is not required when using the battery power supply).
3. Turn on the POWER switch and adjust the required thermal energy according to the size of the thermocouple wire to be welded (adjust the level knob).
4. Select the AUTO/MAN button for the desired operating mode.
5. Turn on the Argon and adjust the Argon Pressure knob to the appropriate position.
6. For manual Argon flow mode (recommended) connect the foot switch to the REMOTE port.
7. Plug in the welding pliers into the OUPUT port.
8. Using the welding pliers, clamp the two bare thermocouple wires together. (Note: The two bare thermocouple wires should be held together with the ends of the wires flush. The pliers should be held close to the ends of the wires. If the wires are held too far from the end, an excessive amount of wire will be welded together which could affect the temperature measurement).
9. If using the manual Argon flow control mode, depress the foot switch and touch the wires to the electrode. Follow the same procedure for the automatic Argon flow control mode without the foot switch.

Welding Without Argon

1. Connect the power supply (this step is not required when using the battery power supply).
2. Turn on the POWER switch and adjust the required thermal energy according to the size of the thermocouple wire to be welded (adjust the level knob).
3. Plug in the welding pliers into the OUPUT port.
4. Using the welding pliers, clamp the two bare thermocouple wires together. (Note: The two bare thermocouple wires should be held together with the ends of the wires flush. The pliers should be held close to the ends of the wires. If the wires are held too far from the end, an excessive amount of wire will be welded together which could affect the temperature measurement).
5. Touch the wires to the electrode to make the weld.

SPECIFICATIONS

Power: 90-260Vac 50/60Hz, Also operates from internal rechargeable battery

Size: 280 X 238 X 90mm (11 X 9.4 X 3.5in)

Weight: 4.7kg (10.4lbs)

Wire Gauge: welds wire as large as #16 gauge and as small as #30 gauge

Contact Information

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Warranty Terms

IOThrifty LLC ("IOThrifty") warrants that for a period of one year following delivery, the IOThrifty products you have purchased will (a) perform in accordance with published specifications, and (b) will be free from defects in materials or workmanship. In the event an IOThrifty Product does not meet this warranty, subject to the conditions set forth in these terms and conditions, IOThrifty's sole obligation will be, at its election, to repair or replace the product in question or to refund the purchase price.

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This warranty will not apply to any IOThrifty Products that have been (a) damaged by lightning, water, or power surges, (b) neglected, altered, abused, or used for a purpose other than the purpose for they were provided, (c) repaired by you or any other party without IOThrifty's prior written authorization, (d) used in conjunction with a third party product or products not approved in advance by IOThrifty, or (e) otherwise used in a manner inconsistent with any instructions provided by IOThrifty.

Return Procedures

To return an item first contact IOThrifty's Customer Service Department to obtain a RMA number.