WeldSaver™

Coolant control and leak detection for robotic welding systems

» Monitors and communicates coolant flow and temperature conditions to ensure adequate electrode cooling

» Shuts off flow in less than 1 second after cap loss or other loss of flow continuity

» Sends alarm to weld controller in less than 0.4 seconds

» Patented leak-detection algorithm is independent of flow calibration

» Continuous indication of actual coolant flow rate and temperature

» User-selectable operating parameters and alarm settings

» Remote control of valve and system states to support gun changers and weld-cap changers

» Local display and browser-based user interface options

» EtherNet/IP™, PROFINET®, and DeviceNet™ control interface options

» Flow ranges from 6–50 LPM / 1.5–13 GPM

» Liquid temperatures from 4.0–110 °C / 39–230 °F

The Proteus WeldSaver™ is the leading water-safety device for flow control and leak detection in robotic welding applications. Whether monitoring coolant flow to weld guns or to the entire cooling circuit for a weld cell, the WeldSaver rapidly and reliably detects losses of flow continuity created by cap loss, hose burst, or other catastrophic event.

The WeldSaver graphical user interface provides information on device status in real time, with clear visual indicators and descriptions. The interface can be accessed over a network using most JavaScript™-enabled web browsers by entering the working IP address of the device.

Intelligent Leak Detection

The WeldSaver's patented detection algorithm rapidly identifies subtle flow velocity changes that distinguish true leaks from pressure-, temperature-, and motion-induced effects, positively identifying a leak condition in less than 0.3 seconds. In the event of a cap loss or other leak, the WeldSaver signals a state change to immediately stop the weld process, and simultaneously closes an attached shutoff valve.

Performance Characteristics

Product Line		
	WeldSaver 5	WeldSaver 6
Control Interface Options	EtherNet/IP™ • PROFINET®	EtherNet/IP™ • PROFINET® • DeviceNet™
User Interface	Browser-based UI	Local display with keypad • Browser-based UI
Flow Range*	6.0 – 50 LPM / 1.5 – 13 GPM	
Temperature Range	4.0 – 110 °C / 39 – 230 °F	
Connection Options	G 3/4" (BSPP) • 3/4" MNPT	
Coolant Supply Pressure	83 – 620 kPa / 12 – 90 psig	
Coolant Return Pressure	70 – 350 kPa / 10 – 50 psig	
Differential Pressure	14 – 415 kPa / 2.0 – 60 psig	
Low Flow Response	< 0.2 sec.	
Reset / Override Response	< 1.0 sec.	
Leak Detection Response	0.3 – 1.0 sec. depending on response time selection and back pressure	
Leak Sensitivity	Able to detect a loss of flow continuity from 1–20 balanced parallel flow paths	
Accuracy	± 3% of full scale	
Repeatability	± 1% of full scale from 0.1 to 1.0 × full scale	
Operating Environment	Indoor use only	
Ambient Temperature	4.0 – 50 °C / 39 – 122 °F	
Max. Relative Humidity	80%	
Enclosure Protection	IP66 / NEMA 4X	

*The stated flow ranges are valid for products equipped with a pneumatic valve and products with no coolant shutoff valve installed. Products equipped with a solenoid valve have a reduced upper flow limit of 30 LPM / 8 GPM.

Proteus Industries: Flow Experts and Customization Specialists

We have over 35 years of experience in developing and manufacturing hundreds of thousands of rugged and precise fail-safe solutions for flow measurement and control. Our products are used worldwide to monitor and protect mission-critical processes and equipment in semiconductor fabrication, medical therapy systems, automotive welding, and temperature-stabilized optical and mechanical systems. Proteus' world-class calibration capability allows us to deliver instruments with temperature- and fluid-specific calibrations and viscosity characterization. Our assured accuracy is the foundation of your success!

Contact WeldSaver Applications Support at weldsaver@proteusind.com or (650) 964-4163 and let our experts create a product configured to your exact requirements!

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