Fusion4 MiniPak (FM/UL)

Honeywell Enraf

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
- Dyes & Markers
- Lubricity enhancers
- NoX reduction additives
- Anti Static additives
- Cold Flow enhancers
- Anti-foaming agents
- Anti Icing additive
- Detergent 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 additional 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, Chromatized (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

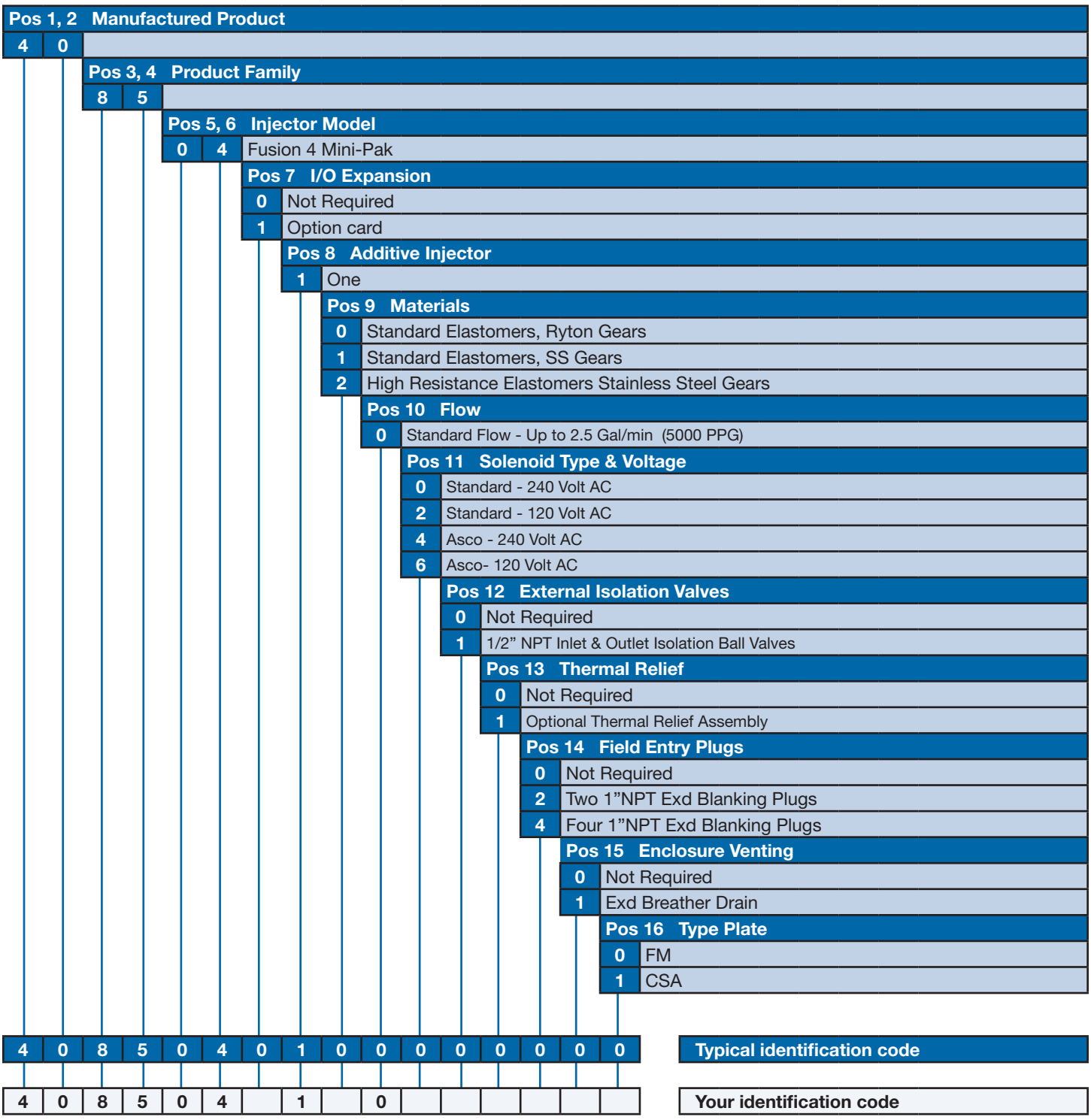
Electrical	
Voltage	: 88 to 264 VAC
Flowmeter Inputs	: 1x 5 kHz dual input, 1 x 5 kHz Single input
DC Inputs	: 2 x configurable
AC Inputs	: 2 x configurable
DC Outputs	: 2 x configurable
AC Outputs	: 3 x configurable
Communications	: 1 x 2 wire or 4 wire RS485

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

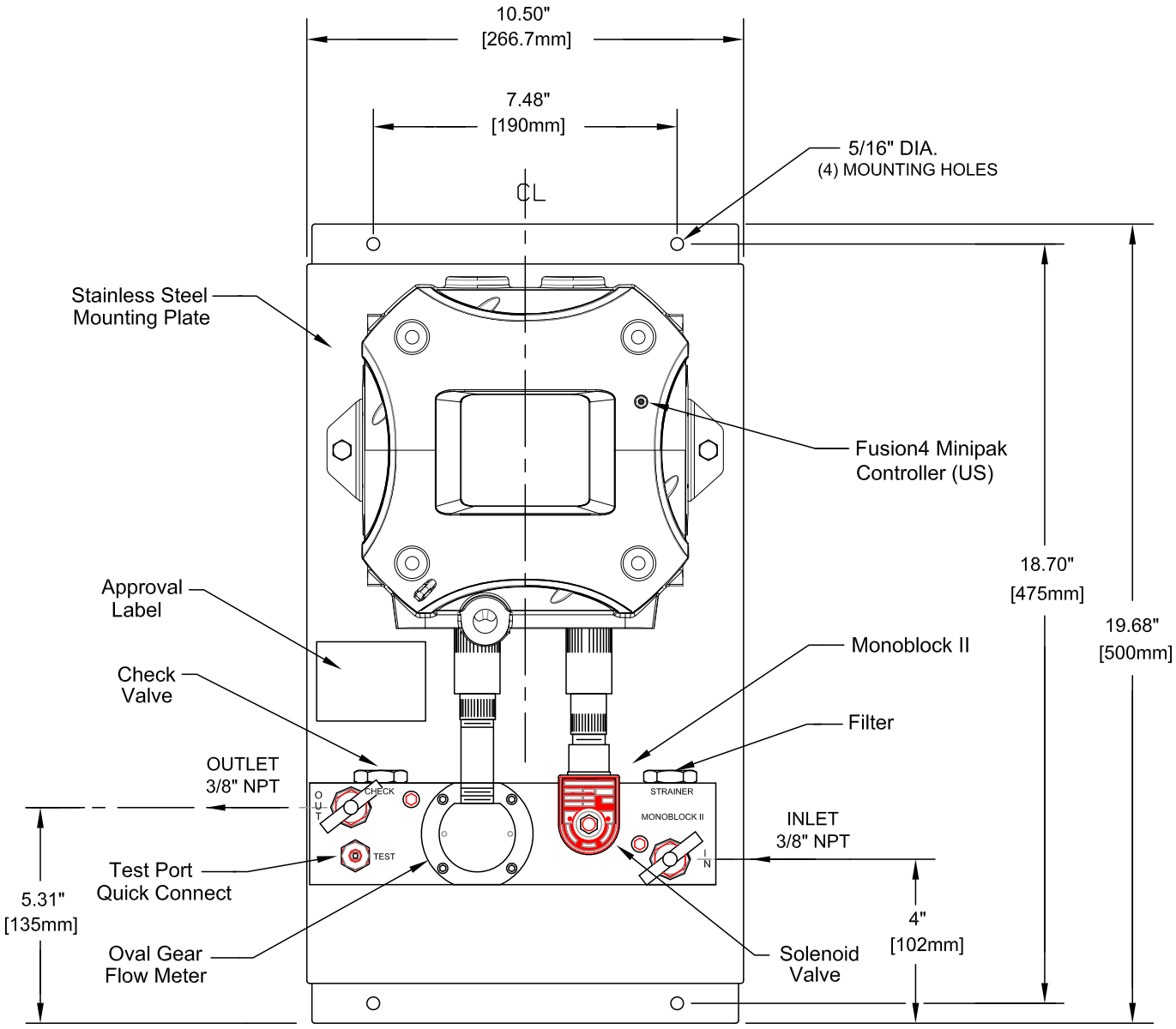
Interface	
Protocols	: Modbus RTU, FlexConn, FMC Smith, Brooks Petrocount
Display	: 3.5” QVGA colour TFT LCD screen
Languages	: English (US), English (UK), French, German, Spanish, Dutch, Chinese, Japanese, Polish, Italian, Portugese.
Handheld Devices	: Fusion4 LAD (local access device), Fusion4 IR Controller (Infra Red)

Weight	
Unit weight	: 35lb (16kg) approx.

Identification Code



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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EN-10-05-US
September 2010