

Invision™ 354MP/456MP

Issued Nov. 2004 • Index No. DC/23

MIG Welding
Power Source 

Quick Specs

Industrial Applications

Metal Fabrication
Heavy Manufacturing
Construction
Light Manufacturing

Processes

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

Input Power 354MP: 3-Phase or 1-Phase Power
456MP: 3-Phase Power

Rated Output 354MP: 300 A at 32 V, 60% Duty Cycle (3-Phase)
225 A at 29 V, 60% Duty Cycle (1-Phase)
456MP: 450 A at 38 V, 100% Duty Cycle (3-Phase)

Weight 354MP: 79.5 lb (36.1 kg) 456MP: 118 lb (53.5 kg)

The Power of Blue.®

Wind Tunnel Technology™

protects electrical components and PC boards from contamination, significantly improving reliability.

Fan-On-Demand™

operates only when needed reducing both noise and power consumption.

Remote control of arc trim allows wire feeder complete control of arc parameters.

International-style weld disconnects provide high-quality weld cable connections. (Two connectors supplied with each unit. Invision 354MP only.)

Invision 354MP only

Auto-Link® circuit automatically links the power source to primary voltage being applied (208-230/460 VAC, single- or three-phase).

Protective cover for front control panel protects controls from damage in rough conditions.

Optional 10 amp, 115 VAC auxiliary power available.



Invision 354MP

Invision 456MP

Invision 354MP MIGRunner™ industrial package comes complete in one box. See page 7 for details.

Dual digital meters for quick and easy viewing and **large setup screen** to choose pulse welding mode.

Built-in pulsed MIG capability which eliminates pendants and cables that could potentially get damaged or lost.

Pulsed spray transfer helps reduce spatter and fume levels.

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

Microprocessor-based technology allows process parameter storage to be retained between power down and power up and also between program changes.

Inverter arc control technology provides greater puddle control demanded especially by the pipe welding industry.

Invision 456MP only

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

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

Standard 10 amp, 115 VAC auxiliary power receptacle.



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

MADE IN **USA**
APPLETON, WI



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

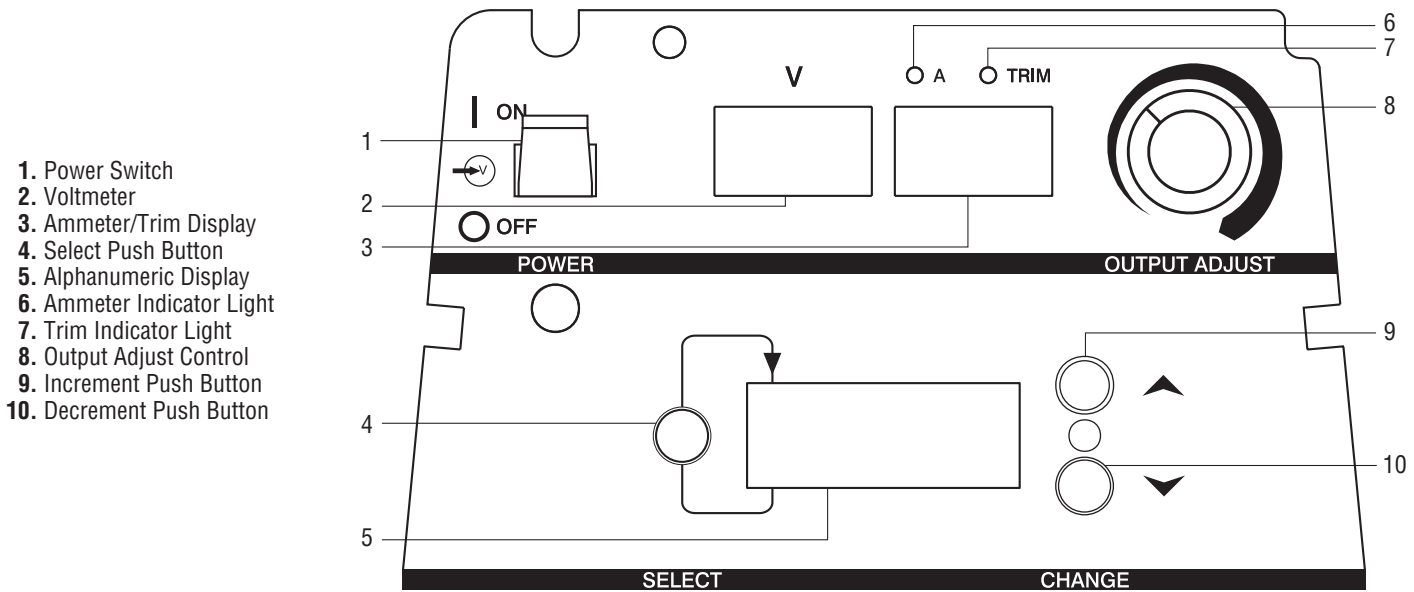


Invision™ 354MP Specifications (Subject to change without notice.)



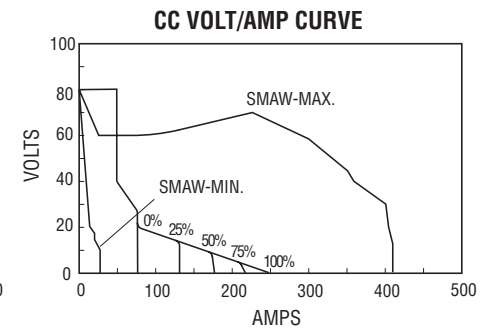
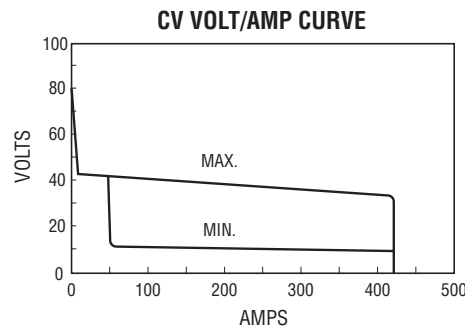
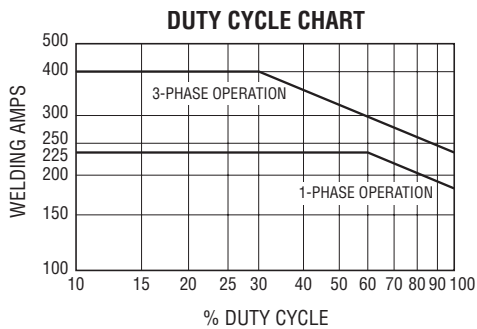
| Rated Output | Rated Output at 60% Duty Cycle | Voltage Range in CV Mode | Amperage Range in CC Mode | Max. Open-Circuit Voltage | RMS Amps Input at Rated Load Output, 60 Hz 3-Phase at NEMA Load Voltages and Class I Rating | | | | | | Dimensions | Weight |
|--------------|--|--------------------------|---------------------------|---------------------------|---|-------|-------|-------|------|------|---|---|
| | | | | | 230 V | 400 V | 460 V | 575 V | KVA | KW | | |
| Three-Phase | 300 A at 32 VDC | 10–35 V | 5–400 A | 90 VDC | 30.5 | 17 | 18.9 | 15.2 | 12.2 | 11.6 | H: 17 in (432 mm) W: 12-1/2 in (318 mm) D: 24 in (610 mm) | Net: 76 lb (34.5 kg) Ship: 85 lb (38.6 kg) |
| Single-Phase | 225 A at 29 VDC (Non-pulse applications) | | | | 47.4 | — | 24.5 | — | 11.3 | 7.6 | | |

Control Panel



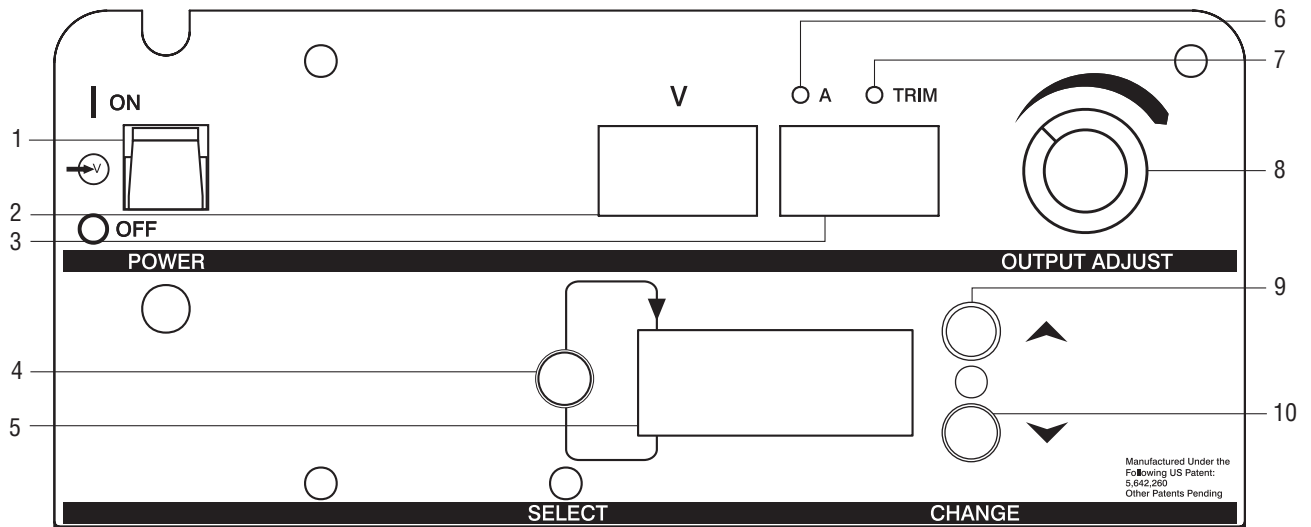
1. Power Switch
2. Voltmeter
3. Ammeter/Trim Display
4. Select Push Button
5. Alphanumeric Display
6. Ammeter Indicator Light
7. Trim Indicator Light
8. Output Adjust Control
9. Increment Push Button
10. Decrement Push Button

Performance Data



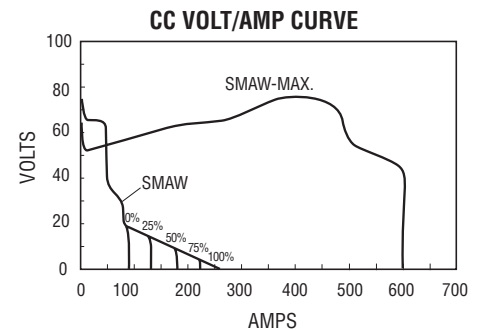
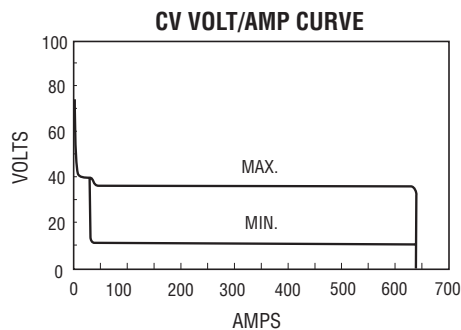
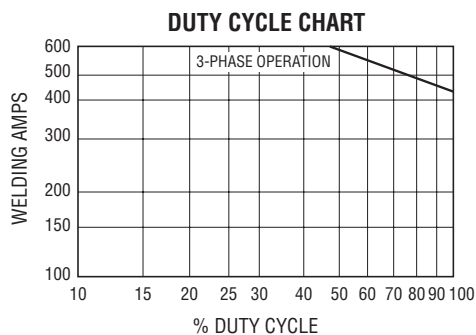
| Rated Output | Rated Output at 100% Duty Cycle | Voltage Range in CV Mode | Amperage Range in CC Mode | Max. Open-Circuit Voltage | RMS Amps Input at Rated Load Output, 60 Hz 3-Phase at NEMA Load Voltages and Class I Rating | | | | | | Dimensions | Weight |
|--------------|---------------------------------|--------------------------|---------------------------|---------------------------|---|-------|-------|-------|------|------|---|---|
| | | | | | 230 V | 400 V | 460 V | 575 V | KVA | KW | | |
| Three-Phase | 450 A at 38 VDC | 10–38 V | 5–600 A Stick | 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) | Net: 118 lb (53.5 kg) Ship: 129 lb (58.5 kg) |

Control Panel



- | | |
|-------------------------|----------------------------|
| 1. Power Switch | 6. Ammeter Indicator Light |
| 2. Voltmeter | 7. Trim Indicator Light |
| 3. Ammeter/Trim Display | 8. Output Adjust Control |
| 4. Select Push Button | 9. Increment Push Button |
| 5. Alphanumeric Display | 10. Decrement Push Button |

Performance Data



Genuine Miller Accessories



Protective Cover #195 478

Mildew and water resistant, odor-free cover protects your machine's finish. For 300/350 A inverters: XMT, Maxstar, Invision and Dynasty.



MIGRunner™ Cart #195 445

For 354MP only. Small footprint and easily maneuverable, with cylinder rack low enough that you do not have to lift bottles. Durable, heavy-duty ergonomic handles are designed for comfort.



MIGRunner™ XL Cart #195 246 (For all models)

Small footprint and easily maneuverable, with cylinder rack low enough that you do not have to lift bottles.



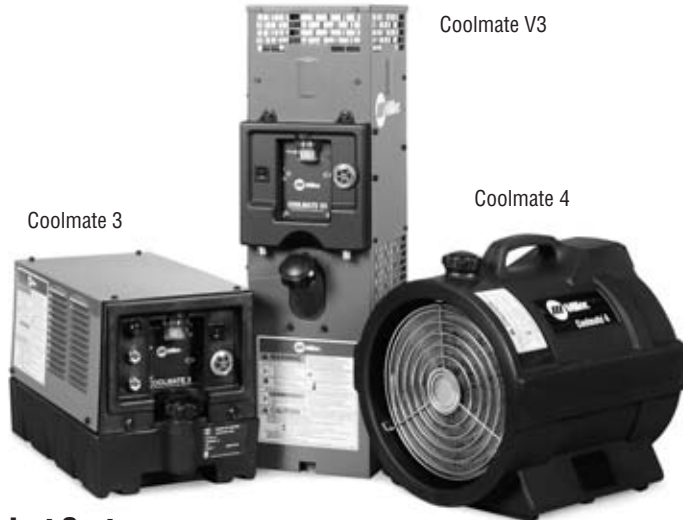
Invision™ Cylinder Cart #042 537

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 one coolant system for TIG (GTAW) welding. Feeder mounted to tray above power source.



Universal Carrying Cart and Cylinder Rack #042 934

Accommodates any Invision™ power source, plus 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.



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.

Low Conductivity 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.

Wire Feeders



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.



70 Series

S-74S #195 057

S-74D #195 058

Wire feeder features Posifeed™ wire drive assembly and

handles a variety of wires up to 1/8 in. See Lit. Index No. M/3.0.



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.



22A Wire Feeder #193 006

Simple, Reliable, 24 VAC constant-speed semiautomatic wire feeder, best suited for small diameter wires. Accommodates up to a 60 lb (27.2 kg) spool of welding wire when using optional wire reel assembly. 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.

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)

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

Note: The Invision 354MP power source is equipped with International-style connectors for secondary connections. (Power source is shipped with two 50-mm male International-style plugs for use with #4 to #1/0 AWG size cable.)

International-Style Connector Kit

#042 418 50 mm

Accepts #4 to #1/0 AWG cable size. Required if male plugs shipped with power source must be replaced, if additional plugs are needed.

#042 533 70 mm

Accepts #1/0 or #2/0 AWG cable size. Required if #1/0 or #2/0 AWG size cable is to be used.

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 #4 to #1/0 AWG size cable.

#042 534 70 mm

Accepts #1/0 or #2/0 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 Systems for Invision™ 354MP



Aluminum System

Invision 354MP #903 593
XR-Control Wire Feeder #181 538
XR-A Edge 30 ft Gun #181 535
XR-W Edge 30 ft Gun #181 532

Note: Guns are available in other lengths.



Steel and Stainless Steel System

Invision 354MP #903 593
SuitCase 12RC Feeder #194 940

Typical Systems for Invision™ 456MP



Aluminum System

Invision 456MP #903 725
XR-Control Wire Feeder #181 538
XR-W Edge 30 ft Gun #181 532

Note: Guns are available in other lengths.



Steel and Stainless Steel System

Invision 456MP #903 725
S-74D Wire Feeder #195 058

Package Components

Invision™ 354MP MIGRunner™ #907 051

Comes Complete With:

- Invision 354MP
- S-74D wire feeder
- Roughneck™ C-4015 gun
- Consumables
- .035 and .045 in drive roll kit
- Regulator/flow gauge with gas hose
- 10 ft assembled work and positive weld cables
- 10 ft factory-installed power cord
- Factory-installed running gear and cylinder rack
- Bottom tray will hold optional Coolmate 3 (sold separately)

The Invision 354MP combines the advantages of an inverter-based power source with built-in pulse features for pulsed MIG welding. Perfectly matched with the full-featured S-74D wire feeder and durable Roughneck® gun, accessories and running gear, this package is an outstanding industrial-class welding system.



Ordering Information

| Equipment and Options | Stock No. | Description | Qty. | Price |
|--|---------------|--|------|-------|
| Power Source | | | | |
| Invision™ 354MP | #903 593 | 208-230/460 VAC with Auto-Link® | | |
| | #903 593-01-1 | 208-230/460 VAC with Auto-Link® and Aux. Power | | |
| | #903 756 | 400 VAC with Aux. Power and CE | | |
| | #907 057 | 575 VAC | | |
| Invision™ 354MP MIGRunner | #907 051 | 208-230/460 VAC with Auto-Link®. See page 7 for components | | |
| Invision™ 456MP | #903 725 | 230/460 VAC | | |
| | #903 598 | 400 VAC | | |
| | #907 056 | 575 VAC | | |
| Accessories | | | | |
| MIGRunner™ Cart | #195 445 | | | |
| MIGRunner™ Cart XL | #195 246 | | | |
| Invision™ Cylinder Cart | #042 537 | | | |
| Universal Cart and Cylinder Rack | #042 934 | | | |
| Coolmate™ 3 | #043 007 | 115 VAC | | |
| | #043 008 | 230 VAC | | |
| Coolmate™ V3 | #043 009 | 115 VAC | | |
| Coolmate™ 4 | #042 288 | 115 VAC | | |
| Coolant | #043 810 | | | |
| Wire Feeders | | | | |
| SuitCase™ 12RC | #194 940 | See Lit. Index No. M/6.5 | | |
| 70 Series | #195 057 | S-74S. See Lit. Index No. M/3.0 | | |
| | #195 058 | S-74D. See Lit. Index No. M/3.0 | | |
| | #195 059 | S-74DX. See Lit. Index No. M/3.0 | | |
| 22A | #193 066 | See Lit. Index No. M/11.0 | | |
| XR™-Control | #181 538 | See Lit. Index No. M/1.7 | | |
| XR-Edge™ Gun | | See Lit. Index No. M/1.7 | | |
| XR-Pistol Gun | | See Lit. Index No. M/1.7 | | |
| Extension Cords (For 24 VAC wire feeders and remote controls) | #122 973 | 25 ft (7.6 m) | | |
| | #122 974 | 50 ft (15.2 m) | | |
| | #122 975 | 75 ft (22.8m) | | |
| International-Style Connectors | | | | |
| International-Style Connector Kit | #042 418 | 50 mm | | |
| | #042 533 | 70 mm | | |
| Extension Kit for International-Style Cable Connectors | #042 419 | 50 mm | | |
| | #042 534 | 70 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:

Note: Invision 354MP will operate from 200/208 VAC, but will not compensate for low line fluctuations at this level.
Meets NEMA rated output standards using 230/460 VAC primary only.



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