



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx FME 17.0001X**

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Certificate history:

Status: **Current**

Issue No: 14

[Issue 13 \(2023-04-21\)](#)

[Issue 12 \(2022-09-16\)](#)

[Issue 11 \(2022-09-16\)](#)

[Issue 10 \(2022-04-04\)](#)

[Issue 9 \(2022-02-27\)](#)

[Issue 8 \(2021-07-20\)](#)

[Issue 7 \(2021-04-12\)](#)

[Issue 6 \(2021-01-19\)](#)

[Issue 5 \(2020-03-17\)](#)

[Issue 4 \(2019-05-23\)](#)

Date of Issue: 2023-07-01

Applicant: **ABB AG**
Anna-Vandenhoeck-Ring 5
37081, Göttingen
Germany

Equipment: **FEP63 - ProcessMaster / FEH63 - HygienicMaster / FET63 -
Transmitter**

Optional accessory:

Type of Protection: **Flameproof 'd'; increased safety 'e'; intrinsic safety 'i'; encapsulation 'm'; and protection by enclosure 't'**

Marking: See attachment

Approved for issue on behalf of the IECEx
Certification Body:

Andrew Was

Position:

Certification Manager

Signature:
(for printed version)

Date:
(for printed version)

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United Kingdom





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Date of issue: 2023-07-01

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Manufacturer: **ABB AG**
Anna-Vandenhoeck-Ring 5
37081, Göttingen
Germany

Manufacturing locations: **ABB Engineering (Shanghai) Limited**
No. 4528, KangXin Road
Pudong New District
Shanghai
201319
China

ABB Limited
Oldends Lane
Stonehouse
GL10 3TA
United Kingdom

ABB India Limited
Process Automation - Measurement Products
Plot No. 5 & 6, 2nd Phase, Peenya Industrial Area
Bangalore - 560058
India
India

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-18:2017 Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

GB/FME/ExTR17.0002/00
GB/FME/ExTR17.0002/03
GB/FME/ExTR17.0002/06
GB/FME/ExTR17.0002/09
GB/FME/ExTR17.0002/12

GB/FME/ExTR17.0002/01
GB/FME/ExTR17.0002/04
GB/FME/ExTR17.0002/07
GB/FME/ExTR17.0002/10
GB/FME/ExTR17.0002/13

GB/FME/ExTR17.0002/02
GB/FME/ExTR17.0002/05
GB/FME/ExTR17.0002/08
GB/FME/ExTR17.0002/11
GB/FME/ExTR17.0002/14

Quality Assessment Reports:

DE/TUN/QAR06.0010/09
GB/ITS/QAR16.0002/03

GB/BAS/QAR08.0001/08

GB/FME/QAR10.0007/12



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The FEP6__ ProcessMaster, and FEH6__ HygienicMaster are series of electromagnetic flowmeters. The electronics enclosure is a cylindrical enclosure identified as a dual compartment Type 3, or a single compartment rectangular housing identified as a Type 4.

The FEP6__ ProcessMaster, and FEH6__ HygienicMaster are both available as integral and remote designs. A high process temperature version is available and uses a 40 mm or a 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 DN2000, 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 are -40°C to 130°C for the normal temperature version and -40°C to +180°C for the high temperature version. The medium temperature range for sensors identified as Design Level B is -40°C to 100°C

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

See Attachment for model code breakdown.

SPECIFIC CONDITIONS OF USE: YES as shown below:

See Attachment



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Update to model codes and marking.

Annex:

[Annex to IECEx FME17_0001X Iss 14.pdf](#)



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Member of the FM Global Group

FEH631U1fghijklmnopqrA-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] IIC 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

FEH631U1fghijklmnopqrA-t.u.v – Hygienic Integral Transmitter

f = Housing Type/Housing Material/ Cable entry: D1, D2, D3, D4, D6, or D8

g = Meter Size: 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: 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.

FEH632U1fghijklmnop8Y0A-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

FEH632U1fghijklmnop8Y0A-t.u.v – Hygienic Remote Sensor

f = Housing Type/Housing Material/ Cable entry: A1, A2, U1, or U2

g = Meter Size: 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

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 HygienicMaster 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 HygienicMaster details the permitted Temperature Classification and Ambient Temperature ratings as influenced by the Process Medium temperature.

FEP631U1fghijklmnopqrA-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

FEP631U1fghijklmnopqrA-t.u.v.w – Process Integral Transmitter – Design Level A

f = Housing Type/Housing Material/ Cable entry: D1, D2, D3, D4, D6 or D8

g = Meter Size: 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: 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, DRP or DR6

u = Option card 2: DR0, DS0, DSA, DSN, or DSG

v = Temperature range of installation/Ambient temperature range: TK1, TK4, TKH or TTK

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.

FEP632U1fghijklmnop8Y0A-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

FEP632U1fghijklmnop8Y0A-t.u.v.w – Process Remote Sensor – Design Level A

f = Housing Type/Housing Material/ Cable entry: A1, A2, U1, or U2

g = Meter Size: 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

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 TTK
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.

FET632U1fopqr - t.u.v – Remote Transmitter - 'd' wall bracket

Markings

II 2(1) G Ex db [ia Ga] IIB + H₂ 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

FET632U1fopqr - t.u.v – Remote Transmitter - 'd' wall bracket

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: 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 TTK

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.

FET632U1fopqr - 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

FET632U1fopqr - t.u.v – Remote Transmitter – ‘e’ wallbracket

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: 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.

FEH631A2fghijklmnopqrA-t.u.v.y – Hygienic Integral

Markings

II 3 G Ex ec IIC T**...T1 Gc Ta = * to 60°C IP65/67

II 3 D Ex tc IIIC T80°C...Tmedium Dc Ta = * to 60°C IP65/67

* -20°C or -40°C depending on options chosen

**T6...T1 for all options except t = DR6 and u = DS8 when this is T4...T1

Description of Equipment

Hygienic Integral

f = Housing Type/Housing Material/ Cable entry: S1, S2, D1, D2, D3, D4, D6, or D8

g = Meter Size: 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, E2, E3, E4 or Y0

Additional Codes

t = Option card 1: DR0, DRN, DRG, DRT, DRA, DRM, DRD or DR6

u = Option card 2: DR0, DS0, DSA, DSN, DSG or DS8

v = Temperature range of installation/Ambient temperature range: TK1, TK4, TKH or TKG

y = Connector type: U0, UE, UF, UG, U5, UB, UC, U6, UD, UH, U7, UJ, UK, U8, UN, UP

Specific Conditions of Use

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.
2. The ABB Instruction Manual for the ProcessMaster and HygienicMaster details the permitted Temperature Classification and Ambient Temperature ratings as influenced by the Process Medium temperature.
3. The painted surface of the ProcessMaster and HygienicMaster 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.

FEH632A2fghijklmnop8Y0A-t.u.v – Hygienic Remote Sensor

Markings

II 3 G Ex ec IIC T6...T1 Gc Ta = * to 60°C IP65/67/68

II 3 D Ex tc IIIC T80°C...Tmedium Dc Ta = * to 60°C IP65/67/68

* -20°C or -40°C depending on options chosen

Description of Equipment

Hygienic Remote Sensor

f = Housing Type/Housing Material/ Cable entry: A1, A2, U1, or U2

g = Meter Size: 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

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. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.
2. 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.
3. The painted surface of the 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.

FEP631A2fghijklmnopqrA-t.u.v.w.x.y – Process Integral – Design Level A

Markings

II 3 G Ex ec IIC T**...T1 Gc Ta = * to 60°C IP65/67
II 3 D Ex tc IIIC T80°C...Tmedium Dc Ta = * to 60°C IP65/67
* -20°C or -40°C depending on options chosen
**T6...T1 for all options except t = DR6 and u = DS8 when this is T4...T1

Description of Equipment

Process Integral – Design Level A

f = Housing Type/Housing Material/ Cable entry: S1, S2, D1, D2, D3, D4, D6, or D8
g = Meter Size: 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, 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, E2, E3, E4 or Y0

Additional Codes

t = Option card 1: DR0, DRN, DRG, DRT, DRA, DRM, DRD or DR6
u = Option card 2: DR0, DS0, DSA, DSN, DSG or DS8
v = Temperature range of installation/Ambient temperature range: TK1, TK4, TKH or TKK

w = Sensor housing material: SMA, SMS

x = Sensor length: J6 or JH

y = Connector type: U0, UE, UF, UG, U5, UB, UC, U6, UD, UH, U7, UJ, UK, U8, UN, or UP

Specific Conditions of Use

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.
2. 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.
3. The painted surface of the 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.

FEP631A2fghT1jklmnopqrB-t.u.v.y.SMA – Process Integral – Design Level B

Markings

II 3 G Ex ec IIC T**...T1 Gc Ta = * to 60°C IP65/67

II 3 D Ex tc IIIC T80°C...Tmedium Dc Ta = * to 60°C IP65/67

* -20°C or -40°C depending on options chosen

**T6...T1 for all options except t = DR6 and u = DS8 when this is T4...T1

Description of Equipment

Process Integral – Design Level B

f = Housing Type/Housing Material/ Cable entry: S1, S2, D1, D2, D3, or D4

g = Meter Size: 4-digit code – not relevant for safety

h = Process Connection Type: 2-digit code – not relevant for safety

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, 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, E2, E3, E4 or Y0

Additional Codes

t = Option card 1: DR0, DRN, DRG, DRT, DRA, DRM, DRD or DR6

u = Option card 2: DR0, DS0, DSA, DSN, DSG or DS8

v = Temperature range of installation/Ambient temperature range: TK1 or TK4

y = Connector type: U0, UE, UF, UG, U5, UB, UC, U6, UD, UH, U7, UJ, UK, U8, UN, or UP

Specific Conditions of Use

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.
2. 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.

3. The painted surface of the 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.

FEP632A2fghijklmnop8Y0A-t.u.v.w – Process Remote Sensor – Design Level A

Markings

II 3 G Ex ec IIC T6...T1 Gc Ta = * to 60°C IP65/67/68

II 3 D Ex tc IIIC T80°C...Tmedium Dc Ta = * to 60°C IP65/67/68

* -20°C or -40°C depending on options chosen

Description of Equipment

Process Remote Sensor – Design Level A

f = Housing Type/Housing Material/ Cable entry: A1, A2, U1, or U2

g = Meter Size: 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

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 TTK

w = Sensor housing material: SMA or SMS

x = Sensor length: J6 or JH

Specific Conditions of Use

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.
2. 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.
3. The painted surface of the 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.

FEP632A2fghT1jklmnop8Y0B-t.u.v.SMA – Process Remote Sensor – Design Level B

Markings

II 3 G Ex ec IIC T6...T1 Gc Ta = * to 60°C IP65/67/68
II 3 D Ex tc IIIC T80°C...Tmedium Dc Ta = * to 60°C IP65/67/68
* -20°C or -40°C depending on options chosen

Description of Equipment

Process Remote Sensor – Design Level B

f = Housing Type/Housing Material/ Cable entry: A1, A2, U1, or U2
g = Meter Size: 4-digit code – not relevant for safety
h = Process Connection Type: 2-digit code – not relevant for safety
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

Additional Codes

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

Specific Conditions of Use

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.
2. 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.
3. The painted surface of the 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.

FET632A2fopqr - t.u.v.y – Remote Transmitter

Markings

II 3 G Ex ec IIC T** Gc Ta = * to 60°C IP65/67
II 3 D Ex tc IIIC T80°C Dc Ta = * to 60°C IP65/67
* -20°C or -40°C depending on options chosen
**T6 for all options except t = DR6 and u = DS8 when this is T4

Description of Equipment

Remote Transmitter

f = Housing Type/Housing Material/ Cable entry: F1 or F2
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, E2, E3, E4 or Y0

Additional Codes

t = Option card 1: DR0, DRN, DRG, DRT, DRA, DRM, DRD or DR6
u = Option card 2: DR0, DS0, DSA, DSN, DSG or DS8

v = Temperature range of installation/Ambient temperature range: TK1, TK4, TKH or TKK

y = Connector type: U0, UE, UF, UG, U5, UB, UC, U6, UD, UH, U7, UJ, UK, U8, UN, or UP

Specific Conditions of Use

1. Sensors having exposed electrodes in the process shall be used in a non-flammable liquid process only.
2. 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.
3. The painted surface of the 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.