

An Illinois Tool Works Company

### LATEST TECHNOLOGY GRAPHICAL INTERFACE INTUITIVE SOFTWARE

Automated welding is a cornerstone in the manufacturing industry's ability to meet productivity goals, deal with welder shortages, and stay competitive.

Jetline's goal is to deliver integrated solutions that allow our customers to automate their welding operations and produce high quality and consistent parts.

WELDING

AUTOMATION

FROM JETLINE

SOLUTIONS

The 9900 controller brings the latest computer technology to the welding industry.

The 9900 controller is a 15" touch screen industrial computer running Jetline's intuitive welding software.

Designed with the operator in mind, we used innovative solutions to simplify the welding process and empower our customers to deliver results that improve the bottom line.

The controller is based on industrial hardware and is running Windows XP® operating system. This means that the operator can take advantage of the standard Windows® data file management and backup. There are several USB ports on the computer that can be used to connect peripherals like printers, keyboards or a mouse. For easy welding data backup a USB storage device can be used. The controller also comes configured for LAN networking and Wi-Fi capability. These features allow remote monitoring and management of the controller from the convenience of the office via LAN or via internet.

The controller can be ordered with two distinct software versions—Standard and Advanced—and several options to match the requirements of the part to be welded.

Every software version has three main menu categories: tech mode, weld program editing mode, and production mode. Each menu category is password protected to secure the data and the operators.

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## 9900 Controller



## simplifying WELDING

### KEY FEATURES OF THE 9900 CONTROLLER:

- CONTROLS UP TO 15 CHANNELS
- DUAL PROCESS INTEGRATION IN ONE PROGRAM
- MULTIPASS SOFTWARE
- UNLIMITED NUMBER OF WELD SEGMENTS AVAILABLE
- 15" INDUSTRIAL TOUCH SCREEN COMPUTER
- SMART CHANNEL MODULES
- ETHERNET COMMUNICATION PROTOCOL
- FIBER OPTICS CONNECTIONS TO ELIMINATE VULNERABILITY TO HIGH FREQUENCY NOISE
- VIRTUALLY UNLIMITED STORAGE\*
- MODULAR DESIGN TO ALLOW EXPANDABILITY

\*DEPENDS ON FREE HARD DRIVE SPACE

## Technology that welds!



# welding automation for your business



### **RUGGED INDUSTRIAL COMPUTER**

The resistive touch screen is designed to offer many years of trouble free service in the demanding welding shop environment. As an option, a keyboard and mouse can be ordered with the unit.

The industrial PC is connected to the dedicated embedded channel modules. The channel modules are special-purpose computers designed to perform a few dedicated channel specific functions. Since the embedded channel modules are dedicated to a few specific tasks, they are characterized by increased reliability and performance. Jetline's engineers designed the 9900 system to be immune to high frequency or inverter noise present in the welding environment. Each channel input and output is electrically isolated and all external connections are made via fiber optic cables to assure signal integrity over long distances and to shield the welding system from the environment.

### **CONTROLS UP TO 15 PARAMETRS**

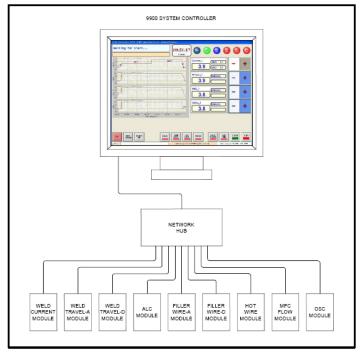
The 9900 controller is designed to control up to **15** parameters or channels in a closed loop format. All system parameters and variables are incorporated in the welding program and are closely monitored to assure the accuracy of the welding procedure. This means that oscillation (mechanical or magnetic), hot wire voltage or any other parameters are integrated and controlled from a single easy to access weld program. The controller is also capable of controlling multiple welding arcs/processes from the same program. The modular design of the system allows easy expandability or change from the original configuration. The channel modules can be connected to the system in a plug-and-weld format.

### STATE OF THE ART HARDWARE

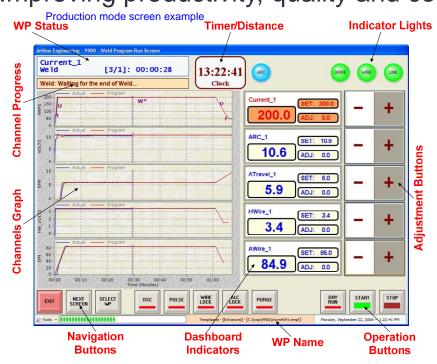
Building upon over 40 years of process control expertise, Jetline introduces the 9900 welding controller.

The 9900 controller is composed of an industrial touch screen computer and the associated channel modules. The industrial computer offers superior hardware reliability, industrial grade insulation, and long term supply.





## Improving productivity, quality and consistency of your parts



## custom solutions to meet your needs



### **INTUITIVE SOFTWARE**

There are two software versions available to satisfy the simple or the mission critical applications.

Standard: designed with simplicity and efficiency in mind. The screens are intuitive and the operator's learning curve is minimal. The program provides a familiar framework for the operator. It is ideal for seam welding applications and provides process control by programming a minimal number of parameters per channel. The Standard version includes an option to run all weld programs in the Enhanced mode which allows sloping (upslope and downslope) of all channels This gives the operator more flexibility in the demanding circumferential, hot wire or dual arc applications.

Advanced: gives full control to the operator in designing the weld program. The standard weld program can be expanded with unlimited number of segments which satisfies even the most demanding applications. It is recommended for complex weld joints and applications where programming flexibility is key.

### **FLEXIBILITY**

Both software versions come with many standard features including current pulsing, offline programming, printing, and data management. On top of these standard features there are several options available for all versions. The software allows not only the changing of the main parameters during welding, but also the changing of the pulsing and oscillation parameters. The production mode screens can display up to five channels on one screen. If more than five channels are being controlled, the operator can select the order of channels per screen and which channel to be displayed on which screen.

### INDUSTRIAL TOUCH SCREEN

The 15" standard touch screen HMI (human machine interface) provides access to all the parameters controlled during welding. A graphical representation of the weld program aids the operator during the welding process. On the graph, in real time, the actual process parameters are displayed in parallel with the set values. This feature provides an instant feedback to the operator about the state of the process. A progress bar along with a timer is also present to allow easy scanning of the program's progress.

The graph can be zoomed or viewed in a full screen format to allow the operator to analyze and monitor the program parameters and their relationship with each other.

We designed the 9900's software with large adjustment buttons for convenient parameter adjustment. The actual and program parameter displays are large enough to be easily seen from several feet away. Status lights on the screen show the current state of each channel.

### Standard program editor screen example

Current	ARC	Travel	Wire	Flow	HWire OSC			
∠ Initial								
Curr	ent (A):	10			Time (Sec):	0		
Ups	slope –		Ļ	$\triangle$	Time (Sec):	0		
We	ld —							
Curre	ent (A):	0		$\triangle$	● Time	0		
					O Distance			
					O Event			
Do	wnslope		L	<u>_</u>	Time (Sec):	0		
Fin	al ent (A):	0		<u></u>	Time (Sec):	0		
Tor	ch Shie	ld Gas						
Pre F	low Torc	h (Sec):				0		
Post	Flow Tor	ch (Sec):				0		
Pulsing Setup								

A convenient grouping of parameters based on channels, along with the graphical representation of the programmed parameters and their relationship with each other, aids the operator during the weld program editor screens. Each program can be run based on time distance or event. Multi-pass and dual arc are available as options in the Standard software version; Multipass is included in the Advanced Version.

## Proven experience and reliability

### **EXCITING FEATURES**

There are many new features available on the 9900 controller. Some of the most exciting ones are related to synchronized pulsing and variable polarity AC welding. In many instances in multipass welding, the synchronization of the current pulsing with the oscillator can improve sidewall penetration and reduce the overall heat input. In the synchronized pulsing mode when the oscillator reaches the side wall of the joint, the current is switched to high pulse to provide better side wall melting. In the Pulsalation mode, the controller synchronizes three channels, the current, oscillator, and travel.

Variable polarity AC welding can improve the quality of aluminum welding.

As an option, the 9900 can control two processes simultaneously (Dual Arc). Data acquisition is available as an option with both software versions.

# turn-key solutions welding know-how legendary **Jetline support**

### HARDWARE AND SOFTWARE INFORMATION

Software Function Availability	Standard	Advanced
Pulsing of Power Source	Υ	Υ
Slope of all channels	Υ	Υ
Upload/Download	Υ	Υ
Off line programming	Υ	Υ
AC enhancement for VP	Υ	Υ
More than 5 segments per channel	N	Υ
Dual Arc (Multi torch)	OPT	OPT
Multi-Pass Program	OPT	Υ
Data Acquisition	OPT	OPT
Picture in picture- video monitor	OPT	OPT

Available Hardware Modules	Standard	Advanced
Weld Current	Υ	Υ
Weld Travel- A	Υ	Υ
Weld Travel-D	Υ	Υ
ALC- Arc Length Control	Υ	Υ
Wire Feed-A	Υ	Υ
Wire Feed-D	Υ	Υ
Magnetic Oscillator	Υ	Υ
Mech Oscillator	Υ	Υ
Hot Wire Control	Υ	Υ
Mass Flow Control- GAS for Plasma	Υ	Υ
Dabber	Υ	Υ
Legend: Y= Yes ; N=No		

OPT= option, order separate

A-Analog control; D- Digital control

