



SmartFlow

Coolant control and leak detection for robotic welding systems



Features

- Sends alarm to weld controller in less than 0.3 seconds
- Shuts off water in less than 0.5 second after cap loss, hose burst or other catastrophic failure
- Advanced sensor and cap-loss algorithm ensure flow detection precision and rapid response
- Continuous indication of actual coolant flow rate directly in LPM
- Ease of use, graphic user interface can be login through any PC explorer or TPU
- User-selectable operating parameters and alarm settings
- Flow ranges from 1 to 50 LPM
- Digital IO, EtherNet/IP and PROFINET options
- Bus with User IO or Pump Cylinder options
- Remote control of valve state
- Seven segment display show the flow rate in real time

The Cargoa SmartFlow™ is the leading coolant flow controller and leak detector for robotic welding applications. Whether monitoring coolant flow to weld guns or to entire cooling circuit for a weld cell, the SmartFlow quickly and reliably detects losses in flow continuity created by cap loss, hose burst or other catastrophic event.

Intelligent Leak Detection

The SmartFlow's detection algorithm rapidly identifies subtle flow velocity changes that distinguish true leaks from vortex street sensor. By vibration detection, vortex sensor acquires quite better response time and accuracy than traditional paddle wheel. Cost is saved and maintenance is easier.

In the event of cap loss or other leak, the SmartFlow signals the controller to stop welding in less than 0.3 second and shuts down all coolant flow in less than 0.5 second. This direct control of the shut-off mechanism significantly reduces reaction time, minimizing water loss and the associated mess and hazard.

Performance Characteristics

Flow Range	1.0 – 50 LPM
Connections	3/4" FNPT or 1/2" BSPP
Pressure Drop	< 15 kPa
Coolant Supply Pressure	83 – 620 kPa
Coolant Return Pressure	70 – 350 kPa
Differential Pressure	14 – 415 kPa
Coolant Temperature	4.0° - 110°C
Operating Environment	4.0° - 50°C
Leak Response Time	< 0.3 sec
Low Flow Response	< 0.2 sec
Reset/Override	< 0.1 sec
Leak Detection	0.3 – 0.5 sec
Accuracy	± 3% of flow range
Repeatability	± 1% of flow range
Seven segment display	real-time(0.1)

Graphic User Interface

The SmartFlow can be operated from the weld controller or from a pendant or standard computer via a convenient web-browser based graphical user interface.

Need a Customized Solution?

Contact SmartFlow Applications Support at cargoa@vip.163.com and let our experts create a product configured to your exact requirements!



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Interface Capabilities

- **Digital IO(CASF-02Dxx)**

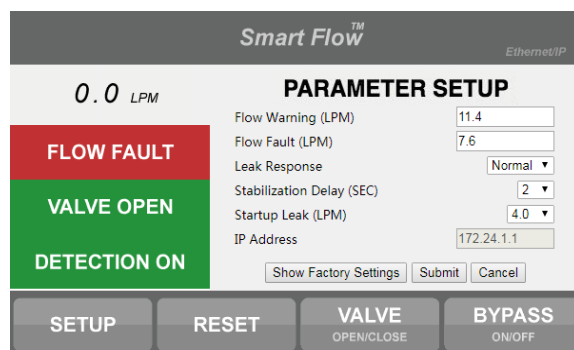
Relay instruments provide a Remote Reset control input and optional control of valve or bypass status from the weld controller, with relay outputs signaling flow OK or Low Flow status. +24VDC contact logic options can be selected by wire contacts during installation.

- **EtherNet/IP(CASF-02Exx)**

EtherNet/IP instruments offer the operational functionality over Ethernet networks. The SmartFlow can be operated from the weld controller

- **PROFINET(CASF-02Pxx)**

PROFINET instruments offer the operational functionality over PROFINET networks. The SmartFlow can be operated from the weld controller



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