1. EU-TYPE EXAMINATION CERTIFICATE

2. **Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 2014/34/EU**

3. **EU-Type Examination Certificate No:** **FM17ATEX0016X**

4. **Equipment or protective system: (Type Reference and Name)** **FEP63_ ProcessMaster, FEW63_ProcessMaster FEH63_ HygienicMaster Electromagnetic Flowmeters and FET63_Transmitters**

5. **Name of Applicant:** **ABB AG**

6. **Address of Applicant** **Anna-Vandenhoeck-Ring 5, Gottingen 37081, Germany**

7. This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

8. FM Approvals Europe Ltd, notified body number 2809 in accordance with Article 17 of Directive 2014/34/EU of 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

   The examination and test results are recorded in confidential report number:

   3059596 dated 22nd May 2018

9. Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

   EN IEC 60079-0:2018, EN 60079-1:2014, EN IEC 60079-7:2015+A1:2018, EN 60079-11:2012, EN 60079-18:2015+A1:2017, EN 60079-31:2014, EN 60529:1991+A1:2000+A2:2013

10. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

11. This EU-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

Certificate issued by:

Digitally signed by Richard Zammitt
Location: Ireland
Foxit PDF Editor Version: 13.0.1

Certification Manager, FM Approvals Europe Ltd.

Date 15 January 2024

FM Approvals Europe Ltd. One Georges Quay Plaza, Dublin. Ireland. D02 E440
T: +353 (0) 1761 4200 E-mail: atex@fmapprovals.com www.fmapprovals.com

12. The marking of the equipment or protective system shall include:

See Annex.

13. **Description of Equipment or Protective System:**

The FEP6_ _ ProcessMaster, FEW6_ _ ProcessMaster and FEH6_ _ HygienicMaster are series of electromagnetic flowmeters. The electronics enclosure is a cylindrical enclosure identified as a dual compartment housing Type 3.

The FEP6_ _ ProcessMaster, FEW6_ _ ProcessMaster and FEH6_ _ HygienicMaster are both available as integral and remote designs. A high process temperature version is available and uses 40 mm or 100 mm stand-offs between the Primary and the electronics or remote connection facilities.

The sensor is available in two different versions: Process Sensor and Hygienic Sensor. The Process Sensor is available in meter size DN3 to DN3000, the Hygienic Sensor is available in meter size DN3 to DN100. The medium temperature range for the Hygienic Sensor and the medium temperature range for the Process Sensor identified as Design Level A are -40°C to +130°C for the normal temperature version and -40°C to +180°C for the high temperature version.

Enclosure rating IP65, IP67 or IP68 depending on the option selected.

Electrical parameters
Power Supply (Terminals L and N)

U_{DC} = 16.8V to 30V power supply (=U_{Low}); P_{max} <=20W; C, Ripple: < 5 %.
U_{AC} = 100V(-15%) to 240V (+10%) power supply (=U_{High}); S_{max}<=20VA

See ABB Instruction Manual for the parameters for the Current Output, Digital Output, and Digital Input connections.

14. **Specific Conditions of Use:**

See Annex.

15. **Essential Health and Safety Requirements:**

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

16. **Test and Assessment Procedure and Conditions:**

This EU-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Europe Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Europe Ltd's ATEX Certification Scheme.

17. **Schedule Drawings**

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the Notified Body.

18. **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
13 June 2018	Original Issue.
16 July 2018 to 28 May 2018	Supplement 1 to 4: See Certificate dated 18 March 2020
18 March 2020	Supplement 5: Report Reference: RR222840 dated 06th March 2020. Description of the Change: Addition of potted remote terminal housing for flow sensor.
20 January 2021	Supplement 6: Report Reference: PR456626 dated 19th January 2021. Description of the Change: Minor documentation update.
12 April 2021	Supplement 7: Report Reference: RR277397 dated 05th April 2021. Description of the Change: Update to address EN IEC 60079-0:2018. Minor documentation update.
27 September 2021	Supplement 8: Report Reference: RR229058 dated 6th August 2021. Description of the Change: Update to labels to add UKCA information.

Date	Description
1 March 2022	Supplement 9: Report Reference: RR230604 dated 15th February 2022. Description of the Change: 1. Change of company name and location. 2. Added Specific Condition of Use #5. 3. Update of documentation.
5 April 2022	Supplement 10: Report Reference: RR231984 dated 31st March 2022. Description of the Change: 1. Addition of Bangalore, India manufacturing facility. 2. Modify Label drawing to add Bangalore location as manufacturing facility.
19 September 2022	Supplement 11: Report Reference: PR462717 dated 7th September 2022. Description of the Change: Addition of Profibus Option card.
1 November 2022	Supplement 12: Report Reference: RR233846 dated 30th October 2022. Description of the Change: Alternative use of PCB-Option Card Active supply AS
26 April 2023	Supplement 13: Report Reference: RR234830 dated 21st April 2023. Description of the Change: Documentation update.
5 July 2023	Supplement 14: Report Reference: RR236655 dated 4 June 2023. Description of the Change(s): Update to Model Code for Profibus PA and label for FISCO.
15 January 2024	Supplement 15: Report Reference: RR238193 dated 10 January 2024. Description of the Changes: Addition of FEW630 Series

ANNEX

FEH631A1fghijklmnopqrA-t.u.v – Hygienic Integral Transmitter

Markings:

II 2(1) G Ex db eb ib mb [ia Ga] IIC T6…T1 Gb Ta = * to +60°C
II 2(1) D Ex tb [ia Da] IIIC T80°C…Tmedium Db Ta = * to +60°C
FISCO (when r = P1 or t = DRP)
* -20°C or -40°C depending on options chosen

Description of Equipment:

f = Housing Type/Housing Material/ Cable entry: D1, D2, D3, D4, D6, or D8
g = Meter Size representing DN3 to DN100: 4-digit code – not relevant for safety
h = Process Connection Type: 2-digit code – not relevant for safety
i = Liner Material: T1 or P1
j = Process connection material: Single digit – not relevant for safety
k = Electrode design: 1, or 5
l = Measuring electrode material: Single digit code – not relevant for safety
m = Grounding electrode/Full pipe detection: 0 or 2
n = Grounding accessories: A, B or C
o = Protection class transmitter/protection class sensor: 70 or 91
p = Power supply: A, D, C or E
q = Display: 0, 1 or 2
r = Outputs: G0, G1, G2, G3, G4, G5, G6, G7, G8, G9, M1, D1, P1 or Y0

Additional Codes
t = Option card 1: DR0, DRN, DRG, DRT, DRA, DRM, DRD, or DRP
u = Option card 2: DR0, DS0, DSA, DSN or DSG
v = Temperature range of installation/Ambient temperature range: TK1, TK4, TKH or TKK

Specific Conditions of Use:

1. The painted surface of the FE*6, ProcessMaster and HygenicMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in IEC TR60079-32-2 Cleaning of the painted surface should only be done with a damp cloth.
2. For installations in flammable dust, the cable entries shall be fitted with an appropriate cable entry device meeting the requirements of IP6x fitted with a gasket or seal between the cable entry device and the wall of the enclosure.
3. For Integral and Remote versions FE*63*A1 Category II 2 D having exposed electrodes in the process shall be used in a non-flammable liquid process only.
4. Contact the manufacturer for specific flamepath joint details during repair of flameproof Ex d apparatus.
5. The ABB Instruction Manual for the ProcessMaster and HygenicMaster details the permitted Temperature Classification and Ambient Temperature ratings as influenced by the Process Medium temperature.

FEH632A1fghijklmnopqY0A-t.u.v – Hygienic Remote Sensor

Markings:

II 2 G Ex eb ib mb IIC T6…T1 Gb Ta = * to +60°C
II 2 D Ex tb IIIC T80°C…Tmedium Db Ta = * to +60°C
* -20°C or -40°C depending on options chosen

Description of Equipment:

f = Housing Type/Housing Material/ Cable entry: A1, A2, U1, or U2
g = Meter Size representing DN3 to DN100: 4-digit code – not relevant for safety
h = Process Connection Type: 2-digit code – not relevant for safety
i = Liner material: T1 or P1
j = Process connection material: Single digit – not relevant for safety
k = Electrode design: 1, or 5
l = Measuring electrode material: Single digit code – not relevant for safety
m = Grounding electrode/Full pipe detection: 0 or 2
n = Grounding accessories: A, B or C
o = Protection class transmitter/protection class sensor: 70, 76, 77 or 91
p = Power supply: Y or W
q = Display: 0 or 8

Additional Codes
t = Option card 1: DR0
u = Option card 2: DR0, DS0
v = Temperature range of installation/Ambient temperature range: TK1, TK4, TKH or TKK

Specific Conditions of Use:

1. The painted surface of the FE*6, ProcessMaster and HygenicMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in IEC TR60079-32-2 Cleaning of the painted surface should only be done with a damp cloth.
2. For installations in flammable dust, the cable entries shall be fitted with an appropriate cable entry device meeting the requirements of IP6x fitted with a gasket or seal between the cable entry device and the wall of the enclosure.
3. For Integral and Remote versions FE*63*A1 Category II 2 D having exposed electrodes in the process shall be used in a non-flammable liquid process only.
4. Contact the manufacturer for specific flamepath joint details during repair of flameproof Ex d apparatus.
5. The ABB Instruction Manual for the ProcessMaster and HygenicMaster details the permitted Temperature Classification and Ambient Temperature ratings as influenced by the Process Medium temperature.

FEP631A1fghijklmnopqrA-t.u.v.w – Process Integral Transmitter – Design Level A

Markings:

II 2(1) G Ex db eb ib mb [ia Ga] IIC T6…T1 Gb Ta = * to 60°C IP65/67
II 2(1) D Ex tb [ia Da] IIIC T80°C…Tmedium Db Ta = * to 60°C IP65/67
FISCO (when r = P1 or t = DRP)
* -20°C or -40°C depending on options chosen

Description of Equipment:

f = Housing Type/Housing Material/ Cable entry: D1, D2, D3, D4, D6 or D8
g = Meter Size representing DN3 to DN300: 4-digit code – not relevant for safety
h = Process Connection Type: 2-digit code – not relevant for safety
i = Liner Material: R2, R3, R4, E1, T1, T3, T2, P1, C1, E2 or P2
j = Process connection material: Single digit – not relevant for safety
k = Electrode design: 1, or 5
l = Measuring electrode material: Single digit code – not relevant for safety
m = Grounding electrode/Full pipe detection: 0, 1, 2, or 3
n = Grounding accessories: A, B, C, D or E
o = Protection class transmitter/protection class sensor: 70 or 91
p = Power supply: A, D, C, or E
q = Display: 0, 1 or 2
r = Outputs: G0, G1, G2, G3, G4, G5, G6, G7, G8, G9, M1, D1, P1 or Y0

Additional Codes
t = Option card 1: DR0, DRN, DRG, DRT, DRA, DRM, DRD or DRP
u = Option card 2: DR0, DS0, DSA, DSN, or DSG
v = Temperature range of installation/Ambient temperature range: TK1, TK4, TKH or TKK
w = Sensor housing material: SMA or SMS
x = Sensor length: J6 or JH

Specific Conditions of Use:

1. The painted surface of the FE*6, ProcessMaster and HygenicMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in IEC TR60079-32-2 Cleaning of the painted surface should only be done with a damp cloth.
2. For installations in flammable dust, the cable entries shall be fitted with an appropriate cable entry device meeting the requirements of IP6x fitted with a gasket or seal between the cable entry device and the wall of the enclosure.
3. For Integral and Remote versions FE*63*A1 Category II 2 D having exposed electrodes in the process shall be used in a non-flammable liquid process only.
4. Contact the manufacturer for specific flamepath joint details during repair of flameproof Ex d apparatus.
5. The ABB Instruction Manual for the ProcessMaster and HygenicMaster details the permitted Temperature Classification and Ambient Temperature ratings as influenced by the Process Medium temperature.

FEP631A1fghijklmnopqrA-t.u.v.w – Process Integral Transmitter – Design Level A

Markings:

II 2(1) G Ex db eb ib [ia Ga] IIC T6…T1 Gb Ta = * to 60°C IP65/67
II 2(1) D Ex tb [ia Da] IIIC T80°C…Tmedium Db Ta = * to 60°C IP65/67
FISCO (when r = P1 or t = DRP)
* -20°C or -40°C depending on options chosen

Description of Equipment:

f = Housing Type/Housing Material/ Cable entry: D1, D2, D3, D4, D6 or D8
g = Meter Size representing DN350 to DN3000: 4-digit code – not relevant for safety
h = Process Connection Type: 2-digit code – not relevant for safety
i = Liner Material: R2, R3, R4, E1, T1, T3, T2, P1, C1, E2 or P2
j = Process connection material: Single digit – not relevant for safety
k = Electrode design: 1, or 5
l = Measuring electrode material: Single digit code – not relevant for safety
m = Grounding electrode/Full pipe detection: 0, 1, 2, or 3
n = Grounding accessories: A, B, C, D or E
o = Protection class transmitter/protection class sensor: 70 or 91
p = Power supply: A, D, C, or E
q = Display: 0, 1 or 2
r = Outputs: G0, G1, G2, G3, G4, G5, G6, G7, G8, G9, M1, D1, P1 or Y0

Additional Codes
t = Option card 1: DR0, DRN, DRG, DRT, DRA, DRM, DRD or DRP
u = Option card 2: DR0, DS0, DSA, DSN, or DSG
v = Temperature range of installation/Ambient temperature range: TK1, TK4, TKH or TKK
w = Sensor housing material: SMA or SMS
x = Sensor length: J6 or JH

Specific Conditions of Use:

1. The painted surface of the FE*6, ProcessMaster and HygenicMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in IEC TR60079-32-2 Cleaning of the painted surface should only be done with a damp cloth.
2. For installations in flammable dust, the cable entries shall be fitted with an appropriate cable entry device meeting the requirements of IP6x fitted with a gasket or seal between the cable entry device and the wall of the enclosure.
3. For Integral and Remote versions FE*63*A1 Category II 2 D having exposed electrodes in the process shall be used in a non-flammable liquid process only.
4. Contact the manufacturer for specific flamepath joint details during repair of flameproof Ex d apparatus.
5. The ABB Instruction Manual for the ProcessMaster and HygenicMaster details the permitted Temperature Classification and Ambient Temperature ratings as influenced by the Process Medium temperature.

FEP632A1fghijklmnopqY0A-t.u.v.w – Process Remote Sensor – Design Level A

Markings:

II 2 G Ex eb ib mb IIC T6…T1 Gb Ta = * to 60°C IP65/67/68
II 2 D Ex tb IIIC T80°C…Tmedium Db Ta = * to 60°C IP65/67/68
* -20°C or -40°C depending on options chosen

Description of Equipment:

f = Housing Type/Housing Material/ Cable entry: A1, A2, U1, or U2
g = Meter Size representing DN3 to DN300: 4-digit code – not relevant for safety
h = Process Connection Type: 2-digit code – not relevant for safety
i = Liner material: R2, R3, R4, E1, T1, T3, T2, P1, C1, E2 or P2
j = Process connection material: Single digit – not relevant for safety
k = Electrode design: 1, or 5
l = Measuring electrode material: Single digit code – not relevant for safety
m = Grounding electrode/Full pipe detection: 0, 1, 2 or 3
n = Grounding accessories: A, B, C, D or E
o = Protection class transmitter/protection class sensor: 70, 76, 77 or 91
p = Power supply: Y or W
q = Display 0 or 8

Additional Codes
t = Option card 1: DR0
u = Option card 2: DR0, DS0
v = Temperature range of installation/Ambient temperature range: TK1, TK4, TKH or TKK
w = Sensor housing material: SMA or SMS
x = Sensor length: J6 or JH

Specific Conditions of Use:

1. The painted surface of the FE*6, ProcessMaster and HygenicMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in IEC TR60079-32-2 Cleaning of the painted surface should only be done with a damp cloth.
2. For installations in flammable dust, the cable entries shall be fitted with an appropriate cable entry device meeting the requirements of IP6x fitted with a gasket or seal between the cable entry device and the wall of the enclosure.
3. For Integral and Remote versions FE*63*A1 Category II 2 D having exposed electrodes in the process shall be used in a non-flammable liquid process only.
4. Contact the manufacturer for specific flamepath joint details during repair of flameproof Ex d apparatus.
5. The ABB Instruction Manual for the ProcessMaster and HygenicMaster details the permitted Temperature Classification and Ambient Temperature ratings as influenced by the Process Medium temperature.

FEP632A1fghijklmnopqY0A-t.u.v.w – Process Remote Sensor – Design Level A

Markings:

II 2 G Ex eb ib IIC T6…T1 Gb Ta = * to 60°C IP65/67/68
II 2 D Ex tb IIIC T80°C…Tmedium Db Ta = * to 60°C IP65/67/68
* -20°C or -40°C depending on options chosen

Description of Equipment:

f = Housing Type/Housing Material/ Cable entry: A1, A2, U1, or U2
g = Meter Size representing DN350 to DN3000: 4-digit code – not relevant for safety
h = Process Connection Type: 2-digit code – not relevant for safety
i = Liner material: R2, R3, R4, E1, T1, T3, T2, P1, C1, E2 or P2
j = Process connection material: Single digit – not relevant for safety
k = Electrode design: 1, or 5
l = Measuring electrode material: Single digit code – not relevant for safety
m = Grounding electrode/Full pipe detection: 0, 1, 2 or 3
n = Grounding accessories: A, B, C, D or E
o = Protection class transmitter/protection class sensor: 70, 76, 77 or 91
p = Power supply: Y or W
q = Display 0 or 8

Additional Codes
t = Option card 1: DR0
u = Option card 2: DR0, DS0
v = Temperature range of installation/Ambient temperature range: TK1, TK4, TKH or TKK
w = Sensor housing material: SMA or SMS
x = Sensor length: J6 or JH

Specific Conditions of Use:

1. The painted surface of the FE*6, ProcessMaster and HygenicMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in IEC TR60079-32-2 Cleaning of the painted surface should only be done with a damp cloth.
2. For installations in flammable dust, the cable entries shall be fitted with an appropriate cable entry device meeting the requirements of IP6x fitted with a gasket or seal between the cable entry device and the wall of the enclosure.
3. For Integral and Remote versions FE*63*A1 Category II 2 D having exposed electrodes in the process shall be used in a non-flammable liquid process only.
4. Contact the manufacturer for specific flamepath joint details during repair of flameproof Ex d apparatus.
5. The ABB Instruction Manual for the ProcessMaster and HygenicMaster details the permitted Temperature Classification and Ambient Temperature ratings as influenced by the Process Medium temperature.

FET632A1fopqrA - t.u.v – Remote Transmitter - 'd' wall bracket

Markings:

II 2(1) G Ex db [ia Ga] IIB + H_2 T6 Gb Ta = * to 60°C IP65/67
II 2(1) D Ex tb [ia Da] IIIC T80°C Db Ta = * to 60°C IP65/67
* -20°C or -40°C depending on options chosen
FISCO (when r = P1 or t = DRP)

Description of Equipment:

f = Housing Type/Housing Material/ Cable entry: W5 or W7
o = Protection class transmitter/protection class sensor: 70 or 91
p = Power supply: A, D, C or E
q = Display: 0, 1 or 2
r = Outputs: G0, G1, G2, G3, G4, G5, G6, G7, G8, G9, M1, D1, P1 or Y0

Additional Codes
t = Option card 1: DR0, DRN, DRG, DRT, DRA, DRM, DRP or DRD
u = Option card 2: DR0, DS0, DSA, DSN or DSG
v = Temperature range of installation/Ambient temperature range: TK1, TK4, TKH or TKK

Specific Conditions of Use:

1. The painted surface of the FE*6, ProcessMaster and HygenicMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in IEC TR60079-32-2 Cleaning of the painted surface should only be done with a damp cloth.
2. For installations in flammable dust, the cable entries shall be fitted with an appropriate cable entry device meeting the requirements of IP6x fitted with a gasket or seal between the cable entry device and the wall of the enclosure.
3. For Integral and Remote versions FE*63*A1 Category II 2 D having exposed electrodes in the process shall be used in a non-flammable liquid process only.
4. Contact the manufacturer for specific flamepath joint details during repair of flameproof Ex d apparatus.

FET632A1fopqrA - t.u.v – Remote Transmitter – 'e' wallbracket

Markings:

II 2(1) G Ex db eb mb [ia Ga] IIC T6 Gb Ta = * to 60°C IP65/67
II 2(1) D Ex tb [ia Da] IIIC T80°C Db Ta = * to 60°C IP65/67
* -20°C or -40°C depending on options chosen
FISCO (when r = P1 or t = DRP)

Description of Equipment:

f = Housing Type/Housing Material/ Cable entry: W1, W2, W3, or W4
o = Protection class transmitter/protection class sensor: 70 or 91

p = Power supply: A, D, C or E
q = Display: 0, 1 or 2
r = Outputs: G0, G1, G2, G3, G4, G5, G6, G7, G8, G9, M1, D1, P1 or Y0

Additional Codes
t = Option card 1: DR0, DRN, DRG, DRT, DRA, DRM, DRP or DRD
u = Option card 2: DR0, DS0, DSA, DSN or DSG
v = Temperature range of installation/Ambient temperature range: TK1, TK4, TKH or TKK

Specific Conditions of Use:

1. The painted surface of the FE*6, ProcessMaster and HygenicMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in IEC TR60079-32-2 Cleaning of the painted surface should only be done with a damp cloth.
2. For installations in flammable dust, the cable entries shall be fitted with an appropriate cable entry device meeting the requirements of IP6x fitted with a gasket or seal between the cable entry device and the wall of the enclosure.
3. For Integral and Remote versions FE*63*A1 Category II 2 D having exposed electrodes in the process shall be used in a non-flammable liquid process only.
4. Contact the manufacturer for specific flamepath joint details during repair of flameproof Ex d apparatus.

FEW631A1fghijklmnopqrA-t.u.v.w – Process Integral Transmitter – Design Level A

Markings:

II 2(1) G Ex db eb ib mb [ia Ga] IIC T6…T1 Gb Ta = * to 60°C IP65/67
II 2(1) D Ex tb [ia Da] IIIC T80°C…Tmedium Db Ta = * to 60°C IP65/67
FISCO (when r = P1 or t = DRP)
* -20°C or -40°C depending on options chosen

Description of Equipment:

f = Housing Type/Housing Material/ Cable entry: D1, D2, D3, D4, D6 or D8
g = Meter Size representing DN3 to DN300: 4-digit code – not relevant for safety
h = Process Connection Type: 2-digit code – not relevant for safety
i = Liner Material: R2, R3, R4 or E2
j = Process connection material: Single digit – not relevant for safety
k = Electrode design: 1 or 5
l = Measuring electrode material: Single digit code – not relevant for safety
m = Grounding electrode/Full pipe detection: 0, 1, 2, or 3
n = Grounding accessories: A, B, C, D or E
o = Protection class transmitter/protection class sensor: 70 or 91
p = Power supply: A, D, C, or E
q = Display: 0, 1 or 2
r = Outputs: G0, G1, G2, G3, G4, G5, G6, G7, G8, G9, M1, D1, P1 or Y0

Additional Codes
t = Option card 1: DR0, DRN, DRG, DRT, DRA, DRM, DRD or DRP
u = Option card 2: DR0, DS0, DSA, DSN, or DSG
v = Temperature range of installation/Ambient temperature range: TK1 or TK4
w = Sensor housing material: SMA or SMS
x = Sensor length: J6 or JH

Specific Conditions of Use:

1. The painted surface of the FE*6, ProcessMaster and HygenicMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in IEC TR60079-32-2 Cleaning of the painted surface should only be done with a damp cloth.
2. For installations in flammable dust, the cable entries shall be fitted with an appropriate cable entry device meeting the requirements of IP6x fitted with a gasket or seal between the cable entry device and the wall of the enclosure.
3. For Integral and Remote versions FE*63*A1 Category II 2 D having exposed electrodes in the process shall be used in a non-flammable liquid process only.
4. Contact the manufacturer for specific flamepath joint details during repair of flameproof Ex d apparatus.
5. The ABB Instruction Manual for the ProcessMaster and HygenicMaster details the permitted Temperature Classification and Ambient Temperature ratings as influenced by the Process Medium temperature.

FEW631A1fghijklmnopqrA-t.u.v.w – Process Integral Transmitter – Design Level A

Markings:

II 2(1) G Ex db eb ib [ia Ga] IIC T6…T1 Gb Ta = * to 60°C IP65/67
II 2(1) D Ex tb [ia Da] IIIC T80°C…Tmedium Db Ta = * to 60°C IP65/67
FISCO (when r = P1 or t = DRP)
* -20°C or -40°C depending on options chosen

Description of Equipment:

f = Housing Type/Housing Material/ Cable entry: D1, D2, D3, D4, D6 or D8
g = Meter Size representing DN350 to DN3000: 4-digit code – not relevant for safety
h = Process Connection Type: 2-digit code – not relevant for safety
i = Liner Material: R2, R3, R4 or E2
j = Process connection material: Single digit – not relevant for safety
k = Electrode design: 1, or 5
l = Measuring electrode material: Single digit code – not relevant for safety
m = Grounding electrode/Full pipe detection: 0, 1, 2, or 3
n = Grounding accessories: A, B, C, D or E
o = Protection class transmitter/protection class sensor: 70 or 91
p = Power supply: A, D, C, or E
q = Display: 0, 1 or 2
r = Outputs: G0, G1, G2, G3, G4, G5, G6, G7, G8, G9, M1, D1, P1 or Y0

Additional Codes
t = Option card 1: DR0, DRN, DRG, DRT, DRA, DRM, DRD or DRP
u = Option card 2: DR0, DS0, DSA, DSN, or DSG
v = Temperature range of installation/Ambient temperature range: TK1 or TK4
w = Sensor housing material: SMA or SMS
x = Sensor length: J6 or JH

Specific Conditions of Use:

1. The painted surface of the FE*6, ProcessMaster and HygenicMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in IEC TR60079-32-2 Cleaning of the painted surface should only be done with a damp cloth.
2. For installations in flammable dust, the cable entries shall be fitted with an appropriate cable entry device meeting the requirements of IP6x fitted with a gasket or seal between the cable entry device and the wall of the enclosure.
3. For Integral and Remote versions FE*63*A1 Category II 2 D having exposed electrodes in the process shall be used in a non-flammable liquid process only.
4. Contact the manufacturer for specific flamepath joint details during repair of flameproof Ex d apparatus.
5. The ABB Instruction Manual for the ProcessMaster and HygenicMaster details the permitted Temperature Classification and Ambient Temperature ratings as influenced by the Process Medium temperature.

FEW632A1fghijklmnopqY0A-t.u.v.w – Process Remote Sensor – Design Level A

Markings:

II 2 G Ex eb ib mb IIC T6…T1 Gb Ta = * to 60°C IP65/67/68
II 2 D Ex tb IIIC T80°C…Tmedium Db Ta = * to 60°C IP65/67/68
* -20°C or -40°C depending on options chosen

Description of Equipment:

f = Housing Type/Housing Material/ Cable entry: A1, A2, U1, or U2
g = Meter Size representing DN3 to DN300: 4-digit code – not relevant for safety
h = Process Connection Type: 2-digit code – not relevant for safety
i = Liner material: R2, R3, R4 or E2
j = Process connection material: Single digit – not relevant for safety
k = Electrode design: 1, or 5
l = Measuring electrode material: Single digit code – not relevant for safety
m = Grounding electrode/Full pipe detection: 0, 1, 2 or 3
n = Grounding accessories: A, B, C, D or E
o = Protection class transmitter/protection class sensor: 70, 76, 77 or 91
p = Power supply: Y or W
q = Display 0 or 8

Additional Codes
t = Option card 1: DR0
u = Option card 2: DR0, DS0

v = Temperature range of installation/Ambient temperature range: TK1 or TK4
w = Sensor housing material: SMA or SMS
x = Sensor length: J6 or JH

Specific Conditions of Use:

1. The painted surface of the FE*6, ProcessMaster and HygenicMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in IEC TR60079-32-2 Cleaning of the painted surface should only be done with a damp cloth.
2. For installations in flammable dust, the cable entries shall be fitted with an appropriate cable entry device meeting the requirements of IP6x fitted with a gasket or seal between the cable entry device and the wall of the enclosure.
3. For Integral and Remote versions FE*63*A1 Category II 2 D having exposed electrodes in the process shall be used in a non-flammable liquid process only.
4. Contact the manufacturer for specific flamepath joint details during repair of flameproof Ex d apparatus.
5. The ABB Instruction Manual for the ProcessMaster and HygenicMaster details the permitted Temperature Classification and Ambient Temperature ratings as influenced by the Process Medium temperature.

FEW632A1fghijkImnopqY0A-t.u.v.w – Process Remote Sensor – Design Level A

Markings:

II 2 G Ex eb ib IIC T6…T1 Gb Ta = * to 60°C IP65/67/68
II 2 D Ex tb IIIC T80°C…Tmedium Db Ta = * to 60°C IP65/67/68
* -20°C or -40°C depending on options chosen

Description of Equipment:

f = Housing Type/Housing Material/ Cable entry: A1, A2, U1, or U2
g = Meter Size representing DN350 to DN3000: 4-digit code – not relevant for safety
h = Process Connection Type: 2-digit code – not relevant for safety
i = Liner material: R2, R3, R4 or E2
j = Process connection material: Single digit – not relevant for safety
k = Electrode design: 1, or 5
l = Measuring electrode material: Single digit code – not relevant for safety
m = Grounding electrode/Full pipe detection: 0, 1, 2 or 3
n = Grounding accessories: A, B, C, D or E
o = Protection class transmitter/protection class sensor: 70, 76, 77 or 91
p = Power supply: Y or W
q = Display 0 or 8

Additional Codes
t = Option card 1: DR0
u = Option card 2: DR0, DS0
v = Temperature range of installation/Ambient temperature range: TK1 or TK4
w = Sensor housing material: SMA or SMS
x = Sensor length: J6 or JH

Specific Conditions of Use:

1. The painted surface of the FE*6, ProcessMaster and HygenicMaster may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in IEC TR60079-32-2 Cleaning of the painted surface should only be done with a damp cloth.
2. For installations in flammable dust, the cable entries shall be fitted with an appropriate cable entry device meeting the requirements of IP6x fitted with a gasket or seal between the cable entry device and the wall of the enclosure.
3. For Integral and Remote versions FE*63*A1 Category II 2 D having exposed electrodes in the process shall be used in a non-flammable liquid process only.
4. Contact the manufacturer for specific flamepath joint details during repair of flameproof Ex d apparatus.
5. The ABB Instruction Manual for the ProcessMaster and HygenicMaster details the permitted Temperature Classification and Ambient Temperature ratings as influenced by the Process Medium temperature.