

# Maxstar® 300 Series

Issued February 2001 • Index No. DC/24

TIG/Stick Welding  
Power Source



## Quick Specs



### Heavy Industrial Applications

Petro/Chem Fabrication  
Aerospace  
Food/Beverage Industry  
Mechanical Contractors  
Pressure Vessel Manufacturing  
Shipboard Installation/Repair  
Automation

### Processes

TIG (GTAW) Welding  
Pulsed TIG (GTAW-P) Welding  
with DX and LX Models  
Stick (SMAW) Welding

**Input Power** Requires 3- or 1-Phase Power

**Amperage Range** 5–300 A

**Rated Output** 250 A at 30 VDC, 60% Duty Cycle (3-Phase)  
200 A at 28 VDC, 60% Duty Cycle (1-Phase)

**Weight** Without Auxiliary Power: 85 lb (39 kg)  
With Auxiliary Power: 100 lb (45 kg)

## The Power of Blue.®

Inverter-based, DC power source has **state-of-the-art operator interface** allowing the user extra set-up capabilities in a compact machine. Features more precise control of output parameters than traditional knobs and switches.

### Programmable HF start parameters

allows the operator to independently set HF starting conditions based upon process and memory selection.

**HF start only** — provides non-contact arc starting that eliminates tungsten or material contamination.



Maxstar 300 SD



Maxstar 300 DX  
TIGRunner

Maxstar 300 LX



### Available in Three Models:

**SD:** Provides the basic features that are required for most DC TIG or Stick welding applications.

**DX:** When the job demands greater control the DX provides pulse on/off, pulse frequency, peak % time, background amperage, initial amperage, initial slope time, final slope time and final amperage control.

**LX:** Automation made simple. With the **Automation Interface Connector**, the integrator can quickly interface to the output disable, weld start/stop, gas start/stop inputs; valid arc, pulse lock out, and end of weld sequence outputs.

**Superior arc performance** with DC TIG/Stick welding performance, even on the difficult to run electrodes like E6010.

**Lift-Arc start** — TIG arc starting without the use of high frequency.

**Auto-Link™** provides flexibility to the operator. Connectable to 230 V or 460 V, 1- or 3-phase power without having to remove the covers and relink the power source.



Power source is warranted for 3 years, parts and labor.  
Original main power rectified parts are warranted for 5 years.



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**Web Site**  
[www.MillerWelds.com](http://www.MillerWelds.com)



# Specifications (Subject to change without notice.)



## For Multivoltage Units

Input Power	Rated Output at 60% Duty Cycle	Welding Amperage Range	Max. Open-Circuit Voltage	Amps Input at Rated Output, 60 Hz				Dimensions	Net Weight
				230 V	460 V	KVA	KW		
Three-Phase	250 A at 30 VDC	5–300 A	95 VDC	25.4	16.2	12.8	8.8	H: 17 in (432 mm) W: 12-1/2 in (318 mm) D: 24 in (610 mm)	<b>Without Aux. Power:</b> 85 lb (39 kg)
Single-Phase	200 A at 28 VDC			40.2	—	9.3	6.8		<b>With Aux. Power:</b> 100 lb (45 kg)

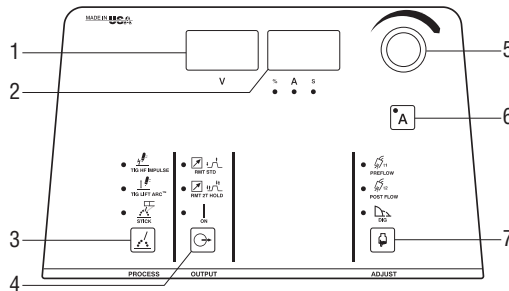
## For Single-Voltage Units

Rated Output at 60% Duty Cycle	Welding Amperage Range	Max. Open-Circuit Voltage	Amps Input at Rated Output, 50 Hz			Dimensions	Net Weight
			400 V	KVA	KW		
250 A at 30 VDC	5–300 A	95 VDC	16.9	11.7	8.6	H: 17 in (432 mm) W: 12-1/2 in (318 mm) D: 24 in (610 mm)	<b>Without Aux. Power:</b> 85 lb (39 kg) <b>With Aux. Power:</b> 100 lb (45 kg)

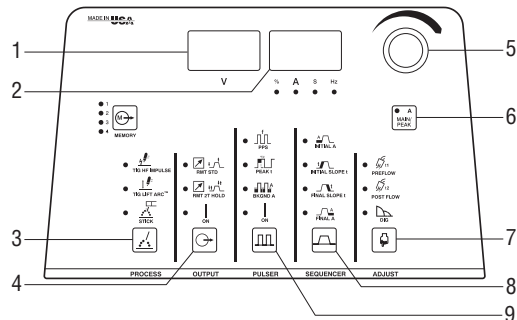
Certified by Canadian Standards Association to both Canadian and U.S. Standards. Conforms to European standards.

# Control Panel

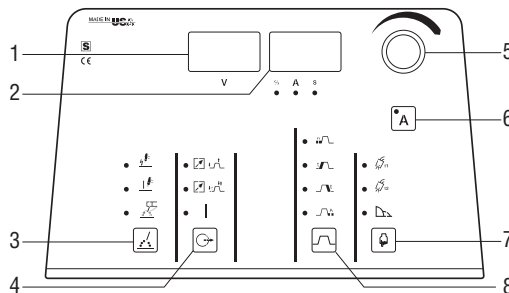
**Maxstar 300 SD**



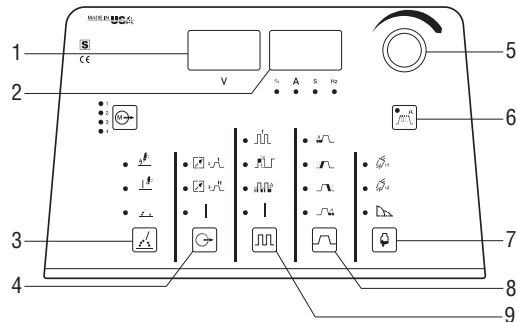
**Maxstar 300 DX/LX**



**Maxstar 300 SD (CE)**



**Maxstar 300 DX/LX (CE)**

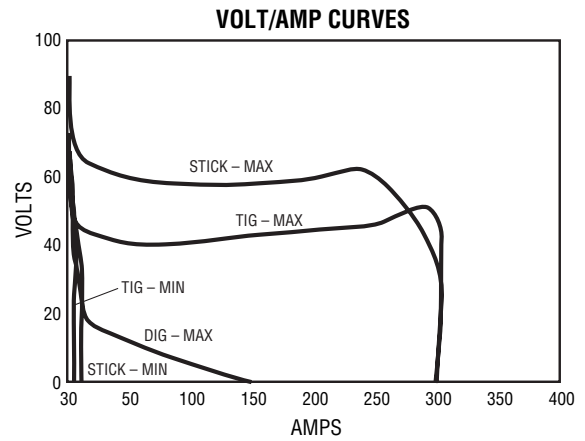
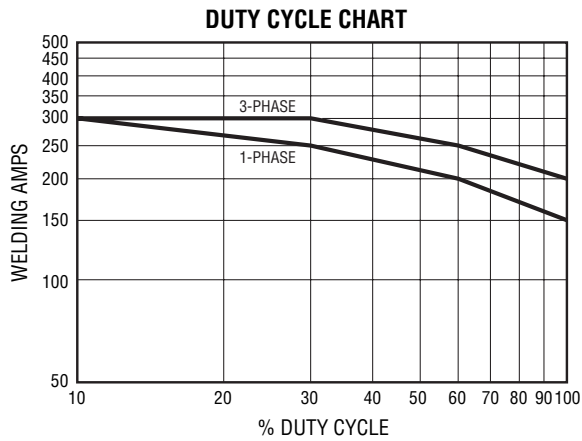


1. Voltmeter
2. Ammeter
3. Process Control
4. Output Control
5. Encoder Control
6. Amperage Control
7. Adjust Control
8. Sequencer Control
9. Pulser Controls

## Control Panel Parameter Values

<b>A.</b> Preflow (s)	0.0–25	<b>F.</b> Pulse Frequency (Hz)	0.1–500	<b>K.</b> Final Time (s)	0.0–25 (LX only)
<b>B.</b> Initial Time (s)	0.0–25 (LX only)	<b>G.</b> Background Amperage (%)	0–100	<b>L.</b> Postflow Time (s)	0.0–50
<b>C.</b> Initial Amperage (A)	5–300	<b>H.</b> Peak Percent Time (%)	5–95	<b>M.</b> Dig (%)	0–100
<b>D.</b> Initial Slope Time (s)	0.0–25	<b>I.</b> Final Slope Time (s)	0.0–25		
<b>E.</b> Weld Amperage (A)	5–300	<b>J.</b> Final Amperage (A)	5–300		

## Performance Data



## Included Accessories

### Non-CE SD/DX Models Include:

- (1) DA1820L torch adapter
- (2) International-style connectors 35/50

### Non-CE LX Model Includes:

- (1) DA1820L torch adapter
- (2) International-style connectors 35/50
- (1) 14-pin amphenol with clamp
- (1) 10-pin amphenol with clamp

### CE SD/DX Models Include:

- (2) International-style connectors 35/50
- (1) 14-pin amphenol with clamp
- (1) 5/8 in - 18 gas fitting

### CE LX Model Includes:

- (2) International-style connectors 35/50
- (1) 14-pin amphenol with clamp
- (1) 10-pin amphenol with clamp
- (1) 5/8 in - 18 gas fitting

## TIGRunner® Packages

### Maxstar 300 DX w/TIGRunner #903 842

Includes Maxstar 300 DX, Auxiliary Power, Coolmate™ 3, Deluxe Carrying Cart and Cylinder Rack, International TIG Torch Adapter, and Remote Foot Control (completely assembled).

### Maxstar 300 DX w/TIGRunner and Torch #903 842-01-1

Includes Maxstar 300 DX, Auxiliary Power, Coolmate™ 3, Deluxe Carrying Cart and Cylinder Rack, International TIG Torch Adapter, and Remote Foot Control (completely assembled). Also a 25-ft 250-Amp, Water-Cooled DB20M25R Diamondback Torch, Work Clamp, 10-ft Gas Hose, Regulator/Flowmeter, Cable Cover and an AK-4 Accessory Kit.

## Genuine Miller Accessories

### Remote Controls



**RFCS-14 HD Foot Control #194 744**  
For all Miller solid-state power sources after serial number JK674521. This new design increases stability with a larger base and durability with a heavier cord. Maximum flexibility is accomplished with a reconfigurable cord that can exit the front, back or either side of the pedal. Foot pedal provides remote current and contactor control. Includes 20 ft (6 m) cord and 14-pin plug.



**RFCS-14 Foot Control #043 554**  
For all Miller solid-state power sources after serial number JK674521. Foot pedal provides remote current and contactor control. Includes 20 ft (6 m) cord and 14-pin plug.



**RCCS-14 Remote Contactor and Current Control #043 688** 14-pin plug  
For all Miller solid-state power sources after serial number JK674521. North/south rotary-motion fingertip control fastens to TIG torch using two Velcro® straps. Great for applications that require a finer amperage control. Includes 26.5 ft (8 m) control cord.



**RCC-14 Remote Contactor and Current Control #151 086** 14-pin plug  
For all Miller solid-state power sources after serial number JK674521. Side-to-side rotary-motion fingertip control fastens to TIG torch using two Velcro® straps. Great for production or contractors that need quick ramp-up. Includes 26.5 ft (8 m) control cord.



**RMLS-14 Switch #129 337**  
For all Miller solid-state power sources after serial number JK674521. Momentary- and maintained-contact rocker switch for contactor control. Push forward for maintained contact and backward for momentary contact. Includes 26.5 ft (8 m) cord and 14-pin plug.



**RMS-14 On/Off Control #187 208**  
For all Miller solid-state power sources after serial number JK674521. 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 14-pin plug.

## Genuine Miller Accessories (Continued)

### Carts and Racks



#### Deluxe Carrying Cart and Cylinder Rack #043 867

Accommodates inverter power source, cooler, and one gas cylinder. Includes bottom drawer for miscellaneous items.



#### Universal Carrying Cart and Cylinder Rack #042 934

Accommodates power source, plus one gas cylinder up to 56 in (142.2 cm) high measuring 6 to 9 in (15.2 to 22.8 cm) in diameter. Also provides storage for auxiliary items such as electrodes, helmets, gloves, etc. Can also be used with XMT®, Dynasty™ Series, Maxstar® Series, and Millermatic® 130 power sources.



#### Running Gear/Cylinder Rack #042 537

Has adjustable handles and is slanted for convenient access to power source front panel controls. Carries two 160 lb (72.6 kg) gas cylinders, or one gas cylinder and one Coolmate V3 coolant system for TIG (GTAW) welding. Can be used with the Dynasty™, Maxstar®, Invision™ or XMT® inverter power supplies. Also accommodates Radiator, Watermate™, or Coolmate™ coolant systems.

#### Inverter Rack #043 562

6-Rack 230/460 V  
The XMT® 304 Rack conveniently houses multiple power sources for multiple welders. This is an ideal system for onsite applications including construction and ship building.

### Educational Resources

#### Gas Tungsten Arc (TIG) Welding Book #170 555

To order, call the Miller Literature Distribution Center at 1-920-751-2120, or FAX 1-920-751-2121. A comprehensive, 86-page text on all aspects of the TIG process.

#### TIG Fundamentals Welding CD #196 567

To order, please call 1-800-934-5148, or FAX 1-920-751-2121, or log on to our Web site. An interactive CD designed for anyone who's looking to better understand the TIG process.

### TIG (GTAW) Torches

#### Diamondback™ TIG Torches

The NEW Diamondback line of ergonomically designed TIG torches from Miller Electric complements the most popular TIG power source line available today. The Diamondback torch line includes both air-cooled and water-cooled models. The air-cooled models range in size from 125 to 200 A. The water-cooled models include 250 and 350 A torches. All models are standard with a rigid head. See Diamondback TIG Torch Selector Guide.

### TIG (GTAW) Torch Adapters

#### DA-917F #194 720

Used to adapt a 1-piece 125 or 150 amp air-cooled torch to an International-style connector.

#### DA-1820L #190 219

Used to adapt a 250 or 350 amp water-cooled torch to an International-style connector.

#### DA-26R #194 724

Used to adapt a 1-piece 200 amp air-cooled torch to an International-style connector.

## Genuine Miller Accessories (Continued)

### Coolant Systems

For more information, see the Miller Coolant Systems literature sheet, Index No. AY/7.2.

#### Coolmate™ 3

#043 007 115 VAC  
 #043 007-01-2 115 VAC, CE  
 #043 008 230 VAC  
 #043 008-01-2 230 VAC, CE

For use with water-cooled torches rated up to 500 amps. Unique paddle-wheel indicator, external filter and easy-fill spout.

#### Coolmate™ V3

#043 009 115 VAC  
 #043 009-01-2 115 VAC, CE

For use with water-cooled torches rated up to 500 amps. Vertical design conveniently mounts to Miller cylinder rack in place of one cylinder.

#### Coolmate™ 4

#042 288 115 VAC  
 #042 288-01-5 115 VAC, CE

For use with water-cooled torches rated up to 600 amps. Tough molded polyethylene case with carrying handle.



#### Low-Conductivity Coolant #043 810

Sold in multiples of four in 1-gallon recyclable plastic bottles. Primarily used in TIG (high-frequency) applications, but can also be used in MIG systems where aluminum is not in the water path. Miller coolants contain a base of ethylene glycol and deionized water to protect against freezing to -37°F (-38°C) or boiling to 227°F (108°C). Also contains a compound that resists algae growth.

#### Aluminum-Protecting Coolant #043 809

Sold in multiples of four in 1-gallon recyclable plastic bottles. Primarily used in MIG products, such as the water-cooled XR, which has an aluminum drive housing, or in any system where high frequency is not used. Miller coolants contain a base of ethylene glycol and deionized water to protect against freezing to -37°F (-38°C) or boiling to 227°F (108°C). Also contains a compound that resists algae growth.

## International-Style Connectors (Will accept Dinse™ or other International connectors.)

*Note: All Maxstar power sources are equipped with International-style connectors for secondary connections. (Power source is shipped with two 50-mm male International-style plugs for use with #1 or #2 AWG size cable.)*

#### International-Style Connector Kit

#042 418 50 mm  
 Accepts #1 or #2 AWG cable size. Required if male plugs shipped with power source must be replaced, if additional plugs are needed.

Kit includes one International-style male plug which attaches to the work and/or weld cables and plugs into the International-style receptacles on the power source.

#### Extension Kit for International-Style Cable Connectors

#042 419 50 mm  
 Accepts #1 or #2 AWG size cable. Used to adapt or extend weld and/or work cables. Kit includes one male International-style plug and one in-line female International-style receptacle.



#### International/Tweco® Adapter #042 465

A one-piece adapter which has an International-style male plug (to power source) on one end and a female Tweco receptacle (for weld cable connection) on other end.



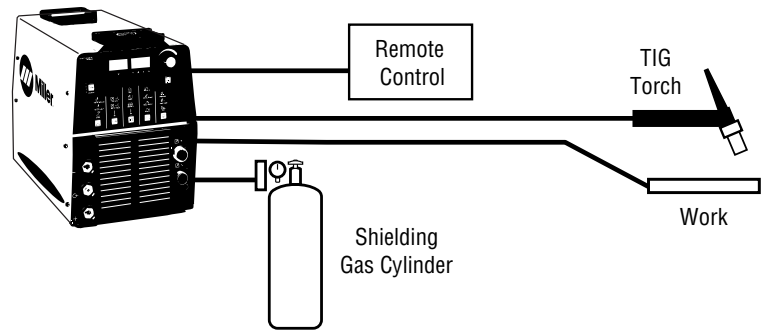
#### International/Cam-Lok Adapter #042 466

A one-piece adapter which has an International-style male plug (to power source) on one end and a Cam-Lok receptacle (for weld cable connection) on other end.

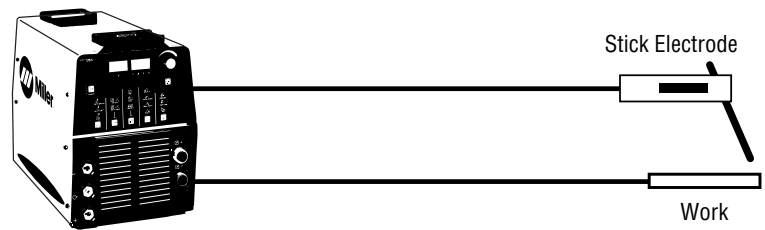
## Typical Installations



### TIG (GTAW) Basic Equipment



### Stick (SMAW) Basic Equipment



## Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
<b>Power Source</b>				
<b>Maxstar® 300 SD</b>	#903 836	Basic controls, 230/460 VAC, 50/60 Hz		
	#903 838	Basic controls, 400 VAC, 50/60 Hz, <b>CE</b>		
	#903 836-01-1	Basic controls w/115 V auxiliary power, 230/460 VAC, 50/60 Hz		
	#903 838-01-1	Basic controls w/115 V auxiliary power, 400 VAC, 50/60 Hz, <b>CE</b>		
<b>Maxstar® 300 DX</b>	#903 836-01-2	Full feature controls, 230/460 VAC, 50/60 Hz		
	#903 838-01-2	Full feature controls, 400 VAC, 50/60 Hz, <b>CE</b>		
	#903 836-02-1	Full feature controls w/115 V auxiliary power, 230/460 VAC, 50/60 Hz		
	#903 838-02-1	Full feature controls w/115 V auxiliary power, 400 VAC, 50/60 Hz, <b>CE</b>		
<b>Maxstar® 300 LX</b>	#903 836-02-2	Full feature controls w/115 V auxiliary power & required automation connections		
	#903 838-02-2	Full feature controls w/115 V aux. power & required automation connections, <b>CE</b>		
<b>Maxstar® 300 DX w/TIGRunner®</b>	#903 842	Full feature controls w/TIGRunner® package (see pg 3)		
<b>Maxstar® 300 DX w/TIGRunner® and Torch</b>	#903 842-01-1	Full feature controls w/TIGRunner® and 250 A torch package (see pg 3)		
<b>TIG Accessories</b>				
TIG Torch Adapters	#194 720 #190 219 #194 724	DA-917F DA-1820L DA-26R		
Diamondback™ TIG Torches		See Diamondback TIG Torch Selector Guide		
Consumables, Tungsten		See Parts Guide		
Gas Cylinder, Gas Hose and Fittings				
<b>Stick Accessories</b>				
Stick Electrodes				
<b>Remote Controls</b>				
RFCS-14 HD	#194 744	Heavy-duty foot control		
RFCS-14	#043 554	Foot control		
RCCS-14	#043 688	North/south fingertip control		
RCC-14	#151 086	Side-to-side fingertip control		
RMLS-14	#129 337	Momentary/maintained rocker control		
RMS-14	#187 208	Momentary rubber dome switch		
<b>Carts and Racks</b>				
Deluxe Carrying Cart and Cylinder Rack	#043 867			
Universal Carrying Cart and Cylinder Rack	#042 934			
Running Gear/Cylinder Rack	#042 537			
Inverter Rack	#043 562			
<b>Educational Resources</b>				
Gas Tungsten (TIG) Welding Book	#170 555			
TIG Fundamentals Welding CD	#196 567			
<b>Coolant Systems</b>				
Coolmate™ 3	#043 007	115 VAC		
	#043 007-01-2	115 VAC, <b>CE</b>		
	#043 008	230 VAC		
	#043 008-01-2	230 VAC, <b>CE</b>		
Coolmate™ V3	#043 009	115 VAC		
	#043 009-01-2	115 VAC, <b>CE</b>		
Coolmate™ 4	#042 288	115 VAC		
	#042 288-01-5	115 VAC, <b>CE</b>		
Aluminum-Protecting Coolant	#043 809			
Low-Conductivity Coolant	#043 810			
Cooling System Hoses				
<b>International-Style Connectors</b>				
International-Style Connector Kit	#042 418	50 mm		
Extension Kit for International-Style	#042 419	50 mm		
International/Tweco® Adapter	#042 465	A one-piece adapter with International-style male plug		
International/Cam-Lok Adapter	#042 466	A one-piece adapter with International-style male plug		

Date:

Total Quoted Price:

Distributed by:



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