

Invision™ 456P

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**MIG Welding
Power Source** 

Quick Specs

Heavy Industrial Applications

Construction
Shipbuilding
Railroad
Manufacturing
Fabrication
Repair Shops

Processes

MIG (GMAW)/Pulsed MIG (GMAW-P)*
Flux Cored (FCAW)
Air Carbon Arc Cutting and Gouging (CAC-A)

Input Power Requires 3-Phase Power

Output Power 10–38 V, 5–600 A

Weight Net: 118 lb (53.5 kg) Ship: 129 lb (58.5 kg)

The Power of Blue.®

Wind Tunnel Technology™ protects electrical components and PC boards from contamination.

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

Variable, electronic inductance control helps to minimize spatter and optimize weld-bead wetting action.

Lightweight, aerospace-grade aluminum case offers protection with the benefit of reduced weight.

Unique case design protects internal components from dirt and dust. To connect power cord and/or set unit up for correct input power, remove the easy-to-handle panel (1/3 case). The remaining two-thirds of the case never needs to be removed!

Auto Remote Sense enables unit to automatically use remote control if connected to remote control receptacle.

Remote control circuit protection prevents damage from high frequency and shorted control cables.



Primary voltage display saves time and assures operator that power source is correctly set for available input voltage without having to remove side panels.

Large, dual digital meters display both volts and amps for quick and easy viewing by an operator. Voltmeter is presettable for ease of setting weld output. A hold function lets the operators view actual welding output when the arc is broken.

85% power efficiency means unit costs less to operate.

Line voltage compensation keeps power constant even if power input varies by $\pm 10\%$. Ensures consistent weld performance.

Optional remote on/off provides ability to turn the power source on and off when power source is located away from your work.

Pulsed MIG capabilities with optional Optima control reduces spatter and distortion, allows better out-of-position puddle control, and provides potential reduction of fume particle emission.

600 A maximum output (450 A at 100% duty cycle) meets the high output needs of demanding applications.

115 VAC auxiliary power provides 10 A of circuit-breaker-protected power for water circulators, etc.



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



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Web Site
www.MillerWelds.com



Specifications (Subject to change without notice.)



Input Power	Rated Output	Voltage Range in CV Mode	Amperage Range in CC Mode	Max. Open-Circuit Voltage	Amps Input at Rated Load Output, 60 Hz						Dimensions	Weight
					230 V	400 V	460 V	575 V	KVA	KW		
Three-Phase	450 A at 38 VDC, 100% Duty Cycle 565 A at 43 VDC, 60% Duty Cycle	10–38 V	5–600 A	95 VDC	50.8	31	27.8	24.4	21.2	19.2	H: 17 in (432 mm) W: 14-1/2 in (368 mm) D: 26 in (660 mm)	118 lb (53.5 kg)

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

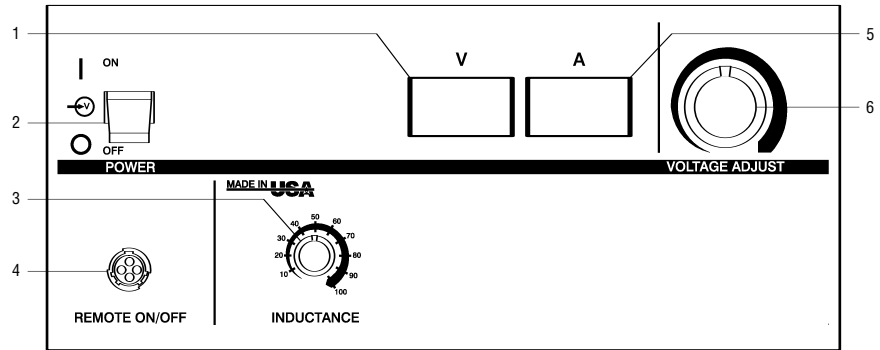
Control Panel

Additional Features

Primary voltage display shows what primary voltage the power source is linked for without removing the side panels. Saves time and assures you that the power source has been correctly linked for available input voltage.

Unique case design helps protect internal components from dirt and dust. To connect input power cord and/or set unit up for correct input power, remove the easy-to-handle panel (1/3 case). The remaining two-thirds of the case never needs to be removed!

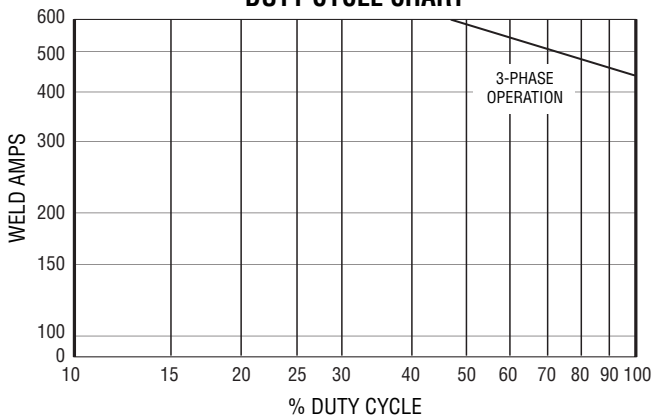
Optional remote on/off provides ability to turn power source on or off when it is located away from your work.



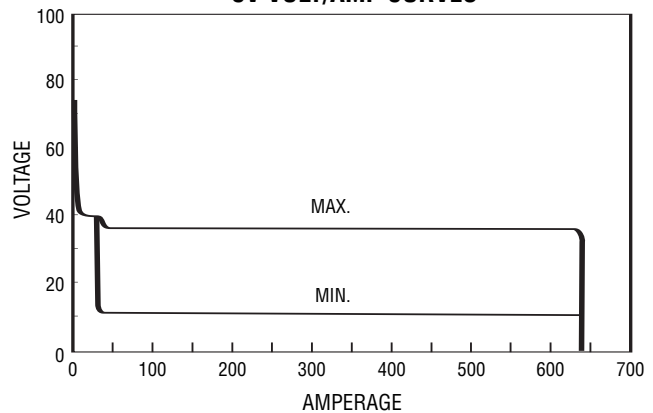
1. Voltmeter
2. Power On/Off Switch
3. Inductance Control
4. Remote On/Off Receptacle (Optional)
5. Ammeter
6. Voltage Adjustment Control

Performance Data

DUTY CYCLE CHART



CV VOLT/AMP CURVES



Genuine Miller Accessories



Optima™ #043 389
A multipurpose, microprocessor-based pulse control for both synergic MIG (wire welding or GMAW) or manual MIG pulsing. Use this control with Invision 456 power sources and any Miller wire feeder, including automatic feeders and spool guns. Includes a 25 ft (7.6 m) cord with 14-pin plug.

Extension Cords for Optima

- #043 725 25 ft (7.6 m)
- #043 726 50 ft (15.2 m)
- #043 727 75 ft (22.9 m)



WC-24 Weld Control #137 549
Designed for use with Miller CV power sources supplying 24 VAC and 14-pin receptacles. For use with Spoolmatic 30A spool gun.



WC-115A Weld Control #137 546-01-1
Operates on 115 VAC and is designed for power sources without a 14-pin receptacle. For use with Spoolmatic 30A spool gun. Includes 10 ft (3 m) wall-type plug and power cord.

Process Selector Control #042 872
Designed for use with dual wire feeders, applications where electrical isolation and/or polarity reversing of weld current is required, and for welding process changes. Includes 115 VAC/2 amp receptacle, two 14-pin receptacles and a 10 ft (3 m) 14-pin cord.



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

Extension Cords for Remote Controls and 24 VAC Wire Feeders

- #122 973 25 ft (7.6 m)
 - #122 974 50 ft (15.2 m)
 - #122 975 75 ft (22.8 m)
- 14-pin plug to 14-pin socket.

Note: Not for use with Optima or 60M Series.

Inverter Racks

Four or Six-Arc Welding System



The Inverter Rack conveniently houses multiple power sources for multiple welders. Both 4-pack and 6-pack models are available. Features include:

- Provision to parallel power sources or common work connections
- Two lifting eyes for transportation
- Rugged skids for dragging or pushing
- Customer can install up to a maximum of 4 Invision 456 power sources

For detailed information on customized Inverter Rack systems see Lit. Index No. DC/18.81.

Running Gear



MIGRunner™ XL Cart #195 246
Small footprint and easily maneuverable, with cylinder rack low enough that you do not have to lift bottles. Carries two 160 lb (72.6 kg) gas cylinders, or one gas cylinder and one coolant system.



Cylinder Cart #042 537
Carries two 160 lb (72.6 kg) gas cylinders, or one gas cylinder and one coolant system. Feeder mounts to tray above power source.

Wire Feeders/Guns



SuitCase™ 8RC #194 938
SuitCase™ 12RC #194 940
Lightweight, portable wire feeder for a variety of wires up to .062 in. Holds up to an 8 in (8RC) or 12 in (12RC) spool of wire. Operates using 14-pin control receptacle. See Lit. Index No. M/6.5.



XR-Control #181 538
Push-pull wire feed system offers unparalleled performance for aluminum MIG welding. See Lit. Index No. M/1.7.



S-74 DX #195 059
Wire feeder features process and weld control and handles a variety of wires up to 1/8 in. See Lit. Index No. M/3.0.



60M Series
S-60M #131 794
D-60M #131 796
Semiautomatic pulsed-MIG and standard CV-MIG feeder equipped with eight synergic pulse programs. Handles .023 to 1/8 in wires and up to 60 lb spool. Optional data cards for program storage and transfer. Pulse arc characteristics are fully customizable. See Lit. Index No. M/2.4.



Spoolmatic® 30A #130 831
A 1-lb, air-cooled spool gun that extends the weld process range by adding a handy portable system for small wire MIG. Rated 200 A at 100% duty cycle. Includes 30 ft (9.1 m) cable assembly. (WC-24 #137 549 for 14 pin.)

Genuine Miller Accessories (continued)

Roughneck® C-Series MIG Guns

See Lit. Index No. AY/17.0.

Ironmate™ Flux Cored Guns

See Lit. Index No. AY/16.0.

FC-1260

#195 732 10 ft (3 m)

#195 729 15 ft (4.6 m)

FC-1260LM

#194 912 10 ft (3 m)

#194 911 15 ft (4.6 m)

FC-1150

#194 864 10 ft (3 m)

#194 863 15 ft (4.6 m)

Water Coolant Systems

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



Coolmate™ 3

#043 007 115 VAC

#043 008 230 VAC

For use with water-cooled torches rated up to 600 amps. Unique paddle-wheel indicator, external filter and easy-fill spout.

Coolmate™ V3 #043 009 115 VAC

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

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 1-gallon recyclable plastic bottles. 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.

Ordering Information

Power Source and Options	Stock No.	Description	Qty.	Price
Invision® 456P	#903 505	230/460 VAC, 60 Hz		
	#903 505-01-1	230/460 VAC, 60 Hz with Remote On/Off		
	#903 545	400 VAC, 50/60 Hz with CE		
	#903 546	575 VAC		
Accessories				
Optima™ MIG Pulse Control	#043 389	For CC/CV models only		
Optima™ Extension Cords		See page 3		
WC-24	#137 549	For use with Spoolmatic 30A and power sources with 14-pin		
WC-115A	#137 546-01-1	For use with Spoolmatic 30A and power sources without 14-pin		
Process Selector Control	#042 872			
Extension Cords (For 24 VAC wire feeders and remote controls)		See page 3. Not to be used with Optima or 60M		
Running Gear				
MIGRunner™ XL Cart	#195 246	For all models		
XMT Cylinder Cart	#042 537	For all models		
Wire Feeders/Guns				
SuitCase™ 8RC/12RC	#194 938/#194 940	See Lit. Index No. M/6.5		
XR-Control	#181 538	See Lit. Index No. M/1.7		
S-74 DX	#195 059	See Lit. Index No. M/3.0		
60M Series	#131 794/#131 796	S-60M/D-60M. See Lit. Index No. M/2.4		
Spoolmatic® 30A Spool Gun	#130 831	Includes 30 ft (9.1 m) cable assembly		
Roughneck® C-Series MIG Guns		See Lit. Index No. AY/17.0		
Ironmate™ Flux Cored Guns		See Lit. Index No. AY/16.0		
Water Coolant Systems		See above. See Lit. Index No. AY/7.2		

Date:

Total Quoted Price:

Distributed by:

