

Gold Star® Series

**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 with
voltage-sensing
wire feeder

Input Power 3-phase power on all models

Rated Output **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

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

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 easy to start difficult stick electrodes such as E-6010 and E-7018.

Line voltage compensation ensures consistent weld performance by keeping output power constant even if primary input power varies by ±10 percent.

Power efficient for exceptional value and return on your investment.

115 V duplex receptacle provides 15 amps of auxiliary power.

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



Gold Star 452/602

Fan-On-Demand™ operates only when needed reducing noise, power consumption, and the amount of airborne contaminants pulled through the machine.



Build your own system at
MillerWelds.com/equiptoweld

Optional digital voltmeter and ammeter are easy to read, even at 30 feet (9.2 m).

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

14-pin receptacle provides quick, direct connection to Miller 14-pin remote controls and switches.

Enclosed circuit boards provide additional protection from contaminants resulting in longer service life.

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

Power cord strain relief provided for your convenience at installation.



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



Miller Electric Mfg. Co.
An ITW Welding Company
1635 West Spencer Street
P.O. Box 1079
Appleton, WI 54912-1079 USA

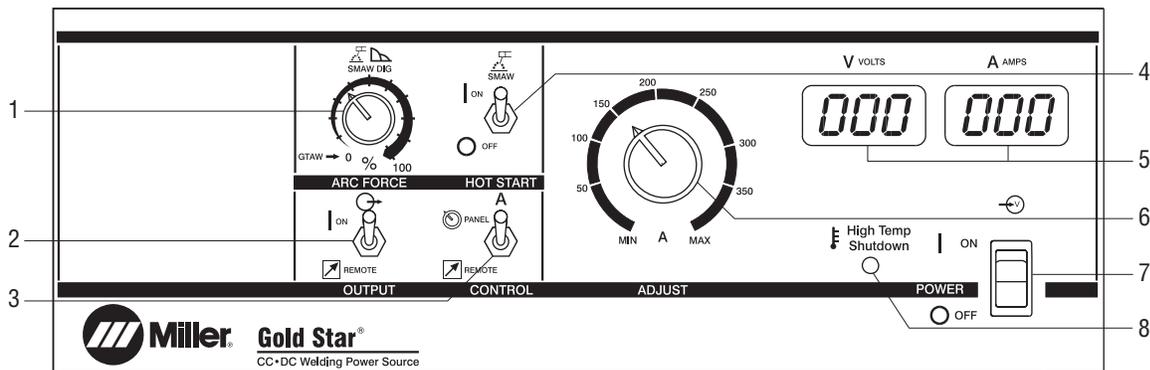
Equipment Sales US and Canada
Phone: 866-931-9730
FAX: 800-637-2315
International Phone: 920-735-4554
International FAX: 920-735-4125

MillerWelds.com



Amperage Range	Rated Output	Amps Input at Rated Output, 50/60 Hz										Max. Open-Circuit Voltage	Dimensions	Net Weight
		200 V	230 V	380 V	400 V	440 V	460V	575 V	KVA	KW				
15-395 A	300 A at 32 VDC, 60% duty cycle	70	61	35	33	31	31	25	24.5	13.8		72 VDC	H: 30 in. (762 mm) (including lift eye) W: 23 in. (585 mm) D: 30.5 in. (775 mm) (including strain relief)	352 lb. (160 kg)

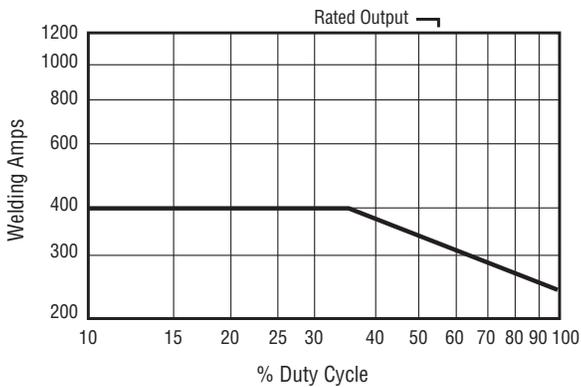
Control Panel



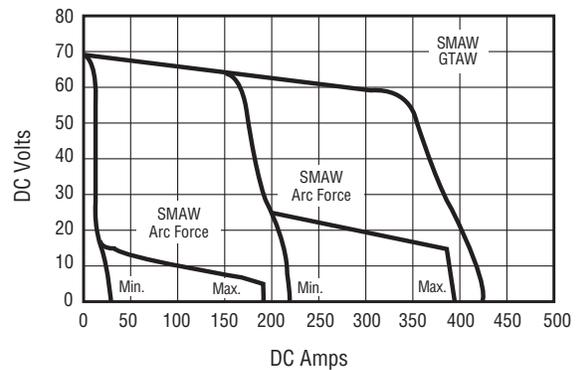
1. Arc Force (DIG) Control
2. Output Switch (Contactor)
3. Remote Amperage Control Switch
4. Hot Start Switch
5. Digital Meters (Optional)
6. Amperage Adjustment Control
7. Power Switch with Indicator Light
8. High Temperature Shutdown Light

Performance Data

Duty Cycle Chart

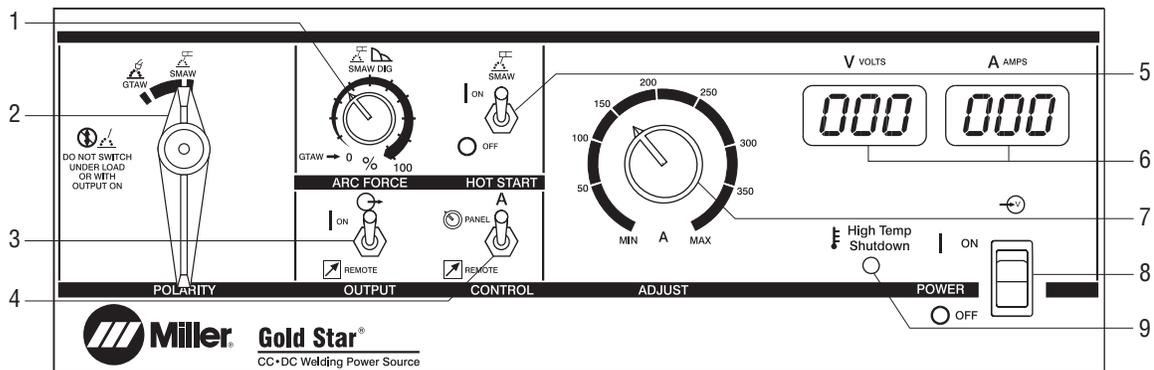


Volt/Amp Curve CC



Amperage Range	Rated Output	Amps Input at Rated Output, 50/60 Hz								Max. Open-Circuit Voltage	Dimensions	Net Weight	
		200 V	230 V	380 V	400 V	440 V	460 V	575 V	KVA				KW
20-590 A	450 A at 38 VDC, 60% duty cycle	102	89	54	51	47	45	36	35.5	23.3	72 VDC	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)

Control Panel

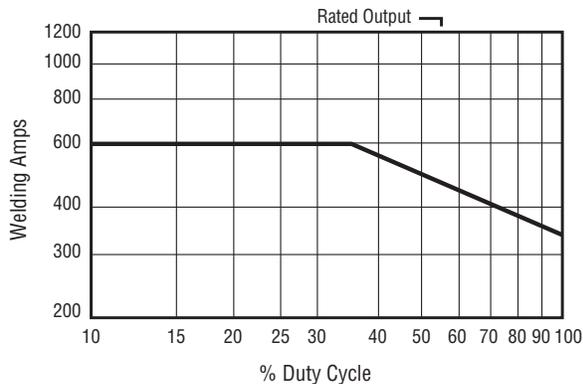


- 1. Arc Force (DIG) Control
- 2. Polarity Selector Switch*
- 3. Output Switch (Contactor)
- 4. Remote Amperage Control Switch
- 5. Hot Start Switch
- 6. Digital Meters (Optional)
- 7. Amperage Adjustment Control
- 8. Power Switch with Indicator Light
- 9. High Temperature Shutdown Light

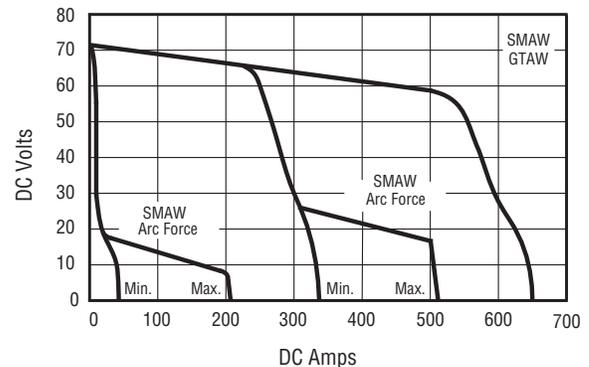
*Note: Polarity Selector Switch is not standard on 602 model.

Performance Data

Duty Cycle Chart



Volt/Amp Curve CC

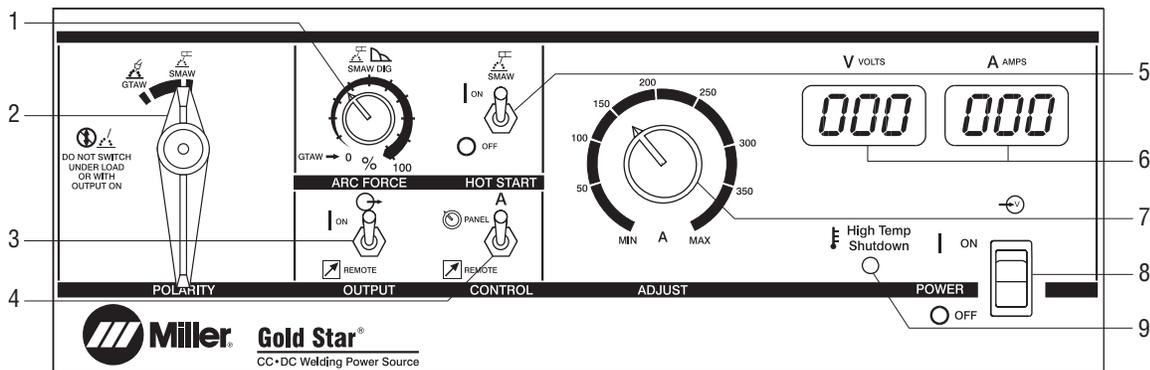


Gold Star® 652/852 Specifications (Subject to change without notice.)



Amperage Range	Rated Output	Amps Input at Rated Output, 50/60 Hz								Max. Open-Circuit Voltage	Dimensions	Net Weight
		230 V	380 V	400 V	440 V	460 V	575 V	KVA	KW			
50–850 A	650 A at 44 VDC, 60% duty cycle	124	75	71	65	62	50	49.4	36	72 VDC	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)

Control Panel

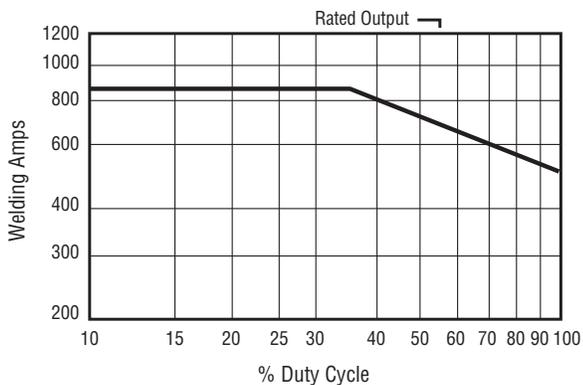


1. Arc Force (DIG) Control
2. Polarity Selector Switch*
3. Output Switch (Contactor)
4. Remote Amperage Control Switch
5. Hot Start Switch
6. Digital Meters (Optional)
7. Amperage Adjustment Control
8. Power Switch with Indicator Light
9. High Temperature Shutdown Light

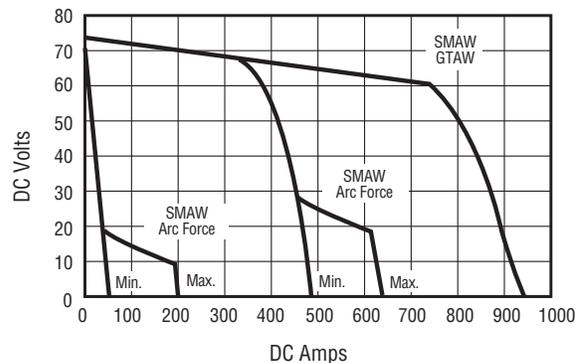
*Note: Polarity Selector Switch is not standard on 852 model.

Performance Data

Duty Cycle Chart



Volt/Amp Curve CC



Genuine Miller® Options

Digital Meters #301 321 Field
For Gold Star models after serial number MF100119C. 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.

Polarity Switch #043 314 Field
For Gold Star 602 and 852. Allows operators to switch from DCEP or DCEN for TIG or stick applications without removing cables.

Ground Current Sensor #195 048 Field
Disables power source if weld current is present on primary ground.

Genuine Miller® Accessories



2/0 Stick Cable Set #173 851
Consists of 50-foot (15 m) 2/0 electrode cable with holder and work cable with clamp. 350 A, 100% duty cycle.



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

This portable 250 amp, 60 percent duty cycle unit adds

high frequency to the welding circuit to help start the arc when using the TIG (GTAW) process. Operates on 115 V, 50/60/100 Hz. See Lit. Index No. AY/5.0.

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-inch (254 mm) rear wheels and 5-inch (127 mm) front casters on this

running gear provide excellent mobility on the shop floor, making it easier to move the power source. Very easy to install. Handles double as weld cable holder.

Standard Cylinder Rack #042 887
Holds two cylinders. Only installs on standard running gear.

Remote Controls and Switches

Remote On/Off Control #242 197 025
Allows you to turn your Gold Star on or off from a distance of 25 feet (7.6 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 backward for momentary contact. Includes 26.5-foot (8 m) cord and 14-pin plug.



RCC-14 Remote Contactor and Current Control #151 086
East/west rotary-motion fingertip control attaches to TIG torch using two hook-and-loop fasteners. Allows complete current and contactor control at operator's fingertips. Includes 26.5-foot (8 m) cord and 14-pin plug.



RCCS-14 Remote Contactor and Current Control #043 688
North/south rotary-motion fingertip control attaches to TIG torch using two hook-and-loop fasteners. Great for applications that require a finer amperage control. Includes 26.5-foot (8 m) cord and 14-pin plug.



RHC-14 Hand Control* #242 211 020 20 ft. (6 m) cord
#242 211 100 100 ft. (30.5 m) cord
Miniature hand control for remote current and contactor control. Dimensions: 4 x 4 x 3.25 inches (102 x 102 x 83 mm). Includes cord and 14-pin plug.

**For additional lengths visit MillerWelds.com/equiptoweld.*



RFCS-14 Foot Control #043 554
Foot current and contactor control. Includes 20-foot (6 m) cord and 14-pin plug.

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

#242 208 025 25 ft. (7.6 m)
#242 208 050 50 ft. (15.2 m)
#242 208 080 80 ft. (24.4 m)
Extension cables make a direct connection between the power source and remote control or 24 VAC wire feeder. No messy splicing or adapting required.

**For additional lengths visit MillerWelds.com/equiptoweld.*

Wire Feeders



SuitCase® X-TREME™ 8VS Wire Feeder

#951 582 With meters

#951 583 Without meters

SuitCase® X-TREME™ 12VS Wire Feeder

#951 543

Lightweight, voltage-sensing wire feeders include secondary contactor, gas valve and drive roll kit. See Lit. Index No. M/6.42.

Coolant Systems

For more information, see the Miller Coolmate Series literature sheet, Index No. AY/7.2.



Coolmate™ 3

#043 007 115 V

#043 008 230 V

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



Coolmate™ 4 #042 288 115 V

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

Coolant #043 810

Sold in cases of four one-gallon recyclable plastic bottles. Miller coolants contain a base of ethylene glycol and deionized water to protect against freezing to -37 degrees Fahrenheit (-38° C) or boiling to 227 degrees Fahrenheit (108° C). Also contains a compound that resists algae growth.

Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
Gold Star® 402	#907 362**	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	#907 363**	380/400/440 V, 50 Hz w/CE		
Gold Star® 652	#903 402*	230/460/575 V, 60 Hz		
Gold Star® 852	#907 364**	380/400/440 V, 50 Hz w/CE		
Remote Controls				
Remote On/Off	#242 197 025			
RMLS-14	#129 337	Momentary/maintained rocker switch		
RCC-14	#151 086	East/west fingertip control		
RCCS-14	#043 688	North/south fingertip control		
RHC-14	#242 211 020 #242 211 100	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 page 5		
Options and Accessories				
Digital Meters	#301 321	Field. For models after serial number MF100119C		
Air Filter Kit	#042 939	Field		
Ground Current Sensor	#195 048	Field		
Polarity Switch	#043 314	Field. For Gold Star 602 and 852		
2/0 Stick Cable Set	#173 851	50-ft. (15 m) 2/0 electrode cable with holder and work cable with clamp		
HF-251D-1	#042 388	HF arc starter/stabilizer. See Lit. Index No. AY/5.1		
Process Control Selector	#042 872			
Standard Running Gear	#042 886			
Standard Cylinder Rack	#042 887			
SuitCase® X-TREME™ 8VS	#951 582 #951 583	With meters. See Lit. Index No. M/6.42 Without meters. See Lit. Index No. M/6.42		
SuitCase® X-TREME™ 12VS	#951 543	See Lit. Index No. M/6.42		
Coolant Systems		See page 6. See Lit. Index No. AY/7.2		
Miscellaneous				
Primary Power Cable				
Secondary Welding Cables				
Work Cable and Clamp				
Stick Electrodes				
Torch, Tungsten and Consumables				
Gas Cylinder, Gas Hose and Fittings				

Date:

Total Quoted Price:

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

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

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