Installation Instructions
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ATEX Installation Drawings and Instructions for LFT Transmitters

For ATEX-approved installations

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ATEX Installation Drawings and Instructions for LFT Transmitters

For ATEX-approved installations

For technical assistance, phone the support center nearest you:

- In U.S.A., phone 1-800-522-MASS (1-800-522-6277)
- In Canada and Latin America, phone (303) 527-5200
- In Asia, phone (65) 6770-8155
- In the U.K., phone 0800 - 966 180 (toll-free)
- Outside the U.K., phone +31 (0) 318 495 670

Contents

Model LFT Transmitters

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ATEX Installation Instructions and Drawings

- For installing a Model LFT transmitter with a 4-wire connection to an LF sensor

Subject: Equipment type	**Transmitter type LFT***L******	
Manufactured and submitted for examination	**Micro Motion, Inc.**	
Address	**Boulder, Co. 80301, USA**	
Standard basis	EN 50021:1999	Non-sparking ´n´
	EN 50281-1-1:1998	Dust ´D´
Code for type of protection	**EEx nC IIB +H_2 T6**	
	EEx nC IIC T6	
	EEx nC [L] IIB +H_2 T6	
	EEx nC [L] IIC T6	

1) Subject and type

Transmitter type LFT***L****

Instead of the *** letters and numerals will be inserted which characterize the following modifications:

L F T * * * L * * * *

Marking without influence to the type of protection

Approval

L = ATEX — Equipment Category 3 (Zone 2)

Letter for conduit connections

Numeral for display

1 = Standard display; gas group IIB+H_2
2 = Backlight display; gas group IIB+H_2
3 = No display; gas group IIC
4 = IIC display cover; gas group IIC
5 = IIC display cover with backlight display; gas group IIC

Numeral for outputs

1 = One mA, one frequency flow only field mount EEx n C
3 = One mA, one frequency multivariable field mount EEx n C
4 = Two mA, two frequency configurable field mount EEx n C
6 = Foundation fieldbus field mount EEx nC [L]
7 = Profibus-PA field mount EEx nC [L]

2) Description

The Low Flow Transmitter (LFT) is used in combination with LF Series Sensors for measurement of mass flow and data transmission.

2.1) LFT field mount

The electrical circuitry of the transmitters is mounted inside a metal enclosure which is divided into three compartments.

In the compartment with type of protection “nC” the Terminal Board, Power Supply Board, Feature Board, and (optionally) the Display Board are mounted. When executed with display, the gas group is IIB + H_2. When it is executed without display, or with the alternative window display cover, the gas group is IIC.

The main terminal compartment with type of protection “nC” is separated into two sections. One section contains two screw terminals for supplying power to the device. The other section contains 6 terminals for general I/O. In the case of Fieldbus or Profibus, these terminals are energy limited. The enclosure is constructed with a secondary terminal compartment with type of protection “nC” for the connection of remotely operating non sparking “nA” Model LF Series sensors.

3) Field mount parameters (models LFT(1, 3, 4, 6 or 7)**L****)

3.1) Mains circuit (terminals 9–10 in main terminal compartment)

Voltage		AC/DC	18–250	V
Max voltage	Um	AC/DC	250	V

3.2) Non energy limited input/output circuits (terminals 1–6 in main terminal compartment) only for type LFT(1, 3 or 4)**L****

Voltage	Um	AC/DC	60	V

3.3) Energy limited output circuits type of protection EEx nL II available in main terminal compartment marked with EEx nC [L].

3.3.1) Fieldbus circuit (terminals Fieldbus 1 and 2) only for type LFT6**L**** and type LFT7**L****

Voltage	Ui	DC	30	V
Current	Ii		380	mA
Power	Pi		5,32	W
Effective internal inductance	Li		Negligible	
Effective internal capacitance	Ci		Negligible	

For the connection of a Fieldbus circuit in accordance with FNICO model

3.4) Power and signal circuits in secondary terminal compartment marked with "nC" for type LFT1**L**** or LFT3**L**** or LFT4**L**** or LFT6**L**** or LFT7**L**** (to remotely mounted LF sensor):

Voltage	Uo	DC	16,31	V
Current	Io		0,396	A
Power	Po		5,96	W

3.5) Ambient temperature range

LFT(1, 3, 4, 6 or 7)(1, 2, or 3)*L****	Ta	–40 °C up to +55 °C
LFT(1, 3, 4, 6 or 7)(4 or 5)*L****	Ta	–20 °C up to +55 °C

4) Marking

LFT*(1, 2 or 3)*L****	–40 °C ≤Ta ≤+55 °C
LFT(1, 3, 4, 6 or 7)(4 or 5)*L****	–20 °C ≤Ta ≤+55 °C

- type	- type of protection
LFT(1, 3, or 4)(1 or 2)*L****	CE Ex II 3 G EEx nC IIB + H_2 T6 II 3 D IP66/IP67 T65 °C KEMA 04 ATEX 1273 X
LFT(6 or 7)(1 or 2)*L****	CE Ex II 3 G EEx nC [L] IIB + H_2 T6 II 3 D IP66/IP67 T65 °C KEMA 04 ATEX 1273 X
LFT(1, 3, or 4)(3, 4 or 5)*L****	CE Ex II 3 G EEx nC IIC T6 II 3 D IP66/IP67 T65 °C KEMA 04 ATEX 1273 X
LFT(6 or 7)(3, 4 or 5)*L****	CE Ex II 3 G EEx nC [L] IIC T6 II 3 D IP66/IP67 T65 °C KEMA 04 ATEX 1273 X

After de-energizing, delay 5 minutes before opening (models LFT(1, 3, 4, 6 or 7)**L**** only).

5) Special conditions for safe use / Installation instructions

5.1) For the application of the transmitter in an ambient temperature of less than –20 °C suitable cable and cable entries or conduit entries for this condition shall be used (models LFT*(1, 2 or 3)*L**** only).

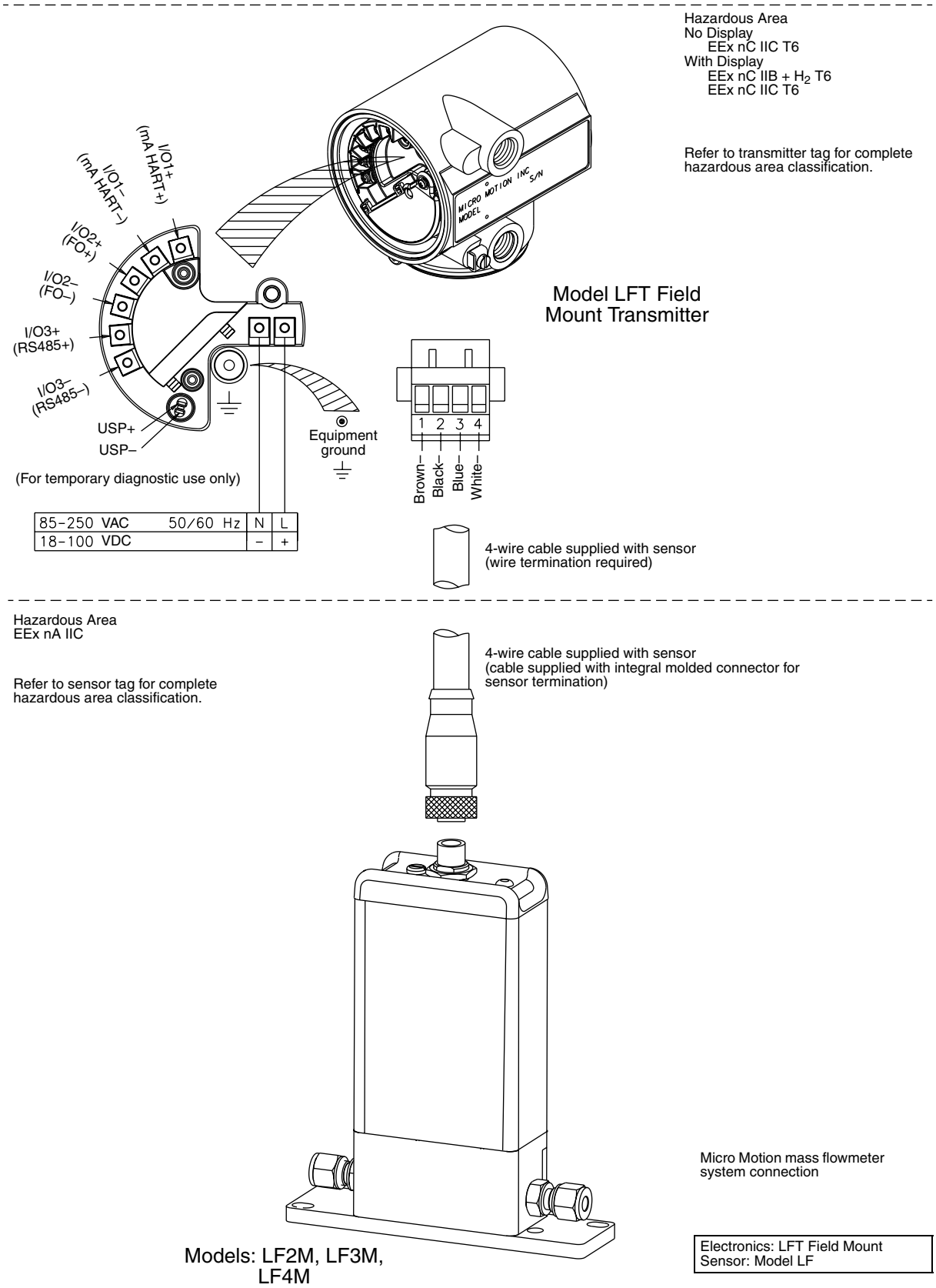
5.2) When cable entries are used they shall conform to clause 7.2.6 of EN 50021.

5.3) For type LFT(6 or 7)**L**** only, the cover of the terminal compartment containing terminals 1–6 may be removed for short periods when the apparatus is in service to permit checking or adjustment of energized energy limited circuits.

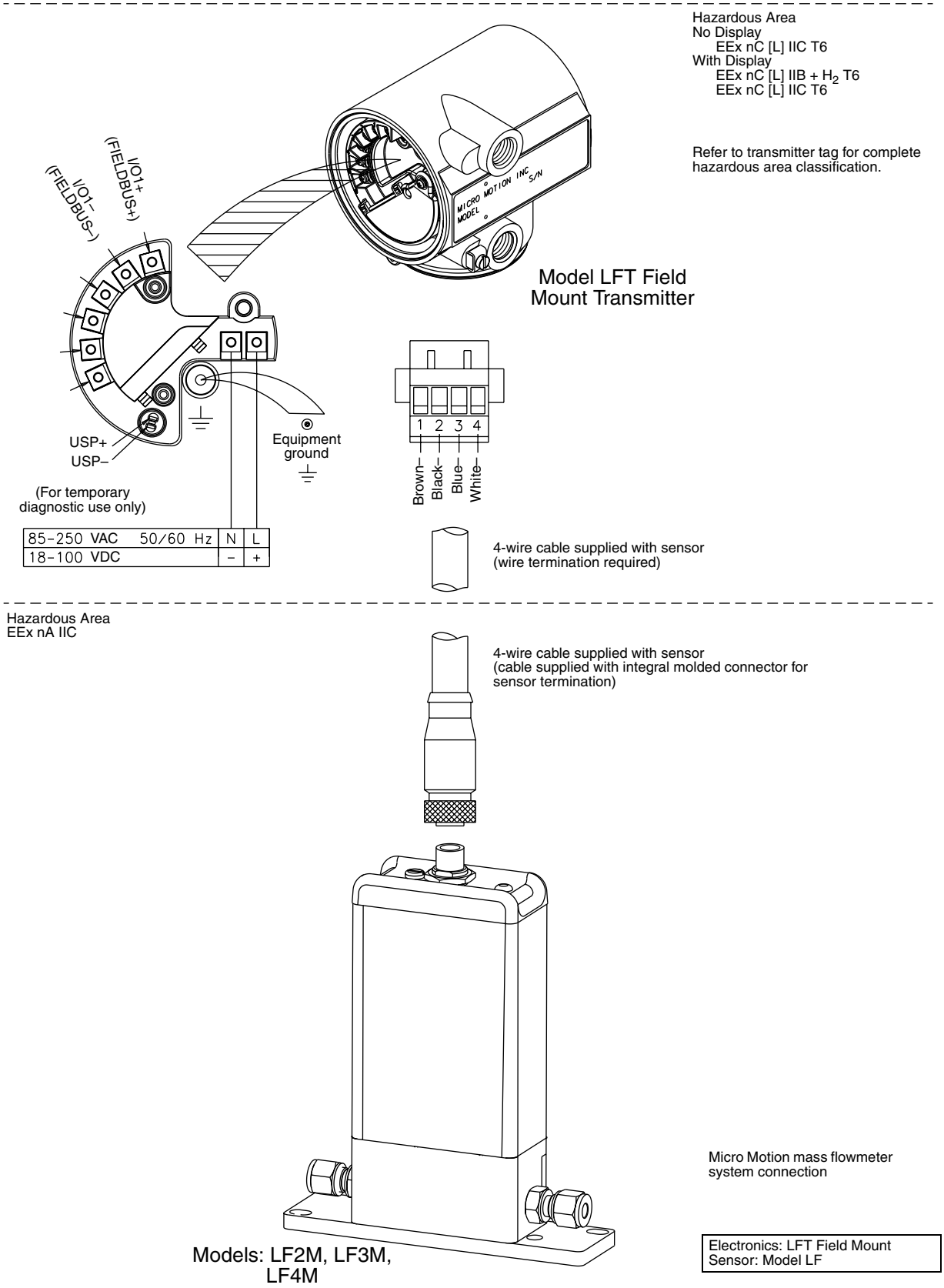
5.4) A degree of ingress protection of at least IP 54 according to EN 60529 will only be achieved when cable and conduit entries providing IP54 according to EN 60529 are used. For applications in explosive atmospheres caused by air/dust mixtures, a degree of ingress protection of at least IP66/IP67 according to EN 60529 will only be achieved when cable and conduit entries are used that provide a degree of ingress protection of at least IP66/IP67 according to EN 60529.

5.5) Replacement of fuses is not allowed.

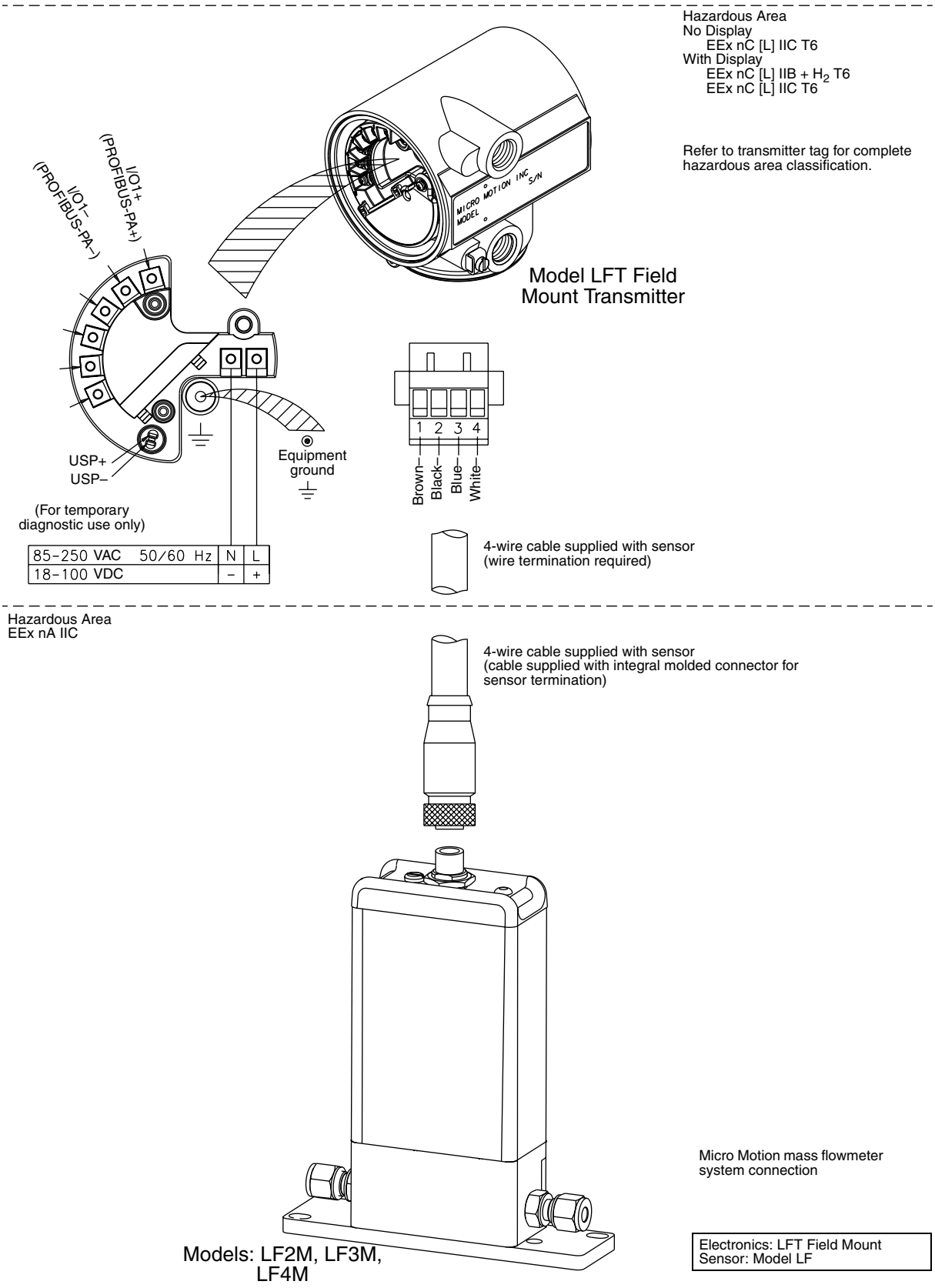
Model LFT field-mount mA/FO transmitter to LF sensor



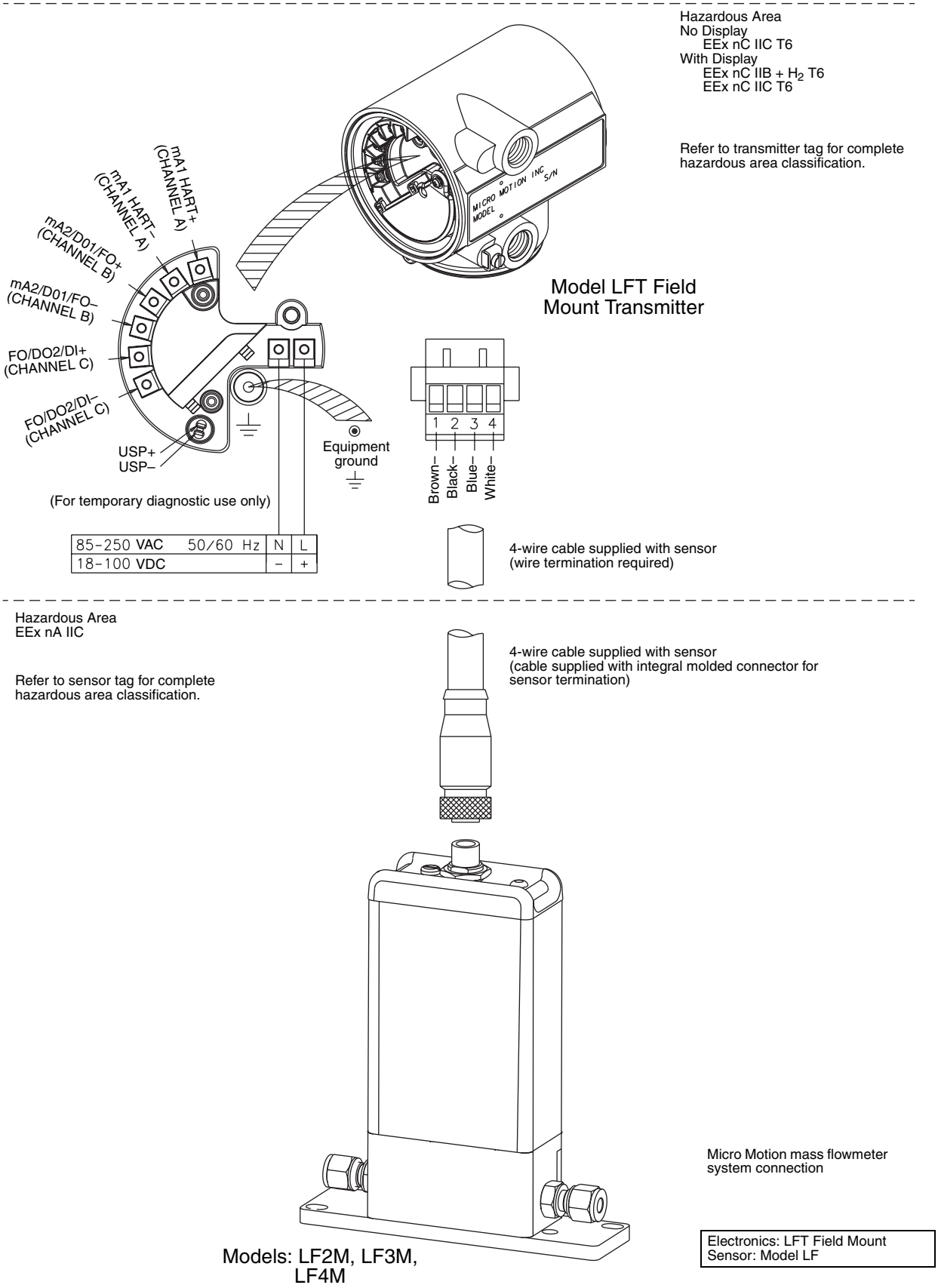
Model LFT field-mount fieldbus transmitter to LF sensor



Model LFT field-mount Profibus-PA transmitter to LF sensor



Model LFT field-mount config-I/O transmitter to LF sensor



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