



Intuitive loading control.

Honeywell Enraf's Fusion4 multi stream controller for loading provides custody transfer approved loading control and sophisticated features with the world's most intuitive operator interface. Controlling up to 24 meter streams, its large 8" WVGA full color display and keyboard and icon-driven interface provide intuitive monitoring and control. Driver identification, vehicle data entry, product scheduling, batch recipe details, and transaction control are all simple to set up and review. Quick start up times, calibration wizards, diagnostic dashboards and zero-downtime upgrades keep the operation moving. The scalable, modular design features expandable I/O, and the widest selection of protocol libraries and communication network capabilities for seamless, cost effective integration into your operation.



Global Experience. Locally Applied.

The MSC-L controls up to six loading arms simultaneously for precise, safe and reliable loading and transfer of high value product at road loading, rail, and marine terminals, as well as tank farms. Custody transfer approved and suitable for hazardous areas, it brings Fusion4's unique, intuitive user-experience to the loading operation.

- Rail Loading
- Road Loading
- Aviation Refuelling
- Storage Transfers
- Marine Bunkering
- Pipeline Transfers
- Transport Bunkering
- Mining Regent Dosing

Uncompromising Control

Smarter Control: the Fusion4 Interface

The MSC-L uses a smart, "app-driven" interface to leverage users' familiarity with smart phones and tablet computer technology. Self-explanatory graphical on-screen icons make it uniquely intuitive to operate, drastically cutting training times and human error.

Users benefit from complete visibility and control of all major functions in the field with little or no training. Tanker drivers can quickly and simply input and control their loading requirements. Real time dynamic displays with status bar guidance and transfer progress status indicators provide at-a-glance monitoring of all loading operations.

Tailored to the Operation

With the world's most advanced multi stream controller users can configure the level of detail displayed to meet operators' requirements and choose from over 15 languages.

FlexFlow – a configurable workflow function – enables users to choose customer-specific operational sequencing for a tailored, smooth user experience that adapts to the operation.

Scalable and Modular

Control for up to 24 meter streams simultaneously helps you do more with less. A modular design allows common building blocks to be added to meet basic or sophisticated operational requirements for a cost effective solution.

In addition to an integrated additive and blend capability, the MSC-L combines easily with the Fusion4 portfolio to add blend streams and additive injectors with plug-and-play smart injector and blend controllers for the most powerful, comprehensive solution in the industry

Optimized System Connectivity

A wide range of protocol libraries and communication network capabilities and optimized electronic integration allow seamless connectivity with industry standard terminal automation systems, protecting existing investments.

Powerful Alarm Handling

Fusion4's advanced alarm handling monitors nearly twice as many parameters as any other device, while its large color screen clearly annunciates and differentiates all alarm conditions, for a safe, reliable operation. User configurable alarms provide additional flexibility, allowing the operator to quickly select both the alarm conditions and define alarm messaging through the menu structure.

Set up and Maintenance

Starting up in under a minute, the MSC-L features live upgrades, calibration wizards and configurable I/O to assign functions to any input or output for faster installation and set-up. Real-time stream, I/O type and system diagnostics keep the operation running smoothly, while the Fusion4 Portal software helps achieve the highest standards of reliability. Its features include remote monitoring, configuration and printing of all MSC transactions, alarms and communication status via Ethernet or Serial comms.

Full Featured

Full color screen and keyboard:

Intuitive monitoring and control using the Fusion4 interface.

Rapid start-up:

In under a minute with the Calibration Wizard and quick configuration.

Zero-downtime:

Firmware upgrades live in the field with the LAD.

Configurable, expandable I/O:

For flexible operations.

Advanced alarm handling:

Monitor nearly twice as many control parameters as any other device.

Real-time diagnostics:

Live stream, I/O type, and system diagnostics.

Multiple language support:

English (US), English (UK), Chinese, Japanese, French, Spanish, Portuguese, Italian, Dutch, German, Polish, Swedish, Thai, Russian and Hindi.



Identification Code

CV 1-6 Model Key

HEL833 Fusion4 MSC-L ATEX

HEL837 Fusion4 MSC-L FM

CV 7 Enclosure

A MSC Enclosure

CV 8 Firmware

L Loading

CV 9 Licences & I/O

Pos 1 Licences

A MSC-L1

B MSC-L2

C MSC-L3

D MSC-XL1

E MSC-XL2

F MSC-XL3

G MSC-XL4

H MSC-XL5

J MSC-XL6

Pos 2 I/O

0 Not Requested

1 1 x CAN-IN-OUT board

2 2 x CAN-IN-OUT board

3 3 x CAN-IN-OUT board

4 4 x CAN-IN-OUT board

CV 10 Mounting Options

0 Not Requested

CV 11 Field Entry Plugs and Breather

Pos 1 Breather

0 Not Requested

A Breather

Field Entry Plugs

0 Not Requested

1 4 x M32 & 4 x M40 Exd Blanking plugs (half)

2 7 x M32 & 8 x M40 Exd Blanking plugs (full)

3 FM Full Set - 4 x 1¼", 4 x 1" Exd Blanking Plugs

CV 12 Ex Approvals

A ATEX

B IECEX

C CCOE (India)

D FM

E CSA

CV 13 Authorization Device

0 Not Requested

1 Nexwatch DR4208 – Proximity Card Reader

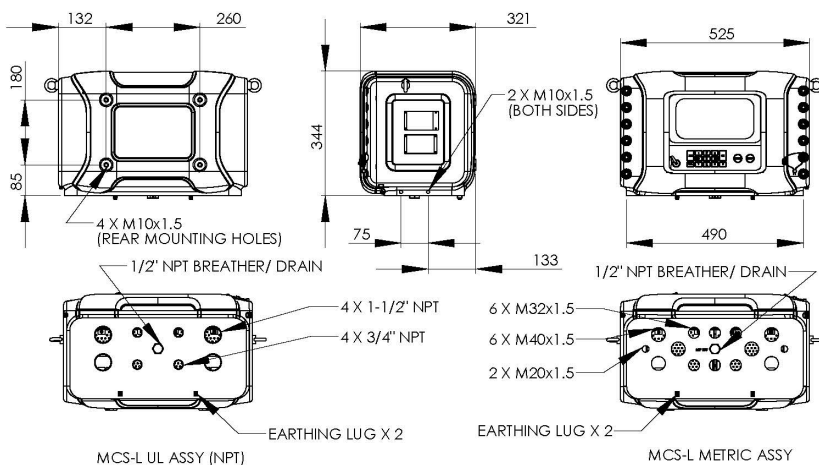
Availability



Your Identification Code

Technical Specifications

Approvals		MSC	
ATEX	II 2 G Ex d [ia] IIB T6 Gb		
IECEX	Ex d [ia] IIB T6		
FM	Class1 Div1 Group C&D T6		
CSA/C _{UL}	Class1 Div1 Group C&D T6		
Environmental		ATEX/IECEX	FM/CSA
Operating Temperature	-40 °C to +65 °C	-40 °F to +185 °F	
Storage Temperature	-40 °C to +85 °C	-40 °F to +185 °F	
Protection Class	IP66	IP66	
Humidity	5% - 95% Non-Condensing	5% - 95% Non-Condensing	
Materials			
Enclosure	Aluminium, Anodised	Aluminum, Anodized	
Connections			
Cable entries	6xM40, 6xM32, 2xM20	4x 1 1/4" NPT, 4x 1" NPT	
Electrical			
Voltage	88 to 264 Vac	88 to 264 Vac	
Flow Meter Inputs	24 x 5 kHz input Configurable as 12 dual PI	24 x 5 kHz input Configurable as 12 dual PI	
DC Inputs (max)	60	60	
AC Inputs (max)	12	12	
DC Outputs (max)	4	4	
DC/AC - EMR Outputs (max)	40	40	
AC - SSR Outputs (max)	40	40	
Analog Inputs (max)	14	14	
Analog Outputs (max)	6	6	
RTD's (max)	6	6	
RS 485 Comms Ports (max)	7	7	
Ethernet Ports	3	3	
Interfacing			
RS 485 Protocols	FlexConn, Modbus RTU, Slip+, FMC Smith		
Ethernet Protocols	FlexConn TCP/IP, Modbus TCP/IP		
Display	8" WVGA color TFT LCD screen		
Languages	English (US), English (UK), French, German, Spanish, Dutch, Chinese (simplified), Japanese, Polish, Italian, Portuguese, Swedish, Hindi, Thai.		
Handheld Devices	Fusion4 LAD (local access device), Fusion4 IR Controller (Infra Red)		
Weights			
MSC-L	approx 53 kg	approx 115 lb	



Accessories

Part Number	Description
323-1392001	Fusion4 LAD (Local Access Device)
10-31052	Fusion4 IR Controller (UL)
10-31052-F4	Fusion4 IR Controller (ATEX)
10-31052-F4X	Fusion4 IR Controller (IECEX)
30-00-002	Calibration Kit (ATEX/IECEX)
10-31565-SWG	Calibration Kit (FM/CSA)

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