DNV·GL

Certificate No:
TAA00002H4

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flow Transmitter

with type designation(s)
ADMAG AXG Magnetic Flowmeters

Issued to
Yokogawa Electric Corporation
Tokyo, Japan

is found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Location classes:

Temperature	**D**
Humidity	**B**
Vibration	**A**
EMC	**A**
Enclosure	**C (IP66/IP67)**

Issued at **Høvik** on **2019-10-15**
This Certificate is valid until **2024-10-14**.
DNV GL local station: **Yokohama**

for **DNV GL**

Approval Engineer: **Nils Jarem**

Trond Sjåvåg
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

© DNV GL 2014. DNV GL and the Horizon Graphic are trademarks of DNV GL AS.

Product description

Integral Type AXG###-A series; Integral flowmeter
Model and Suffix Code:
AXG(i)(i)(i)-(ii)A(iii)(iii)(iii)(iv)(iv)(iv)(v)(vi)(vii)(viii)(ix)(x)-(xi)(xii)(xii)(xiii)(xiv)/(xv)

Remote Type AXG###-G series with AXG4A series; Remote sensor with remote transmitter.
Model and Suffix Code:
Remote Sensor:
AXG(i)(i)(i)-(ii)G(iii)(iii)(iii)(iv)(iv)(iv)(v)(vi)(vii)(viii)(ix)(x)-(xi)(xii)(xii)(xiii)(xiv)/(xv)
Remote Transmitter:
AXG4A-(a)(b)(b)(b)(c)(d)(e)(f)(f)(g)(h)/(i)

Integral flowmeter and remote sensor codes:

(i)(i)(i): Size
- 002: 2.5 [mm] / 0.1 [in]
- 005: 5 [mm] / 0.2 [in]
- 010: 10 [mm] / 0.4 [in]
- 015: 15 [mm] / 0.5 [in]
- 025: 25 [mm] / 1 [in]
- 032: 32 [mm] / 1.25 [in]
- 040: 40 [mm] / 1.5 [in]
- 050: 50 [mm] / 2 [in]
- 065: 65 [mm] / 2.5 [in]
- 080: 80 [mm] / 3 [in]
- 100: 100 [mm] / 4 [in]
- 125: 125 [mm] / 5 [in]
- 150: 150 [mm] / 6 [in]
- 200: 200 [mm] / 8 [in]
- 250: 250 [mm] / 10 [in]
- 300: 300 [mm] / 12 [in]
- 350: 350 [mm] / 14 [in]
- 400: 400 [mm] / 16 [in]

(ii): Use
- G: General-purpose
- C: Explosion protection
- W: Submersible

(iii)(iii)(iii): Explosion protection
- 000: Non Explosion Protection Approval
- KF2: ATEX Flameproof
- SF2: IECEx Flameproof
- JF5: Japan Flameproof

(iv)(iv)(iv): Process Connection
- xxx: Any combination

(v): Lining
- A: PFA Lining

(vi): Electrode
- x: Any combination

(vii): Grounding Device
- 1: None
- 2: Grounding Rings
- 3: Built-in Grounding Electrodes

(viii): Housing and Coating
- 1: Standard Material with Standard Coating
- 2: Standard Material with Rugged Coating

(ix): Cable Entry
- 0: JIS G1/2 Female
- 2: ASME 1/2 NPT Female
- 4: ISO M20x1.5 Female

(x): Accuracy
- B: Standard

(xi): Power Supply
- 1: 100-240 V AC / 100-120 V DC
- 2: 24 V AC / DC
- N: None (Remote Sensor)

(xii)(xii): Communication and I/O
- J#: #: A, B, C, D, E, F, G, H, J, K
  HART7 and I/O
- M#: #: 0. 2. 6
  Modbus and I/O
- NN: None (Remote Sensor)

(xiii): Transmitter Wiring Terminal
- 1: M4 Screw-type
- 2: Clamp Type
- N: None (Remote Sensor)

(xiv): Display
- 1: With Display (English, Multi-language)
- 2: With Display (English, Chinese)
- N: Without Display / Remote Sensor

(xv): Optional Specification
- Any combination,
  Except pre-wired cable length L###.
  Cables over 5 m should be of approved type.

Remote Transmitter codes:

(a): Use
- G: General-purpose
- C: Explosion protection

(b)(b)(b): Explosion protection
- 000: Non Explosion Protection Approval
- KF2: ATEX Flameproof
- SF2: IECEx Flameproof
- JF5: Japan Flameproof

(c): Housing and Coating
- 1: Standard Material with Standard Coating
- 2: Standard Material with Rugged Coating

(d): Cable Entry
- 0: JIS G1/2 Female
- 2: ASME 1/2 NPT Female
- 4: ISO M20x1.5 Female

(e): Power Supply
- 1: 100-240 V AC / 100-120 V DC
- 2: 24 V AC / DC

(f)(f): Communication and I/O
- J#: #: A, B, C, D, E, F, G, H, J, K
  HART7 and I/O
- M#: #: 0. 2. 6
  Modbus and I/O
- NN: None (Remote Sensor)

(g): Transmitter Wiring Terminal
- 1: M4 Screw-type
- 2: Clamp Type

(h): Display
- 1: With Display (English, Multi-language)
- 2: With Display (English, Chinese)
- N: Without Display / Remote Sensor

(i): Optional Specification
- Any combination,
  except pre-wired cable length L###.
  Cables over 5 m should be of approved type.

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Application/Limitation

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification**/** Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Pre-wired cables over 5 m should be of approved type.
Any limitation in the specifications GS 01E22A01-01EN "ADMAG TI Series AXG Magnetic Flowmeter" should be followed.

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.
IACS Unified Requirements E10 Rev.7.

Marking of product

The products to be marked with:
- manufacturer name
- model name
- serial number
- power supply ratings

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE