Quick Start Guide

Ultra Mag Electromagnetic Flow Meter

**Standard Model**
For use in non-hazardous locations

**HL Model**
For use in hazardous locations:
- Class I, Division 2, Groups A-D, T5
- Class I, Zone 2, IIC T5

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Verify the system serial numbers on both the sensor and converter match to ensure a properly calibrated system.

The **Meter Serial Number** is located on a plate on the body of the sensor.

The tag on the side of the converter has the converter model number, the converter serial number and the meter serial number.

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WARNING! Installation and maintenance must only be carried out by suitably trained personnel.

WARNING! Hazardous area designation on the equipment label must be suitable for the intended duty and location. All relevant sections in this guide must be read before selecting a location.

WARNING! Safety requirements of this equipment, any associated equipment and the local environment must be taken into consideration.

WARNING! The installation and use of this equipment must be in accordance with relevant national and local standards.

WARNING! Carefully read all safety warning tags attached to the meter.

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**Contents / Parts Diagram**

**Serial Numbers**

- **Meter Serial Number**
- **Item No.**
  - 1. ProComm Converter
  - 2. Converter Cable (attached to meter)
  - 3. Electromagnetic Meter Assembly with grounding wire attached
  - 4. Grounding Rings, Stainless Steel (optional on 4"-12")
  - 5. Gaskets (Optional)
  - 6. Nut, Hex, Brass
  - 7. Earth Ground Wire

Also included:
- 1 - Ultra Mag Installation, Operation and Maintenance Manual
- 1 - Converter Installation, Operation and Maintenance Manual

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**Contact Information**

McCrometer
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**Safety Warnings**

- **Contact Information**
Electrical Noise And Sensor
For flow measurement free of electrical noise interference, the sensor body must have electrical contact with the media and be connected to an earth ground. This is normally achieved via a grounding ring or grounding button.

Fluid Conductivity
To eliminate rapid changes in fluid conductivity, it is recommended that all blending and chemical injecting be done downstream of the meter to avoid possible measurement error and/or issues. If blending or chemical injecting is performed upstream of the meter, it should be done upstream of the meter early enough so the flow media is thoroughly mixed prior to entering the measurement area.

Meter Mounted Converter Location
Adjoining pipe must be adequately supported, and the area around the sensor should provide sufficient drainage to prevent flooding the converter or conduits.

The location chosen should provide room to read the display and be free from harsh electrical noise from adjacent equipment, cables, R.F.I., or E.M.I. The signal converter should not be subjected to intense, from adjacent equipment, cables, R.F.I., or E.M.I. The signal converter should not be subjected to intense, harsh electrical noise.

Sensor Orientation
For proper accuracies any 90 or 45 degree elbows, valves, partially opened valves, etc. should be placed not closer than one pipe diameters upstream and attached to building ground noise. The signal converter should be free from harsh electrical noise from adjacent equipment, cables, R.F.I., or E.M.I. The signal converter should not be subjected to intense, from adjacent equipment, cables, R.F.I., or E.M.I. The signal converter should not be subjected to intense, harsh electrical noise.

Remote Mount
The signal converter may be installed in a desired location provided that free access is available to allow the display to be viewed as required. The unit can be either wall mounted or panel mounted with assembly fixtures or nuts and bolts respectively via the fixing holes provided. The maximum distance between the meter and the converter is 500 feet. For applications with extended lengths, consult factory.

Grounding Ring And Gaskets
With the grounding ring installed, gaskets must be used to ensure a positive seal at the flanges, and to ensure fluid is properly grounded to sensor. The grounding ring is optional on the 4” through 12” models as these models utilize grounding buttons. For best performance, grounding rings are recommended for all sizes.

Converter/Transmitter Connections
Connections to the sensor must be made with cable supplied by MCrometer specifically for that purpose. Do not substitute the supplied cable with other types of cable, even for short runs. For repairs or added lengths of cable, the entire cable between the sensor and the converter must be replaced. (Consult factory for replacement cable.)

In vertical pipe runs, the flow should be upward. In slurry application, a vertical position ensures optimal distribution of solids under all flow conditions.

Pipe Diameters
For proper accuracies any 90 or 45 degree elbows, valves, partially opened valves, etc. should be placed not closer than one pipe diameters upstream and zero pipe diameters downstream.

Flow Direction
The flow of the medium should correspond to the direction shown by the arrow on the sensor.

Sensor Orientation
The following installation recommendations should be followed:

In horizontal pipe runs, the meter should be installed so that the junction box is vertical ensuring the electrodes are positioned to prevent coating by sediments or loss of electrode contact due to air bubbles.

In vertical pipe runs, the flow should be upward. In slurry application, a vertical position ensures optimal distribution of solids under all flow conditions.