



When it comes to additive injection, the Fusion4 MiniPak helps you zero in on accuracy.

Founded on Honeywell Enraf's proprietary FlexConn architecture, the Fusion4 MiniPak is a member of the Fusion4 portfolio of loading automation and control products. This model, as with all Fusion4 controllers, combines the latest in hardware technology design, with the most intuitive, efficient and accurate control philosophies on the market. Advanced features of Fusion4 products range from the crisp clarity of the 3.5" QVGA full color screen capable of displaying multiple languages including Chinese characters to the Calibration Wizard application that allows automatic W&M calibration records

to be constructed at the click of a button. All these advanced features are accessed via the proprietary LAD (local access device) which enhances controller security and expands functionality even further.

Overview

Zero in on Accuracy

As the fuels marketing industry increasingly focuses on the precision of systems utilized to implement petrochemical product combinations, the Fusion4 MiniPak helps to zero in on accuracy. The Fusion4 MiniPak is the first additive injection system to utilize identical controller hardware and firmware, to implement both additive injection control and blending control. The solution, which joins Honeywell's portfolio of custom hazardous area loading automation solutions, achieves this by utilizing the Fusion4 SSC (single stream controller).

Common applications

- Performance enhancing additives
- Cold Flow enhancers
- Dyes & Markers
- Anti-foaming agents
- Lubricity enhancers
- Anti Icing additive
- NoX reduction additives
- Detergent additives
- Anti Static additives
- Lead replacement

Benefits

Rapid Start-Up

The device can now be configured from new, in less than 45 seconds, utilizing the LAD configuration upload facility.

Zero Downtime Firmware Upgrades

Firmware updates can be implemented live, with the LAD, eradicating the need to power down, open, and exchange EPROM's in the SSC.

Multiple Languages

User selectable for English (US), English (UK), Chinese, Japanese, French, Spanish, Portuguese, Italian, Dutch, German and Polish.

Huge Transaction Archives

The SSC can store 10,000 transaction logs, 128 alarm logs and 100 calibration logs.

Calibration Wizard

Allows the automatic capture of every calibration transaction carried out on the device, including time stamp, calibration volumes, k-factor corrections and even meter serial numbers.

Diagnostics Dashboard

Enables complete device hardware monitoring from a single screen, allowing the immediate analysis of any monitored functions, such as digital and analog I/O, meter pulsers and RTD's.

Expandable I/O

An additional option card can be added to the electronics stack to enhance functionality with analog I/O, RTD, and additional

Painless Injection

The Fusion4 MiniPak combines the industry standard, MonoBlock metering and control manifold, with a Fusion4 Single Stream Controller (SSC), designed exclusively to accurately manage chemical injection. The result of decades of chemical injection control experience, the Fusion4 MiniPak is the most technologically advanced additive injector on the market.

Also available to accompany the Fusion4 MiniPak is the new Fusion4 LAD (Local Access Device) which forms part of the Fusion4 product portfolio. The device is a handheld controller used for interfacing with all Fusion4 products, and enhances the functionality available from the standard IR controller.

The LAD facilitates two way data communications between the Fusion4 SSC and the LAD, allowing the rapid, secure transfer of transaction data, configuration files and calibration records and even the 'live' upgrading of firmware while in the field.

Advanced Alarm Handling

Monitoring nearly twice as many injection control parameters than any other device, the SSC utilizes the enhanced graphics capability of the 3.5" QVGA full color screen to clearly annunciate and differentiate all alarm conditions.

Flexible Interfacing

Interfacing can now be carried out via the Fusion4 IR Controller, the Fusion4 LAD (local access device), and the Fusion4 Portal software package, in addition to the standard communications protocols such as Modbus.

Configurable I/O

Flexible configuration can be achieved through the binding menu, which allows the assignment of functions to any input or output.



Features

Mounting

The Fusion4 MiniPak is mounted on a phenolic back-plate as standard. This couples the Fusion4 SSC- A with the MonoBlock, including inter-connecting cabling and conduit, facilitating rapid and secure installation

Flow

Materials

Ryton (polymer) gears are fitted as standard. For applications where Ryton is deemed to be chemically incompatible, stainless steel gears are available.

Chemraz is used as standard for solenoid seats, with additional option for high resistance elastomer for very aggressive additives.

Flow

Based on typical loading flow rates of 600 gal/min the standard flow injector is suitable for all applications between 100 & 3000 ppm (parts per million), with a typical shot size of between 15cc & 200cc.

Additive Supply

The Fusion4 MiniPak requires a pressurised additive supply. Typical additive supply pressure 115 psi. A minimum 45 psi differential is required between additive supply pressure & main product flow pressure.

Isolation & Flushing

Optional inlet and outlet isolation ball valves are available pre-installed either side of the MonoBlock. Also available are 'quick release' flushing connections which are fitted between the isolation ball valves and the block, and allow the decontamination of the MonoBlock prior to maintenance.

Calibration Kit

To aid calibration of the Fusion4 MiniPak, a calibration kit complete with 500ml calibration jar is available. The stainless steel cal kit incorporates a quick release connector, adjustable back pressure valve, gauge, and isolation valve. Allowing clean, accurate calibration of the MonoBlock.

Control

Fusion4 IR Controller

The handheld Infra-red remote controller is used to interface with the Fusion4 MiniPak, allowing tasks such as the adjustment of parameters, resetting of alarms and calibration of the injector.



Field Entry Plugs

The enclosure can be supplied with sufficient Exd blanking plugs to secure all unused cable entries following installation. All unused bottom entries are blanked as standard.

I/O Expansion

An option card is available to upgrade the amount of electronic I/O that is available. The Option card mounts directly into the existing stack. Includes 1x RTD Input, 1x 4-20mA Input, 1x 4-20mA Output, 1 RS485 Port, 4x AC inputs, 2x AC Outputs, and 2x DC Inputs. Upgrade option includes extended can-bus ribbon cable and extended grounding bolts.

Fusion4 LAD (local access device)

The handheld LAD is used to interface with the Fusion4 MiniPak, allowing tasks such as the adjustment of parameters, resetting of alarms and calibration of the injector. The device facilitates two way data communications between the SSC and the LAD, allowing the rapid transfer of transaction data, configuration files and calibration records and even the upgrading of firmware while in the field. The LAD contains a removable SD card to allow safe area transfer of data.

Enclosure Venting

An optional Breather Drain provides a method of preventing moisture build-up within the enclosure whilst ensuring the integrity and Ex approval of the installation is maintained. Intended for use where an installation is subject to fluctuations in temperature which can lead to the formation of condensation and a subsequent moisture build-up. The Breather Drain will also maintain the IP66 rating of any enclosure to which it is installed.

Technical specification

Approvals		SSC	Sensor	Solenoid
ATEX	:	II 2 G Ex d [ia] IIB T6 Gb	II 2 G Ex d IIC T6 Gb	II 2 G Ex m II T3/T5 Gb
IECEX	:	Ex d [ia] IIB T6	Ex d IIC T6 Gb	Ex m IIC T3/T5 Gb
FM	:	Class1 Div1 Group C&D T6	Class1 Div1 Group C&D T6	Class1 Div1 Group C&D T3A/B
CSA/CUL	:	CSA Pending	Class1 Div1 Group C&D T6	Class1 Div1 Group C&D T3A/B
Flow				
Nominal K-Factor	:	5000 PPG		
Meter Accuracy	:	0.50%		
Meter Repeatability	:	0.25%		
Max Flow Rate	:	2.5 gal/min (9.5 litres/min)		
Min Flow Rate	:	0.1 gal/min (0.38 litres/min)		
Max Pressure	:	400 psi (27.6 Bar)		
Max Viscosity	:	300 cst.		
Environmental				
Operating Temperature	:	-4°F to +149°F (SSC -40°F to +149°F)		
Storage Temperature	:	-40°F to 185°F		
Protection Class	:	IP66		
Humidity	:	5% - 95% Non-Condensing		
Materials				
Backplate	:	304 Stainless Steel		
Enclosure	:	Aluminum, Chromated (class 3)		
Manifold	:	303 Stainless Steel		
Manifold Connections	:	3/8" NPT		
Meter Gears	:	538 Ryton (Optional stainless steel)		
Solenoid Seals	:	Chemraz		
Connections				
Cable entries	:	4x 1" NPT		
Manifold Connections	:	3/8" NPT		
Electrical				
Voltage	:	88 to 264 VAC		
Flowmeter Inputs	:	1x 5 kHz dual input, 1 x 5 kHz Single input		
DC Inputs	:	2 x configurable		
AC Inputs	:	2 x configurable		
DC Outputs	:	2 x configurable		
AC Outputs	:	3 x configurable		
Communications	:	1 x 2 wire or 4 wire RS485		
Option Card Upgrade				
RTD Input	:	1 x PT100 type, 3 or 4 Wire		
DC Inputs	:	2x configurable		
AC Inputs	:	4x configurable		
Analogue Input	:	1 x 4-20mA configurable passive or active		
Analogue Output	:	1 x 4-20mA configurable passive or active		
AC Outputs	:	2x configurable		
Communications	:	1 x 2 wire RS485		
Interface				
Protocols	:	Modbus RTU, FlexConn, FMC Smith, Brooks Petrocount		
Display	:	3.5" QVGA colour TFT LCD screen		
Languages	:	English (US), English (UK), French, German, Spanish, Dutch, Chinese, Japanese, Polish, Italian, Portugese.		
Handheld Devices	:	Fusion4 LAD (local access device), Fusion4 IR Controller (Infra Red)		
Weight				
Unit weight	:	35lb (16kg) approx.		

Identification Code

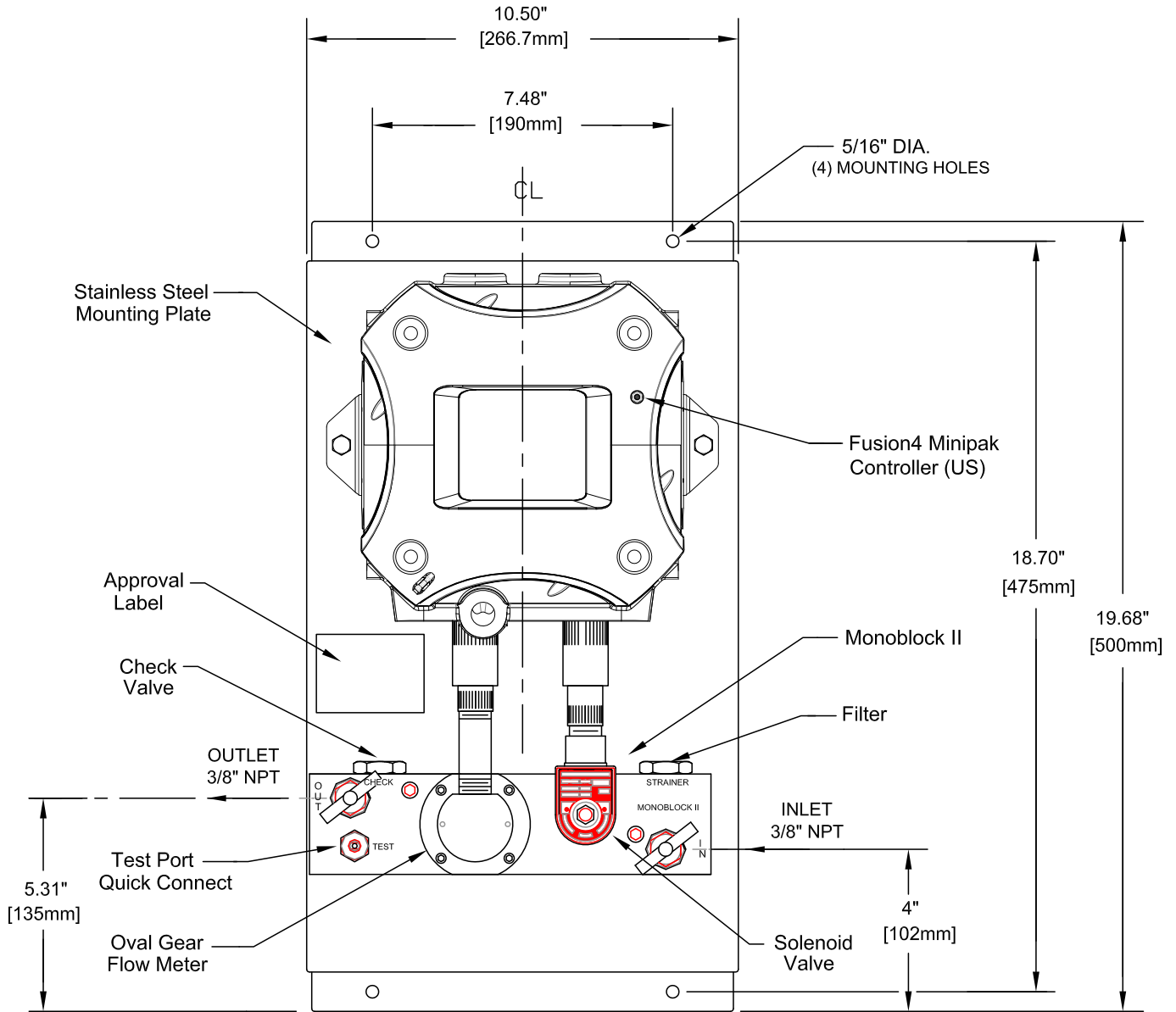
Pos 1, 2		Manufactured Product									
4	0										
Pos 3, 4		Product Family									
8	5										
Pos 5, 6		Injector Model									
0	4	Fusion 4 Mini-Pak									
Pos 7		I/O Expansion									
0	Not Required										
1	Option card										
Pos 8		Additive Injector									
1	One										
Pos 9		Materials									
0	Standard Elastomers, Ryton Gears										
1	Standard Elastomers, SS Gears										
2	High Resistance Elastomers Stainless Steel Gears										
Pos 10		Flow									
0	Standard Flow - Up to 2.5 Gal/min (5000 PPG)										
Pos 11		Solenoid Type & Voltage									
0	Standard - 240 Volt AC										
2	Standard - 120 Volt AC										
4	Asco - 240 Volt AC										
6	Asco- 120 Volt AC										
Pos 12		External Isolation Valves									
0	Not Required										
1	1/2" NPT Inlet & Outlet Isolation Ball Valves										
Pos 13		Thermal Relief									
0	Not Required										
1	Optional Thermal Relief Assembly										
Pos 14		Field Entry Plugs									
0	Not Required										
2	Two 1"NPT Exd Blanking Plugs										
4	Four 1"NPT Exd Blanking Plugs										
Pos 15		Enclosure Venting									
0	Not Required										
1	Exd Breather Drain										
Pos 16		Type Plate									
0	FM										
1	CSA										

4	0	8	5	0	4	0	1	0	0	0	0	0	0	0
4	0	8	5	0	4		1		0					

Typical identification code

Your identification code

General Arrangement



For More Information

To learn more about Honeywell Enraf's solutions, contact your Honeywell Enraf account manager or visit www.honeywellenraf.com.

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