

Gold Star® Series

Issued November 2004 • Index No. DC/8.1

Stick Welding
Power Source 

Quick Specs



Heavy Industrial Applications

Steel Erection
Pipe Welding
Tank/Pressure Vessel Fabrication
Maintenance/Repair
Shipbuilding
Construction
Refineries
Chemical Manufacturing Facilities
Steel Manufacturing Facilities
Foundries

Processes

Stick (SMAW)
TIG (GTAW)
Air Carbon Arc (CAC-A)
Cutting and Gouging
Flux Cored (FCAW)
MIG (GMAW) Spray
Transfer when using
a Voltage-Sensing
Wire Feeder

Input Power 302/402: 3-Phase Power
452/602: 3-Phase Power
652/852: 3-Phase Power

Rated Output 302/402: 300 A at 32 VDC, 60% Duty Cycle
452/602: 450 A at 38 VDC, 60% Duty Cycle
652/852: 650 A at 44 VDC, 60% Duty Cycle

Weight 302/402: 352 lb (160 kg)
452/602: 404 lb (183 kg)
652/852: 505 lb (229 kg)

The Power of Blue.®

Superior arc welding performance with Stick and TIG welding.

Built-in arc control lets you get in tight without sticking the electrode. An electrode compensation circuit ensures consistent arc control performance regardless of the electrode size.

Hot Start™ makes it easier to start difficult-to-start Stick electrodes such as E-6010 and E-7018.

Simple control panel features single range amperage adjustment. Provides easy, efficient operation.

Optional large meters with digital voltmeter and ammeter are easy to read, even at 30 ft (9.2 m).

Line voltage compensation ensures consistent weld performance by keeping output power constant even if primary input power varies by $\pm 10\%$.

14-pin receptacle provides quick, direct connection to Miller 14-pin wire feeders and accessories.



Gold Star 452/602

115 V duplex receptacle provides 15 amps of auxiliary power.

Power efficient, exceptional value and return on your investment.

Fan-On-Demand™ operates only when needed reducing both noise and power consumption.

Protected circuit boards have plastic enclosures that protect internal circuit boards from dust and dirt. Results in longer service life.

Thermal overload protection light indicates power shutdown. Helps prevent machine damage if the duty cycle is exceeded or airflow is blocked.

PC board protection prevents the wire feeder power or other stray voltages (less than 115 VAC) from harming the power source PC board.

Power cord strain relief provided for your convenience at installation.



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

MADE IN **USA**
APPLETON, WI **USA**



Miller Electric Mfg. Co.
An Illinois Tool Works Company
1635 West Spencer Street
Appleton, WI 54914 USA

International Headquarters
Phone: 920-735-4505
USA FAX: 920-735-4134
Canadian FAX: 920-735-4169
International FAX: 920-735-4125

Web Site
www.MillerWelds.com

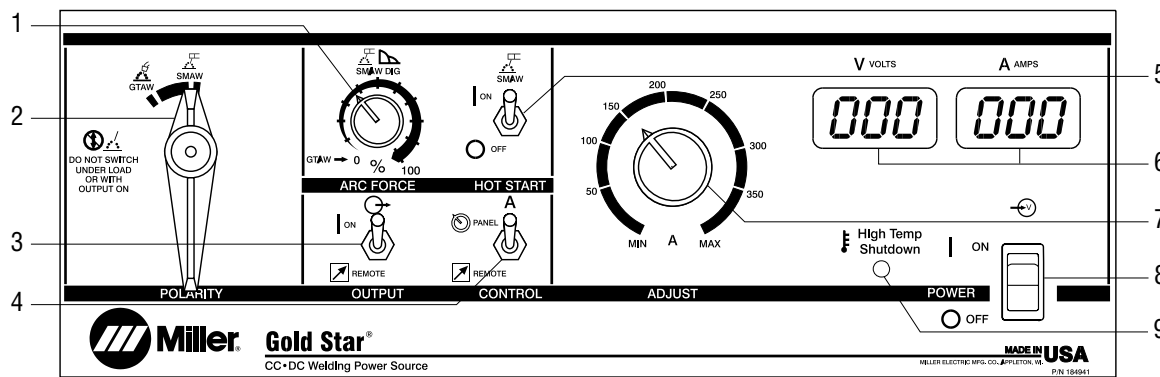


Rated Output	Amperage Range	Max. Open-Circuit Voltage	Amps Input at Rated Output, 50/60 Hz										Dimensions	Net Weight
			200 V	230 V	380 V	400 V	440 V	460V	575 V	KVA	KW			
300 A at 32 VDC, 60% Duty Cycle	15-395 A	72 VDC	70	61	35	33	31	31	25	24.5	13.8	H: 30 in (762 mm) including lift eye W: 23 in (585 mm) D: 30-1/2 in (775 mm) including strain relief	352 lb (160 kg)	

Certified to both the Canadian and U.S. Standards for welding equipment.

50 Hz models with CE Specifications are manufactured according to the Standards IEC-974-1 and EN-60974-1.

Control Panel

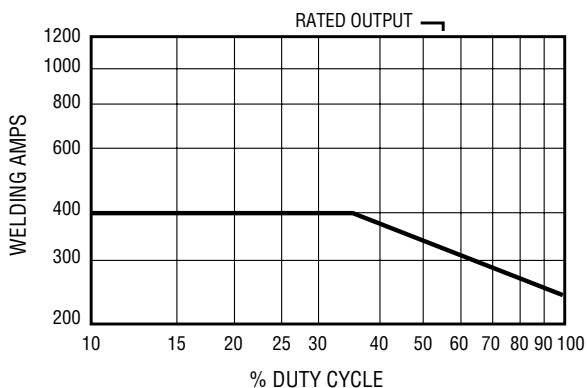


- 1. Arc Force (DIG) Control
- 2. Polarity Selector Switch*
- 3. Output Switch (Contactor)
- 4. Remote Amperage Control Switch
- 5. Hot Start Switch
- 6. Digital Meters (Optional)
- 7. Amperage Adjustment Control
- 8. Power Switch with Indicator Light
- 9. High Temperature Shutdown Light

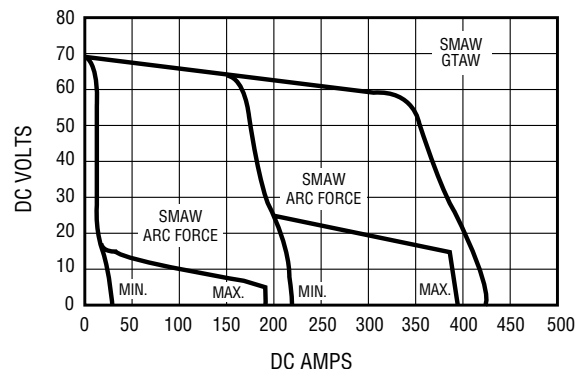
*Note: Polarity Selector Switch is not standard on 402 model.

Performance Data

DUTY CYCLE CHART



VOLT/AMP CURVE CC

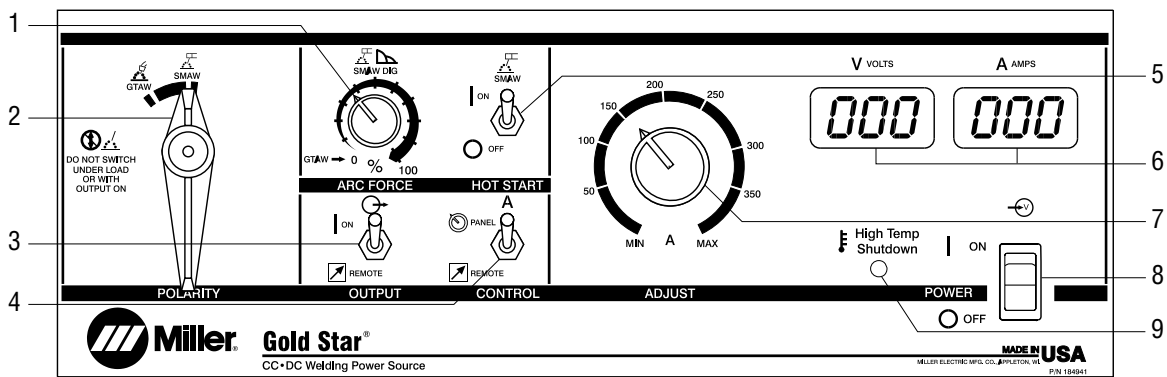


Rated Output	Amperage Range	Max. Open-Circuit Voltage	Amps Input at Rated Output, 50/60 Hz										Dimensions	Net Weight
			200 V	230 V	380 V	400 V	440 V	460 V	575 V	KVA	KW			
450 A at 38 VDC, 60% Duty Cycle	20–590 A	72 VDC	102	89	54	51	47	45	36	35.5	23.3	H: 30 in (762 mm) including lift eye W: 23 in (585 mm) D: 38 in (966 mm) including strain relief	404 lb (183 kg)	

SP ^{US} Certified to both the Canadian and U.S. Standards for welding equipment.

CE 50 Hz models with CE Specifications are manufactured according to the Standards IEC-974-1 and EN-60974

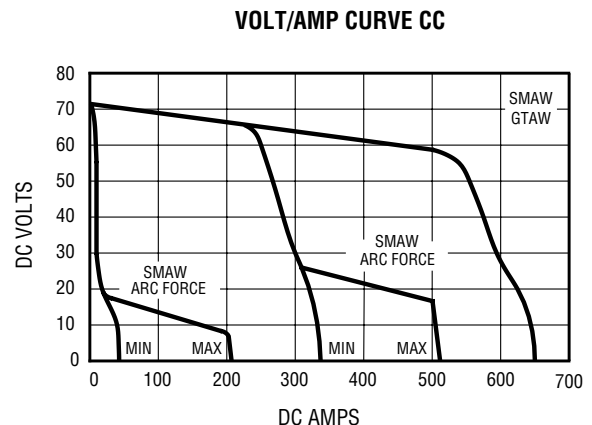
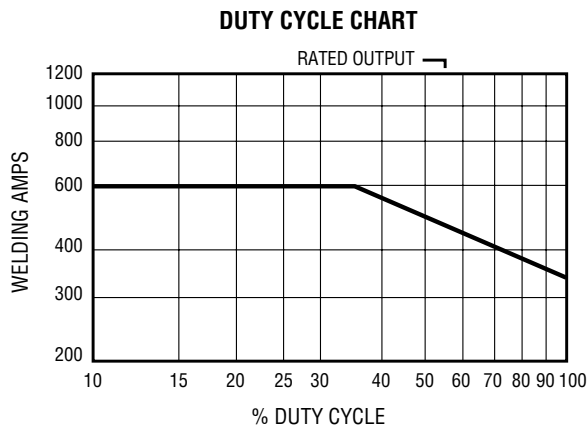
Control Panel



- | | |
|-----------------------------------|--------------------------------------|
| 1. Arc Force (DIG) Control | 6. Digital Meters (Optional) |
| 2. Polarity Selector Switch* | 7. Amperage Adjustment Control |
| 3. Output Switch (Contactor) | 8. Power Switch with Indicator Light |
| 4. Remote Amperage Control Switch | 9. High Temperature Shutdown Light |
| 5. Hot Start Switch | |

*Note: Polarity Selector Switch is not standard on 602 model.

Performance Data

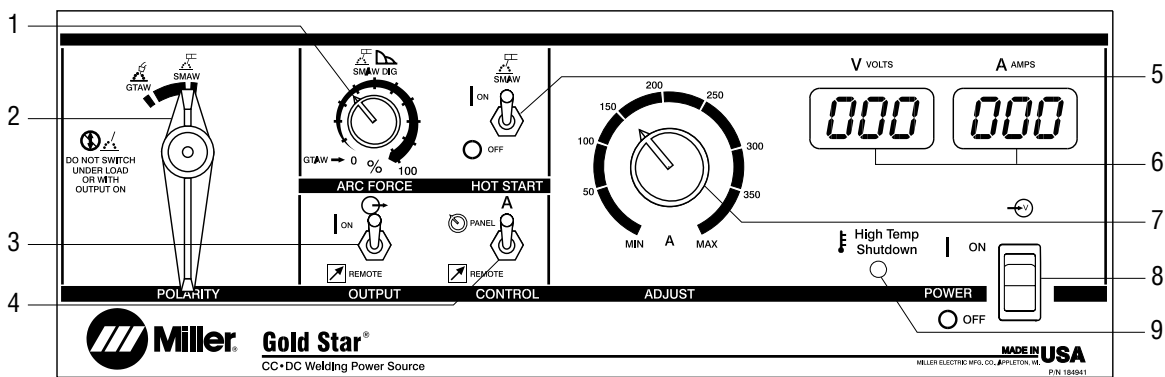


Rated Output	Amperage Range	Max. Open-Circuit Voltage	Amps Input at Rated Output, 50/60 Hz								Dimensions	Net Weight
			230 V	380 V	400 V	440 V	460 V	575 V	KVA	KW		
650 A at 44 VDC, 60% Duty Cycle	50–850 A	72 VDC	124	75	71	65	62	50	49.4	36	H: 30 in (762 mm) including lift eye W: 23 in (585 mm) D: 38 in (966 mm) including strain relief	505 lb (229 kg)

Certified to both the Canadian and U.S. Standards for welding equipment.

50 Hz models with CE Specifications are manufactured according to the Standards IEC-974-1 and EN-60974-1.

Control Panel

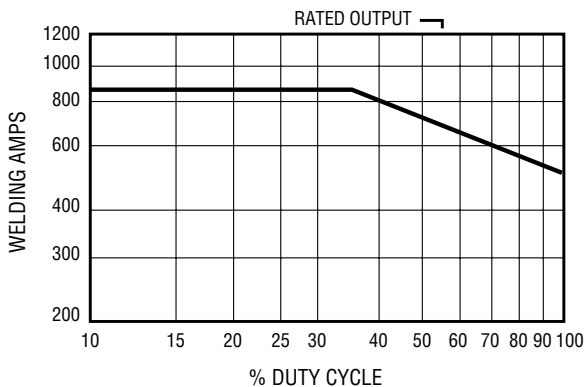


- | | |
|-----------------------------------|--------------------------------------|
| 1. Arc Force (DIG) Control | 6. Digital Meters (Optional) |
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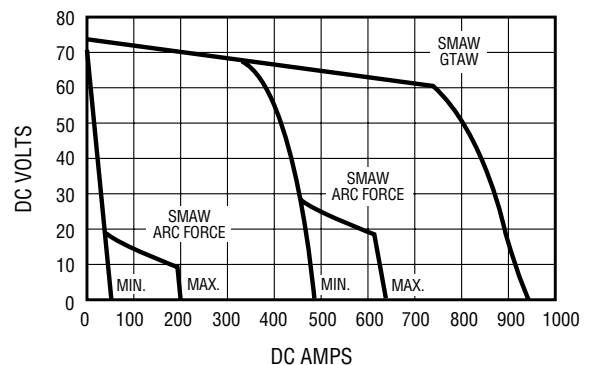
*Note: Polarity Selector Switch is not standard on 852 model.

Performance Data

DUTY CYCLE CHART



VOLT/AMP CURVE CC



Genuine Miller Options

Digital Meters

#043 812 Field

For Gold Star models after serial no. KG 283 595

Easy-to-install, front-panel-mount, digital amp and volt meters.

Air Filter Kit #042 939 Field

Helps protect internal components from dust and dirt, reducing need for maintenance and providing extended service life.

Ground Current Sensor #195 048 Field

Disables power source if weld current is present on primary ground.

Polarity Switch

#043 313 Field For Gold Star 402

#043 314 Field For Gold Star 602 and 852

Allows operators to switch from DCRP or DCEN for TIG or Stick applications without removing cables.

Genuine Miller Accessories

Process Control Selector #042 872

Allows you to easily change weld processes from TIG to Stick without changing cables.

Can be used with any constant-current, constant-voltage or multiprocess CC/CV welding power source.



Standard Running Gear #042 886

The large 10 in (254 mm) rear wheels and 5 in (127 mm) front casters on this running gear provide excellent mobility on the shop floor, making it easier to move the power source around and over cables and cracks. Very easy to install. Handles double as weld cable holder.

Standard Cylinder Rack #042 887

Holds two cylinders. Only installs on Standard Running Gear.

International Cable Adapter

Note: Order from Miller Service Parts

#168 077 Female, Qty 1

Dinse brand insulated female twist lock connector installs on output stud, providing quick disconnect of secondary weld cables.

#042 418 Male, Qty 1

Cable-mounted Dinse brand insulated male twistlock connector accepts #1 or #2 AWG cable sizes.

Stick Hook-Up Kit #173 851

50 ft (15.2 m) 2/0 cable. Kit includes electrode holder, weld cable and work cable with clamp.

Coolant Systems

For more information, see Miller Coolant Systems Lit. Index No. AY/7.2.





HF-251D-1 High-Frequency Arc Starter/Stabilizer #042 388

This portable 250 amp, 60% duty cycle unit adds high frequency to the welding circuit to help start the arc when using the TIG (GTAW) process. Operates on 115 VAC 50/60/100 Hz. See Lit. Index No. AY 5.1.



RCCS-14 Remote Contactor and Current Control #043 688

Up-and-down rotary-motion fingertip control. Great for applications that require a finer amperage control. Includes 28 ft (8.5 m) control cord.



RHC-14 Hand Control

#129 340 20 ft (6 m) cord
#129 340 0010305 100 ft (30.5 m) cord
 Miniature hand control with 14-pin plug for remote current and contactor control. Dimensions: 4 x 4 x 3-1/4 in (102 x 102 x 82 mm).

Wire Feeders



SuitCase 8VS™ #194 890

Lightweight, portable wire feeder for a variety of wires up to .062 in. Holds up to an 8 in or 12 in spool of wire. See Lit. Index No. M/6.4.

Remote Controls and Switches

Remote On/Off Control #042 869

Allows you to turn your Gold Star on or off from a distance of 20 ft (6 m). This is especially useful if your power source is located up in a mezzanine. Connects to the power source's terminal strip.



RMLS-14 #129 337

Momentary- and maintained-contact rocker switch for contactor control. Push forward for maintained contact and back for momentary contact. Includes 20 ft (6 m) cord and 14-pin plug.



RFCS-14 Foot Control #043 554

Heavy-duty foot current and contactor control. Includes 20 ft (6 m) cord and 14-pin plug.



RCC-14 Remote Contactor and Current Control #151 086

Rotary-motion (side to side) fingertip control. Fastens to TIG torch using two Velcro strips. Allows complete current and contactor control at operator's fingertips. Includes 28 ft (8.5 m) cord and plug.

Extension Cables for 14-Pin Plugs to 14-Pin Sockets


#122 973 25 ft (7.6 m)
#122 974 50 ft (15.2 m)
#122 975 75 ft (22.8 m)
 Extension cords make a direct connection between the power source and the accessory control. No messy splicing or adapting required.

Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
Power Source				
Gold Star® 302	#903 373* #903 398*	200-208/230/460 V, 60 Hz 230/460/575 V, 60 Hz		
Gold Star® 402	#907 282**	380/400/440 V, 50 Hz w/CE		
Gold Star® 452	#903 374* #903 400*	200-208/230/460 V, 60 Hz 230/460/575 V, 60 Hz		
Gold Star® 602	#907 283**	380/400/440 V, 50 Hz w/CE		
Gold Star® 652	#903 402*	230/460/575 V, 60 Hz		
Gold Star® 852	#907 284**	380/400/440 V, 50 Hz w/CE		
Digital Meters	#043 812	Field. For models after serial no. KG 283 595		
Air Filter Kit	#042 939	Field		
Ground Current Sensor	#195 048	Field		
Polarity Switch	#043 313 #043 314	For Gold Star 402 For Gold Star 602 and 852		
Stick Accessories				
Stick Hook-Up Kit	#173 851	2/0 cable, 50 ft. Includes electrode holder, weld cable and work cable with clamp.		
Stick Electrodes				
TIG Accessories				
HF-251D-1	#042 388	HF Arc Starter/Stabilizer. See Lit. Index No. AY/5.1		
Torch, Tungsten and Consumables				
Gas Cylinder, Gas Hose and Fittings				
Remote Controls				
Remote On/Off	#042 869			
RMLS-14	#129 337	Rocker switch		
RCC-14	#151 086	Fingertip control (side to side)		
RCCS-14	#043 688	Fingertip control (up and down)		
RHC-14	#129 340 #129 340 0010305	Hand control with 20 ft (6 m) cord Hand control with 100 ft (30.5 m) cord		
RFCS-14	#043 554	Foot control		
Extension Cables		See pg. 6		
Wire Feeders				
SuitCase™ 8VS	#194 890	See Lit. Index No. M/6.4		
Miscellaneous				
Process Control Selector	#042 872			
Standard Running Gear	#042 886			
Cylinder Rack/Lift	#043 005			
Standard Cylinder Rack	#042 887			
International Cable Adapter (Order from Miller Service Parts)	#042 418 #168 077	Male Female		
Primary Power Cable				
Secondary Welding Cables				
Work Cable and Clamp				

Date:

Total Quoted Price:

*  Certified to both the Canadian and U.S. Standards for welding equipment.

**  50 Hz models with CE Specifications are manufactured according to the Standards IEC-974-1 and EN-60974-1.
Conforms with NEMA EW 1 "Electric Arc Welding Power Source," Class I (100).

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