



Certificate of Compliance

Certificate: 1039154 (LR 53988-118C)

Master Contract: 151079

Project: 2365445

Date Issued: November 26, 2010

Issued to: Endress + Hauser GmbH + Co. KG
Hauptstrasse 1
Maulburg, Baden-Wurttemberg 79690
Germany
Attention: Karlheinz Kienberger

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Edward Foo

Issued by: Edward Foo, C.E.T.

PRODUCTS

CLASS 2258 04 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations

Class I, Zone 0; Ex ia IIC:

Class I, Division 1, Groups A, B, C and D; Class II, Division 1, Groups E, F and G; Class III; Type 4X/6P:

- Micropilot II FMR231A-UdeefAhi (Rod Antenna) and FMR230V-UdeefAhi (Horn Antenna) Level Instruments (Intrinsically Safe Version), rated 4-20mA, 30V. Intrinsically Safe with Temperature Codes and Maximum Ambient Temperatures with Entity Parameters per Control Drawing 960384-2075 (FMR231), 960391-2020 (FMR230), 960390-2022A (FMR231 Profibus) and 960390-2021 (FMR230 Profibus).
- Micropilot M Level Instruments (Intrinsically Safe) Model FMR230-Ubcdddefgh (Horn Antenna, 5.8-6.3GHz), FMR231-Ubccdefgh (Rod Antenna), FMR232-Ubccdefg (Planar Antenna), FMR233-Ubccdefg (Parabolic Antenna), FMR240-Ubcdeefghi (Horn Antenna, >20GHz), FMR244-Ubcdddefgh (compact antenna with high chemical resistance), FMR245-Ubccdefg (compact antenna, highly resistant and easy to clean), FMR250-Ubcdeefghi (parabolic or horn antennas mainly used for solids) and FMR255-Ubccdefg (compact antenna, highly resistant and easy to clean), rated 4-20mA, 30V. Intrinsically Safe with Temperature Codes and Maximum Ambient Temperatures with Entity Parameters per Control Drawing Nos. 960402-2065 (F12/IS-HART), 960402-2066 (F12/FISCO-PA/FF), 960402-2069 (F23/IS-HART), 960402-2070 (F23/IS- FISCO – PA/FF), 960402-2071 (F23/IS- ENTITY – PA/FF), 960402-2072 (T12-OVP / IS-HART), 960402-2073 (T12-OVP - FISCO – PA/FF), 960402-2074 (T12-OVP - ENTITY – PA/FF), 960402-2087 (F12/



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IS-ENTITY-PA/FF) or 960006750 (FMR25x IS-HART, F12, F23, T12-OVP), 960007253 (FMR25x F12, F23, T12-OVP IS-Fisco-PA) or 960007256 (FMR25x F12, F23, T12-OVP IS-Entity-PA).

Note: All Micropilot M FMR2xx-U.... with Profibus PA or Foundation Fieldbus (model code for "Output and Operation" = C,D or E,F) can be installed according to the FISCO Model (per Control Drawing 960402-2066, 960402-2070 or 960402-2073) or Entity Concept (per Control Drawing 960402-2071, 960402-2074, 960402-2087 or 960006750).

CLASS 2258 03 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-Incendive Systems - For Hazardous Locations

CLASS 2258 83- PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-Incendive Systems - For Hazardous Locations – Certified to U.S. Standards

Class I, Zone 1/0; Ex d [ia] IIC:

Class I, Zone 1/0; AEx d [ia] IIC:

Class I, Division 1, Groups A, B, C and D; Class II, Division 1, Groups E, F and G; Class III; Type 4X/6P:

- Micropilot II FMR231A-VdeefC4i (Rod Antenna) and FMR230V-VdeefC4i (Horn Antenna) Level Instruments (Explosion-Proof Version), rated 4-20mA, 30V. Explosion-Proof with Intrinsically Safe electronics and antenna. Temperature Codes and Maximum Ambient Temperatures per Control Drawing 960384-2076 (FMR231) and 960391?2012 (FMR230).

- Micropilot M Level Instruments (Explosion-proof) Model FMR230-Vbcddefgh (Horn Antenna, 5.8-6.3GHz) MWP 160 bar (2321 psi);FMR231-Vbccdefgh (Rod Antenna) MWP 40 bar (580 psi);FMR232-Vbccdefg (Planar Antenna) MWP 25 bar (362.5 psi);FMR233-Vbccdefg (Parabolic Antenna) MWP 16 bar (232 psi);FMR240-Vbcdeefghi (Horn Antenna, >20GHz) MWP 40 bar (580 psi); FMR244-Vbcddefgh (compact antenna with high chemical resistance) MWP 3 bar (43.5 psi); FMR245-Vbccdefg (compact antenna, highly resistant and easy to clean) MWP 16 or 25 bar (232 or 362.5 psi);FMR250-Vbcdeefghi (parabolic or horn antennas mainly used for solids) MWP 16 bar (232 psi); and FMR255-Vbccdefg (compact antenna, highly resistant and easy to clean) MWP 25 bar (362.5 psi); rated 4-20mA, 30V. Explosion-Proof with Intrinsically Safe electronics and antenna. Temperature Codes and Maximum Ambient Temperatures per Control Drawing No. 960402-2067 or 960006751 (FMR25x XP, T12, 4..20mA HART). Factory Sealed; Dual Seal.

CLASS 2258 02 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations

CLASS 2258 82 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations– Certified to U.S. Standards

Class I, Zone 2; Ex nC IIC:



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Class I, Zone 2; AEx nC IIC:

Class I, Division 2, Groups A, B, C and D; Class II, Division 1, Groups E, F and G; Class III; Type 4X/6P:

- Micropilot II FMR231A-UdeefAhi (Rod Antenna) and FMR230V-UdeefAhi (Horn Antenna) Level Instruments (Intrinsically Safe Version), rated 4-20mA, 30V. Temperature Codes and Maximum Ambient Temperatures per Control Drawing 960384-2075 (FMR231), 960391-2020 (FMR230), 960390-2022A (FMR231 Profibus) and 960390-2021 (FMR230 Profibus).
- Micropilot II FMR231A-VdeefC4i (Rod Antenna) and FMR230V-VdeefC4i (Horn Antenna) Level Instruments (Explosion-Proof Version), rated 4-20mA, 30V. Temperature Codes and Maximum Ambient Temperatures per Control Drawing 960384-2076 (FMR231) and 960391-2012 (FMR230).
- Micropilot M Level Instruments (Intrinsically Safe) Model FMR230-Ubcdddefgh (Horn Antenna, 5.8-6.3GHz), FMR231-Ubccdefgh (Rod Antenna), FMR232-Ubccdefg (Planar Antenna), FMR233-Ubccdefg (Parabolic Antenna), FMR240-Ubcdeefghi (Horn Antenna, >20GHz), FMR244-Ubcdddefgh (compact antenna with high chemical resistance), FMR245-Ubccdefg (compact antenna, highly resistant and easy to clean), FMR250-Ubcdeefghi (parabolic or horn antennas mainly used for solids) and FMR255-Ubccdefg (compact antenna, highly resistant and easy to clean), rated 4-20mA, 30V. Temperature Codes and Maximum Ambient Temperatures per Control Drawing Nos. 960402-2065 (F12/IS-HART), 960402-2066 (F12/FISCO-PA/FF), 960402-2069 (F23/IS-HART), 960402-2070 (F23/IS- FISCO – PA/FF), 960402-2071 (F23/IS- ENTITY – PA/FF), 960402-2072 (T12-OVP / IS-HART), 960402-2073 (T12-OVP - FISCO – PA/FF), 960402-2074 (T12-OVP - ENTITY – PA/FF), 960402-2087 (F12/IS-ENTITY-PA/FF) or 960006750 (FMR25x IS-HART, F12, F23, T12-OVP), 960007253 (FMR25x F12, F23, T12-OVP IS-Fisco-PA) or 960007256 (FMR25x F12, F23, T12-OVP IS-Entity-PA).
- Micropilot M Level Instruments (Explosion-proof) Model FMR230-Vbcdddefgh (Horn Antenna, 5.8-6.3GHz), MWP 160 bar (2321 psi); FMR231-Vbccdefgh (Rod Antenna) MWP 40 bar (580 psi); FMR232-Vbccdefg (Planar Antenna) MWP 25 bar (362.5 psi), FMR233-Vbccdefg (Parabolic Antenna) MWP 16 bar (232 psi); FMR240-Vbcdeefghi (Horn Antenna, >20GHz) MWP 40 bar (580 psi); FMR244-Vbcdddefgh (compact antenna with high chemical resistance) MWP 3 bar (43.5 psi), FMR245-Vbccdefg (compact antenna, highly resistant and easy to clean) MWP 16 or 25 bar (232 or 362.5 psi); FMR250-Vbcdeefghi (parabolic or horn antennas mainly used for solids) MWP 16 bar (232 psi); and FMR255-Vbccdefg (compact antenna, highly resistant and easy to clean) MWP 25 bar (362.5 psi); rated 4-20mA, 30V. Temperature Codes and Maximum Ambient Temperatures per Control Drawing No. 960402-2067 or 960006751 (FMR25x XP, T12, 4..20mA HART). Dual Seal.

CLASS 2252 01 - PROCESS CONTROL EQUIPMENT

Type 4X/6P Enclosure:

- Micropilot M Level Instruments (General Purpose) Model FMR230-Nbcdddefgh (Horn Antenna, 5.8-6.3GHz), FMR231-Nbccdefgh (Rod Antenna), FMR232-Nbccdefg (Planar Antenna), FMR233-Nbccdefg (Parabolic Antenna), FMR240-Nbcdeefghi (Horn Antenna, >20GHz), FMR244-Nbcdddefgh (compact antenna with high chemical resistance), FMR245-Nbccdefg (compact antenna, highly resistant and easy to clean), FMR250-Nbcdeefghi (parabolic or horn antennas mainly used for solids) and FMR255-Nbccdefg (compact antenna, highly resistant and easy to clean), rated 4-20mA, 36V.

APPLICABLE REQUIREMENTS



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CAN/CSA C22.2 No. 0-M91 (R2001) - General Requirements - Canadian Electrical Code, Part II

CSA Std C22.2 No. 25-1966 - Enclosures for Use in Class II, Groups E, F and G Hazardous Locations

CSA Std C22.2 No. 30-M1986 - Explosion-Proof Enclosures for Use in Class I Hazardous Locations

CAN/CSA-C22.2 No. 94-M91 - Special Purpose Enclosures

CSA Std C22.2 No. 142-M1987 - Process Control Equipment

CSA Std C22.2 No. 213-M1987 - Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations

CAN/CSA-E60079-0:02 - Electrical Apparatus for Explosive Gas Atmospheres - Part 0: General Requirements

CAN/CSA-E60079-1:02 - Electrical Apparatus for Explosive Gas Atmospheres - Part 1: Construction and Verification Test of Flameproof Enclosures of Electrical Apparatus

CAN/CSA-E60079-11:02 - Electrical Apparatus for Explosive Gas Atmospheres - Part 11: Intrinsic Safety "i"

CAN/CSA-E60079-15:02 - Electrical Apparatus for Explosive Gas Atmospheres - Part 15: Electrical Apparatus with Type of Protection "n"

CAN/CSA-C22.2 No. 60529:05 - Degrees of protection provided by enclosures (IP Code)

FMRC 3600 – 1998- Electrical Equipment for Use in Hazardous (Classified) Locations, General Requirements

FMRC 3610 – 1999- Intrinsically Safe Apparatus for Use in Class I, II & III, Division 1, and Class I, Zone 0 & 1 Hazardous (Classified) Locations

FMRC 3611 - 1999 - Nonincendive Electrical Equipment for Use in Class I and Class II, Division 2, and Class III, Division 1 and 2 Hazardous (Classified) Locations

FMRC 3615 – 1989- Explosionproof Electrical Equipment, General Requirements

FMRC 3810 – 1995- Electrical and Electronic Test, Measuring, and Process Control Equipment

ANSI/NEMA 250 – 1997- Enclosures for Electrical Equipment

ANSI/IEC 60529:2004 - Degrees of Protection Provided by Enclosures (IP Code)

ANSI/ISA 12.27.01-2003 - Requirements for Process Sealing Between Electrical Systems and Flammable or Combustible Process Fluids



Supplement to Certificate of Compliance

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The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
2365445	November 26, 2010	Update to cover revised planar antenna construction.
2204376	August 11, 2009	Update of report 1039154 for FMR250 Series to include new horn and parabolic antennas.
2039839	October 23, 2008	Update to cover addition of "Dual Seal" rating, and Addition of C US Coverage for Micropilot M FMR 2xx-V Series.
1995467	February 29, 2008	Update to report to cover alt. antennae and revised electronic inserts
1865516	January 15, 2007	Update to Cover Similar Alternative Foundation Fieldbus Electronic Insert, Type FMR25x 2W FF.
1738748	December 16, 2005	Update to cover minor alt. constructions
1721714	October 27, 2005	Update to cover drawings revisions and alternate FMR25x_2W_PA Electronic Insert
1615934	November 22, 2004	Update to cover alt. radar module uP III.3/4 and antenna construction for installation in Haz Loc.
1595674	September 21, 2004	Update of report 1039154 to cover additional probe options and circuitry changes
1529917	March 8, 2004	Update rpt. 1039154 to cover revised drawings and minor alternate constructions (Legacy no. 53988)