

# **YFGW710 Field Wireless Integrated Gateway**

## **Read Me First**

IM 01W01F01-11EN



This document specifies the important information to use this product correctly and safely and the Use Consent Contract of Attached Software for Field Wireless Integrated Gateway.

Before use the product, be sure to read this document first.

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# Introduction

This manual (IM 01W01F01-11EN) describes the safety precautions, explosion protected type specifications and the license agreement of attached software for the YFGW710.

There are three documents including this one for the YFGW710 listed below. Read them along with this manual.

Documents No.	Document name	Description
IM 01W01F01-01EN	YFGW710 Field Wireless Integrated Gateway	This manual is stored in the attached DVD-ROM for YFGW710. It describes installation, wiring, operation, maintenance and specification of the YFGW710.
IM 01W01F01-11EN	YFGW710 Field Wireless Integrated Gateway Read Me First	This manual. It describes the safety precaution, explosion-protected type specifications and the license agreement of the attached software for the YFGW710.
GS 01W01F01-01EN	YFGW710 Field Wireless Integrated Gateway	Product specification including detailed model and suffix code, optional specifications and accessory of YFGW710.

## ■ Regarding This User's Manual

- This manual should be provided to the end user. Please recommend end users to keep this manual at hand and refer to it as needed.
- Before use, read this manual thoroughly to comprehend its contents.
- The purpose of the user's manual is to describe details of functions provided in this product, not to warrant the product's suitability to the specific purposes of customers.
- No part of this manual may be reproduced in any form without Yokogawa's written permission.
- The contents of this manual may be changed without prior notice.
- All reasonable effort has been made to ensure the accuracy of the contents of this manual. However, if any errors or omissions are found, please inform any of sales offices listed on the back cover or your local distributor.
- Special specifications are not described.
- Please note that this user's manual may not be revised for any specification changes, construction changes or operating part changes that are not considered to affect function or performance.

## ■ ATEX Documentation

### ● This is only applicable to the countries in European Union.

- GB** All instruction manuals for ATEX Ex related products are available in English, German and French. Should you require Ex related instructions in your local language, you are to contact your nearest Yokogawa office or representative.
- DK** Alle brugervejledninger for produkter relateret til ATEX Ex er tilgængelige på engelsk, tysk og fransk. Skulle De ønske yderligere oplysninger om håndtering af Ex produkter på eget sprog, kan De rette henvendelse herom til den nærmeste Yokogawa afdeling eller forhandler.
- I** Tutti i manuali operativi di prodotti ATEX contrassegnati con Ex sono disponibili in inglese, tedesco e francese. Se si desidera ricevere i manuali operativi di prodotti Ex in lingua locale, mettersi in contatto con l'ufficio Yokogawa più vicino o con un rappresentante.
- E** Todos los manuales de instrucciones para los productos antiexplosivos de ATEX están disponibles en inglés, alemán y francés. Si desea solicitar las instrucciones de estos artículos antiexplosivos en su idioma local, deberá ponerse en contacto con la oficina o el representante de Yokogawa más cercano.
- NL** Alle handleidingen voor producten die te maken hebben met ATEX explosiebeveiliging (Ex) zijn verkrijgbaar in het Engels, Duits en Frans. Neem, indien u aanwijzingen op het gebied van explosiebeveiliging nodig hebt in uw eigen taal, contact op met de dichtstbijzijnde vestiging van Yokogawa of met een vertegenwoordiger.
- SF** Kaikkien ATEX Ex -tyyppisten tuotteiden käyttöohjeet ovat saatavilla englannin-, saksan- ja ranskan kielisinä. Mikäli tarvitsette Ex -tyyppisten tuotteiden ohjeita omalla paikallisella kielellänne, ottakaa yhteyttä lähimpään Yokogawa-toimistoon tai -edustajaan.
- P** Todos os manuais de instruções referentes aos produtos Ex da ATEX estão disponíveis em Inglês, Alemão e Francês. Se necessitar de instruções na sua língua relacionadas com produtos Ex, deverá entrar em contacto com a delegação mais próxima ou com um representante da Yokogawa.
- F** Tous les manuels d'instruction des produits ATEX Ex sont disponibles en langue anglaise, allemande et française. Si vous nécessitez des instructions relatives aux produits Ex dans votre langue, veuillez bien contacter votre représentant Yokogawa le plus proche.
- D** Alle Betriebsanleitungen für ATEX Ex bezogene Produkte stehen in den Sprachen Englisch, Deutsch und Französisch zur Verfügung. Sollten Sie die Betriebsanleitungen für Ex-Produkte in Ihrer Landessprache benötigen, setzen Sie sich bitte mit Ihrem örtlichen Yokogawa-Vertreter in Verbindung.
- S** Alla instruktionsböcker för ATEX Ex (explosionssäkra) produkter är tillgängliga på engelska, tyska och franska. Om Ni behöver instruktioner för dessa explosionssäkra produkter på annat språk, skall Ni kontakta närmaste Yokogawakontor eller representant.
- GR** Όλα τα εγχειρίδια λειτουργίας των προϊόντων με ATEX Ex διατίθενται στα Αγγλικά, Γερμανικά και Γαλλικά. Σε περίπτωση που χρειάζεστε οδηγίες σχετικά με Ex στην τοπική γλώσσα παρακαλούμε επικοινωνήστε με το πλησιέστερο γραφείο της Yokogawa ή αντιπρόσωπο της.
- SK** Všetky návody na obsluhu pre prístroje s ATEX Ex sú k dispozícii v jazyku anglickom, nemeckom a francúzskom. V prípade potreby návodu pre Ex-prístroje vo Vašom národnom jazyku, skontaktujte prosím miestnu kanceláriu firmy Yokogawa.
- CZ** Všechny uživatelské příručky pro výrobky, na něž se vztahuje nevybušné schválení ATEX Ex, jsou dostupné v angličtině, němčině a francouzštině. Požadujete-li pokyny týkající se výrobků s nevybušným schválením ve vašem lokálním jazyku, kontaktujte prosím vaši nejbližší reprezentační kancelář Yokogawa.
- LT** Visos gaminių ATEX Ex kategorijos Eksploatavimo instrukcijos teikiama anglų, vokiečių ir prancūzų kalbomis. Norėdami gauti prietaisų Ex dokumentaciją kitomis kalbomis susisiekiate su artimiausiu bendrovės "Yokogawa" biuru arba atstovu.
- LV** Visas ATEX Ex kategorijas izstrādājumu Lietošanas instrukcijas tiek piegādātas angļu, vācu un franču valodās. Ja vēlaties saņemt Ex ierīšu dokumentāciju citā valodā, Jums ir jāsazinās ar firmas Jokogava (Yokogawa) tuvāko ofisu vai pārstāvi.
- EST** Kõik ATEX Ex toodete kasutamishendid on esitatud inglise, saksa ja prantsuse keeles. Ex seadmete muukeelse dokumentatsioon saamiseks pöörduge lähima lokaalga (Yokogawa) kontori või esindaja poole.
- PL** Wszystkie instrukcje obsługi dla urządzeń w wykonaniu przeciwwybuchowym Ex, zgodnych z wymaganiami ATEX, dostępne są w języku angielskim, niemieckim i francuskim. Jeżeli wymagana jest instrukcja obsługi w Państwa lokalnym języku, prosimy o kontakt z najbliższym biurem Yokogawy.
- SLO** Vsi predpisi in navodila za ATEX Ex sorodni pridelki so pri roki v angleščini, nemščini ter francoščini. Če so Ex sorodna navodila potrebna v vašem tujejnem jeziku, kontaktirajte vaš najbližji Yokogawa office ili predstavnika.
- H** Az ATEX Ex műszerek gépkönyveit angol, német és francia nyelven adjuk ki. Amennyiben helyi nyelven kéri az Ex eszközök leírásait, kérjük keressék fel a legközelebbi Yokogawa irodát, vagy képviselőt.
- BG** Всички упътвания за продукти от серията ATEX Ex се предлагат на английски, немски и френски език. Ако се нуждаете от упътвания за продукти от серията Ex на родния ви език, се свържете с най-близкия офис или представителство на фирма Yokogawa.
- RO** Toate manualele de instructiuni pentru produsele ATEX Ex sunt in limba engleza, germana si franceza. In cazul in care doriti instructiunile in limba locala, trebuie sa contactati cel mai apropiat birou sau reprezentant Yokogawa.
- M** Il-manwali kollha ta' l-istruzzjonijiet għal prodotti marbuta ma' ATEX Ex huma disponibbli bi-Ingliż, bi-Ġermaniż u bi-Franċiż. Jekk tkun teħtieġ struzzjonijiet marbuta ma' Ex fil-lingwa lokali tiegħek, għandek tikkuntatta lill-eqreb rappreżentant jew ufficċju ta' Yokogawa.

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# Safety Precautions

## ■ Safety, Protection, and Modification of the Product

- Safety, Protection, and Modification of the Product
- In order to protect the operator, product, and system controlled by the product, observe the safety precautions described in this user's manual. If users handle contrary to these instructions, we can not guarantee the safety.
- If this instrument is used in a manner not specified in this user's manual, the protection provided by this instrument may be impaired.
- Modification of the product is strictly prohibited.
- If customers attempt to repair or modify explosion protected type products and fail to return them to their original state, the explosion protected structure of this product will be lost, resulting in a hazardous state. All repairs and modifications of the product must be consulted with Yokogawa.
- If any protection or safety circuit is required for the system controlled by the product or for the product itself, prepares it separately.
- Be sure to use the spare parts approved by Yokogawa Electric Corporation (hereafter simply referred to as YOKOGAWA) when replacing parts or consumables.
- The following symbols are used in the product and user's manual to indicate that there are precautions for safety:



### CAUTION

Indicates that caution is required for operation. This symbol is placed on the parts necessary to refer to the user's manual for protecting the operator and equipment. In the user's manuals you will find precautions to avoid physical injury or death of the operator, including electrical shocks, injuries of human body, and so on.

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### WARNING

Indicates instructions that must be observed in order to prevent the software or hardware from being damaged or the system from becoming faulty.

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**IMPORTANT**

Indicates important information required to understand operations or functions.

**NOTE**

Draws attention to information essential for understanding the operation and features.

**TIP**

Indicates additional information.

**SEE  
ALSO**

Indicates a source to refer to



Indicates a protective grounding terminal. Before using the product, ground the terminal.



Indicates a functional grounding terminal. Before using the product, ground the terminal.



Indicates a DC supply

## ■ Safe Use of This Product

Please pay special attention to the following points:

**(a) Installation**

- This instrument may only be installed by an engineer or technician who has an expert knowledge of this device. Operators are not allowed to carry out installation unless they meet this condition.
- All installation shall comply with local installation requirements and the local electrical code.

**(b) Wiring**

- The instrument must be installed by an engineer or technician who has an expert knowledge of this instrument. Operators are not permitted to carry out wiring unless they meet this condition. All installation shall comply with local installation requirements and the local electrical code.

**(c) Operation**

- Take care not to generate mechanical sparking when access to the instrument and peripheral devices in hazardous area.

**(d) Maintenance**

- Please carry out only the maintenance procedures described in this manual. If you require further assistance, please contact the nearest Yokogawa office.

**(e) Explosion-Protected Instrument**

- Users of explosion-protected instruments should refer first to “Explosion Proof Specification” section of this manual.
- The use of this instrument is restricted to those who have received appropriate training in the device.

- Take care not to create sparks when accessing the instrument or peripheral devices in a hazardous location.
  - Repair or modification to this instrument by customer will cause malfunction of explosion protect function and hazardous situation. If you need to repair or modification, please contact the nearest Yokogawa office.
- (f) Modification**
- Yokogawa will not be liable for malfunctions or damage resulting from any modification made to this instrument by the customer.
- (g) Product Disposal**
- The instrument should be disposed of in accordance with local and national legislation/regulations.
- (h) Authorized Representative in EEA**
- The Authorized Representative for this product in the EEA is:  
Yokogawa Europe B.V.  
Euroweg 2, 3825 HD Amersfoort, The Netherlands

## ■ Warranty

- **The warranty terms of this instrument are described in the quotation. We will make any repairs that may become necessary during the guaranteed term free of charge.**
- **Please contact our sales office or your local distributor if this instrument requires repair.**
- **If the instrument is faulty, contact us with complete details about the problem and the length of time it has been faulty, and state the model and serial number. We would appreciate the inclusion of drawings or additional information.**
- **The results of our examination will determine whether the product will be repaired free of charge or on an at-cost basis.**

## ■ The guarantee will not apply in the following cases:

- **Damage due to negligence or insufficient maintenance on the part of the customer.**
- **Problems or damage resulting from handling, operation or storage that violates the intended use and specifications.**
- **Problems that result from using or performing maintenance on the instrument in a location that does not comply with the installation location specified by Yokogawa.**
- **Problems or damage resulting from repairs or modifications not performed by Yokogawa or someone authorized by Yokogawa.**

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- Problems or damage resulting from inappropriate installation after delivery.
  - Problems or damage resulting from disasters such as fires, earthquakes, storms, floods, or lightning strikes and external causes.

## ■ Warranty and Disclaimer

- Yokogawa assumes no responsibilities for this product except as stated in the warranty.
- Yokogawa shall have neither liability nor responsibility to any person or entity with respect to any direct or indirect loss or damage arising from using the product or any defect of the product that Yokogawa can not predict in advance.

## ■ Notes on Hardware

### ● Appearance and Accessories

Check the following when you receive the product:

- Appearance
- Standard accessories

Contact our sales representative or your local distributor if the product's coating has come off or any accessories are missing.

### ● Model and Suffix Codes

The name plate on the product contains the model and suffix codes. Compare them with those in the general specification to make sure the product is the correct one. If you have any questions, contact our sales office or your local distributor.

## ■ Notes on Attached Software

- Before opening the media package, read YFGW710 Software License Agreement. Once the package is opened, it is thought that the contract is agreed.
- Yokogawa assumes no responsibilities for this software except as stated in the warranty.
- This software is used with this product exclusively. This can be installed in the computer which connects with this product.

## ■ Insulation Resistance and Dielectric Strength Test

- Insulation Resistance and dielectric strength test could not be carried out for YFGW710, due to the circuit ground is connected directly to the frame of YFGW710 via RF cable shield.

## ■ Regulatory Compliance for Radio and Telecommunication

Please confirm that an installation region fulfills a standards, require additional regulatory information and approvals, contact to Yokogawa Electric Corporation.

### ● Radio and Telecommunications Terminal Equipment Directive (R&TTE) CE

We, Yokogawa Electric Corporation hereby declare that this equipment, model YFGW510 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

The CE declaration of conformity for R&TTE for this product can be found at <http://www.yokogawa.com/fld/>

### ● EMC Conformity Standards

EN 301 489-1, EN 301 489-17, EN 61326-1 Class A, Table 2 (For use in industrial locations), EN 55011 Class A, Group 1, EN 61000-6-2



## CAUTION

This instrument is a Class A product, and it is designed for use in the industrial environment. Please use this instrument in the industrial environment only.

### ● Safety Conformity Standards

Applicable standard: EN 61010-1, EN 62311

#### (1) Pollution Degree 2

“Pollution degree” describes the degree to which a solid, liquid, or gas which deteriorates dielectric strength or surface resistivity is adhering. “2” applies to normal indoor atmosphere. Normally, only non-conductive pollution occurs. Occasionally, however, temporary conductivity caused by condensation must be expected.

#### (2) Installation Category I

“Overvoltage category (Installation category)” describes a number which defines a transient overvoltage condition. It implies the regulation for impulse withstand voltage.

“1” applies to electrical equipment which is supplied from the circuit when appropriate transient overvoltage control means (interface) are provided.

### ● Spectrum Conformity Standard

EN 300 328

### ● FCC compliance

This device complies with Part 15 pf FCC Riles. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of this device.

#### Co-located:

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

#### FCC WARNING:

Changes or modifications not expressly approved by the party responsible for compliance could void the use’s authority to operate the equipment.





**NOTE**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interferences to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

● **Industry Canada (IC) compliance**

This Class A digital apparatus complies with Canadian ICES-003.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

This radio transmitter IC Number 8999A-WIC001 has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Antenna type:	Gain:
COLLINEAR	9dBi, 50Ω
Sleeve	2.14dBi, 50Ω

French:

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

Le présent émetteur radio IC Number 8999A-WIC001 a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Antenne type:	Gain:
COLLINEAR	9dBi, 50Ω
Sleeve	2.14dBi, 50Ω

# Explosion Protected Type Specifications



## CAUTION

This instrument has been tested and certified as being explosion protected. Please note that severe restrictions apply to this instrument's construction, installation, external wiring, maintenance and repair. A failure to abide by these restrictions could make the instrument a hazard to operate.

### ■ Optional Specifications(For Explosion Protected Types)

Item	Description	Code
Factory Mutual (FM)	FM nonincendive approval Applicable standard: FM3600, FM3611, FM3810, ANSI/NEMA250 Nonincendive for Class I, Division 2, Groups A, B, C and D; Class II, Division 2, Groups F and G; Class III, Division 1 hazardous (Classified) locations. Enclosure: NEMA 4X Temp. Class: T4, Amb. Temp.: -40 to 60°C (-40 to 140°F)	FN17
ATEX	ATEX Type n declaration Applicable standard: EN60079-0: 2012, EN60079-11: 2012, EN60079-15: 2010, EN60079-28: 2007 II 3G Ex nA [ic] [op is] IIC T4 Gc (with 100BASE-FX) II 3G Ex nA [ic] IIC T4 Gc (without 100BASE-FX) Enclosure: IP66 Amb. Temp.: -40 to 60°C (-40 to 140°F)	KN27
Canadian Standards Association (CSA)	CSA nonincendive approval Certificate: 2342292 [For CSA C22.2] Applicable standard: C22.2 No.0, C22.2 No.0.4, C22.2 No.25, C22.2 No.94, C22.2 No.213, C22.2 No.61010-1-04 Nonincendive for Class I, Division 2, Groups A, B, C and D; Class II, Division 2, Groups F and G; Class III, Division 1 Enclosure: Type 4X [For CSA E60079] Applicable standard: CAN/CSA E60079-0, CAN/CSA E60079-15, IEC60529 Ex nA nL IIC T4 Enclosure: IP66 Amb. Temp.: -40 to 60°C (-40 to 140°F)	CN17
IECEX Scheme	IECEX Type n approval Certificate: IECEX DEK 13.0047 Applicable standard: IEC60079-0:2011, IEC60079-15:2010, IEC 60079-11:2011 Ex nA [ic] IIC T4 Gc Enclosure: IP66 Amb. Temp.: -40 to 60°C (-40 to 140°F)	SN27

## ■ FM Approval

Caution for FM nonincendive. (Following contents refer to “DOC.NO. NFM023-A14 P.1 AND P.2.”)

### Note 1. Model YFGW710 Field Wireless Integrated Gateway with optional code /FN17 is applicable for use in hazardous (Classified) locations.

- Applicable standard: FM3600, FM3611, FM3810, ANSI/NEMA 250
- Nonincendive for
  - Class I, Division 2, Groups A, B, C and D.
  - Class II, Division 2, Groups F and G.
  - Class III, Division 1
 hazardous (Classified) locations.
- Enclosure: NEMA 4X (Indoors and outdoors).
- Temperature Class: T4
- Ambient Temperature: –40 to 60°C

### Note 2. Installation



## WARNING

- The installation of the devices should be carried out by the engineers or other professional personnel of the related expertise. The installation should not be carried out by operators or other unprofessional personnel.
  - The installation should be in accordance with NEC (the National Electric Code: ANSI/NFPA-70) or local electric code.
  - Make sure that the breakers are installed in the power supply circuits located in non-hazardous areas so that the power can be shutoff when abnormality occurs.
- 
- In the course of installation, the related documents of GS (General specifications), TI (Technical Information of Installation Guidance) and IM (User's Manuals) should be referenced and the instructions described in the documents should be observed.
  - YFGW710 should be installed in upright position.
  - YFGW710 does not have the nonincendive Field Wiring. The conduit wiring is required for the power cable and the metal network cable to be connected to YFGW710.
  - To satisfy type of protection and NEMA4X, apply suitable devices to the electrical connection port.
  - YFGW710 does not have a power switch inside. Prepare a dedicated breaker for the external power line to turn ON/OFF the device.
  - Note a warning label worded
    - “DO NOT REMOVE COVER WHILE CIRCUIT IS LIVE WHEN A FLAMMABLE OR COMBUSTIBLE ATMOSPHERE IS PRESENT.”
    - “INSTALL IN ACCORDANCE WITH DOC.NO. NFM023-A14 P.1 AND P.2”
  - 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.
  - Take care not to generate mechanical sparking when access to the instrument and peripheral devices in hazardous locations.

**Note 3. Maintenance and Repair**



**WARNING**

- The instrument modification or parts replacement by other than authorized Representative of Yokogawa Electric Corporation is prohibited and will void FM Approvals approval.
- When opening the cover, the enclosure should be dry and clean to prevent from ingress water or dust.

**■ CSA Certification**

Caution for CSA nonincendive/Type n. (Following contents refer to “Doc No. NCS013”)

**Note 1. Model YFGW710 Field Wireless Integrated Gateway with optional code /CN17 is applicable for use in hazardous locations.**

- Certificate: 2342292

[For CSA C22.2]

- Applicable standard: C22.2 No.0, C22.2 No.0.4, C22.2 No.25, C22.2 No.94, C22.2 No.213, C22.2 No.61010-1
- Nonincendive for
  - Class I, Division 2, Groups A, B, C, D.
  - Class II, Division 2, Groups F, G.
  - Class III, Division 1
- Enclosure: Type 4X
- Temp. Code: T4
- Ambient Temperature: –40 to 60°C

[For CSA E60079]

- Applicable standard: CAN/CSA E60079-0, CAN/CSA E60079-15, IEC60529:2001
- Ex nAnL IIC T4
- Enclosure: IP66
- Ambient Temperature: –40 to 60°C

**Note 2. Electrical Connection**

The type of electrical connection is depends on the model code suffix.

The model code suffix is shown on the main label in front of YFGW710.

The second character following the letter A shows the type of electrical connection as below.

Character <i>b</i> on Suffix: A <i>ab</i> -cdefghjkm	The type of electrical connection
2	1/2 NPT female *1
4	M20 female *2

Note \*1: 1/2 NPT is realized by the conversion adapter from M20 female to 1/2NPT female.

Note \*2: When the cable glands or another device are necessary, user needs to prepare them which adapt to M20 female entry.

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**Note 3. Installation****WARNING**

- The installation of the devices should be carried out by the engineers or other professional personnel of the related expertise. The installation should not be carried out by operators or other unprofessional personnel.
  - The installation should be in accordance with Canadian Electrical Code Part I or Local Electrical Code.
  - YFGW710 should be installed in upright position.
  - To satisfy type of protection “n” and degree of protection provided by enclosure IP66, apply suitable devices to the electrical connection port.
  - Make sure that the breakers are installed in the power supply circuits located in non-hazardous areas so that the power can be shutoff when abnormality occurs.
- 
- In the course of installation, the related documents of GS (General specifications), TI (Technical Information of Installation Guidance) and IM (User’s Manuals) should be referenced and the instructions described in the documents should be observed.
  - YFGW710 does not have the Nonincendive Field Wiring. The conduit wiring is required for the power cable and the metal network cable to be connected to YFGW710.
  - When the cable glands are necessary, user needs to prepare the cable glands. The cable glands shall be certified in type of protection “n” suitable for the conditions of use and correctly installed.
  - To maintain the degree of ingress protection IP66 according to IEC 60529, and TYPE4X according to CSA C22.2 No.94 special care must be taken to avoid water.
  - Note a warning label worded  
“DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT.”  
“POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS.”
  - 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.
  - Take care not to generate mechanical sparking when access to the instrument and peripheral devices in hazardous locations.

**Note 4. Maintenance and Repair****WARNING**

- The instrument modification or parts replacement by other than authorized Representative of Yokogawa Electric Corporation is prohibited and will void CSA certification.
- 
- When Opening the cover, the enclosure should be dry and clean to prevent from ingress water or dust.

## ■ ATEX Declaration

### (1) Technical Data

Caution for ATEX Type n

**Note 1. Model YFGW710 Field Wireless Integrated Gateway with optional code /KN27 is applicable for use in hazardous area.**

- Applicable standard: EN60079-0: 2012, EN60079-11: 2012, EN60079-15: 2010, EN60079-28: 2007
- Marking:  $\text{Ex}$  II 3G Ex nA [ic] [op is] IIC T4 Gc (with 100BASE-FX)  
 $\text{Ex}$  II 3G Ex nA [ic] IIC T4 Gc (without 100BASE-FX)
- Ambient temperature: -40 to +60°C
- IP code: IP66
- Power supply: 10.0 V DC to 26.4 V DC (Rated voltage: 24.0 V DC)
- Um: 250 V
- Power dissipation: ≤ 10 W
- RF power: ≤ 20 mW (ISA100.11a; IEEE802.15.4)
- Cable parameters for antenna connection: Cc: 4 nF, Lc: 20 μH
- Specific condition of use:  
Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.

### Note 2. Electrical Connection

The type of electrical connection is depends on the model code suffix.

The model code suffix is shown on the main label in front of YFGW710.

The second character following the letter A shows the type of electrical connection as below.

Character <i>b</i> on Suffix: A <i>ab</i> -cdefghjkm	The type of electrical connection
2	1/2 NPT female *1
4	M20 female *2

Note \*1: 1/2 NPT is realized by the conversion adapter from M20 female to 1/2NPT female.

Note \*2: When the cable glands or another device are necessary, user needs to prepare them which adapt to M20 female entry.

### Note 3. Installation

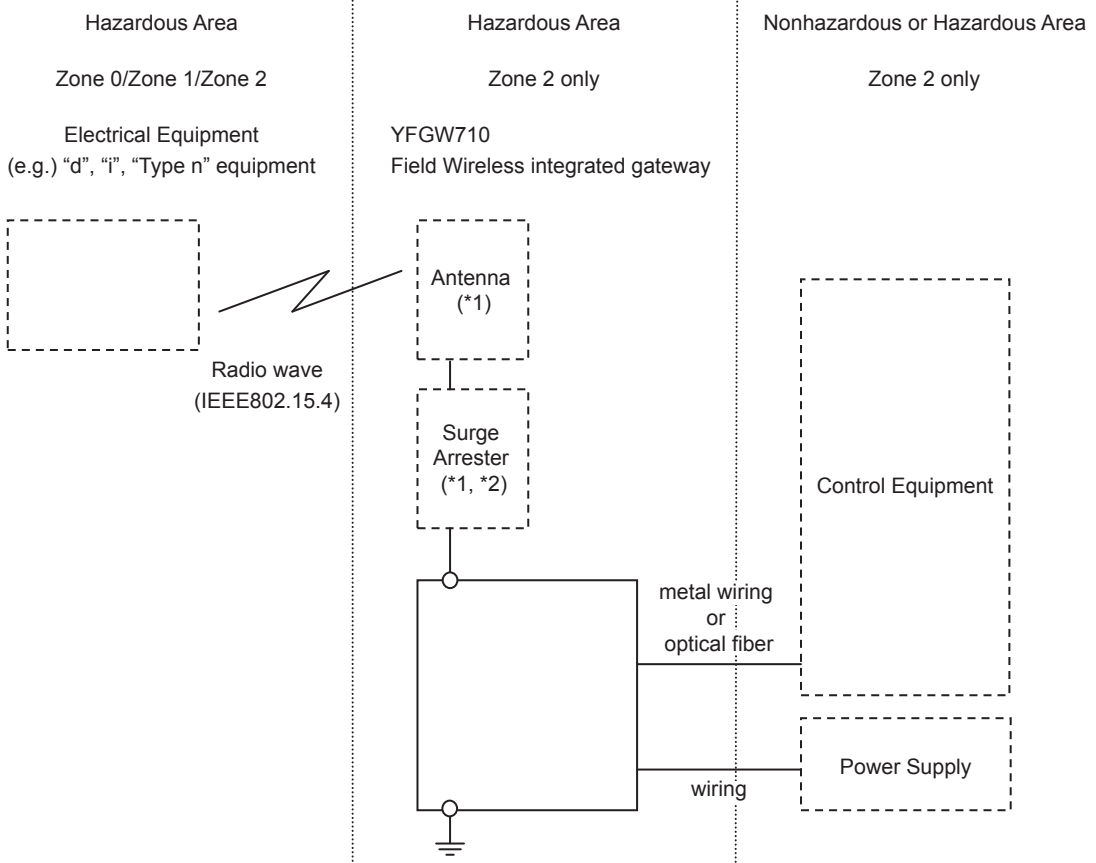


## WARNING

- The installation of the devices should be carried out by the engineers or other professional personnel of the related expertise. The installation should not be carried out by operators or other unprofessional personnel.
- The installation should be in accordance with EN60079-14 and Local Electrical Code.
- The equipment shall be installed in accordance with the user's manual.
- YFGW710 should be installed in upright position.

- 
- The thread type of the cable entries shall be confirmed according to the user's manual.
  - Cable glands, adapters and/or blanking elements shall be of type "n", type "e" or type "d" and shall be installed so as to maintain the specified degree of protection (IP code) of the equipment.
  - Keep the cap attached to the antenna connector (N type) until the installation of the antenna or antenna cables to protect the inside of the connector from exposure of light. In case the antenna or antenna cables are removed from the connector, the inside of the antenna connector should be protected from exposure of light.
  - The antenna and the surge arrester shall be a simple apparatus in accordance with EN60079-11. Li and Ci of the simple apparatus shall be negligible. Temperature class of them shall be determined from  $P_o = 20 \text{ mW}$ .
  - The equipment shall be earthed in accordance with EN60079-14, in order to maintain intrinsic safety. A cable lug or a similar device shall be used to maintain the secureness of the connection to the equipment. Care should be taken to avoid multi-point earthing since the equipment is not galvanically isolated from the power supply.
  - YFGW710 does not have a power switch inside. Prepare a dedicated breaker for the external power line to turn ON/OFF the device.
  - Make sure that the breakers are installed in the power supply circuits located in non-hazardous areas so that the power can be shutoff when abnormality occurs.
  - Note a warning label worded  
"DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT."  
"POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS."
  - 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 and the antenna.
  - Take care not to generate mechanical sparking when access to the instrument and peripheral devices in hazardous area.

[Control drawing]



\*1: These apparatus are simple apparatus.  
\*2: Surge Arrester may not be installed.

(2) Operation



**WARNING**

- Take care not to generate mechanical sparking when access to the instrument and peripheral devices in hazardous area.

(3) Maintenance and Repair



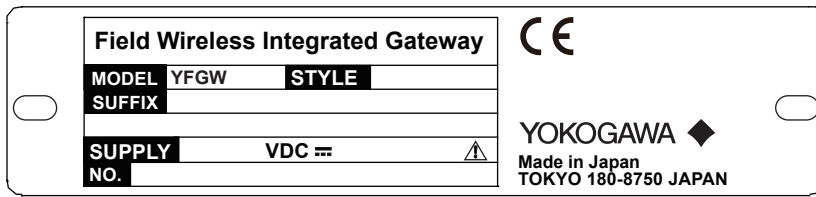
**WARNING**

- The instrument modification or parts replacement by other than authorized Representative of Yokogawa Electric Corporation is prohibited and will void the EHSRs.
- When Opening the cover, the enclosure should be dry and clean to prevent from ingress water or dust.



(4) Name Plate

- Main name plate



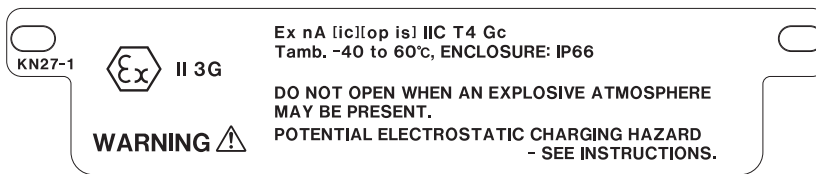
- MODEL: Specified model code.
- STYLE: Style code.
- SUFFIX: Specified suffix code.
- SUPPLY: Specified supply voltage and wattage.
- NO.: Serial number and year of production \*1.
- YOKOGAWA ◆ TOKYO 180-8750 JAPAN: The manufacturer name and the address \*2.

\*1: The third figure from the last of the serial number shows the year of production. For example, the production year of the product engraved in "NO." column on the name plate as follows is 2010.

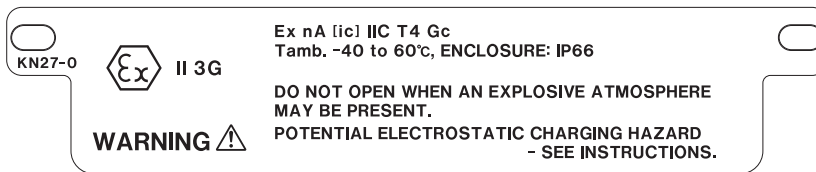
**91K506412 019**  
 ↑  
 The year 2010

\*2: "180-8750" is a postal code which represents the following address.  
 2-9-32 Nakacho, Musashino-shi, Tokyo Japan

- Hazardous class name plate with 100 BASE-FX



- Hazardous class name plate without 100 BASE-FX



## ■ IECEx Certification

### (1) Technical Data

**Model YFGW710 Field Wireless Integrated Gateway with optional code /SN27 is applicable for use in hazardous locations.**

- Applicable standard: IEC60079-0:2011, IEC60079-15:2010, IEC60079-11:2011
- Certificate: IECEx DEK 13.0047
- Type of Protection and Marking Code: Ex nA [ic] IIC T4 Gc
- Ambient Temperature: -40 to 60°C
- IP Code: IP66
- Power Supply: 10.0 V d.c. to 26.4 V d.c.  
(Rated voltage: 24.0 V d.c.)
- Overvoltage Category: I
- Power Dissipation: ≤ 10 W
- RF Power: ≤ 20 mW (ISA100.11a; IEEE802.15.4)
- Cable parameters for antenna connection  
Cc: 4 nF  
Lc: 20 μH

Specific Condition of Use:

Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.

### (2) Electrical Connection

The type of electrical connection is depends on the model code suffix.

The model code suffix is shown on the main label in front of YFGW710.

The second character following the letter A shows the type of electrical connection as below.

Character b on Suffix: Aab-cdefghjkm	The type of electrical connection
2	1/2 NPT female *1
4	M20 female *2

Note \*1: 1/2 NPT is realized by the conversion adapter from M20 female to 1/2NPT female.

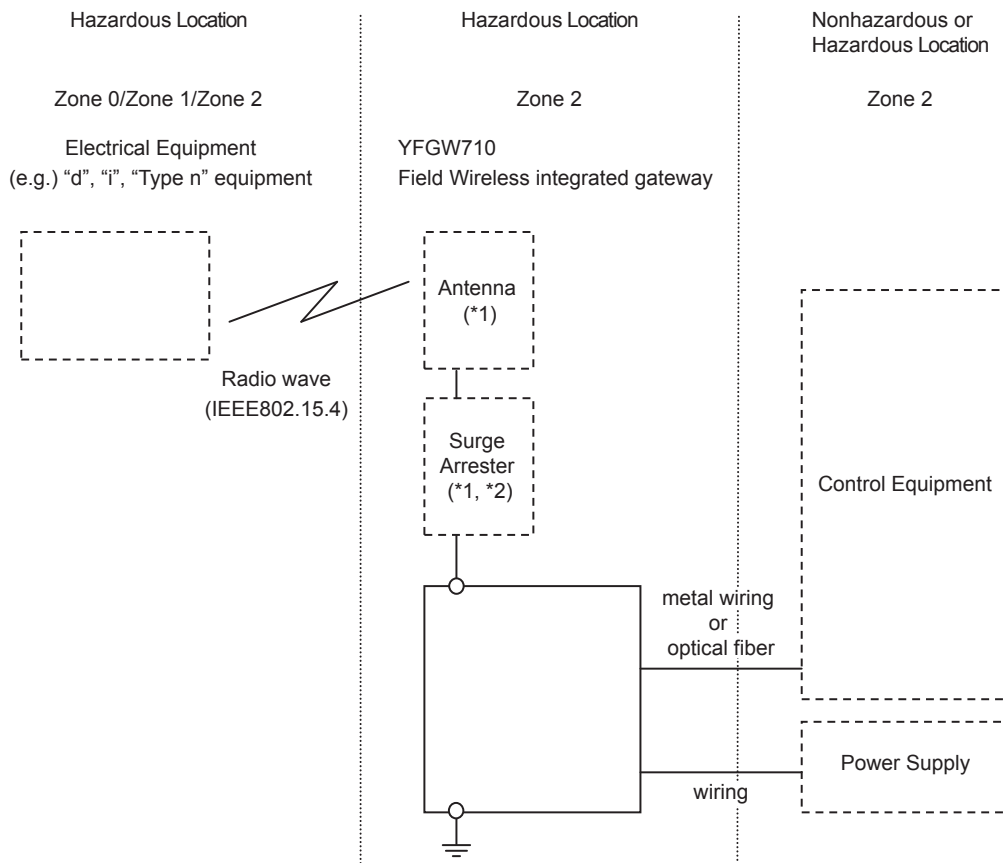
Note \*2: When the cable glands or another device are necessary, user needs to prepare them which adapt to M20 female entry.

### (3) Installation



#### WARNING

- The installation of the devices should be carried out by the engineers or other professional personnel of the related expertise. The installation should not be carried out by operators or other unprofessional personnel.
  - The installation should be in accordance with IEC 60079-14 and local electrical code.
  - YFGW710 should be installed in upright position.
  - The equipment shall be installed in accordance with the user's manual.
  - The instrument modification or parts replacement by other than authorized representative of Yokogawa Electric Corporation is prohibited and will void IECEx certificate.
- 
- The thread type of the cable entries shall be confirmed according to the user's manual.
  - Screws of power supply terminals shall be tightened with specified torque values: 1.2N•m to 1.4N•m.
  - Cable glands, adapters and/or blanking elements shall be of Ex "n", Ex "e" or Ex "d" and shall be installed so as to maintain the specified degree of protection (IP Code) of the equipment.
  - Keep the cap attached to the antenna connector (N type) until the installation of the antenna or antenna cables to protect the inside of the connector from exposure of light. In case the antenna or antenna cables are removed from the connector, the inside of the antenna connector should be protected from exposure of light.
  - The antenna and the surge arrester shall be a simple apparatus in accordance with IEC 60079-11. Li and Ci of the simple apparatus shall be negligible. Temperature class of them shall be determined from  $P_o = 20 \text{ mW}$ .
  - Cable parameters for the connection of the antenna and/or the surge arrester are:  
 $C_c = 4 \text{ nF}$ ;  $L_c = 20 \text{ }\mu\text{H}$
  - The equipment shall be earthed in accordance with IEC 60079-14, in order to maintain intrinsic safety. A cable lug or a similar device shall be used to maintain the secureness of the connection to the equipment. Care should be taken to avoid multi-point earthing since the equipment is not galvanically isolated from the power supply.
  - YFGW710 does not have a power switch inside. Prepare an dedicated breaker for the external power line to turn ON/OFF the device.
  - Make sure that the breakers are installed in the power supply circuits located in non-hazardous areas so that the power can be shutoff when abnormality occurs.
  - Note a warning label worded  
"DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT."  
"POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS."
  - 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 and antenna.
  - Take care not to generate mechanical sparking when access to the instrument and peripheral devices in hazardous locations.



\*1: These apparatus are simple apparatus.  
\*2: Surge Arrester may not be installed.

#### (4) Maintenance and Repair



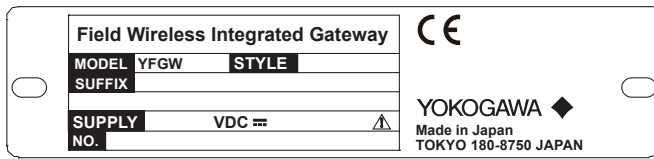
### WARNING

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

- When Opening the cover, the enclosure should be dry and clean to prevent from ingress water or dust.

(5) Name Plate

- Main name plate



MODEL: Specified model code.

STYLE: Style code.

SUFFIX: Specified suffix code.

SUPPLY: Specified supply voltage and wattage.

NO.: Serial number and year of production\*1.

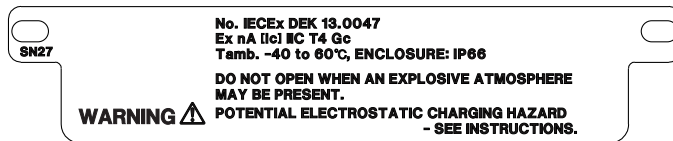
YOKOGAWA TOKYO 180-8750 JAPAN:  
The manufacturer name and the address\*2.

\*1: The third figure from the last of the serial number shows the year of production. For example, the production year of the product engraved in "NO." column on the name plate as follows is 2010.

**91K506412 019**  
 ↑  
 The year 2010

\*2: "180-8750" is a postal code which represents the following address.  
2-9-32 Nakacho, Musashino-shi, Tokyo Japan

- Hazardous class name plate

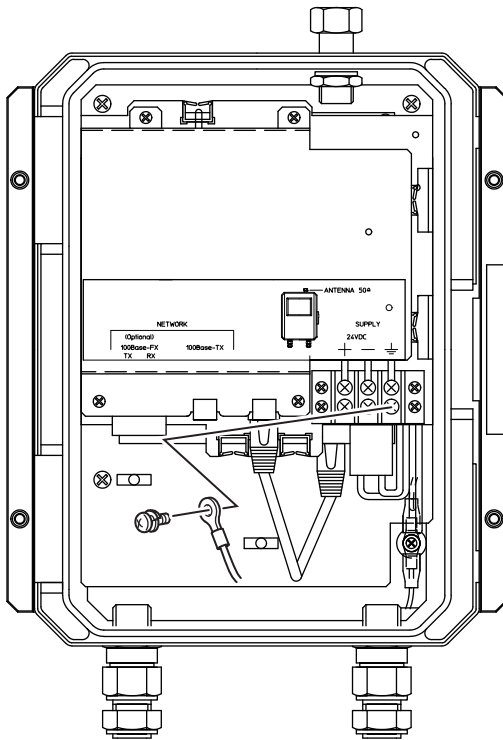


## ■ Ground Cable Connection

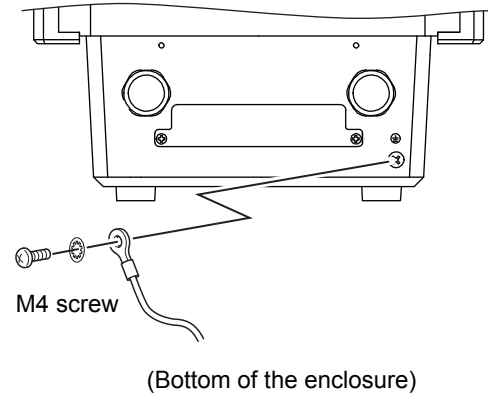
The grounding terminals are located on the inside and outside of the terminal area. Connect the cable to grounding terminal in accordance with wiring procedure 1) or 2).

### 1) Internal grounding terminal

If the power cable is a shielded cable, the shield should be grounded at the terminal marked  $\perp$  as below.



### 2) External grounding terminal



## Wiring Procedure for Grounding Terminals

---

# How to Use Online Manual

It is necessary to install Adobe Acrobat Reader to read the instruction manual (YFGW710 Field Wireless Integrated Gateway: IM 01W01F01-01EN).

Install the following Adobe Reader by the administrator authority.

- Adobe Reader 9.3 or later

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**TIP**

Adobe Reader can be downloaded from the Web site of Adobe Systems Incorporated.

---

## ● Reading of Online Manual

The online manual is stored in the attached DVD-ROM. The file is not installed in the PC even if the attached software is installed to PC. Open the file by Adobe Reader to read the manual.

DVD-ROM Drive:\Document\en\IM 01W01F01-01EN.pdf

# Preparation to Install YFGW710 Attached Software

It is necessary to install "Microsoft .NET Framework3.5 SP1" on PC beforehand to install the Attached Software with this product.

For details, refer to Readme\_en.txt in the attached DVD-ROM.

DVD-ROM Drive:\Readme\_en.txt

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# About User's Manual

## ■ Composition of User's Manual

This chapter explains the composition of User's Manual.

The following printed user's manual is attached to YFGW710 hardware.

- IM 01W01F01-11EN: YFGW710 Field Wireless Integrated Gateway Read Me First

The following online user's manual is stored in the attached DVD-ROM for YFGW710.

- IM 01W01F01-01EN: YFGW710 Field Wireless Integrated Gateway

## Information of User's Manual Revision

**Material Name:** YFGW710 Field Wireless Integrated Gateway Read Me First

**Material Number:** IM 01W01F01-11EN

Edition	Date	Page	Revised Item
1st Edition	August 2010		New Issue
2nd Edition	October 2010	7 9	Add "Cautions for Safely Applying the Device." Add "Explosion Proof Specifications."
3rd Edition	April 2011	- 9+ 20	Change CD-ROM to DVD-ROM. Add "IECEX Scheme Type n approval." Add "Windows Server."
4th Edition	July 2012	8	Add CE alert marking. Add applicable county code table.
5th Edition	March 2013	8+ 10 15 16	Delete CE alert marking. Change applicable standard for ATEX Typ n. Add control drawing. Change hazardous class name plate.
6th Edition	January 2014	8 10 18,19	Delete country name table Change IECEX scheme Change IECEX Certification
7th Edition	March 2016	2 5+ 8,9	Add Document list Add Safe Use of Product include Authorized Representative in EEA Change R&TTE Conformity Standard description

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  - c) the Software Product is completely corrected;
  - d) the Software Product has no inconsistency or interference with other software;
  - e) the Software Product fits for a particular purpose or your intention; or
  - f) the Software Product or the results arising there from is precise, reliable or up-to-date.
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  - b) if the hardware on which the Software Product needs to be installed is specified, the hardware has been changed to other hardware without consent of Yokogawa;
  - c) modification, improvement or alteration is made by a person other than Yokogawa or its designated service provider;
  - d) your or third party's (excluding the service provider designated by Yokogawa) misuse, alteration, addition of new function, or use for any purpose not provided in the functional specifications of Yokogawa;
  - e) the appropriate environmental or other conditions provided by Yokogawa or hardware supplier is not complied with;
  - f) the corrective action (including repair, replacement or workaround) for the defect or non-compliance is not implemented as suggested by Yokogawa; or
  - g) any other causes which are not deemed attributable to Yokogawa.
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You shall not assign its rights or obligations under this Agreement without prior written consent of Yokogawa. If you novate or assign this Agreement and the Software Product with Yokogawa's consent, you shall transfer all copies and whole part of the Software Product to the assignee and shall delete any copy of the Software Product in possession. This Agreement shall inure to the benefit of and shall be binding on the successors of the parties.

#### **9. Export Control**

You agree to comply with the export control and related laws, regulations and orders of Japan, the United States of America, and any other applicable countries and, if you export or reexport the Software Product, to obtain export/import permit and take all necessary procedures under your own responsibility and at your own expense.

#### **10. Audit; Withholding**

- 10.1 Yokogawa shall have the right to access and audit your facilities and any of your records, including data stored on computers, in relation to the use of the Software Product as may be reasonably necessary in Yokogawa's opinion to verify that the requirements of this Agreement are being met.
- 10.2 Even after license being granted under this Agreement, should there be any change in circumstances or environment of use which was not foreseen at the time of delivery and, in Yokogawa's reasonable opinion, is not appropriate for using the Software Product, or if Yokogawa otherwise reasonably believes it is too inappropriate for you to continue using the Software Product, Yokogawa may suspend or withhold the license provided hereunder.

#### **11. Termination**

Yokogawa shall have the right to terminate this Agreement with immediate effect upon notice to you, if you or end users breach any of the terms and conditions hereof. Upon termination of this Agreement, you shall, and make end users, promptly cease using the Software Product and, in accordance with sub-clause 2.5, return or irretrievably delete all copies of the Software Product, certifying the same in writing. In this case the license fee paid by you for the Software Product shall not be refunded. Clauses 2.4 and 2.5, 6, 7 and 12 shall survive any termination of this Agreement.

#### **12. Governing Law; Disputes**

This Agreement shall be governed by and construed in accordance with the laws of Japan. If you are a Japanese individual or entity, all disputes, controversies or differences which may arise between the parties hereto, out of, in relation to or in connection with this Agreement ("Dispute") shall be brought exclusively in the Tokyo District Court (The Main Court) in Japan. If you are not a Japanese individual or entity, any Dispute shall be finally settled by arbitration in Tokyo, Japan in accordance with the Commercial Arbitration Rules of the Japan Commercial Arbitration Association. All proceedings in arbitration shall be conducted in the English language, unless otherwise agreed. The award of arbitration shall be final and binding upon both parties, however, each party may make an application to any court having jurisdiction for judgment to be entered on the award and/or for enforcement of the award.

#### **13. Miscellaneous**

- 13.1 This Agreement supersedes all prior oral and written understandings, representations and discussions between the parties concerning the subject matter hereof to the extent such understandings, representations and discussions should be discrepant or inconsistent with this Agreement.
- 13.2 If any part of this Agreement is found void or unenforceable, it shall not affect the validity of the balance of the Agreement, which shall remain valid and enforceable according to its terms and conditions. The parties hereby agree to attempt to substitute for such invalid or unenforceable provision a valid or enforceable provision that achieves to the greatest extent possible the economic, legal and commercial objectives of the invalid or unenforceable provision.
- 13.3 Failure by either party to insist on performance of this Agreement or to exercise a right when entitled does not prevent such party from doing so at a later time, either in relation to that default or any subsequent one.