

AC/DC Pulse HF TIG

Control Panel Set Up Guide

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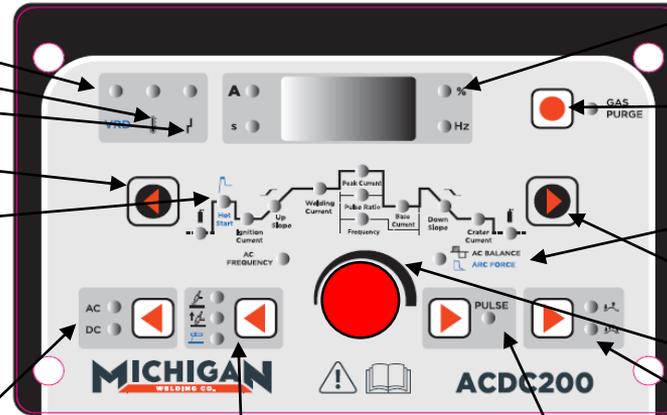
Note – once the welding current has started to be controlled from the dial on the hand piece the welding current adjustment on the machine can only be changed when current dial on the hand piece is turned back to maximum



- Voltage Reduction Device is Activated
- Thermal Overload is Activated
- Over/Under voltage protection activated – 160-275V
- Press to cycle through welding parameters

MMA Welding Mode (DC only)

- If MMA Welding mode is selected the following parameters become adjustable,
- 1) Hot Start – 0-70amps
 - 2) Welding Current – 0-170amps
 - 3) Arc Force – 0-100%



- Digital Display, changes automatically according to parameter being adjusted: -
- 1) Amps
 - 2) Seconds
 - 3) Percentage
 - 4) Hertz
- Press for Gas Purge/Check

AC Welding Mode

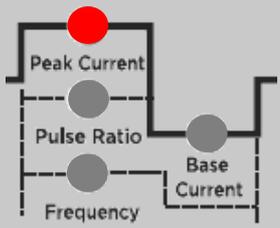
If AC Welding mode is selected the following parameters are also available for adjustable: -

- 1) AC Balance (%) – controls the time the welding current spends in AC+ and AC-, i.e 50% is half time at AC+, and half at AC-.
- 2) AC Frequency (Hz) – controls the number of times the current switches between AC+ and AC- each second.



Pulse 'On'

- When 'Pulse' mode is selected the following parameter are available for adjustment: -
- 1) Peak Current - (0-200 Amps), sets the high amperage for each pulse.
 - 2) Pulse Ratio - (0-100 %) - also known as 'width', defines time spent at peak current on each pulse, i.e. 50 = half time at peak current, half time at base current.
 - 3) Frequency - (0-200 Hz) - sets the number of times the pulse switches between peak and base current each second.
 - 4) Base Current – (0-200 Amps) – sets the low amperage for each pulse.



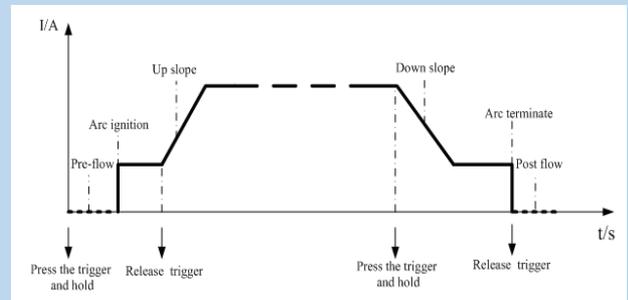
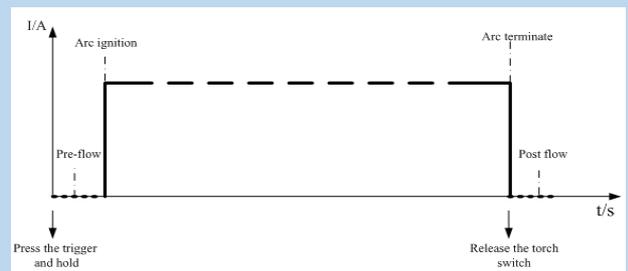
2T or 4T Torch Control

2T
If 2T torch control is selected, the welding process starts when the trigger is pressed, and stop when the trigger is released. In 2T mode gas pre flow and post flow are adjustable (secs).

4T
In 4T torch control mode the following parameters are adjustable: -

- 1) Pre Flow (Secs)
- 2) Ignition Current (Amps)
- 3) Up Slope (Secs)
- 4) Down Slope (Secs)
- 5) Crater Current (Amps)
- 6) Post Flow (Secs)

The process chart to the right shows how the trigger controls the welding process.



Preflow of shielding gas (seconds). Purge weld areas with gas before starting, generally can be set around 0.5sec.

Ignition current (Amps). Allows arc ignition at low amps to assist with eliminating the tungsten sticking to the workpiece and slow heat up of the workpiece.

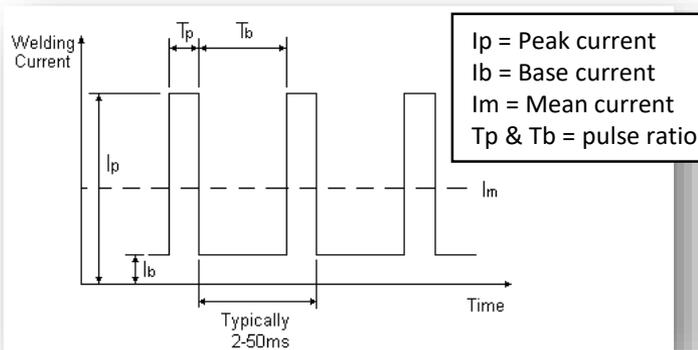
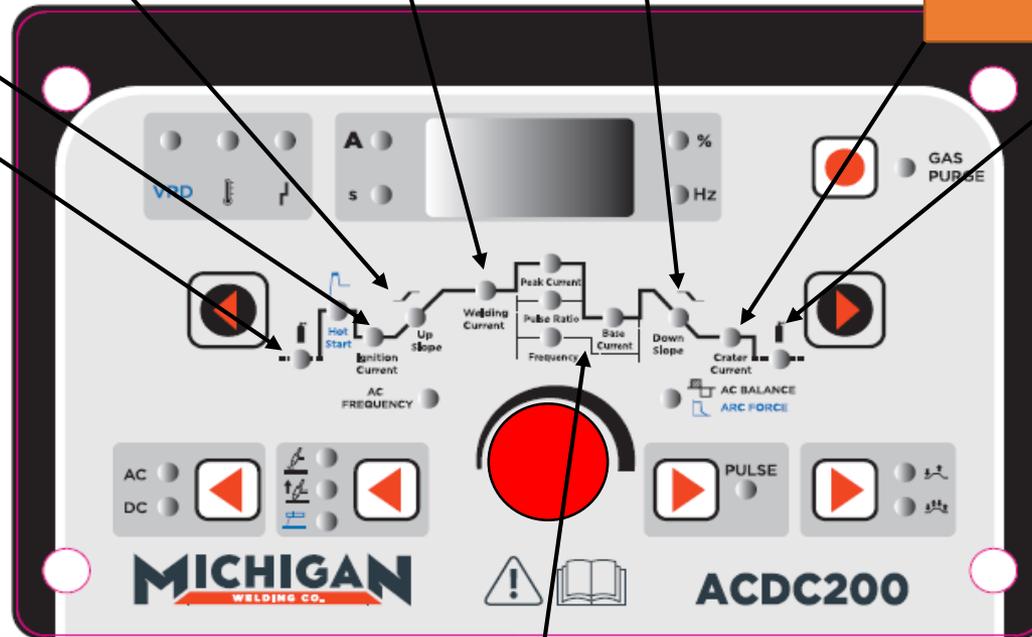
Up slope (seconds). Control the length of time it takes to go from ignition current, i.e. 20amps, to welding current, i.e. 70amps, allowing to slowly input heat into the workpiece.

Welding current (amps). When welding in non pulse mode this is the current when welding, i.e. 70amps

Down slope (seconds). Control the length of time it takes for to go from welding current i.e. 70amps, to crater current, allowing to fade down the heat slowly.

Crater current (amps). Allows a lower current to be set at the end of the weld, i.e. 20amps, reducing the possibility of cratering, pin holes, and allowing the weld pool to solidify slowly.

Postflow of shielding gas (seconds). Keeps the gas flowing after the arc has extinguished, shielding the weld pool as it solidifies and the tungsten as it cools.



Pulse welding allows the end user more control over heat input, useful when welding thin materials. The user can set: -

- two current settings (amps), base current and peak current,
- frequency, how many times the current switches between base and peak current per second, and
- pulse ratio, i.e. 50% will specify the current to switch between peak and base at equal intervals, if set at 25%, the current will switch to peak for 25% of the cycle and 75% of the cycle will be at base current.