

AXF Series Magnetic Flowmeter Installation Manual ATEX and IECEx Explosion Proof Type

IM 01E20A01-11EN



**Integral Flowmeter
(AXF□□□C)**



**Remote Flowtube
(AXF□□□C)**



**Remote Converter
(AXFA14C)**

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Note: "□□□" means any of the following.
002, 005, 010, 015, 025, 032, 040, 050, 065, 080, 100, 125, 150,
200, 250, 300, 350, 400

This manual outlines the specification for ATEX and IECEx explosion proof type of the ADMAG AXF Series. For the items which are not covered in this manual, refer to IM 01E20A01-01JA or IM 01E20A01-01EN.

1. Explosion Proof Type Instrument

In this chapter, further requirements and differences for explosion proof type instrument are described.

NOTE

When describing the model name like AXF□□□C in this manual, "□□□" means any of the following.
002, 005, 010, 015, 025, 032, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300, 350, 400



WARNING

Magnetic flowmeters with the model name AXF□□□C magnetic flowmeter and AXFA14C remote converter are products which have been certified as explosion proof type instruments. Strict limitations are applied to the structures, installation locations, external wiring work, maintenance and repairs, etc. of these instruments. Sufficient care must be taken, as any violation of the limitations may cause dangerous situations.

Be sure to read this chapter before handling the instruments.

For explosion proof type instrument, the description in this chapter is prior to other description in this user's manual.



WARNING

The terminal box cover and display cover is locked by special screw. In case of opening the cover, use the hexagonal wrench attached.

The covers of explosion proof type products are locked. Use the attached hexagonal wrench to open and close the cover. Before opening the cover, be sure to check that the power of flowmeter has been turned off. Once the cover is closed, be sure to re-lock the product.

Be sure to lock the cover with the special screw using the hexagonal wrench attached after tightening the cover.

1.1 ATEX



WARNING

Only trained persons use this instrument in industrial locations.

(1) Technical Data

(AXF Integral Flowmeter), (AXF Remote Flowtube)

Applicable Standard:

- EN IEC 60079-0: 2018,
- EN 60079-1: 2007, 2014,
- EN IEC 60079-7: 2015 + A1: 2018,
- EN 60079-11: 2012,
- EN 60079-31: 2014

Certificate: DEKRA 15ATEX0029 X

(AXF Integral Flowmeter)

Type of Gas Atmosphere Protection

Group: II

Category: 2G

Type of Protection:

Ex db e ia IIC T6...T4 Gb

Specification of Protection:

Um: 250V

Power Supply: 100 to 240 Vac 47 to 63 Hz
100 to 120 Vdc 24 Vac/dc

Current Output: 4 to 20 mA

Digital Output: on; 1.6 Vdc, 200 mA max
off; 30 Vdc max, 0 mA

Digital communication: 9 to 32 Vdc 15 mA

Enclosure: IP66/IP67

(a) 2.5 to 15 mm (0.1 to 0.5 in.) of PFA lining

Temperature Class	Process Temperature	Ambient Temperature
T6	-40°C to +75°C (-40°F to +167°F)	-40°C to +60°C (-40°F to +140°F)
T5	-40°C to +90°C (-40°F to +194°F)	-40°C to +60°C (-40°F to +140°F)
T4	-40°C to +90°C (-40°F to +194°F)	-40°C to +60°C (-40°F to +140°F)

(b) 25 to 400 mm (1.0 to 16 in.) of PFA lining

Temperature Class	Process Temperature	Ambient Temperature
T6	-40°C to +50°C (-40°F to +122°F)	-40°C to +45°C (-40°F to +113°F)
T5	-40°C to +65°C (-40°F to +149°F)	-40°C to +60°C (-40°F to +140°F)
T4	-40°C to +110°C (-40°F to +230°F)	-40°C to +60°C (-40°F to +140°F)

(c) 2.5 to 200 mm (0.1 to 8.0 in.) of Ceramics lining

Temperature Class	Process Temperature	Ambient Temperature
T6	-10°C to +75°C (+14°F to +167°F)	-10°C to +60°C (+14°F to +140°F)
T5	-10°C to +90°C (+14°F to +194°F)	-10°C to +60°C (+14°F to +140°F)
T4	-10°C to +90°C (+14°F to +194°F)	-10°C to +60°C (+14°F to +140°F)

Type of Dust Atmosphere Protection

Group: II

Category: 2D

Type of Protection:

Ex tb IIIC T75°C...T110°C Db

Specification of Protection:

Um: 250V

Power Supply: 100 to 240 Vac 47 to 63 Hz
100 to 120 Vdc 24 Vac/dc

Current Output: 4 to 20 mA

Digital Output: on; 1.6 Vdc, 200 mA max
off; 30 Vdc max, 0 mA

Digital communication: 9 to 32 Vdc 15 mA

Enclosure: IP66/IP67

(a) 2.5 to 15 mm (0.1 to 0.5 in.) of PFA lining

Maximum Surface Temperature	Process Temperature	Ambient Temperature
T75°C	-40°C to +75°C (-40°F to +167°F)	-40°C to +60°C (-40°F to +140°F)
T90°C	-40°C to +90°C (-40°F to +194°F)	-40°C to +60°C (-40°F to +140°F)
T110°C	-40°C to +90°C (-40°F to +194°F)	-40°C to +60°C (-40°F to +140°F)

(b) 25 to 400 mm (1.0 to 16 in.) of PFA lining

Maximum Surface Temperature	Process Temperature	Ambient Temperature
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T90°C	-10°C to +90°C (+14°F to +194°F)	-10°C to +60°C (+14°F to +140°F)
T110°C	-10°C to +90°C (+14°F to +194°F)	-10°C to +60°C (+14°F to +140°F)

(AXF Remote Flowtube)

Type of Gas Atmosphere Protection

Group: II

Category: 2G

Type of Protection:

Ex db e ia IIC T6...T3 Gb

Specification of Protection:

Um: 250V

Enclosure: IP66/IP67

(a) 2.5 to 15 mm (0.1 to 0.5 in.) of PFA lining

Temperature Class	Process Temperature	Ambient Temperature
T6	-40°C to +75°C (-40°F to +167°F)	-40°C to +60°C (-40°F to +140°F)
T5	-40°C to +90°C (-40°F to +194°F)	-40°C to +60°C (-40°F to +140°F)
T4	-40°C to +95°C (-40°F to +203°F)	-40°C to +60°C (-40°F to +140°F)
T3	-40°C to +95°C (-40°F to +203°F)	-40°C to +60°C (-40°F to +140°F)

(b) 25 to 400 mm (1.0 to 16 in.) of PFA lining

Temperature Class	Process Temperature	Ambient Temperature
T6	-40°C to +50°C (-40°F to +122°F)	-40°C to +45°C (-40°F to +113°F)
T5	-40°C to +65°C (-40°F to +149°F)	-40°C to +60°C (-40°F to +140°F)
T4	-40°C to +110°C (-40°F to +230°F)	-40°C to +60°C (-40°F to +140°F)
T3	-40°C to +140°C (-40°F to +284°F)	-40°C to +60°C (-40°F to +140°F)

(c) 2.5 to 200 mm (0.1 to 8.0 in.) of Ceramics lining

Temperature Class	Process Temperature	Ambient Temperature
T6	-10°C to +75°C (+14°F to +167°F)	-10°C to +60°C (+14°F to +140°F)
T5	-10°C to +90°C (+14°F to +194°F)	-10°C to +60°C (+14°F to +140°F)
T4	-10°C to +95°C (+14°F to +203°F)	-10°C to +60°C (+14°F to +140°F)
T3	-10°C to +95°C (+14°F to +203°F)	-10°C to +60°C (+14°F to +140°F)

Type of Dust Atmosphere Protection

Group: II

Category: 2D

Type of Protection:

Ex tb IIIC T75°C...T140°C Db

Specification of Protection:

Um: 250V

Enclosure: IP66/IP67

(a) 2.5 to 15 mm (0.1 to 0.5 in.) of PFA lining

Maximum Surface Temperature	Process Temperature	Ambient Temperature
T75°C	-40°C to +75°C (-40°F to +167°F)	-40°C to +60°C (-40°F to +140°F)
T90°C	-40°C to +90°C (-40°F to +194°F)	-40°C to +60°C (-40°F to +140°F)
T110°C	-40°C to +95°C (-40°F to +203°F)	-40°C to +60°C (-40°F to +140°F)
T140°C	-40°C to +95°C (-40°F to +203°F)	-40°C to +60°C (-40°F to +140°F)

(b) 25 to 400 mm (1.0 to 16 in.) of PFA lining

Maximum Surface Temperature	Process Temperature	Ambient Temperature
T75°C	-40°C to +50°C (-40°F to +122°F)	-40°C to +45°C (-40°F to +113°F)
T90°C	-40°C to +65°C (-40°F to +149°F)	-40°C to +60°C (-40°F to +140°F)
T110°C	-40°C to +110°C (-40°F to +230°F)	-40°C to +60°C (-40°F to +140°F)
T140°C	-40°C to +140°C (-40°F to +284°F)	-40°C to +60°C (-40°F to +140°F)

(c) 2.5 to 200 mm (0.1 to 8.0 in.) of Ceramics lining

Maximum Surface Temperature	Process Temperature	Ambient Temperature
T75°C	-10°C to +75°C (+14°F to +167°F)	-10°C to +60°C (+14°F to +140°F)
T90°C	-10°C to +90°C (+14°F to +194°F)	-10°C to +60°C (+14°F to +140°F)
T110°C	-10°C to +95°C (+14°F to +203°F)	-10°C to +60°C (+14°F to +140°F)
T140°C	-10°C to +95°C (+14°F to +203°F)	-10°C to +60°C (+14°F to +140°F)

WARNING

For ATEX certified AXF remote flowtube, it is only approved to be combined with ATEX certified AXFA14C converter, or non ex-proof type AXFA14G converter. AXFA14G converter can be chosen when this conveter is installed in non-hazardous area.

(AXFA14 Remote Converter)

Applicable Standard:

- EN IEC 60079-0: 2018,
- EN 60079-1: 2007, 2014,
- EN 60079-31: 2014

Certificate: DEKRA 15ATEX0029 X

Type of Gas Atmosphere Protection

Group: II

Category: 2G

Type of Protection:

Ex db IIC T6 Gb

Specification of Protection:

Power Supply: 100 to 240 Vac 47 to 63 Hz
100 to 120 Vdc 24 Vac/dc

Current Output: 4 to 20 mA

Digital Output: on; 1.6 Vdc, 200 mA max
off; 30 Vdc max, 0 mA

Digital communication: 9 to 32 Vdc 15 mA

Enclosure: IP66/IP67

Ambient Temp.: -40°C to +60°C
(-40°F to +140°F)

Type of Dust Atmosphere Protection

Group: II

Category: 2D

Type of Protection:

Ex tb IIIC T75°C Db

Specification of Protection:

Power Supply: 100 to 240 Vac 47 to 63 Hz
100 to 120 Vdc 24 Vac/dc

Current Output: 4 to 20 mA

Digital Output: on; 1.6 Vdc, 200 mA max
off; 30 Vdc max, 0 mA

Digital communication: 9 to 32 Vdc 15 mA

Enclosure: IP66/IP67

Ambient Temp.: -40°C to +60°C
(-40°F to +140°F)

WARNING

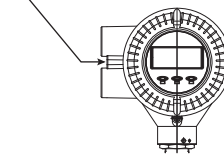
For ATEX certified AXFA14C converter, it is only approved to be combined with ATEX certified AXF remote flowtube, or non ex-proof type AXF remote flowtube, which can be chosen when this remote flowtube is installed in non-hazardous area.

(2) Electrical Connection

The type of electrical connection is stamped near the electrical connection port according to the following codes.

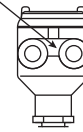
(AXF Integral Flowmeter)

Screw Size	Marking
ISO M20x1.5 female	M Δ
ANSI 1/2NPT female	N Δ



(AXF Remote Flowtube)

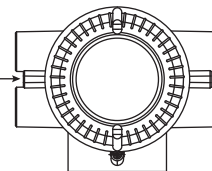
Screw Size	Marking
ISO M20x1.5 female	M Δ
ANSI 1/2NPT female	N Δ



F0101.ai

(AXFA14 Remote Converter)

Screw Size	Marking
ISO M20x1.5 female	M Δ
ANSI 1/2NPT female	N Δ



F0102.ai

(3) Installation

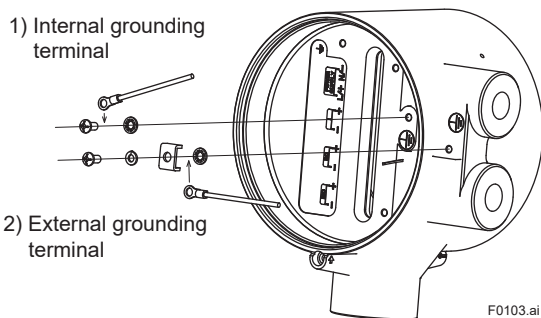


WARNING

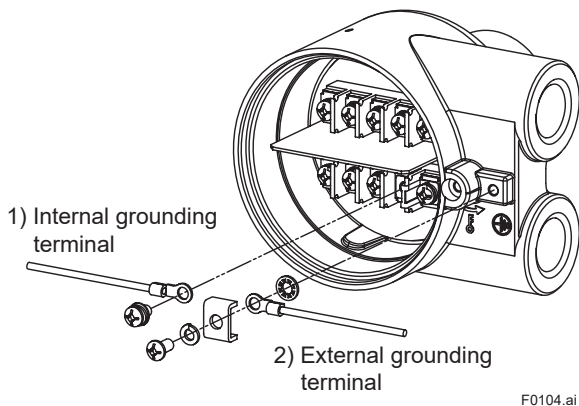
- All wiring shall comply with local installation requirements and local electrical code.
- In hazardous locations, the cable entry devices shall be of a certified ATEX flameproof type, suitable for the conditions of use and correctly installed.
- Unused apertures shall be closed with suitable flameproof certified blanking elements. (The blanking plug is not provided with the flowmeter, and must be provided by the user.)
- The flowmeter sensor is not surrounded by pipe insulation material.
- Cable glands, adapters and/or blanking elements with a suitable IP rating shall be of Ex db IIC/Ex tb IIIC certified by ATEX and shall be installed so as to maintain the specific degree of protection (IP Code) of the equipment.

The grounding terminals are located on the inside and outside of the terminal area.
Connect the cable to the grounding terminal in accordance with wiring procedure 1) or 2).

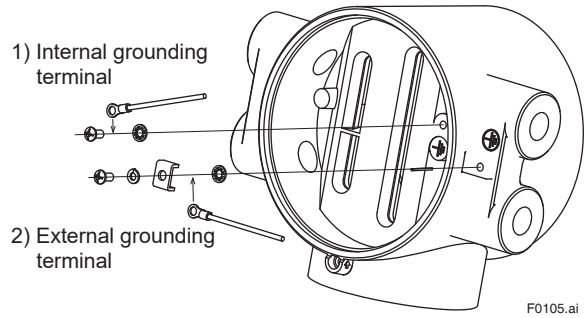
(AXF Integral Flowmeter)



(AXF Remote Flowtube)



(AXFA14 Remote Converter)



(4) Operation

**(AXF Integral Flowmeter),
(AXFA14 Remote Converter)**



WARNING

- After de-energizing, delay 20 minutes before opening.
- Take care not to generate mechanical spark when access to the instrument and peripheral devices in hazardous locations.

(AXF Remote Flowtube)



WARNING

- De-energize before opening.
- Take care not to generate mechanical spark when access to the instrument and peripheral devices in hazardous locations.

(5) Maintenance and Repair

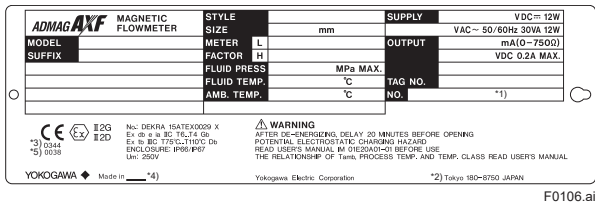


WARNING

The instrument modification or parts replacement by other than authorized representative of Yokogawa Electric Corporation is prohibited and will void the certification.

(6) Name Plate

(AXF Integral Flowmeter)



- WARNING: Warning to apparatus
- YOKOGAWA ♦ Tokyo 180-8750 JAPAN :
Name and address of manufacturer. *2)

*1)The first number in the second block of “NO.” column is the last one number of the production year. For example, the year of production of the product engraved as follows is year 2008.

No. S5EA05158 845

↑
Produced in 2008

*2)“180-8750” is a zip code which represents the following address:

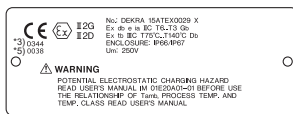
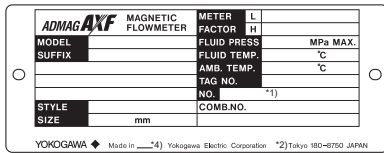
2-9-32 Nakacho, Musashino-shi, Tokyo Japan

*3)The identification number of the notified body :
0344 DEKRA Netherland

*4)The product-producing country

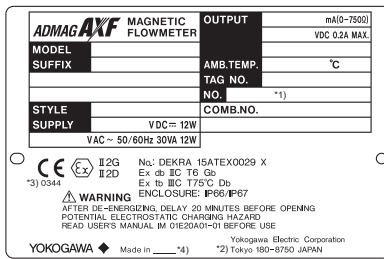
*5)In case of the sizes of 2.5 to 25 mm (0.1 to 1.0 in.), “0038” is not described because it is outside the scope of CE Marking for PED.

(AXF Remote Flowtube)



F0107.ai

(AXFA14 Remote Converter)



F0108.ai

(7) Specific Condition of Use



- Repair of equipment is only allowed when done by the manufacturer or an authorized representative.
- Precautions shall be taken to minimize the risk of electrostatic discharge of painted parts.
- For Integral Flowmeters and Remote Flow Tubes with electrodes made of titanium, ignition hazard due to impact and friction on the membranes shall be avoided.

- MODEL: Specified model code
- SUFFIX: Suffix codes of the model code
- STYLE: Specified style code
- SIZE: Nominal size of apparatus
- METER FACTOR: Sensor constant number of apparatus
- SUPPLY: Power supply voltage of apparatus
- OUTPUT: Output signal of apparatus
- FLUID TEMP.: Fluid temperature of apparatus
- FLUID PRESS: Fluid pressure of apparatus
- AMB. TEMP.: Ambient temperature
- NO.: Manufacturing serial number *1)
- CE: CE marking
- II 2G: Group II Category 2 Gas atmosphere
- II 2D: Group II Category 2 Dust atmosphere
- No.: DEKRA 15ATEX0029 X:
EC Type Examination certificate number
- Ex db e ia IIC T6...T4 Gb or Ex db e ia IIC T6...T3 Gb or Ex db IIC T6 Gb:
Protection type and temp. class for gas
- Ex tb IIIC T75°C...T110°C Db or Ex tb IIIC T75°C Db:
Protection type and maximum surface temp. for dust
- Um: maximum r.m.s. a.c or d.c voltage
- ENCLOSURE: Enclosure protection code

1.2 IECEx



WARNING

Only trained persons use this instrument in industrial locations.

(1) Technical Data

(AXF Integral Flowmeter), (AXF Remote Flowtube)

Applicable Standard:

IEC 60079-0: 2011, IEC 60079-1: 2007, 2014,
IEC 60079-7: 2006, IEC 60079-11: 2011,
IEC 60079-31: 2013

Certificate: IECEx DEK 15.0022 X

(AXF Integral Flowmeter)

Type of Gas Atmosphere Protection

Type of Protection:

Ex db e ia IIC T6...T4 Gb

Specification of Protection:

Um: 250V

Power Supply: 100 to 240 Vac 47 to 63 Hz
100 to 120 Vdc 24 Vac/dc

Current Output: 4 to 20 mA

Digital Output: on; 1.6 Vdc, 200 mA max
off; 30 Vdc max, 0 mA

Digital communication: 9 to 32 Vdc 15 mA

Enclosure: IP66/IP67

(a) 2.5 to 15 mm (0.1 to 0.5 in.) of PFA lining

Temperature Class	Process Temperature	Ambient Temperature
T6	-40°C to +75°C (-40°F to +167°F)	-40°C to +60°C (-40°F to +140°F)
T5	-40°C to +90°C (-40°F to +194°F)	-40°C to +60°C (-40°F to +140°F)
T4	-40°C to +90°C (-40°F to +194°F)	-40°C to +60°C (-40°F to +140°F)

(b) 25 to 400 mm (1.0 to 16 in.) of PFA lining

Temperature Class	Process Temperature	Ambient Temperature
T6	-40°C to +50°C (-40°F to +122°F)	-40°C to +45°C (-40°F to +113°F)
T5	-40°C to +65°C (-40°F to +149°F)	-40°C to +60°C (-40°F to +140°F)
T4	-40°C to +110°C (-40°F to +230°F)	-40°C to +60°C (-40°F to +140°F)

(c) 2.5 to 200 mm (0.1 to 8.0 in.) of Ceramics lining

Temperature Class	Process Temperature	Ambient Temperature
T6	-10°C to +75°C (+14°F to +167°F)	-10°C to +60°C (+14°F to +140°F)
T5	-10°C to +90°C (+14°F to +194°F)	-10°C to +60°C (+14°F to +140°F)
T4	-10°C to +90°C (+14°F to +194°F)	-10°C to +60°C (+14°F to +140°F)

Type of Dust Atmosphere Protection

Type of Protection:

Ex tb IIIC T75°C...T110°C Db

Specification of Protection:

Um: 250V

Power Supply: 100 to 240 Vac 47 to 63 Hz
100 to 120 Vdc 24 Vac/dc

Current Output: 4 to 20 mA

Digital Output: on; 1.6 Vdc, 200 mA max
off; 30 Vdc max, 0 mA

Digital communication: 9 to 32 Vdc 15 mA

Enclosure: IP66/IP67

(a) 2.5 to 15 mm (0.1 to 0.5 in.) of PFA lining

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T75°C	-40°C to +75°C (-40°F to +167°F)	-40°C to +60°C (-40°F to +140°F)
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(c) 2.5 to 200 mm (0.1 to 8.0 in.) of Ceramics lining

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T110°C	-10°C to +90°C (+14°F to +194°F)	-10°C to +60°C (+14°F to +140°F)

(AXF Remote Flowtube)

Type of Gas Atmosphere Protection

Type of Protection:

Ex db e ia IIC T6...T3 Gb

Specification of Protection:

Um: 250V

Enclosure: IP66/IP67

(a) 2.5 to 15 mm (0.1 to 0.5 in.) of PFA lining

Temperature Class	Process Temperature	Ambient Temperature
T6	-40°C to +75°C (-40°F to +167°F)	-40°C to +60°C (-40°F to +140°F)
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T4	-40°C to +95°C (-40°F to +203°F)	-40°C to +60°C (-40°F to +140°F)
T3	-40°C to +95°C (-40°F to +203°F)	-40°C to +60°C (-40°F to +140°F)

(b) 25 to 400 mm (1.0 to 16 in.) of PFA lining

Temperature Class	Process Temperature	Ambient Temperature
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T3	-40°C to +140°C (-40°F to +284°F)	-40°C to +60°C (-40°F to +140°F)

(c) 2.5 to 200 mm (0.1 to 8.0 in.) of Ceramics lining

Temperature Class	Process Temperature	Ambient Temperature
T6	-10°C to +75°C (+14°F to +167°F)	-10°C to +60°C (+14°F to +140°F)
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T3	-10°C to +95°C (+14°F to +203°F)	-10°C to +60°C (+14°F to +140°F)

Type of Dust Atmosphere Protection

Type of Protection:

Ex tb IIIC T75°C...T140°C Db

Specification of Protection:

Um: 250V

Enclosure: IP66/IP67

(a) 2.5 to 15 mm (0.1 to 0.5 in.) of PFA lining

Maximum Surface Temperature	Process Temperature	Ambient Temperature
T75°C	-40°C to +75°C (-40°F to +167°F)	-40°C to +60°C (-40°F to +140°F)
T90°C	-40°C to +90°C (-40°F to +194°F)	-40°C to +60°C (-40°F to +140°F)
T110°C	-40°C to +95°C (-40°F to +203°F)	-40°C to +60°C (-40°F to +140°F)
T140°C	-40°C to +95°C (-40°F to +203°F)	-40°C to +60°C (-40°F to +140°F)

(b) 25 to 400 mm (1.0 to 16 in.) of PFA lining

Maximum Surface Temperature	Process Temperature	Ambient Temperature
T75°C	-40°C to +50°C (-40°F to +122°F)	-40°C to +45°C (-40°F to +113°F)
T90°C	-40°C to +65°C (-40°F to +149°F)	-40°C to +60°C (-40°F to +140°F)
T110°C	-40°C to +110°C (-40°F to +230°F)	-40°C to +60°C (-40°F to +140°F)
T140°C	-40°C to +140°C (-40°F to +284°F)	-40°C to +60°C (-40°F to +140°F)

(c) 2.5 to 200 mm (0.1 to 8.0 in.) of Ceramics lining

Maximum Surface Temperature	Process Temperature	Ambient Temperature
T75°C	-10°C to +75°C (+14°F to +167°F)	-10°C to +60°C (+14°F to +140°F)
T90°C	-10°C to +90°C (+14°F to +194°F)	-10°C to +60°C (+14°F to +140°F)
T110°C	-10°C to +95°C (+14°F to +203°F)	-10°C to +60°C (+14°F to +140°F)
T140°C	-10°C to +95°C (+14°F to +203°F)	-10°C to +60°C (+14°F to +140°F)



For IECEx certified AXF remote flowtube, it is only approved to be combined with IECEx certified AXFA14C converter, or non ex-proof type AXFA14G converter. AXFA14G converter can be chosen when this conveter is installed in non-hazardous area.

(AXFA14 Remote Converter)

Applicable Standard:

IEC 60079-0: 2011,

IEC 60079-1: 2007, 2014,

IEC 60079-31: 2013

Certificate: IECEx DEK 15.0022 X

Type of Gas Atmosphere Protection

Type of Protection:

Ex db IIC T6 Gb

Specification of Protection:

Power Supply: 100 to 240 Vac 47 to 63 Hz
100 to 120 Vdc 24 Vac/dc

Current Output: 4 to 20 mA

Digital Output: on; 1.6 Vdc, 200 mA max
off; 30 Vdc max, 0 mA

Digital communication: 9 to 32 Vdc 15 mA

Enclosure: IP66/IP67

Ambient Temp.: -40°C to +60°C
(-40°F to +140°F)

Type of Dust Atmosphere Protection

Type of Protection:

Ex tb IIIC T75°C Db

Specification of Protection:

Power Supply: 100 to 240 Vac 47 to 63 Hz
100 to 120 Vdc 24 Vac/dc

Current Output: 4 to 20 mA

Digital Output: on; 1.6 Vdc, 200 mA max
off; 30 Vdc max, 0 mA

Digital communication: 9 to 32 Vdc 15 mA

Enclosure: IP66/IP67

Ambient Temp.: -40°C to +60°C
(-40°F to +140°F)



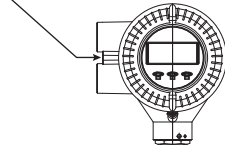
For IECEx certified AXFA14C converter, it is only approved to be combined with IECEx certified AXF remote flowtube, or non ex-proof type AXF remote flowtube, which can be chosen when this remote flowtube is installed in non-hazardous area.

(2) Electrical Connection

The type of electrical connection is stamped near the electrical connection port according to the following codes.

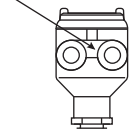
(AXF Integral Flowmeter)

Screw Size	Marking
ISO M20x1.5 female	M Δ
ANSI 1/2NPT female	N Δ



(AXF Remote Flowtube)

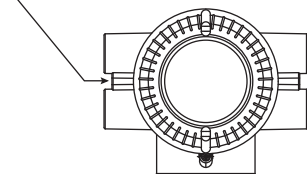
Screw Size	Marking
ISO M20x1.5 female	M Δ
ANSI 1/2NPT female	N Δ



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(AXFA14 Remote Converter)

Screw Size	Marking
ISO M20x1.5 female	M Δ
ANSI 1/2NPT female	N Δ



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(3) Installation



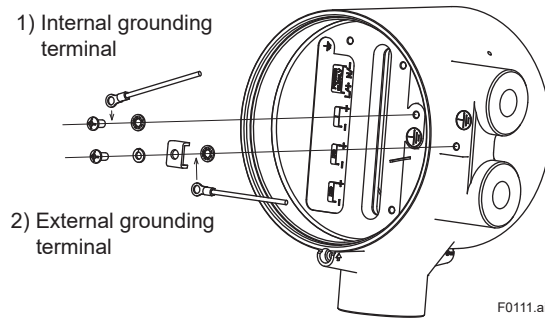
WARNING

- All wiring shall comply with local installation requirements and local electrical code.
- In hazardous locations, the cable entry devices shall be of a certified IECEx flameproof type, suitable for the conditions of use and correctly installed.
- Unused apertures shall be closed with suitable flameproof certified blanking elements. (The blanking plug is not provided with the flowmeter, and must be provided by the user.)
- The flowmeter sensor is not surrounded by pipe insulation material.
- Cable glands, adapters and/or blanking elements with a suitable IP rating shall be of Ex db IIC/Ex tb IIIC certified by IECEx and shall be installed so as to maintain the specific degree of protection (IP Code) of the equipment.

The grounding terminals are located on the inside and outside of the terminal area.

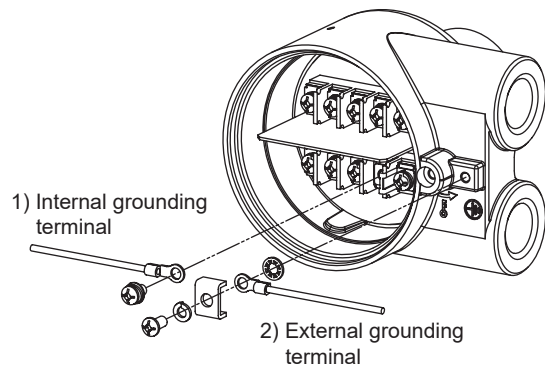
Connect the cable to the grounding terminal in accordance with wiring procedure 1) or 2).

(AXF Integral Flowmeter)



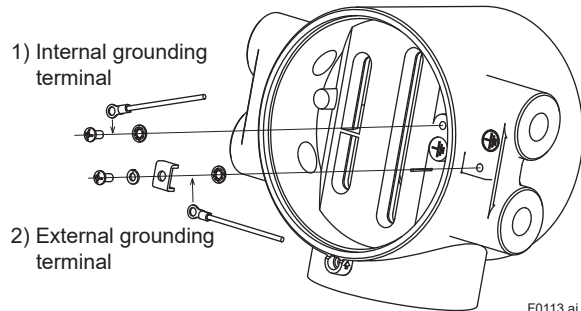
F0111.ai

(AXF Remote Flowtube)



F0112.ai

(AXFA14 Remote Converter)



F0113.ai

(4) Operation

**(AXF Integral Flowmeter),
(AXFA14 Remote Converter)**



WARNING

- After de-energizing, delay 20 minutes before opening.
- Take care not to generate mechanical spark when access to the instrument and peripheral devices in hazardous locations.

(AXF Remote Flowtube)



WARNING

- De-energize before opening.
- Take care not to generate mechanical spark when access to the instrument and peripheral devices in hazardous locations.

(5) Maintenance and Repair



WARNING

The instrument modification or parts replacement by other than authorized representative of Yokogawa Electric Corporation is prohibited and will void the certification.

(6) Name Plate

(AXF Integral Flowmeter)

ADMAGAXF MAGNETIC FLOWMETER		STYLE	SUPPLY	VDC=12W
MODEL	METER	SIZE	VAC - 50/60Hz 30VA 12W	OUTPUT
SUFFIX	FACTOR	mm		mA(0-7500)
	FLUID PRESS			VDC 0.2A MAX.
	FLUID TEMP.	MPa MAX.		
	AMB. TEMP.	°C	TAG NO.	
		°C	NO.	

No.: IECEx DEK 15.0022 X
Ex db e ia IIC T6...T4 Gb
Ex tb IIC T75°C...T110°C Db
ENCLOSURE: IP66/IP67
Um: 250V

WARNING
AFTER DE-ENERGIZING, DELAY 20 MINUTES BEFORE OPENING
POTENTIAL ELECTROSTATIC CHARGING HAZARD
SEE USER'S MANUAL IM 01E20A01-01 BEFORE USE
THE RELATIONSHIP OF TAMB, PROCESS TEMP. AND TEMP. CLASS SEE USER'S MANUAL

YOKOGAWA ◆ Made in _____ *1)

F0114.ai

(AXF Remote Flowtube)

ADMAGAXF MAGNETIC FLOWMETER		METER	L
MODEL	FACTOR	H	
SUFFIX	FLUID PRESS	MPa MAX.	
	FLUID TEMP.	°C	
	AMB. TEMP.	°C	
	NO.		
	COMB.NO.		
STYLE			
SIZE	mm		

YOKOGAWA ◆ Made in _____ *1)

No.: IECEx DEK 15.0022 X
Ex db e ia IIC T6...T4 Gb
Ex tb IIC T75°C...T110°C Db
ENCLOSURE: IP66/IP67
Um: 250V

WARNING
POTENTIAL ELECTROSTATIC CHARGING HAZARD
SEE USER'S MANUAL IM 01E20A01-01 BEFORE USE
THE RELATIONSHIP OF TAMB, PROCESS TEMP. AND TEMP. CLASS SEE USER'S MANUAL

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(AXFA14 Remote Converter)

ADMAGAXF MAGNETIC FLOWMETER		OUTPUT	mA(0-7500)
MODEL	AMB. TEMP.		VDC 0.2A MAX.
SUFFIX	TAG NO.		
	NO.		
STYLE	COMB.NO.		
SUPPLY	VDC=12W		
	VAC - 50/60Hz 30VA 12W		

No.: IECEx DEK 15.0022 X
Ex db e ia IIC T6...T4 Gb
Ex tb IIC T75°C...T110°C Db
ENCLOSURE: IP66/IP67

WARNING
AFTER DE-ENERGIZING, DELAY 20 MINUTES BEFORE OPENING
POTENTIAL ELECTROSTATIC CHARGING HAZARD
SEE USER'S MANUAL IM 01E20A01-01 BEFORE USE

YOKOGAWA ◆ Made in _____ *1)

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- MODEL: Specified model code
- SUFFIX: Suffix codes of the model code
- STYLE: Specified style code
- SIZE: Nominal size of apparatus

- METER FACTOR: Sensor constant number of apparatus
- SUPPLY: Power supply voltage of apparatus
- OUTPUT: Output signal of apparatus
- FLUID TEMP.: Fluid temperature of apparatus
- FLUID PRESS: Fluid pressure of apparatus
- AMB. TEMP.: Ambient temperature
- NO.: Manufacturing serial number
- No.: IECEx DEK 15.0022 X:

IECEx Type Examination certificate number
- Ex db e ia IIC T6...T4 Gb or Ex db e ia T6...T3 Gb or Ex db IIC T6 Gb:

Protection type and temp. class for gas
- Ex tb IIIC T75°C...T110°C Db or Ex tb IIIC T75°C Db:
Protection type and maximum surface temp. for dust

- Um: maximum r.m.s. a.c or d.c voltage
- ENCLOSURE: Enclosure protection code

- WARNING: Warning to apparatus

- YOKOGAWA ◆ : Name of manufacture

*1)The product-producing country

(7) Special Conditions for Safe Use



WARNING

- If the AXF is mounted in an area where the use of EPL Db equipment is required, it shall be installed in such a way that the risk from electrostatic discharges and propagating brush discharges caused by rapid flow of dust is avoided.
- Electrostatic charge may cause an explosion hazard.

Avoid any actions that cause the generation of electrostatic charge, such as rubbing with a dry cloth on coating face of product.

- In case the electrodes and/or grounding rings are made of titanium, the flowtube should be kept away from impacts and frictions in hazardous locations.

Revision Information

- Title : AXF Series Magnetic Flowmeter Installation Manual
ATEX and IECEx Explosion Proof Type
- Manual No. : IM 01E20A01-11EN

Edition	Date	Page	Revised Item
1st	Mar. 2016	—	New publication
2nd	July 2021	— 1, 3 5	Delete the chapter 1. Revise the numbers of applicable standard. Revise the explanation of WARNING.



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