User's Manual

ADMAG TI Series
AXG and AXW Magnetic Flowmeter
ATEX Explosion Protection Type

IM 01E21A03-02EN

YOKOGAWA
Yokogawa Electric Corporation

IM 01E21A03-02EN
5th Edition

ADMAG TI Series
AXG and AXW Magnetic Flowmeter
ATEX Explosion Protection Type

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1. Introduction

This manual provides the basic guidelines for explosion protection type of ADMAG TI (Total Insight) Series AXG and AXW magnetic flowmeters. For the items which are not covered in this manual, read the applicable user's manuals and general specifications as listed in IM 01E21A11-01EN (Read Me First (Optional Code EC)). These documents can be downloaded from the website of YOKOGAWA. To ensure correct use of the product, read these manuals thoroughly and fully understand how to operate the product before maintaining it. For method of checking the model and specifications, read the applicable general specifications in IM 01E21A11-01EN (Read Me First (Optional Code EC)).
Website address: http://www.yokogawa.com/fld/doc/
These manuals can be downloaded from the website of YOKOGAWA or purchased from the YOKOGAWA representatives.

NOTE

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

■ Precautions Related to the Protection, Safety, and Alteration of the Product

The following safety symbol marks are used in this manual and product.

WARNING

A WARNING sign denotes a hazard. It calls attention to procedure, practice, condition or the like, which, if not correctly performed or adhered to, could result in injury or death of personnel.

CAUTION

A CAUTION sign denotes a hazard. It calls attention to procedure, practice, condition or the like, which, if not correctly performed or adhered to, could result in damage to or destruction of part or the entire product.

IMPORTANT

An IMPORTANT sign denotes that attention is required to avoid damage to the product or system failure.

NOTE

A NOTE sign denotes information necessary for essential understanding of operation and features.

The following symbols are used in the product and the manual to indicate the accompanying safety precautions:

⏚	Protective grounding terminal
⏚	Functional grounding terminal (This terminal should not be used as a protective grounding terminal.)
~	Alternating current
⎓	Direct current
⚠	Caution This symbol indicates that the operator must read an explanation in the user's manual in order to avoid the risk of injury or death of personnel or damage to the product.

- For the protection and safe use of the product and the system in which this product is incorporated, be sure to follow the instructions and precautions on safety that is stated in user's manual as listed in IM 01E21A11-01EN (Read Me First (Optional Code EC)) whenever you handle the product. Take special note that if you handle the product in a manner that violated these instructions, the protection functionality of the product may be damaged or impaired. In such cases, YOKOGAWA does not guarantee the quality, performance, function, and safety of product.
- Do not modify this product.
- The product should be disposed of in accordance with local and national legislation/ regulations.

■ Regarding This User's Manual

- This manual should be provided to the end user.
- The contents of this manual are subject to change without prior notice.
- All rights reserved. No part of this manual may be reproduced in any form without YOKOGAWA's written permission.
- YOKOGAWA makes no warranty of any kind with regard to this manual, including, but not limited to, implied warranty of merchantability and fitness for a particular purpose.
- If any question arises or errors are found, or if any information is missing from this manual, inform the nearest YOKOGAWA sales office.
- The specifications covered by this manual are limited to those for the standard type under the specified model number break-down and do not cover custom-made products.
- Note that changes in the specifications, construction, or component parts of the product may not immediately be reflected in this manual at the time of change, provided that postponement of revisions will not cause difficulty to the user from a functional or performance standpoint.
- This manual is intended for the following personnel;
  Engineers responsible for installation and wiring of the product.
- To ensure correct use, read this manual and the applicable user's manuals as listed in IM 01E21A11-01EN (Read Me First (Optional Code EC)) thoroughly before starting operation. Read the general specifications as listed in IM 01E21A11-01EN (Read Me First (Optional Code EC)) for its specification.

■ Trademark

- All the brands or names of Yokogawa Electric's products used in this manual are either trademarks or registered trademarks of Yokogawa Electric Corporation.
- All other company and product names mentioned in this manual are trade names, trademarks or registered trademarks of their respective companies.
- In this manual, trademarks or registered trademarks are not marked with ™ or ®.

■ For Safe Use of Product

For the protection and safe use of the product and the system in which this product is incorporated, be sure to follow the instructions and precautions on safety that is stated in user's manual as listed in IM 01E21A11-01EN (Read Me First (Optional Code EC)) whenever you handle the product. Take special note that if you handle the product in a manner that violated these instructions, the protection functionality of the product may be damaged or impaired. In such cases, YOKOGAWA shall not be liable for any indirect or consequential loss incurred by either using or not being able to use the product.

2. Explosion Protection Type

WARNING

AXG### and AXW### magnetic flowmeter (Integral Flowmeter and Remote Sensor), and AXG4A and AXW4A Remote Transmitter are products which have been certified as explosion protection type products if model code for explosion protection is specified. Strict limitations are applied to the structures, installation locations, external wiring work, maintenance and repairs, etc. of these products. Sufficient care must be taken, as any violation of the limitations may cause dangerous situations.
Be sure to read this manual before handling the explosion protection type products.

WARNING

The terminal box cover and display cover are locked by hexagon socket head cap screw. In the case of opening the cover, use the hexagonal wrench (nominal size 3). Read the Maintenance Manual, IM 01E22A01-02EN or IM 01E24A01-02EN, for the procedure. 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 screw by using the hexagonal wrench after tightening the cover.

IMPORTANT

For multiple approval types:
For the installation, once a particular type of protection is selected, any other type of protection cannot be used. Apply a permanent mark in the check box of the selected approval type on the certification label to distinguish it from unused approval types.

2.1 Technical Data

Applicable Standard:
EN IEC 60079-0, EN 60079-1,
EN IEC 60079-7, EN 60079-11, EN 60079-31

Certificate:
FM 17ATEX0031X

Integral Flowmeter
Flameproof (Explosion Protection Code: KF2)

- Type of Gas Atmosphere Protection
  Group: II
  Category: 2G
  Type of Protection:
  Ex db eb ia IIC T6...T3 Gb
  (Transmitter Wiring Terminal: M4 screw type)
  Ex db eb ia IIC T6...T3 Gb
  Terminal Compartment: Ex db or Ex eb
  (Transmitter Wiring Terminal: Clamp type)
- Type of Dust Atmosphere Protection
  Group: II
  Category: 2D
  Type of Protection:
  Ex tb IIIC T75°C...T130°C Db
- Enclosure:
  IP66/IP67 in accordance with EN 60529
- Maximum Surface Temperature:
  See Table 2.1 and Table 2.2.
- Ambient Temperature:
  See Table 2.1 and Table 2.2.
- Process Temperature:
  See Table 2.1 and Table 2.2.
- Power Supply:
  100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.
  24 Va.c. (50/60 Hz) / 24 Vd.c.
- Um: 250 V
- Current I/O: 4 to 20 mA, 32 Vd.c. max.
- Digital I/O: 30 Vd.c. max., 200 mA max.
- Fieldbus I/O: 32 Vd.c max., 15 mA max.
- Modbus I/O: 5 Vd.c. typ.

Flameproof with Output IS Circuit
(Explosion Protection Code: KJ2 and KT2)

- Type of Gas Atmosphere Protection:
  Group: II
  Category: 2(1)G
  Type of Protection:
  Ex db eb ia [ia Ga] IIC T6...T3 Gb
  Terminal Compartment: Ex db or Ex eb
- Type of Dust Atmosphere Protection
  Group: II
  Category: 2(1)D
  Type of Protection:
  Ex tb [ia Da] IIIC T75°C...T130°C Db
- Enclosure:
  IP66/IP67 in accordance with EN 60529
- Maximum Surface Temperature:
  See Table 2.1 and Table 2.2.
- Ambient Temperature:
  See Table 2.1 and Table 2.2.
- Process Temperature:
  See Table 2.1 and Table 2.2.
- Power Supply:
  100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.
  24 Va.c. (50/60 Hz) / 24 Vd.c.
- Control Drawing: Read Section 2.3.

Remote Sensor

Flameproof (Explosion Protection Code: KF2)

- Type of Gas Atmosphere Protection
  Group: II
  Category: 2G
  Type of Protection:
  Ex db eb ia IIC T6…T3 Gb
- Type of Dust Atmosphere Protection
  Group: II
  Category: 2D
  Type of Protection:
  Ex tb IIIC T75°C...T150°C Db
- Enclosure:
  IP66/IP67 in accordance with EN 60529
- Maximum Surface Temperature:
  See Table 2.1 and Table 2.2.
- Ambient Temperature:
  See Table 2.1 and Table 2.2.
- Process Temperature:
  See Table 2.1 and Table 2.2.
- Um: 250 V

Remote Transmitter

Flameproof (Explosion Protection Code: KF2)

- Type of Gas Atmosphere Protection
  Group: II
  Category: 2G
  Type of Protection:
  Ex db IIC T6 Gb
  (Transmitter Wiring Terminal: M4 screw type)
  Ex db IIC T6 Gb or Ex db eb IIC T6 Gb
  (Transmitter Wiring Terminal: Clamp type)
- Type of Dust Atmosphere Protection
  Group: II
  Category: 2D
  Type of Protection:
  Ex tb IIIC T75°C Db
- Enclosure:
  IP66/IP67 in accordance with EN 60529
- Maximum Surface Temperature: T75°C
- Ambient Temperature: –40°C to +60°C
- Power Supply:
  100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.
  24 Va.c. (50/60 Hz) / 24 Vd.c.
- Current I/O: 4 to 20 mA, 32 Vd.c. max.
- Digital I/O: 30 Vd.c. max., 200 mA max.
- Fieldbus I/O: 32 Vd.c max., 15 mA max.
- Modbus I/O: 5 Vd.c. typ.

Flameproof with Output IS Circuit
(Explosion Protection Code: KJ2 and KT2)

- Type of Gas Atmosphere Protection:
  Group: II
  Category: 2(1)G
  Type of Protection:
  Ex db [ia Ga] IIC T6 Gb or
  Ex db eb [ia Ga] IIC T6 Gb
- Type of Dust Atmosphere Protection
  Group: II
  Category: 2(1)D
  Type of Protection:
  Ex tb [ia Da] IIIC T75°C Db
- Enclosure:
  IP66/IP67 in accordance with EN 60529
- Maximum Surface Temperature: T75°C
- Ambient Temperature: –40°C to +60°C
- Power Supply:
  100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.
  24 Va.c. (50/60 Hz) / 24 Vd.c.
- Control Drawing: Read Section 2.3.

Table 2.1 Temperature Table

Model	Size	Process Connection	Lining	Temperature Table	
				Integral Flowmeter	Remote Sensor
AXG002, AXG005, AXG010, AXG015	2.5 to 15 mm (0.1 to 0.5 in.)	Wafer, Flange	PFA Lining	Table A	Table C
AXG025, AXG032, AXG040, AXG050, AXG065, AXG080, AXG100, AXG125	25 to 125 mm (1 to 5 in.)	Wafer, Flange	PFA Lining	Table B	Table D
AXG150, AXG200, AXG250, AXG300, AXG350, AXG400	150 to 400 mm (6 to 16 in.)	Wafer, Flange	PFA Lining	Table A	Table C
AXG015, AXG025, AXG032, AXG040, AXG050, AXG065, AXG080, AXG100, AXG125	15 to 125 mm (0.5 to 5 in.)	Clamp, Union, Butt Weld Joint	PFA Lining	Table E	Table F
AXG002, AXG005, AXG010, AXG015, AXG025, AXG040, AXG050, AXG080, AXG100, AXG150, AXG200	2.5 to 200 mm (0.1 to 8 in.)	Wafer	Ceramics Tube	Table G	Table H
AXW025, AXW032, AXW040, AXW050, AXW065, AXW080, AXW100, AXW125	25 to 125 mm (1 to 5 in.)	Flange	PTFE Lining	Table I	Table J
AXW150, AXW200, AXW250, AXW300, AXW350, AXW400	150 to 400 mm (6 to 16 in.)	Flange	PTFE Lining	Table K	Table L

Table 2.2 Ambient Temperature and Process Temperature

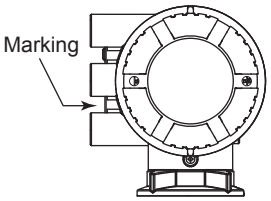
Table No.	Ambient Temperature	Temperature Class	Maximum Surface Temperature	Process Temperature
A	-40°C to +60°C	T6	T75°C	-40°C to +75°C
		T5	T90°C	-40°C to +90°C
		T4	T120°C	-40°C to +120°C
		T3	T130°C	-40°C to +130°C
B	-40°C to +45°C	T6	T75°C	-40°C to +50°C
	-40°C to +60°C	T5	T90°C	-40°C to +75°C
		T4	T120°C	-40°C to +120°C
		T3	T130°C	-40°C to +130°C
C	-40°C to +60°C	T6	T75°C	-40°C to +75°C
		T5	T90°C	-40°C to +90°C
		T4	T120°C	-40°C to +120°C
		T3	T150°C	-40°C to +150°C
D	-40°C to +45°C	T6	T75°C	-40°C to +50°C
	-40°C to +60°C	T5	T90°C	-40°C to +75°C
		T4	T120°C	-40°C to +120°C
		T3	T150°C	-40°C to +150°C
E	-10°C to +45°C	T6	T75°C	-10°C to +50°C
	-10°C to +60°C	T5	T90°C	-10°C to +75°C
		T4	T120°C	-10°C to +120°C
		T3	T130°C	-10°C to +130°C
F	-10°C to +45°C	T6	T75°C	-10°C to +50°C
	-10°C to +60°C	T5	T90°C	-10°C to +75°C
		T4	T120°C	-10°C to +120°C
		T3	T150°C	-10°C to +150°C
G	-10°C to +60°C	T6	T75°C	-10°C to +75°C
		T5	T90°C	-10°C to +90°C
		T4	T120°C	-10°C to +120°C
		T3	T130°C	-10°C to +130°C
H	-10°C to +60°C	T6	T75°C	-10°C to +75°C
		T5	T90°C	-10°C to +90°C
		T4	T120°C	-10°C to +120°C
		T3	T150°C	-10°C to +150°C
I	-10°C to +45°C	T6	T75°C	-10°C to +50°C
	-10°C to +60°C	T5	T90°C	-10°C to +75°C
		T4	T120°C	-10°C to +120°C
		T3	T130°C	-10°C to +120°C
J	-10°C to +45°C	T6	T75°C	-10°C to +50°C
	-10°C to +60°C	T5	T90°C	-10°C to +75°C
		T4	T120°C	-10°C to +120°C
		T3	T150°C	-10°C to +120°C
K	-10°C to +60°C	T6	T75°C	-10°C to +75°C
		T5	T90°C	-10°C to +90°C
		T4	T120°C	-10°C to +100°C
		T3	T130°C	-10°C to +100°C
L	-10°C to +60°C	T6	T75°C	-10°C to +75°C
		T5	T90°C	-10°C to +90°C
		T4	T120°C	-10°C to +100°C
		T3	T150°C	-10°C to +100°C

2.2 Cable Entry

The type of cable entry is stamped near the cable entry port according to the following codes.

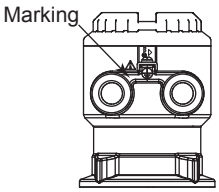
Marking	Screw Size
M	ISO M20 x 1.5 Female
N	ASME 1/2 NPT Female

Integral Flowmeter



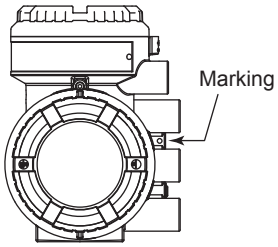
F0201.ai

Remote Sensor



F0202.ai

Remote Transmitter



F0203.ai

2.3 Installation

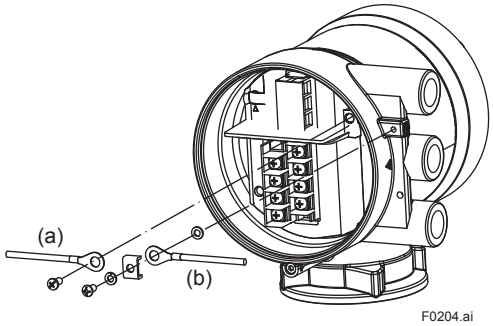
Read the Installation Manual, IM 01E22A01-01EN (for AXG### and AXG4A) or IM 01E24A01-01EN (for AXW### and AXW4A), for basic installation procedure.

- All wiring shall comply with EN 60079-14, and local electric codes and requirements.
- Unused apertures shall be closed with suitable certified blanking elements.
  (The plug attached is certified.)
- If the magnetic flowmeter is mounted in an area in the presence of combustible dust, 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.
- The 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 or Ex eb IIC/Ex tb IIIC certified by ATEX and shall be installed so as to maintain the specific degree of protection (IP code) of the product.
- Take care the following warning marking “POTENTIAL ELECTROSTATIC CHARGING HAZARD”.
- In order to prevent the grounding conductor from loosening, the conductor must be secured to the terminal, tightening the screw with appropriate torque. Care must be taken not to twist the conductor.
- For multiple types of protection, permanently mark the protection type installed. Once the type is marked, it cannot be changed.
- If the product is installed as the protection type Ex e, terminate all the cable finish with crimp terminal of a rod shape which of conductor length is 5 to 6 mm and cross section is 0.8 to 2.5 mm^2, and connect them reliably.
- For the installation of multi protection type, tick the box of the selected type of protection type on the label in order to avoid confusion.
  e.g. In case of selecting “db”, not “eb” and “tb”
  II 2 G ☑Ex db eb ia IIC T6…T3 Gb
  II 2 D ☐Ex tb IIIC T75°C…130°C Db
  TERMINAL COMPARTMENT ☑Ex db ☐Ex eb
- For Output IS Circuit, refer to Control Drawing.

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 (a) or (b).

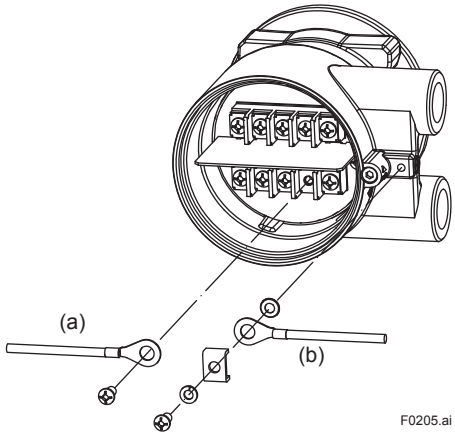
(a) Internal grounding terminal
(b) External grounding terminal

Integral Flowmeter



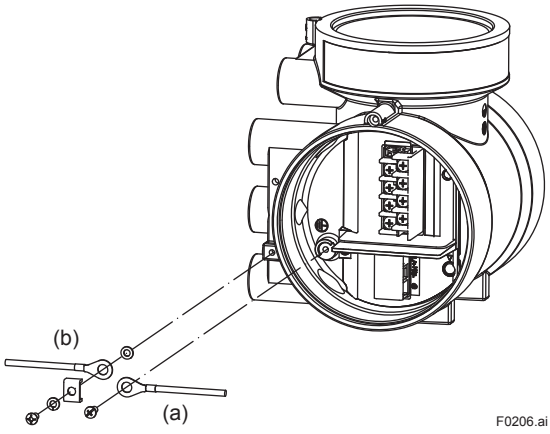
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Remote Sensor



F0205.ai

Remote Transmitter

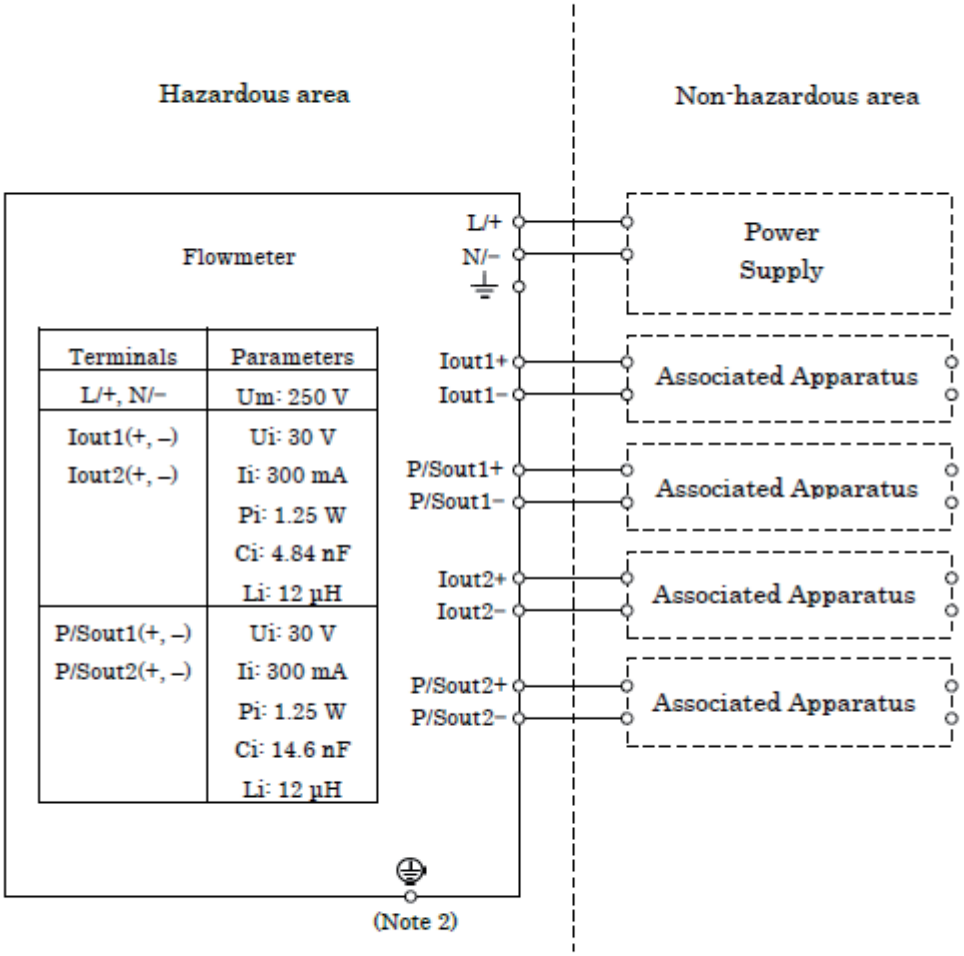


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Read the Control Drawing.
All wiring shall comply with local installation requirements.

- **Integral Type Flowmeter (Explosion Protection Code: KJ2)**

Yokogawa Electric Corporation				Model			AXG / AXW Series
Title	Control drawing (IECEx, ATEX)						
No.	DIE016-A91	Page	01	Revision	0	Date	2016-06-30



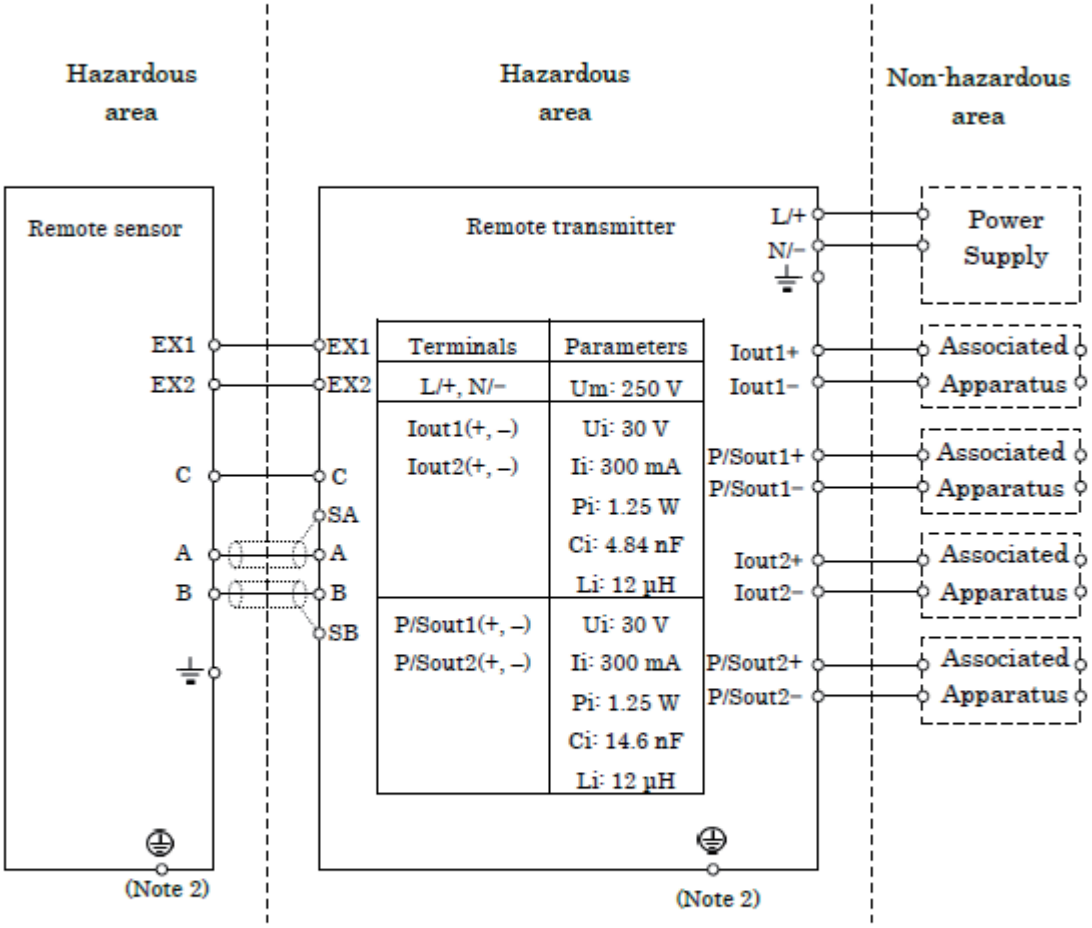
Terminals	Parameters
L/+, N/−	Um: 250 V
Iout1(+, –) Iout2(+, –)	Ui: 30 V Ii: 300 mA Pi: 1.25 W Ci: 4.84 nF Li: 12 µH
P/Sout1(+, –) P/Sout2(+, –)	Ui: 30 V Ii: 300 mA Pi: 1.25 W Ci: 14.6 nF Li: 12 µH

Notes:
1. The installation must be in accordance with IEC 60079-14 and local electrical codes.
2. AXG/AXW Series Flowmeter must be earthed in accordance with IEC 60079-14 in order to maintain intrinsic safety.
3. Each associated apparatus must be a linear source.
4. In selecting I/O code: "JT" or "DT", Iout2 and P/Sout2 cannot be used.
5. In selecting I/O code: "JP", "JR", "DP" or "DR", P/Sout2 cannot be used.
6. WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD

F0207.ai

- **Remote Type Flowmeter (Explosion Protection Code: KJ2)**

Yokogawa Electric Corporation				Model			AXG / AXW Series
Title	Control drawing (IECEx, ATEX)						
No.	DIE016-A91	Page	02	Revision	0	Date	2016-06-30

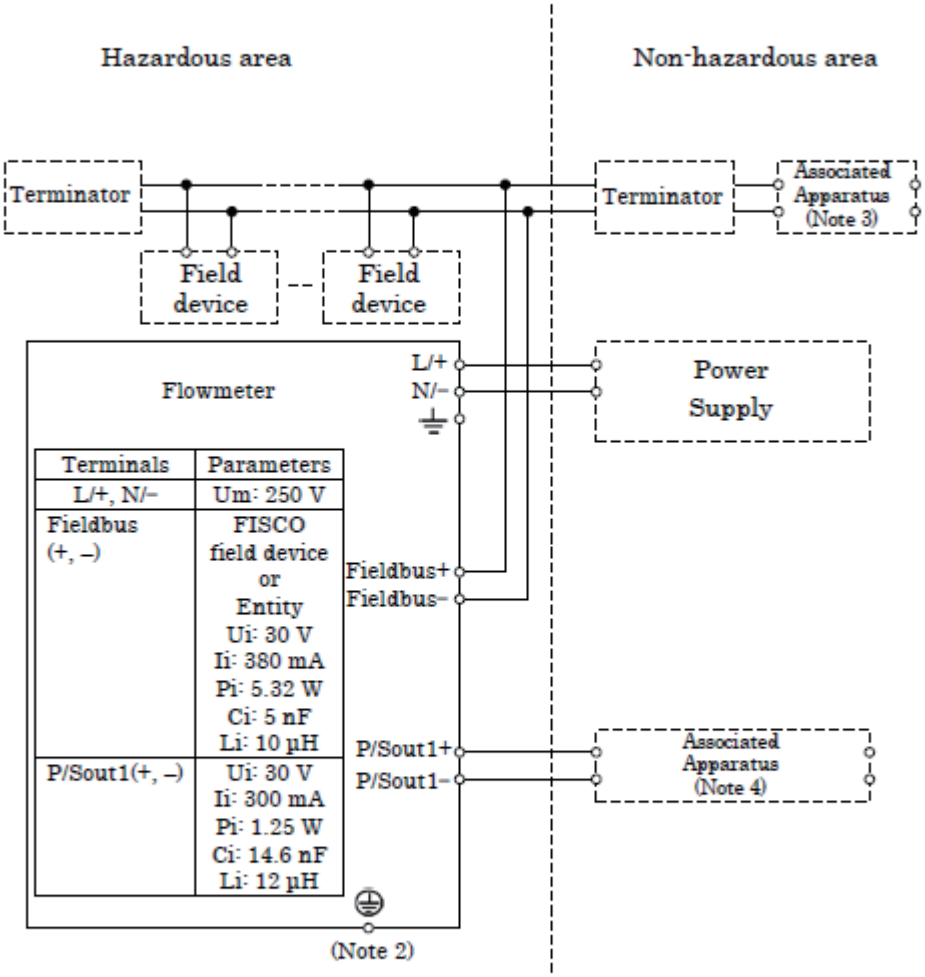


Notes:
1. The installation must be in accordance with IEC 60079-14 and local electrical codes.
2. AXG/AXW Series Remote Sensor and Transmitter must be earthed in accordance with IEC 60079-14 in order to maintain intrinsic safety.
3. Each associated apparatus must be a linear source.
4. In selecting I/O code: "JT" or "DT", Iout2 and P/Sout2 cannot be used.
5. In selecting I/O code: "JP", "JR", "DP" or "DR", P/Sout2 cannot be used.
6. WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD

F0208.ai

- **Integral Type Flowmeter (Explosion Protection Code: KT2)**

Yokogawa Electric Corporation				Model	AXG / AXW Series		
Title	Control drawing (IECEx, ATEX)						
No.	DIE016-A91	Page	03	Revision	0	Date	2018-11-20



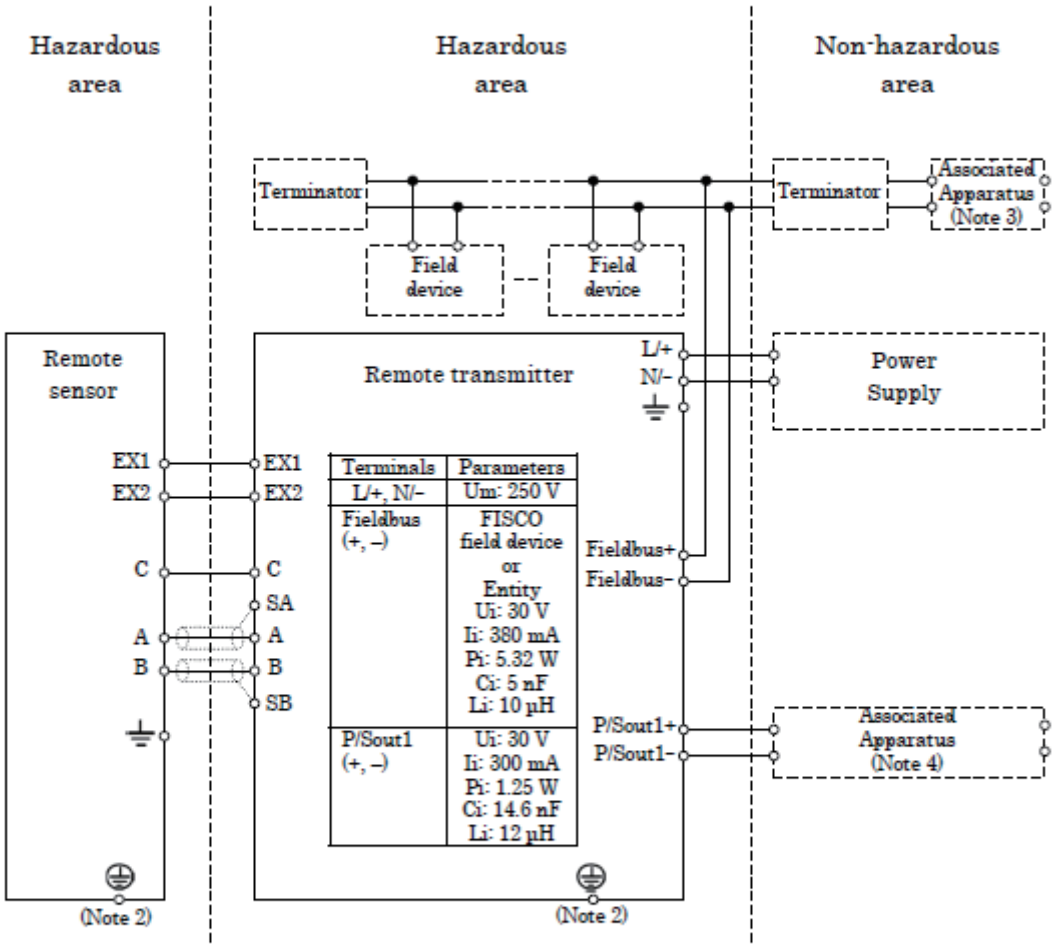
Notes:

1. The installation must be in accordance with IEC 60079-14 and local electrical codes.
2. AXG/AXW Series Flowmeter must be earthed in accordance with IEC 60079-14 in order to maintain intrinsic safety.
3. The associated apparatus must be a FISCO power supply or linear source.
4. The associated apparatus must be a linear source.
5. WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD

F0209.ai

- **Remote Type Flowmeter (Explosion Protection Code: KT2)**

Yokogawa Electric Corporation				Model	AXG / AXW Series		
Title	Control drawing (IECEx, ATEX)						
No.	DIE016-A91	Page	04	Revision	0	Date	2018-11-20



Notes:
1. The installation must be in accordance with IEC 60079-14 and local electrical codes.
2. AXG/AXW Series Remote Sensor and Transmitter must be earthed in accordance with IEC 60079-14 in order to maintain intrinsic safety.
3. The associated apparatus must be a FISCO power supply or linear source.
4. The associated apparatus must be a linear source.
5. WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD

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2.4 Operation

When installation of explosion protection type product, read installation manual, IM 01E22A01-01EN (for AXG### and AXG4A) or IM 01E24A01-01EN (for AXW### and AXW4A).

Integral Flowmeter, Remote Sensor and Remote Transmitter

- Take care not to generate mechanical spark when access to the product and peripheral devices in hazardous locations.
- Take care the following warning marking "POTENTIAL ELECTROSTATIC CHARGING HAZARD".

Take care the following warning marking when opening the cover.

Integral Flowmeter and Remote Transmitter

- Take care the following warning marking "AFTER DE-ENERGIZING, DELAY 20 MINUTES BEFORE OPENING".

Remote Sensor

- Take care the following warning marking "DE-ENERGIZING BEFORE OPENING".

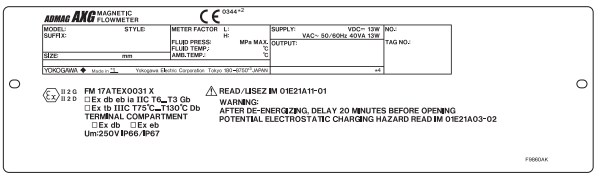
2.5 Maintenance and Repair

Only personnel authorized by Yokogawa Electric Corporation can repair the product.
For maintenance of explosion protection type product, read maintenance manual, IM 01E22A01-02EN (for AXG### and AXG4A) or IM 01E24A01-02EN (for AXW### and AXW4A).

2.6 Name Plate

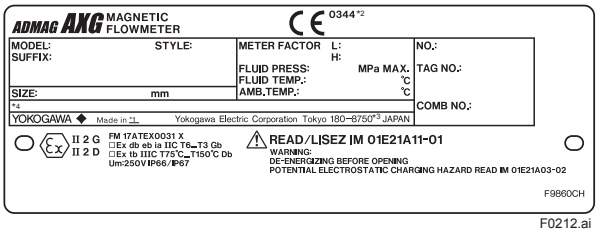
Example for name plates of Integral Flowmeter, Remote Sensor or Remote Transmitter.

Integral Flowmeter



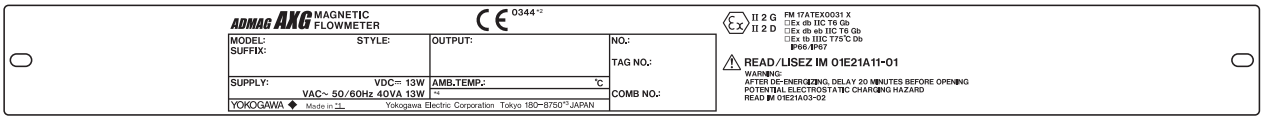
F0211.ai

Remote Sensor



F0212.ai

Remote Transmitter



F0213.ai

- 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.: FM 17ATEX0031X:
  ATEX type examination certificate number
- Protection type and temperature class for gas
  Ex db eb ia IIC T6...T3 Gb
  Ex db IIC T6 Gb
  Ex db eb IIC T6 Gb:
- Protection type and maximum surface temperature for dust
  Ex tb IIIC T75°C...T130°C Db
  Ex tb IIIC T75°C...T150°C Db
  Ex tb IIIC T75°C Db:
- Um: Maximum r.m.s. a.c. or d.c. voltage
- ENCLOSURE: Enclosure protection code
- ⚠ **WARNING**: Warning to apparatus
- YOKOGAWA ◆: Name of manufacturer

*1: The product-producing country
*2: The identification number of the notified body :
0344 DEKRA Netherland
*3: “180-8750” is a zip code which represents the following address:
2-9-32 Nakacho, Musashino-shi, Tokyo Japan
*4: Production year/month

2.7 Specific Condition of Use

Integral Flowmeter, Remote Sensor and Remote Transmitter

- Electrostatic charges on the non-metallic parts (excluding glass parts) or coated parts of the product shall be avoided.
- The flameproof joints differ from the standard values in EN 60079-1. Only personnel authorized by the manufacturer of the product can repair the flameproof joints.
- From the safety point of view, the intrinsically safe circuit of the AXG and AXW series shall be assumed to be connected to earth.
- The product shall be installed as overvoltage category II.
- Cable glands, adapters and/or blanking elements with a suitable IP rating certified by ATEX shall be installed so as to maintain the specific degree of protection (IP code) of the product.

Integral Flowmeter and Remote Sensor

- The applicable temperature class, ambient temperature range and process temperature range of the product are shown in Table 2.1 and Table 2.2.
- The property class of the fasteners used to fasten the transmitter enclosure onto the neck part is at least A2-70.
- In the case the electrodes and/or grounding rings are made of titanium, the sensor should be kept away from impacts and frictions in hazardous locations.

Integral Flowmeter and Remote Transmitter

- Multiple types of protection, permanently mark the protection type installed. Once the type is marked, it cannot be changed. For the installation of multi protection type, tick the box of the selected type of protection on the label in order to avoid confusion.

Revision Information

- Title : ADMAG TI Series
  AXG and AXW Magnetic Flowmeter ATEX Explosion Protection Type
- Manual No. : IM 01E21A03-02EN

Edition	Date	Page	Revised Item
1st	Oct. 2018	—	New Publication
2nd	Oct. 2019	3 4 7 9 to 12 14 15	Revise the explanation of “IMPORTANT”. Add the explanation of “Explosion Protection Code”: KJ2 and KT2. Revise the explanation in “2.3 Installation”. Add the information of Control Drawing. Revise the figure of name plate. Revise the explanation in “2.7 Specific Condition of Use”.
3rd	Nov. 2024	3, 4	Add the Modbus I/O: 5Vd.c. typ.
4th	Mar. 2025	15	Added text to "Specific Condition of Use".
5th	Oct.2025	5, 6	Add the Table K and L