

Maxstar® 161 Series

TIG/Stick Welding Power Source  

Quick Specs

Light Industrial Applications

Process pipe
Dairy industry
Food/beverage industry
Restaurant/kitchen repair
Experimental aircraft
Shipboard installation/repair
Maintenance repair

Processes

Stick (SMAW)
Lift-Arc™ TIG (GTAW)
High-frequency TIG (GTAW)*
Pulsed TIG (GTAW-P)*

*STH model only.

Input Power 120–240 V, 1-phase power

Amperage Range 120 V: 5–130 A (DC TIG)
20–90 A (DC stick)
240 V: 5–160 A (DC TIG)
20–160 A (DC stick)

Max. Open-Circuit Voltage 48

Net Weight 13 lb. (5.9 kg)



Allows for any input voltage hookup (120–240 V) with no manual linking, providing convenience in any job setting. Ideal solution for dirty or unreliable power.

Portable in the shop or at the jobsite — at 13 pounds the handle/shoulder strap allows the end user to easily move from location to location.

Fan-On-Demand™ power source cooling system operates only when needed, reducing noise, energy use and the amount of contaminants pulled through the machine.

Thermal overload protection helps prevent machine damage if the duty cycle is exceeded or airflow is blocked.

Digital meter for more precise control when presetting or monitoring welding amperage.

Simple-to-use operator interface providing only the necessary controls in a compact machine.

Lift-Arc™ provides TIG arc initiation without the use of high frequency.

Built-in gas solenoid eliminates the need for a bulky torch with a gas valve.



Maxstar 161 STL

Maxstar 161 STH

Additional STH model features

Pro-Set™ eliminates the guesswork when setting weld parameters. Use Pro-Set when you want the speed, convenience and confidence of preset controls. Simply select the feature and adjust until Pro-Set appears on the display.

High-frequency for non-contact arc initiation that reduces tungsten and material contamination.

Pulse. Pulsing can increase puddle agitation, arc stability and travel speeds while reducing heat input and distortion.

Full function remote control for precise amperage control for critical welds on thin materials (6-pin fingertip or foot control available.)

Selectable trigger configuration allows the operator to choose standard or 2T trigger method to meet the application.

Low OCV stick is a simple design that reduces the open-circuit voltage to 12–16 volts when the welding power source is not in use. This circuit design is now built into the Maxstar 161 eliminating the need for add-on voltage reducers.

Hot Start™ adaptive control provides positive arc starts without sticking.

Power factor corrected (PFC) for optimum performance especially on 120 volts — reduces nuisance breaker tripping.

Stick-Stuck detects if the electrode is stuck to the part and turns the welding output off to safely and easily remove the electrode. Menu selectable.

Superior stick arc performance even on the difficult-to-run electrodes like E6010.



Power source is warrantied for three years, parts and labor.
Original main power rectified parts are warrantied for five years.



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Specifications (Subject to change without notice.)

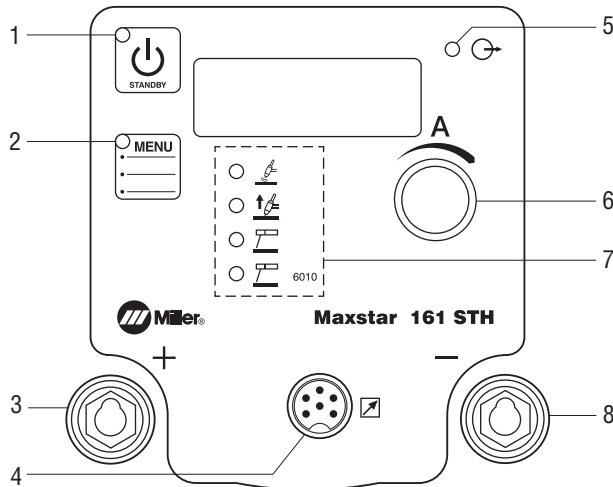


Welding Mode	Input Power	Welding Amperage Range	Rated Welding Output	Amps Input at Rated Output, 50/60 Hz	KVA at Duty Cycle	KW	Max. Open-Circuit Voltage	Dimensions	Net Weight
TIG	120 V, 15 A	5–130 A	90 A at 13.6 VDC, 100% duty cycle	14.61	1.75	1.70	48 VDC (12–16 VDC*)	H: 10.3 in. (262 mm) W: 5.6 in. (142 mm) D: 13.5 in. (343 mm)	13 lb. (5.9 kg)
			130 A at 15.2 VDC, 30% duty cycle	22.6	2.73	2.70			
	240 V	5–160 A	110 A at 14.4 VDC, 100% duty cycle	9.35	2.24	2.12			
			160 A at 16.4 VDC, 20% duty cycle	15.05	3.62	3.49			
Stick	120 V, 15 A	20–90 A	60 A at 22.4 VDC, 100% duty cycle	14.68	1.75	1.71			
			90 A at 23.6 VDC, 30% duty cycle	23.16	2.78	2.76			
	240 V	20–160 A	110 A at 24.4 VDC, 100% duty cycle	14.31	3.43	3.30			
			160 A at 26.4 VDC, 20% duty cycle	22.55	5.41	5.25			

*Sense voltage for stick and Lift-Arc™ TIG.

Certified by Canadian Standards Association to both the Canadian and U.S. Standards.

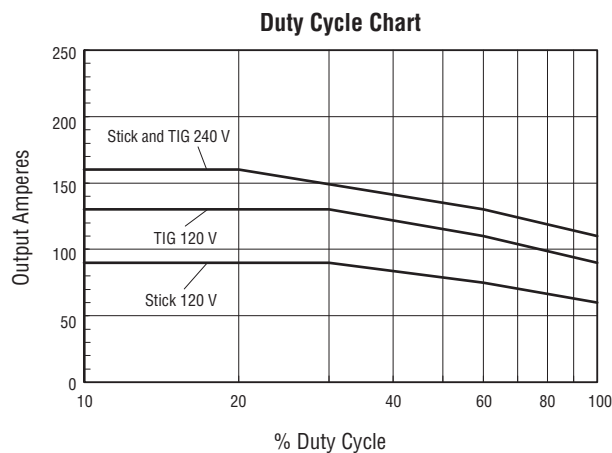
Control Panel



1. Power Switch
2. Menu Button
3. Positive Weld Output Receptacle
4. Remote Receptacle
5. Ready Light
6. Amperage Adjustment Control
7. Process Indicator Lights
 - High-frequency TIG*
 - Lift-Arc™ TIG
 - Stick
 - Stick 6010
8. Negative Weld Output Receptacle

*STH model only.

Performance Data



Maxstar® 161 Packages



907711 package shown.

STL Standard Package 907710
STH Standard Package 907711

Packages include:

- Maxstar 161 power source
- 6.5 ft. (2 m) 120-volt and 240-volt power cords
- Stick electrode holder with 13 ft. (4 m) cable and 25 mm Dinse-style connector
- Work clamp with 10 ft. (3 m) cable and 25 mm Dinse-style connector
- One air-cooled TIG torch connector (195234)
- Handle/shoulder strap
- Quick-reference guide



90771001 package shown.

STL TIG/Stick Package 907710001
STL TIG/Stick Package with Remote Fingertip Control 907710002
STH TIG/Stick Package with Remote Fingertip Control 907711001

Packages include:

- Maxstar 161 power source
- 6.5 ft. (2 m) 120-volt and 240-volt power cords
- X-CASE™ — provides protection in transport and storage
- RCCS-6M remote fingertip control (195184)
- Weldcraft™ A-150 (WP-17) 12.5 ft. (3.8 m) TIG torch with connector
- Stick electrode holder with 13 ft. (4 m) cable and 25 mm Dinse-style connector
- Work clamp with 10 ft. (3 m) cable and 25 mm Dinse-style connector
- Flow gauge regulator with gas hose
- AK2C torch accessory kit with short back cap, nozzles, collets, collet bodies, and 2% ceriated tungsten electrodes (.040, 1/16, and 3/32 in.)
- Handle/shoulder strap
- Quick-reference guide

Maxstar® 161 Comparison Chart

Process Capabilities	Model	S	STL	STH
Stick		■	■	■
Stick: 6010 Stick Mode		■	■	■
TIG: Lift-Arc™ Starts			■	■
TIG: High-Frequency Starts				■
Features				
Portable: 13 lb.		■	■	■
Digital Meter		■	■	■
Auto-Line™		■	■	■
Stick-Stuck		■	■	■
Hot Start™		■	■	■
Dual-Purpose Carrying Strap/Handle		■	■	■
Integrated Gas Valve			■	■
Pulse (0–150 PPS) with Pro-Set™				■

Genuine Miller® Accessories



X-CASE™ 301429

Sturdy case provides ultimate protection for transport and storage. Also features convenient top carrying handle and side recessed hand grips. Store the Maxstar 161, accessories and gear in this generous case to be ready to go at any time. Dimensions (H x W x D): 13 x 10.5 x 30.625 in. (330 x 267 x 778 mm).



Female Receptacle

Full KVA Adapter Cord 300517

NEMA 14-50P to NEMA 6-50R. Adapts engine drive 120/240 V plug to Maxstar 240 V plug.

Remote Controls and Switches



RCCS-6M (6-pin plug)

195184 13.25 ft. (4 m) cord

195503 26.5 ft. (8 m) cord

North/south rotary-motion fingertip current/contacter control attaches to TIG torch using two hook-and-loop fasteners. Great for applications that require a finer amperage control. Includes cord and plug.



RFCS-6M (6-pin plug)

195183

13.25 ft. (4 m) cord

195504

20 ft. (6 m) cord

Foot pedal current/contacter control. Includes cord and plug.



RMS-6M (6-pin plug)

195269

Momentary-contact switch for contactor control. Rubber-covered pushbutton dome switch ideal for repetitive on-off applications. Includes 26.5 ft. (8 m) cord and plug.

TIG Torches

Weldcraft™ Air-Cooled Torches

WP-17-12-R A-150 (WP-17)

12.5 ft. (3.8 m) TIG torch. Requires gas thru connector **195234** below.

WP-17-25-R A-150 (WP-17)

25 ft. (7.6 m) TIG torch. Requires gas thru connector **195234** below.



Air-Cooled TIG Torch Connector **195234**

25 mm (small) Dinse-style gas thru for one-piece air-cooled torch.

Ordering Information

Power Source and Options	Stock No.	Description	Qty.	Price
Maxstar® 161 STL Standard Package	907710	Maxstar 161 STL with electrode holder, work clamp, and 120-volt and 240-volt power cords		
Maxstar® 161 STL TIG/Stick Package	907710001	Includes 907710 <i>plus</i> X-CASE™, A-150 TIG torch, gas regulator with hose, and AK2C torch accessory kit		
	907710002	Includes 907710001 <i>plus</i> remote fingertip control		
Maxstar® 161 STH Standard Package	907711	Maxstar 161 STH with electrode holder, work clamp, and 120-volt and 240-volt power cords		
Maxstar® 161 STH TIG/Stick Package with Remote Fingertip Control	907711001	Includes 907711 <i>plus</i> X-CASE™, A-150 TIG torch, gas regulator with hose, AK2C torch accessory kit, and remote fingertip control		
Accessories				
X-CASE™ (only)	301429	Carrying case for Maxstar 161		
Full KVA Adapter Cord	300517	Adapts engine drive 120/240 V plug to Maxstar 240 V plug		
RCCS-6M	195184	13.25 ft. (4 m) remote fingertip control		
	195503	26.5 ft. (8 m), remote fingertip control		
RFCS-6M	195183	13.25 ft. (4 m) remote foot control		
	195504	20 ft. (6 m) remote foot control		
RMS-6M	195269	26.5 ft. (8 m) remote on/off control		
Weldcraft™ A-150 (WP-17) TIG Torch		See above		
Air-Cooled TIG Torch Connector	195234	Connects the A-125, A-150 and A-80 Weldcraft torches to 25 mm gas thru Dinse-style connector		

Date:

Total Quoted Price:

Distributed by:

