

Invision™ 456P

Index No. DC/20
Issued Dec. 1999

450 Amp, DC Inverter, Welding Power Source



Processes



MIG (GMAW) and Pulsed MIG (GMAW-P) Welding



Flux Cored (FCAW) Welding



The Invision 456P inverter power source is designed specifically for MIG welding using all types of wire. Up to 600 amps of welding output is available from this industrial, high-production power source. The patented control technology of the Invision gives you superior MIG welding performance, minimal weld spatter and enhanced control of weld-bead wetting action.

For the ultimate pulsed MIG system, combine the Invision with Miller's 60M wire feeder or optional Optima control.

Applications

- Metal fabrication
- Manufacturing

Features

600 amps maximum output;
450 amps at 100% duty cycle

Pulsed MIG capabilities

Variable, electronic inductance control

Dual digital meters

Intelliselect 14-pin remote power control

Line voltage compensation

85% power efficient

Primary voltage display

Unique case design

Lightweight, yet durable aluminum case

Fan-On-Demand™

Wind Tunnel Technology™

Remote control circuit protection

115 VAC duplex receptacle

Optional remote On/Off

Benefits

Meets the high output needs of all your demanding production with 600 amps of output.

Reduced or eliminated spatter, reduced distortion, better out-of-position puddle control and potential reduction in fume particle emission.

Helps to minimize spatter and optimize weld-bead wetting action. Helpful when welding the following materials: stainless steel, silicon bronze, copper nickel, Inconel and copper silicon.

Large, bright dual 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.

Automatically switches to remote control if a feeder with a remote is attached. Makes set-up time quicker for an operator because it eliminates switches from the power source control panel.

Keeps the output power constant even if input power varies by ±10%. Ensures consistent weld performance.

Efficiently converts input power to welding output. Costs less to operate.

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

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

Aerospace-grade aluminum offers protection with the benefit of reduced weight.

The cooling system only operates when needed. Reduces the amount of airborne contaminants pulled through the machine. Reduces noise in the workplace and enhances electrical efficiency because fan doesn't run constantly.

Protects electrical components and PC boards from contaminants, significantly improving reliability.

Prevents damage from high frequency and shorted control cables.

Provides 10 amps circuit-breaker-protected auxiliary power for water circulators or other such devices.

Ability to turn the power source on and off when the power source is located away from your work.

Specifications (Subject to change without notice.)

Heavy Industrial



Input Power	Rated Output	Voltage Range in CV Mode	Max. Open-Circuit Voltage	Amps Input at Rated Load Output, 60 Hz 3-Phase					Dimensions	Weight
				230 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	95 VDC	50.8	27.8	24.4	21.2	19.2	H: 17 in (431 mm) W: 14½ in (368 mm) D: 26 in (660 mm)	Net: 118 lb (53.5 kg) Ship: 129 lb (58.5 kg)

Ordering Information See back page.



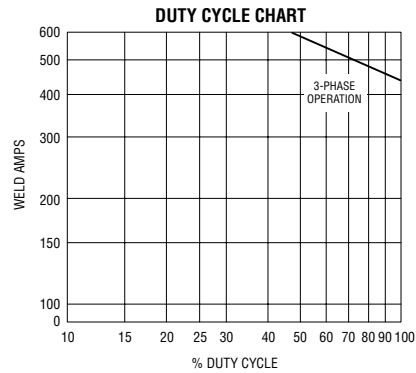
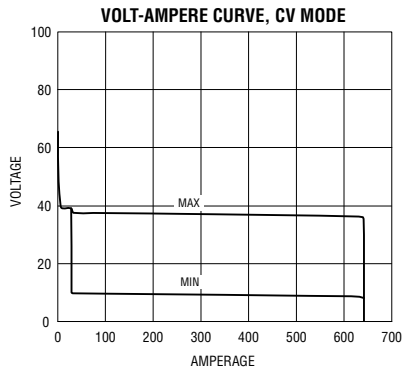
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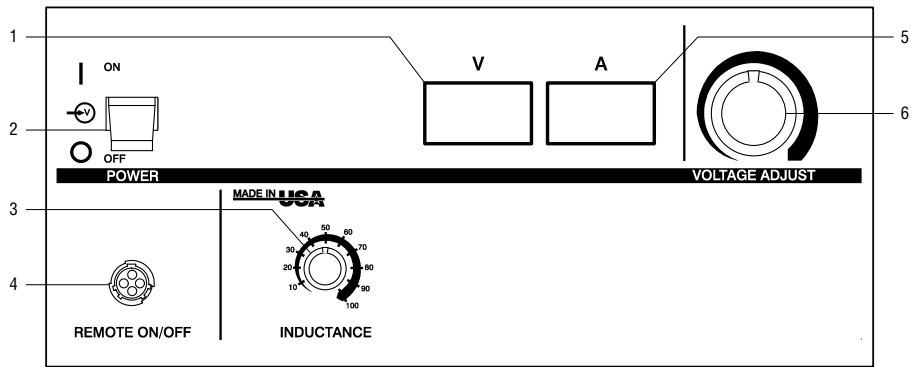


Performance Data



Control Panel

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



Accessories

Pulse Control



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 the Invision power source and any Miller wire feeder, including automatic feeders and spool guns. Includes a 25 ft (7.6 m) cord with 14-pin plug. See Lit. Index No. AY/11.0.

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)

Remote Control



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

- #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 a 14-pin socket.

Note: Not for use with Optima, 60M or XR-M.

Cart



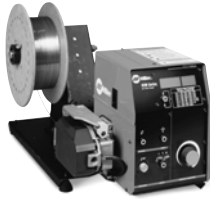
Cylinder Cart #042 537

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 a Watermate™ coolant system for TIG (GTAW) welding. Feeder mounted to tray above power source. Can also be used with the Maxtron™, XMT or Invision inverter power supplies. Also accommodates Radiator, Watermate™, or Coolmate™ coolant systems.

Accessories (Continued)

Wire Feeders

For Pulsed MIG Welding



60M Series
S-60M #131 794
D-60M #131 796

Offers eight synergic pulse programs for the ultimate in versatility, simplicity, programmability and performance. See Lit. Index No. M/2.4.



XR-M Feeder/Control #162 675
XRM-15A Gun #162 676 15 ft (4.6 m)
XRM-30A Gun #162 677 30 ft (9 m)
XRM-15W Gun #162 678 15 ft (4.6 m)
XRM-30W Gun #162 679 30 ft (9 m)

The XR-M™ is a microprocessor-based push-pull wire feed system offering the ultimate in feeding performance and programmability for MIG and pulsed MIG aluminum welding applications. See Lit. Index No. M/1.3.

Adapter Cords for XR-M #043 387
 17-pin to 14-pin Y-adapter cord.



Automatic M #043 268
 Superior programmability and process control to fixed automation systems and to robots lacking weld control capabilities. See Lit. Index No. IWA 5.1.

Adapter Cord for Automatic M #043 551

For MIG Welding

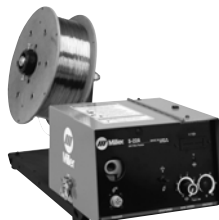


60 Series Wire Feeders
S-62 #131 785
S-64 #131 786
D-64 #131 788

Performance and flexibility to meet virtually every requirement in a quality-driven environment. See Lit. Index No. M/2.0.



S-22P12 Wire Feeder #125 616
 Offers rugged portability for use in outdoor environments. See Lit. Index No. M/6.3



22A Wire Feeder #193 066
 Simple to use with all the features needed for high productivity and performance. See Lit. Index No. M/11.0.



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

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
 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 and System Checklist

Equipment and Options	Stock No.	Description	Qty.	Price
Invision 456P	#903 505	230/460 VAC, 60Hz		
	#903 505-01-1	230/460 VAC, 60Hz with remote on/off		
	#903 505-01-2	230/460 VAC, 60Hz with current sensor		
	#903 546	575 VAC		
MIG Accessories				
60M Series	#131 794	S-60M. See Lit. Index No. M/2.4		
	#131 796	D-60M		
XR-M Series	#162 675	Microprocessor-based push-pull wire-feed system. See Lit. Index No. M/1.3		
XR Control	#181 538	See Lit. Index No. M/1.7		
Automatic M	#043 268	See Lit. Index No. IWA 5.1		
60 Series	#131 785	S-62. See Lit. Index No. M/2.0		
	#131 786	S-64		
	#131 788	D-64		
S-22P12	#125 616	See Lit. Index No. M/7.0		
22A	#193 066	See Lit. Index No. M/11.0		
Adapter Cords	#043 387	17-pin/14-pin cord for XR-M		
	#043 551	For Automatic M		
XR-Edge Gun		See Lit. Index No. M/1.7		
XR-Pistol Gun		See Lit. Index No. M/1.7		
Accessories				
Optima	#043 389	Pulse control		
Extension Cords for Optima	#043 725	25 ft (7.6 m), 115 V		
	#043 726	50 ft (15.2 m), 115 V		
	#043 727	75ft (22.9 m), 115 V		
RHC-14	#129 340	Hand control		
Extension Cords for RHC-14	#122 973	25 ft (7.6 m), 24 V		
	#122 974	50 ft (15.2 m), 24 V		
	#122 975	75ft (22.9 m), 24 V		
Cylinder Cart	#042 537			
Coolmate 3	#043 007	115 VAC. See Lit. Index No. AY/7.2		
	#043 008	230 VAC		
Coolmate V3	#043 009	See Lit. Index No. AY/7.2		
Coolmate 4	#042 288	See Lit. Index No. AY/7.2		
Coolant	#043 810			
Gas Cylinder				
Gas Hose with Fittings				
Regulator/Flowmeter				
Welding Wire				
Secondary/Welding Cables		For traditional weld output terminals		
Work Cable and Clamp				
Helmet				
Welding Gloves				
Date:			Total Quoted Price:	



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