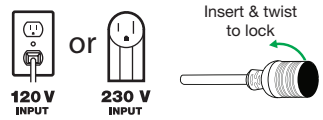
TIG 200 SQUARE WAVE®

QUICK REFERENCE GUIDE



Digital Display Menus

AMPS
See back for recommended Amperage Values

Pulser
0-20 Pulses per second (default = off)

- Alternating peak and background current controls heat input.
- Minimize material distortion

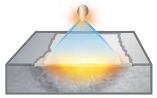
TIP: Lower pulse frequency provides a reference for adding filler metal, making you a better TIG welder faster.
(pulsing: 0.5 - 2.0 pulses per second)

AC Balance
Range 60 - 90% Electrode Negative (default = 75%)

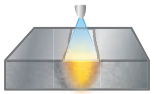
A lower AC Balance (%EN) results in an arc with increased cleaning action.

A higher AC Balance (%EN) results in an arc with higher penetration.

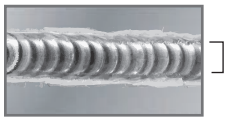
AC Frequency
Range 60 - 150 Hz (default = 90 Hz)



A lower AC frequency results in a wider bead.



A higher AC frequency results in a more focused bead.



Push button to choose between Pulse (DC- & AC TIG), AC Frequency (AC TIG) and AC Balance (AC TIG). Rotate knob to make adjustments to each setting.

AC ~TIG

Aluminum
Magnesium

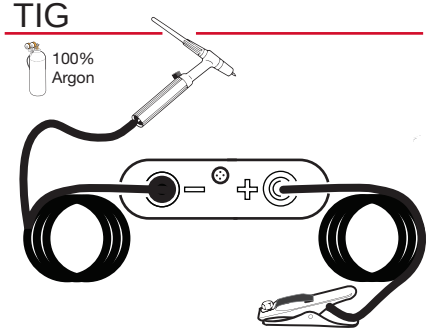
DC —TIG

Steel Alloys
Stainless Steels
Nickel Alloys
Copper Alloys
Titanium

DC+ STICK

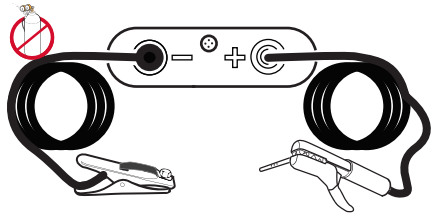
See back for suggested Amperage Values

TIG



Stick

Polarity based on consumable and penetration
Showing Positive Polarity setup



TIG Amperage Values

Material Type	Material Thickness				
	24 Ga (0.024 in) (0.6 mm)	16 Ga (0.060 in) (1.5 mm)	12 Ga (0.105 in) (2.7 mm)	10 Gauge (0.135 in) (3.4 mm)	3/16" (4.8 mm)
Steel (DC -)	**25-35 A**	**70-85 A**	**80-100 A**	**90-120 A**	**130-160 A**
Stainless Steel (DC -)	**25-35 A**	**70-85 A**	**80-100 A**	**90-120 A**	**130-160 A**
	24 Ga (0.024 in) (0.6 mm)	1/16" (0.62 in) (1.6 mm)	0.090" (2.3 mm)	1/8" (0.125 in) (3.2 mm)	3/16" (4.8 mm)
Aluminum (AC)	**25-35 A**	**75-85 A**	**85-110 A**	**120-135**	**165-195 A**

	Material Thickness				
	24 Ga (0.024 in) (0.6 mm)	16 Ga (0.060 in) (1.5 mm) or 1/16" (0.62 in) (1.6 mm)	12 Ga (0.105 in) (2.7 mm) or 0.090" (2.3 mm)	10 Ga (0.135 in) (3.4 mm) or 1/8" (0.125 in) (3.2 mm)	3/16" (4.8 mm)
Suggested Tungsten Diameter	**1/16"** (1.6mm)	**3/32"** (2.4 mm)	**3/32"** (2.4 mm)	**3/32"** (2.4 mm)	**3/32"** (2.4 mm)
Suggested Filler Metal Diameter	**1/16"** (1.6mm)	**1/16"** (1.6 mm)	**3/32"** (2.4 mm)	**3/32"** (2.4 mm)	**1/8"** (3.2mm)

STICK Amperage Values

	Stick Electrode Diameter	12 Gauge (0.105 in) (2.7 mm)	10 Gauge (0.135 in) (3.4 mm)	3/16" (4.7 mm)
Steel E6011 / E6013 (DC +)	3/32" (2.4 mm)	**50-70A**	**60-80A**	-
	1/8" (3.2 mm)	**65-85A**	**75-95A**	**90-110A**
	5/32" (4.0 mm)	**90-110A**	**115-135A**	**130-150A**
Steel E7018 (DC +)	3/32" (2.4 mm)	**70-90A**	**80-100A**	**90-110A**
	1/8" (3.2 mm)	**90-110A**	**105-125A**	**115-135A**
	5/32" (4.0 mm)	**105-125A**	**115-135A**	**140-160A**

E6011	Deeper penetrating electrode that can be used in all positions. Frequently used for joining pipe.
E6013	Shallower penetrating electrode that can be used in all positions. Commonly used for wide root openings, or conditions of poor fit up.
E7018	Low hydrogen electrode used for joints involving high-strength (structural), high carbon, or low alloy steels. Smooth arc with medium arc penetration. Can be used in all positions.

Recommended Helmet Shade Lens Settings

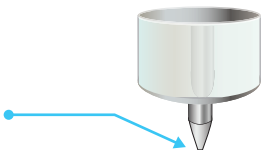
	AMPS									
	10	20	40	60	80	120	160	180	200	
Stick			7		8-10		10-12			
TIG		8-10			8-12		10-14			

Tungsten - Pure Tungsten is NOT Recommended

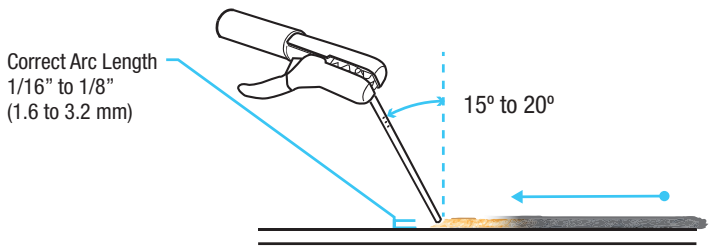
Color	Tungsten Types	AC Polarity	DC Polarity	Applications
Gold	1.5% Lanthanated		X	Good choice for welding titanium, nickel, copper, mild steel and stainless steel.
Blue	2% Lanthanted	X	X	
Grey	2% Ceriated	X	X	Good all around choice for both AC and DC, in welding
Chartreuse or Purple (E3®)	1.5% Lanthanum, 0.08% Zirconium, 0.08% Yttrium	X	X	low alloyed & non-corroding steels, aluminum, magnesium, titanium, nickel, and copper.
White	0.08% Zirconiated	X		A very good choice for aluminum or magnesium alloys.

Tungsten Preparation

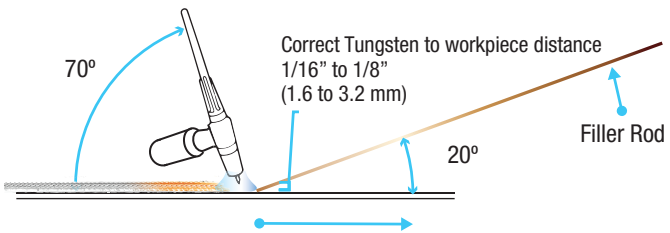
Tungsten should have a blunt tip.



Stick Drag Technique



TIG Push Technique



LINCOLN ELECTRIC

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