

AMERARC™ I-401S INVERTER ARC WELDING MACHINE



DESCRIPTION

The AMERARC I-401S welding machine is a lightweight and reliable, constant current (CC) inverter arc welder. The rugged, compact and very portable case with carrying handle makes it well-suited for shipboard maintenance and repair activities. The machine operates on single- or three-phase, 50/60 Hz, 208-230/400/460 VAC supply voltages and now supplies 400 amps of direct current at 25% duty cycle, (300 amps at 60% duty cycle). A high quality arc is assured, even at a minimum of 5 amps, for precision TIG (Gas Tungsten Arc Welding) welding, using the LIFT-TIG operating mode. The machine also has excellent arc characteristics for all STICK (Shielded Metal Arc Welding) welding applications and is ideal for handling electrode sizes of 1.6 – 5.0 mm.

The I-401S has an additional Carbon Arc Gouging setting to optimize the machine performance during this process. There is a built in Resonance Inverter with Digital Control, where the welding arc is controlled by six Micro-controllers that monitor current and voltage at 1.5 million times per second. The automatic multi-voltage input allows the machine to sense the input power and automatically adjust for it with no need for any mechanical switchover process. The I-401S has 100 AMPS more power than its predecessor, the I-300S. It weighs 51lb (23kg).



AMERARC™ I-401S Inverter Arc Welding Machine (PCN 0600131)
Arc Welding Accessories Kit (PCN 0716029)

FEATURES

- Easy to use/excellent portability
- Digital Meters: Voltage and Amperage; Preview and Hold capability
- Approvals: IEC, CSA, UL
- Leading MICOR Technology: Enables use of longer primary cables, reduces power consumption, reduces weight and size while delivering exceptional welding performance in all processes.
- Multi-Voltage Input: Accepts 208-230/400/460 VAC, 1 or 3 Phase, 50 or 60 Hertz with no mechanical changeover.
- Remote Receptacle Fitted: Allows remote devices to be connected for controlling amperage and output contactor.
- Warning diagnostics
- IP23S (International Protection Rating)
- Standards Compliant Voltage Reduction Device (VRD). OCV of only 12V DC.

BENEFITS

- Best In Class Performance: Welding process controlled by six Micro-controllers monitoring current and voltage at 1.5 million times per second, delivering perfectly smooth, stable arc characteristics.
- Leading Power Efficiency: Up to 25% power savings vs. traditional inverter designs.
- Preview and hold and job save capability
- Enables the use of longer primary cables, reduces power consumption, less weight, smaller size
- Delivers perfectly smooth, stable arc characteristics for PIPE and low hydrogen electrodes
- Accepts 208-230/400/460 VAC, 1 or 3 Phase, 50 or 60 Hertz. No mechanical changeover, very versatile
- Alerts operator to power supply abnormalities
- VRD reduces OCV when power supply is not in use.



Contact your Drew Marine representative for more information

PRIMARY POWER

Primary Voltage	208-230 / 400 / 460 VAC
Supply Voltage Range	177-529 VAC
Number of Phases	Single / Three Phase
Supply Frequency	50/60 Hz
Rated kVA @ 400 Amp	14.4 kW
Lead Cord Length	10 ft (3 m)
	53.2A (208 Volt / 3 PH)
Maximum Input Current	49.1A (230 Volt / 3 PH)
	28.6A (460 Volt / 3 PH)

APPLICATION

The AMERARCTM I-401S inverter arc welding machine is especially well suited to shipboard use because of its rugged build, low weight and inverter technology design. The new technology built into the I-401S allows the operator to carry the machine to the work area and still use cables as long as 175 meters while maintaining a smooth powerful arc. Inverter technology offers other advantages in addition to mobility. The circuitry responds so quickly to arc changes (1.5 million times a second) that the operator achieves the best advantage of all electrode types, regardless of weld position or current level within the required current range. The I-401S will also work with any voltage sensing or constant voltage wire feeder making it extremely versatile in performing MIG welding applications.

APPLICATION

**STICK (SMAW), Lift TIG (GTAW),
Air Carbon Arc Gouging (CAG)**

STICK

- **Adjustable Hot Start Control** for optimum STICK electrode starting performance
- **Adjustable Arc Force Control** for optimum STICK electrode welding performance
- **Excellent PIPE** welding electrode performance

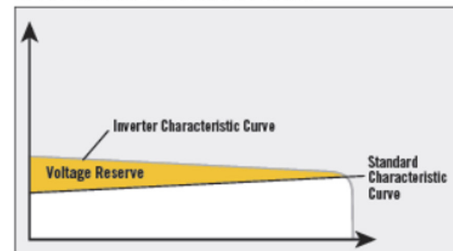
TIG

- **Lift TIG Start:** Provides TIG arc starting without the use of high frequency

CARBON ARC GOUGING

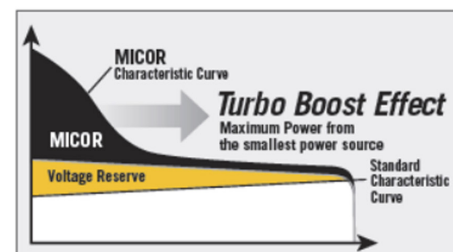
- **Special Arc Gouging Mode:** for optimum performance while gouging with carbons

CONVENTIONAL INVERTER TECHNOLOGY



Voltage and power reserves are small for conventional inverters. The welding process can become quickly unstable.

MICOR INVERTER TECHNOLOGY



Particularly for the critical, low current intensities, MICOR inverters build up a high voltage and ensure maximum stability.

WELDING DC

Maximum Output	400 Amp
	300A / 32V @ 22% (1 PH)
	230A / 29.2V @ 60% (1 PH)
STICK (SMAW) Welding Output @ 104°F (40°C)	180A / 27.2 @ 100% (1 PH)
	400A / 36V @ 25% (3 PH)
	300A / 32V @ 60% (3 PH)
	220A / 28.8V @ 100% (3 PH)
	300A / 22V @ 25% (1 PH)
	230A / 19.2V @ 60% (1 PH)
TIG (GTAW) Welding Output @ 104°F (40°C)	180A / 17.2V @ 100% (1 PH)
	400A / 26V @ 25% (3 PH)
	300A / 22V @ 60% (3 PH)
	220A / 18.8V @ 100% (3 PH)
Current Range	10-300A (1 PH)
	10-400A (3 PH)
Warranty Period	2 Years
Min. open Circuit Voltage	12 VDC
Max. open Circuit Voltage	79.6 VDC
Approvals	IEC 60974-1, CSA E60974-1, UL 60974-1
Protection Class	IP23S
Power Source Dimensions (H x W x D)	16.5" x 8.3" x 17.7" (420 mm x 210 mm x 450 mm)
Power Source Weight	51 lb (23 kg)

Drew Marine maintains Safety Data Sheets on all of its products. These documents contain health and safety information for the development of appropriate product handling procedures to protect your employees. Safety Data Sheets should be read and understood by all of your supervisory personnel and employees before using Drew Marine products.



Drew Marine®

**100 South Jefferson Road
Whippany, NJ 07981 USA
1-973-526-5700
Drew-Marine.com**

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