

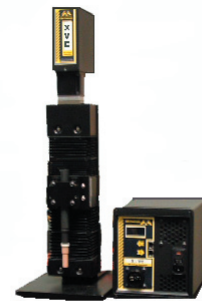


The neXt Generation of Automated Welding Systems and Standalone Components

XM Controller

The XM Controller along with its set of precision control modules represent the neXt Generation in welding controls. The XM Controller is a unique blend of powerful control electronics, bright graphical operator display, and seamless expandability. It utilizes both AMET's advanced DSP / microprocessor electronics, and our user friendly display software. It is the foundation for a complete set of precision modules to satisfy all your arc welding needs.

The XM modules are designed to be "Plug and Weld" additions to a new or existing welding system. The controller will automatically recognize a module when connected and allow immediate use with all other system modules. The module control is automatically mapped to the XM Controller / Pendant.



FEATURES

- XM** Lightweight ergonomic Controller / Pendant package for handheld or mounted use.
- XM** Simple yet powerful graphical programming interface - just select and dial a value.
- XM** Simple plug and play connection of any X module (AVC, wire feed, oscillation, etc.)
- XM** Outstanding bright backlit color 6.4" TFT LCD operator display.
- XM** Dedicated buttons for most commonly used welding functions.
- XM** 3 Tactile joysticks for controlling up to 6 axis of part, torch, wire nozzle motion.
- XM** 4 Precision digital encoder pots for parameter override control & programming.
- XM** Powerful Microprocessor/DSP for precision control and accurate feedback.
- XM** Integrated power supply control for virtually any arc welding supply.
- XM** Pre and Post Weld automation software for motion control, tooling integration.

XM Controls

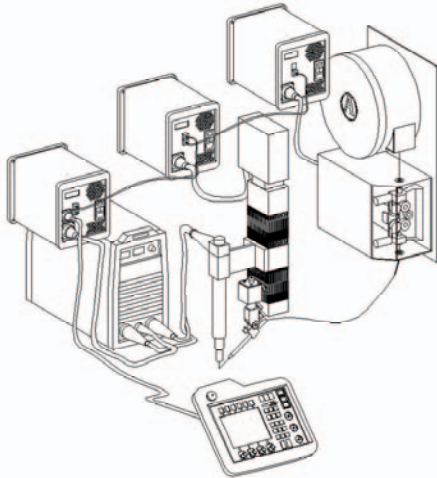


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XM Modules

A Modular and Networked approach to welding system design. The X-Modules work with the XM controller like USB peripherals work with a personal computer.

“PLUG & WELD” CONNECTIVITY

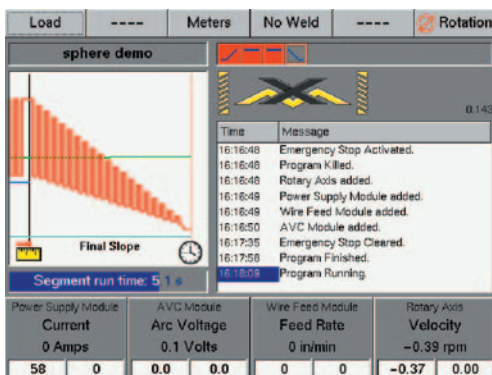


Build, or expand, your own system with the first “Plug and Weld” modules. XM modules are designed to be automatically recognized by the XM controller. Plug in any module and instantly add weld process capability.

XM “Plug and Weld” Modules

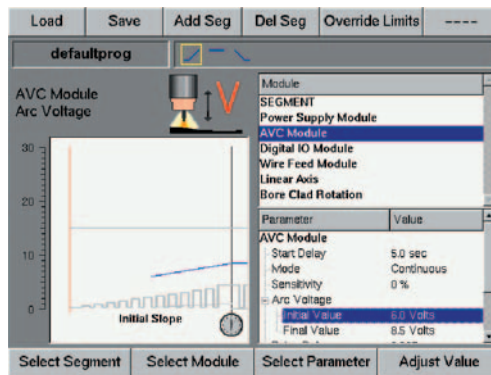
- XPS - Power Supply Control
- XVC - Automatic Voltage Control
- X-Feeder - Wire Feed Control (2 and 4 roll versions)
- X-HW - Hot Wire Feed Control
- X-Slide - Travel and Mechanical Oscillation Control
- X-Rotary - Rotation Control
- X-Plasma - Plasma Gas Control

GRAPHICAL WELDING SOFTWARE



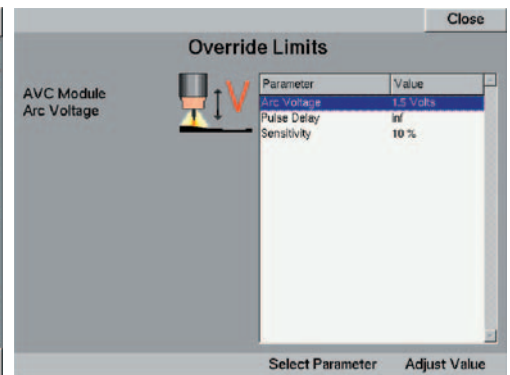
Weld Mode

Used to execute weld programs. Displays the Weld with a graphical display and meter panel showing the programmed, actual, and over-ride value for each parameter.



Edit Mode

Used to Create and or Edit Weld Programs. Menu based program editor with a graphical display. Any XM Module plugged into the CAN bus is available for programming.



Setup Mode

Used to define the Hardware / Software configuration of a system.

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XM Controller Specifications

Electrical

- 6.4" TFT LCD Display
- 400 MHz 32 bit Xscale RISC embedded processor
- Internal 32 MB of SDRAM for weld program storage
- Standard USB OTG port (USB Memory Stick) for Data Mobility
- CAN Bus interface to other XM Modules
- 110-240 VAC 50/60 Hz Single Phase

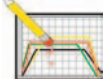
Mechanical

- Height: 8"
- Width: 7.75"
- Depth: 9.75"
- Weight: 12 Lbs

PENDANT CONFIGURATION



Weld Mode – button is used to access the Weld Mode. This mode is used, as the name implies to execute previously created weld schedules.



Edit Mode – button is used to access the Edit Mode. The Edit Mode is used to create and/or modify weld schedules; all programmed adjustments of the welding parameters are completed in this mode.



Set Up Mode – button is used to access the Set Up Mode. The Set Up Mode is used to define the hardware configuration of a system. As modules are added their functionality is made available through adjustments made in this mode.



Plasma Gas – button activates the plasma gas at the default flow rate. Plasma Gas will flow at this rate until the button is deactivated.



Torch Gas – button activates the torch gas at the default flow rate. Torch Gas will flow at this rate until the button is deactivated.



Back Gas – button activates the back gas at the default flow rate. Backing Gas will flow at this rate until the button is deactivated.



Wire Disable – when active will stop the wire feed from advancing regardless of the programmed feed rate. If wire is feeding when this button is activated a programmed wire retract is performed.



Oscillation Disable – when active will suspend the programmed oscillation settings until the button has been deactivated.



AVC Disable – when active will suspend AVC Control and allow torch height to be controlled from the joystick.



Set Position – when this button is pressed, the position 1 and position 2 buttons are made ready for programming. The Position 1 or 2 buttons then saves the current position.



Position 1 and 2 – buttons are used to move the torch to a previously saved position. (See Set Position (1 or 2) above.) All axis involved in torch positioning will be affected.



Touch Retract – is used to retract the torch a specific (per defined) distance from the weld coupon. The retract distance is defined in the



Cross Home – button moves the cross slide to its hardware home position.



XVC Home – button moves the XVC slide to its hardware home position.



Home All – moves all of the current motion axis's to their hardware home positions.



Travel Jog – buttons are used to incrementally "jog" the travel axis either in the positive, or negative directions.



Wire Jog – buttons are used to incrementally "jog" the wire feed either in the positive, or negative directions.



Continuous Jog – button is used to activate the continuous jog mode. When the travel or wire jog button are subsequently pressed, the axis will move continuously at the programmed rate until the button has been deactivated.



XM Controls



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XMC Description

The XM Controller is the focal point of the XM modular series of welding components. It is both a stand-alone controller, and Operator Pendant. It plugs directly into the X-PS Power Supply Module, and to any other modules through their CAN bus connection. As XM modules are plugged into the CAN bus, they are recognized automatically by the XM Controller, and are then available for programming.

Programming is performed via leading edge Graphical Editing Software, combining semi-automated segment style programming, with automated features. The end result is a controller that can be easily programmed using common segment oriented weld programming, and then operated in either a semi-automated, or automated mode.

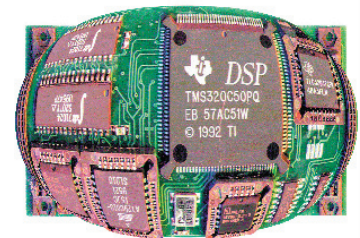
DSP TECHNOLOGY

The world is fast becoming digital, and Digital Signal Processors (DSPs) are at the heart of this digital revolution. It's a simple fact that accurate welding process control and monitoring requires fast and accurate signal processing. It's also a fact that DSPs do sophisticated signal processing better and faster than anything else. Need proof? DSPs are the fastest growing segment of the semi-conductor industry, and are used in cell phones, digital cameras, cable modems, and many other information processing devices.

AMET has brought this technology to the welding industry via a series of DSP boards specifically designed for welding control and monitoring applications. AMET DSP powered systems run their control and monitoring cycles at up to 10,000 times per second for every welding parameter. It is this powerful processing capability along with AMET's famous graphics software that makes AMET systems more accurate, flexible, and much, easier to use.



THERE IS A DIFFERENCE!



LINUX

Linux has evolved as a preferred Operating System for the future. It is widely respected for its stability and open source software architecture. AMET has developed the XM Series running on an Embedded Linux Real Time Operating System for enhanced performance and long term support.

Linux allows the Xm to support the Hardware advances of the future, with stability and transparency to the end user



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