

# **YFGW510 Field Wireless Access Point**

## **Read Me First**

IM 01W02E01-11EN

This document specifies the important information to use this product correctly and safely and the License Agreement of Attached Software for YFGW510 Field Wireless Access Point.

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

The configuration of the field wireless system is described in User's Manual of the YFGW410 Field Wireless Management Station (IM 01W02D01-01EN). Read that document first.

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# Introduction

This manual (IM 01W02E01-11EN) describes the safety precautions, explosion protected type specifications and the license agreement of attached software for the YFGW510.

There are three documents including this one for the YFGW510 listed below. Read them along with this manual.

Document No.	Document name	Description
IM 01W02E01-01EN	YFGW510 Field Wireless Access Point	This manual is stored in the attached DVD-ROM for YFGW510. It describes installation, wiring, operation, maintenance and specification of the YFGW510.
IM 01W02E01-11EN	YFGW510 Field Wireless Access Point Read Me First	This manual. It describes the safety precaution, explosion protected type specifications and the license agreement of the attached software for the YFGW510.
GS 01W02E01-01EN	YFGW510 Field Wireless Access Point	Product specification including detailed model and suffix code, optional specifications and accessory of the YFGW510.

## ■ 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.
- This manual and the identification tag attached on packing box are essential parts of the product; keep them in a safe place for future reference.
- 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.
- 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 instruments. When products whose suffix code or optional codes contain code "Z" and an exclusive document is attached, please read it along with this manual.
- 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 ranskankielisinä. 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 jāsasina 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 lokagava (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 Yokogawa.

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 najbliži 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 bil-Ingliż, bil-Ġermaniż u bil-Franċiż. Jekk tkun teħtieġ struzzjonijiet marbuta ma' Ex fil-lingwa lokali tiegħek, għandek tikkuntattja lill-eqreb rappreżentant jew ufficċju ta' Yokogawa.

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# Safety Precautions

## ■ 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 Manual 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.

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**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

This product is designed to be used by a person with specialized knowledge. For the safety of the operator and to protect the instrument and the system, please be sure to follow this manual's safety instructions when handling this instrument. If these instructions are not heeded, the protection provided by this instrument may be impaired. In this case, Yokogawa cannot guarantee that the instrument can be safely operated. 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.

### (c) Operation

- Wait 1 min. after the power is turned off, before opening the covers.

### (d) Maintenance

- Please carry out only the maintenance procedures described in this manual. If you require further assistance, please contact the nearest Yokogawa office.
- Care should be taken to prevent the build up of dust or other materials on the display glass and the name plate. To clean these surfaces, use a soft, dry cloth.

### (e) Explosion Protected Type Instrument

- Users of explosion protected instruments should refer first to "Explosion Protected Type Specifications" 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.

## ■ 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.**
- **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.**

## ■ **Authorized Representative in the EEA**

The Authorized Representative for this product in the EEA is: Yokogawa Europe B.V.  
Euroweg 2, 3825 HD Amersfoort, THE NETHERLANDS.

## ■ **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. Verify that the specification indicated in the "MODEL AND SUFFIX CODES" and "OPTIONAL SPECIFICATIONS" in General Specifications "GS 01W02E01-01EN" is in compliance with the specifications written on the order sheet. If you have any questions, contact our sales office or your local distributor.

## ■ **Notes on Attached Software**

- **Before opening the media package, read YFGW510 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.**

## ■ 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 Equipment Directive

Hereby, Yokogawa Electric Corporation declares that the radio equipment type YFGW510 is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:

<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

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



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## ● FCC compliance

YFGW510 contains transmitter module

- FCC ID: SGJ-WFC006 (All Model)
- FCC ID: SGJ-WFC008 (Wireless LAN Single Model)
- FCC ID: SGJ-WFC009 (Wireless LAN Redundant Model)

### Co-located:

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

### FCC CAUTION

Changes or modifications not expressly approved by the party responsible for compliance could void the user'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 a 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 interference 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.

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### RF Exposure Compliance:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65. This equipment has very low levels of RF energy that it deemed to comply without maximum permissive exposure evaluation (MPE). But it is desirable that it should be installed and operated keeping the radiator at least 20 cm or more away from person's body (excluding extremities: hands, wrists, feet and ankles).

### Wireless LAN Model Only:

#### Compliance with FCC requirement 15.407(c)

Data transmission is always initiated by software, which is the passed down through the MAC, through the digital and analog baseband, and finally to the RF chip. Several special packets are initiated by the MAC. These are the only ways the digital baseband portion will turn on the RF transmitter, which it then turns off at the end of the packet. Therefore, the transmitter will be on only while one of the aforementioned packets is being transmitted. In other words, this device automatically discontinue transmission in case of either absence of information to transmit or operational failure.

#### 5.15-5.25GHz band:

5.15-5.25GHz band is restricted to indoor operations only.

#### Frequency Tolerance:

±20 ppm

● **Industry Canada (IC) compliance**

YFGW510 contains transmitter module

- IC: 8999A-WIC003 (All Model)
- IC: 8999A-WIC007 (Wireless LAN Single Model)
- IC: 8999A-WIC008 (Wireless LAN Redundant Model)

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

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

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.

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.

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-WIC003, 8999A-WIC007 and 8999A-WIC008 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	Frequency Band	Gain, Impedance	Description
Sleeve	2.4GHz	2.14dBi, 50 Ω	
Sleeve	2.4GHz/5GHz	2.14dBi, 50 Ω	8999A-WIC007/008 Only
Collinear	2.4GHz	9dBi, 50 Ω	

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-WIC003, 8999A-WIC007 and 8999A-WIC008 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.

Antenna type	Frequency Band	Gain, Impedance	Description
Sleeve	2.4GHz	2.14dBi, 50 Ω	
Sleeve	2.4GHz/5GHz	2.14dBi, 50 Ω	8999A-WIC007/008 Only
Collinear	2.4GHz	9dBi, 50 Ω	

**RF Exposure Compliance:**

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment and meets RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment has very low levels of RF energy that it deemed to comply without maximum permissive exposure evaluation (MPE). But it is desirable that it should be installed and operated keeping the radiator at least 20 cm or more away from person's body (excluding extremities: hands, wrists, feet and ankles).

Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'IC. Cet équipement émet une énergie RF très faible qui est considérée conforme sans évaluation de l'exposition maximale autorisée. Cependant, cet équipement doit être installé et utilisé en gardant une distance de 20 cm ou plus entre le dispositif rayonnant et le corps (à l'exception des extrémités : mains, poignets, pieds et chevilles).

**Wireless LAN Model Only:****5.15-5.25GHz band:**

5.15-5.25GHz band is restricted to indoor operations only.

La bande 5150-5250 MHz est restreints à une utilisation à l'intérieur.

## ■ Control of Pollution Caused by the Product

### ● China RoHS

This is an explanation for the product based on “Control of Pollution caused by Electronic Information Products” in the People’s Republic of China.

電子情報製品污染制御管理弁法（中国版 RoHS）  
产品中有害物质或元素的名称及含量

型号	部件名称	有害物质					
		铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
YFGW510 现场无线接入点	壳体	×	○	○	○	○	○
	基板组件	×	○	○	○	○	○
	电缆	×	○	○	○	○	○
	天线组件	×	○	○	○	○	○
○：表示该部件的所有均质材料中的有害物质的含量均在GB/T26572 标准中所规定的限量以下。 ×：表示至少该部件的某些均质材料中的有害物质的含量均在GB/T26572 标准中所规定的限量以上。							

环保使用期限：



该标识适用于SJ/T11364 中所述，在中华人民共和国销售的电子电气产品的环保使用期限。

注) 该年数为“环保使用期限”，并非产品的质量保证期。

### ● EU RoHS

This product is in conformity with the following standard:

EN 50581:2012 (Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances)

# Explosion Protected Type Specifications

## ■ Optional Specifications (For Explosion Protected Type)

Item	Description	Code
Factory Mutual (FM)	FM Nonincendive Approval Applicable standards: Class 3600:2011, Class 3611:2004, Class 3810:2005, NEMA 250:2003 Nonincendive for Class I, Division 2, Groups A, B, C and D; alternatively for Class I, Zone 2, Groups IIC. Suitable for Class II, Division 2, Groups F and G; Suitable for Class III, Division 1 Indoor/outdoor Type 4X in hazardous (classified) locations. Temperature Class T4 at Ta = -40 to 65°C (-40 to 149°F) Cable parameters for antenna connection: Ccable: ≤ 4 nF, Lcable: ≤ 20 μH	FN17
	Explosionproof Approval	-
Canadian Standards Association (CSA)	CSA Non-Incendive Approval Certificate: 2655412 Applicable standards: C22.2 No.0-10, CAN/CSA-C22.2 No. 0.4-04, CAN/CSA-C22.2 No. 94-M91, C22.2 No. 213-M1987, CAN/CSA-C22.2 No. 60079-0:11, CAN/CSA-C22.2 No. 60079-15:12, CAN/CSA-C22.2 No. 61010-1-04, IEC 60529 :2001 Non-Incendive for Class I, Division 2, Groups A, B, C and D; Class II, Division 2, Groups F and G; Class III, Division I Non-Incendive Field Wiring Connections for Class I, Division 2, Groups A, B, C, D; Ex nA [nL] IIC T4. Ambient Temperature: -30 to 65 °C (-22 to 149°F), Altitude: ≤ 3000 m Enclosure: Type 4X, IP66 Cable parameters for antenna connection: Ccable: ≤ 4 nF, Lcable: ≤ 20 μH	CN17
	Flameproof Approval	-
ATEX	Type n Declaration Applicable standard: EN 60079-0:2012+A11:2013, EN 60079-11:2012, EN 60079-15:2010 II 3 G Ex nA [ic] IIC T4 Gc Enclosure: IP66 Amb. Temp. (Tamb): -30 to 65°C (-22 to 149°F)	KN27
	ATEX Flameproof Approval Certificate: DEKRA 15ATEX0042 X Applicable Standard: EN 60079-0:2012+A11:2013, EN 60079-1:2014, EN 60079-11:2012 II 2 G Ex d [ib] IIC T4 Gb Um: 250 V Amb. Temp.(Tamb): -40 to 65°C (-40 to 149°F)	KF27
IECEX	IECEX Type n Approval Certificate: IECEX DEK 14.0028 Applicable standard: IEC60079-0:2011, IEC60079-11:2011, IEC60079-15:2010 Ex nA [ic] IIC T4 Gc Enclosure: IP66 Amb. Temp(Tamb): -30 to 65°C (-22 to 149°F)	SN27
	IECEX Flameproof Approval Certificate: IECEX DEK 15.0021X Applicable Standard: IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-11:2011 Ex d [ib] IIC T4 Gb Um: 250 V Amb. Temp.(Tamb): -40 to 65°C (-40 to 149°F)	SF27

## ■ Installation of an Explosion Protected Instrument

If a customer makes a repair or modification to an explosion protected instrument and the instrument is not restored to its original condition, its explosion protected construction may be compromised and the instrument may be hazardous to operate. Please contact Yokogawa before making any repair or modification to an instrument.



### 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.



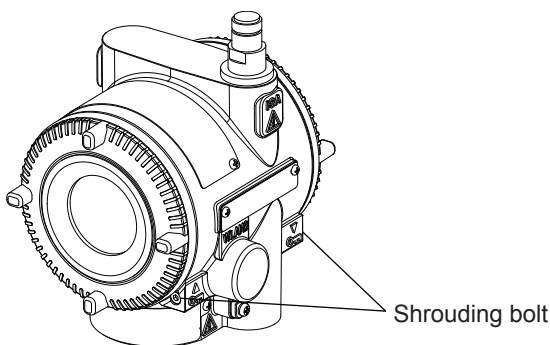
### CAUTION

To preserve the safety of Flameproof equipment requires great care during mounting, wiring, and piping. Safety requirements also place restrictions on maintenance and repair activities. Please read the following sections very carefully.



### CAUTION

- The front and rear cover are locked by an Allen head bolt (a shrouding bolt) on Flameproof type instruments. When the shrouding bolt is driven clockwise by an Allen wrench, it is going in and cover lock is released, and then cover can be opened by hand.
- When a cover is closed, it is the must turn the shrouding bolt counterclockwise and lock the cover. Tighten the shrouding bolt to a torque of 0.7 N·m.



## ■ FM Approval

### Caution for FM Nonincendive Approval

#### (1) Technical Data

**Note 1. Model YFGW510 Field Wireless Access Point with optional code FN17 is applicable for use in hazardous (classified) locations.**

- Applicable standards: Class 3600:2011, Class 3611:2004, Class 3810:2005, NEMA 250:2003
- Nonincendive for Class I, Division 2, Groups A, B, C and D;  
Alternatively for Class I, Zone 2, Group IIC  
Suitable for Class II, Division 2, Groups F and G;  
Suitable for Class III, Division 1
- Locations: Indoor/outdoor in hazardous (classified) locations
- Enclosure: Type 4X
- Temperature Class: T4
- Ambient Temperature: -40 to 65°C
- Altitude: Up to 3000 m
- Power supply: 10.0 V DC to 26.4 V DC (Rated voltage: 24.0 V DC)
- Power dissipation: 3.5 W max
- RF power: 60 mW max (ISA100.11a; IEEE802.15.4),  
64 mW max (Wireless LAN: IEEE802.15.11a/b/g)
- Cable parameters for antenna connection: Ccable: 4 nF, Lcable: 20  $\mu$ H

#### (2) 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 FM Approvals approval.

#### (3) Installation



### WARNING

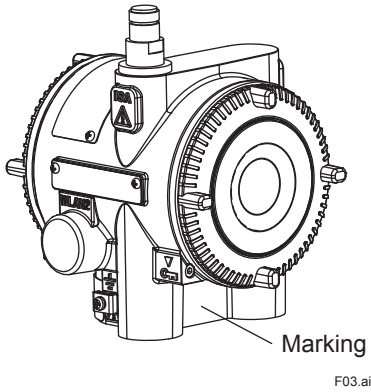
- The installation of the devices should be carried out by the engineers or other professional personnel of the related expertise. The installation should not be carried out by operators or other unprofessional personnel.
- The equipment shall be installed in accordance with the user's manual and following Control drawing pages. (Doc. No. NFM027-A14)
- Screws of power supply terminals shall be tightened with specified torque values: 1.2 Nm to 1.4 Nm.

**(4) Electrical Connection**

- The type of electrical connection depends on the marking below on YFGW510.

Marking	The type of electrical connection	Note
M	M20 (ISO)	M20 X 1.5
N	1/2 NPT	1/2-14

- This marking is incused at the back side of the electrical connection block.



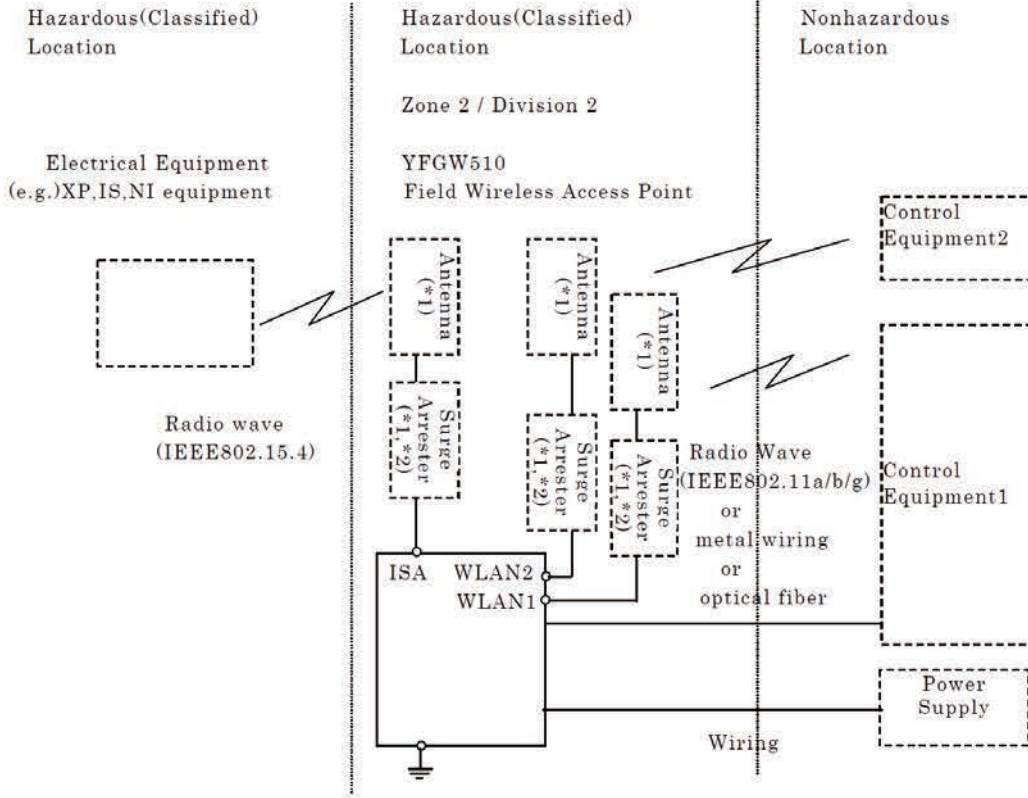


(5) Control Drawing

Model:YFGW510

Date: June 11, 2013

10.0 Instructions



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

Rev.

Doc. No.:NFM027-A14 P1  
Drawing: T. Aoe  
Approved: A. Matsunaga

Yokogawa Electric Corporation

F04.ai

Model:YFGW510

Date: June 11, 2013

Notes:

- The installation should be in accordance with NEC (the National Electric Code : ANSI/NFPA-70) or Local Electrical Code.
- The Control Equipment 1 and the Power Supply connected to the equipment shall not use or generate a voltage > 250 V r.m.s.
- The antenna and the surge arrester shall be simple apparatus in accordance with NEC. Li and Ci of the simple apparatus shall be negligible. Temperature class of them shall be determined from  $P_o = 60 \text{ mW}$  for ISA and  $P_o = 64 \text{ mW}$  for WLAN1/WLAN2.
- Cable parameters for the nonincendive field wiring connection of the antenna and/or the surge arrester are:  
Cable = 4 nF; Lcable = 20  $\mu\text{H}$
- The equipment shall be grounded in accordance with NEC for nonincendive field wiring.

Warning:

- DO NOT REMOVE COVER WHILE CIRCUIT IS LIVE WHEN A FLAMABLE OR COMBUSTIBLE ATMOSPHERE IS PRESENT.

Rev.

Doc. No.:NFM027-A14 P2  
Drawing: T. Aoe  
Approved: A. Matsunaga

Yokogawa Electric Corporation

F05.ai

## ■ CSA Certification

### Caution for CSA Non-incendive Certification

#### (1) Technical Data

**Note 1. Model YFGW510 Field Wireless Access Point with optional code CN17 is applicable for use in hazardous area.**

- Certificate: 2655412
- Applicable standards:  
C22.2 No.0-10, CAN/CSA-C22.2 No. 0.4-04,  
CAN/CSA-C22.2 No. 94-M91, C22.2 No. 213-M1987  
CAN/CSA-C22.2 No. 60079-0:11  
CAN/CSA-C22.2 No. 60079-15:12  
CAN/CSA-C22.2 No. 61010-1-04  
IEC 60529:2001
- Hazardous Location Ratings: Non-Incendive for  
Class I, Division 2, Groups A, B, C and D;  
Class II, Division 2, Groups F and G;  
Class III, Division I  
Non-Incendive Field Wiring Connections for Class I, Division 2, Groups A, B, C, D;  
Ex nA [nL] IIC T4
- Ambient Temperature: -30 to 65 °C
- Altitude: ≤ 3000 m
- Enclosure: Type 4X, IP66
- Power Supply: 10.0 V d.c. to 26.4 V d.c. (Rated voltage: 24.0 V d.c.)
- Power dissipation: ≤ 3.5 W
- RF power: ≤ 60 mW (ISA100.11a; IEEE802.15.4)  
≤ 64 mW (Wireless LAN: IEEE802.15.11a/b/g)
- Cable parameters for antenna connection: Ccable: ≤ 4 nF, Lcable: ≤ 20 μH
- Routine Test: The RF power is checked by routine tests.

#### (2) Specific condition of use

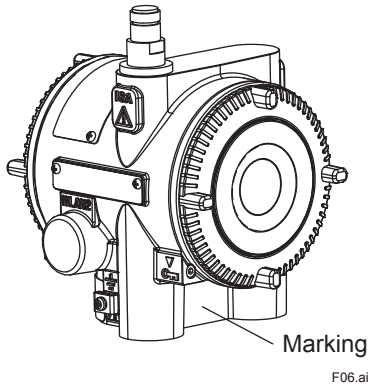
Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.

#### (3) Electrical Connection

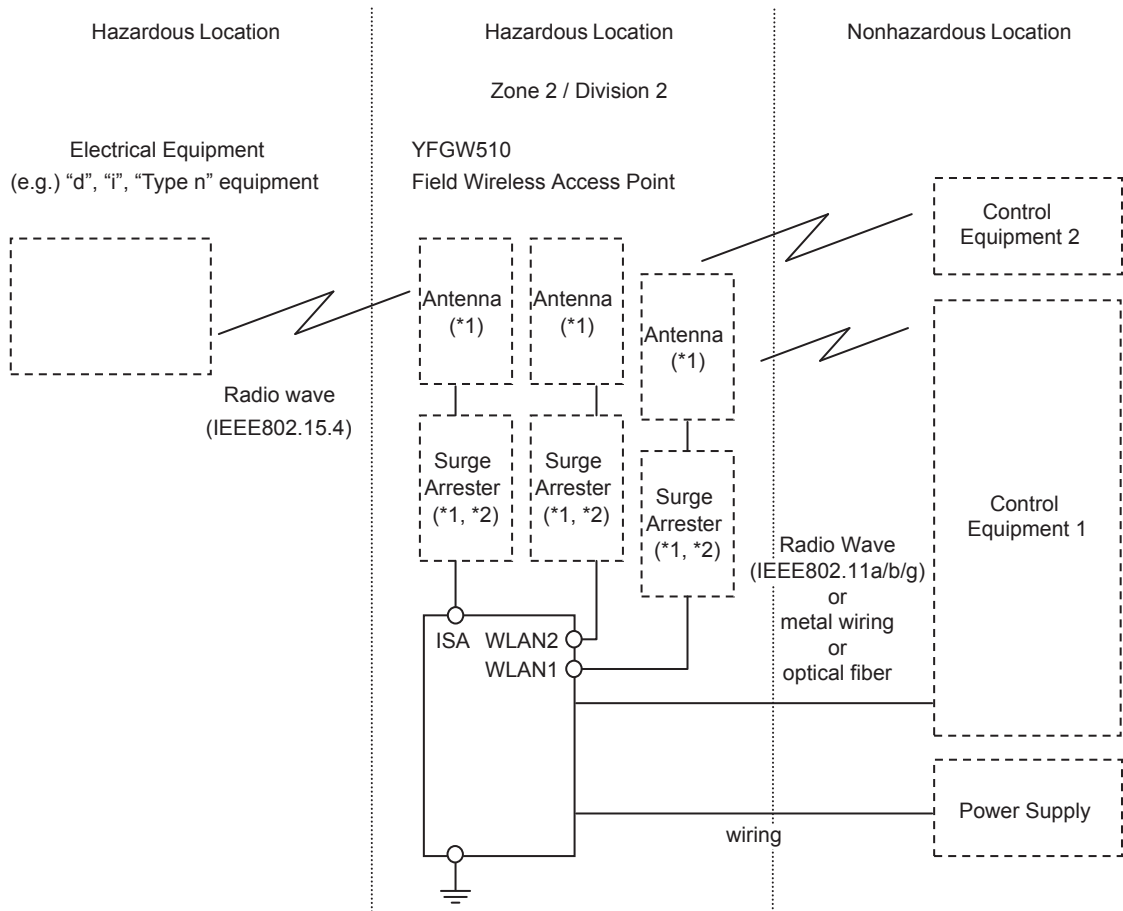
- The type of electrical connection depends on the marking below on YFGW510.

Marking	The type of electrical connection	Note
M	M20 (ISO)	M20 X 1.5
A	ANSI 1/2 NPT	1/2-14 NPT

- This marking is incused at the back side of the electrical connection block.



#### (4) Installation



\*1: These apparatus are simple apparatus.

\*2: Surge Arrester may not be installed.

F07.ai



## WARNING

- POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS
- DANGER POTENTIEL DE CHARGES ÉLECTROSTATIQUES – VOIR INSTRUCTIONS
- DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT
- NE PAS OUVRIR SI UNE ATMOSPHÈRE EXPLOSIVE PEUT ÊTRE PRÉSENTE
- EXPLOSION HAZARD – SUITABILITY OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2
- RISQUE D'EXPLOSION – LA SUBSTITUTION DE COMPOSANTS PEUT RENDRE CE MATÉRIEL INACCEPTABLE POUR LES EMPLACEMENTS DE CLASSE I, DIVISION 2

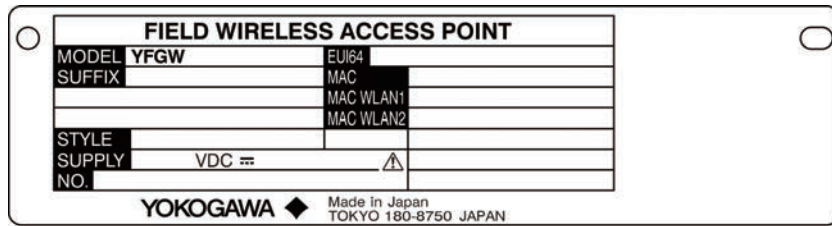


## NOTE

- THIS EQUIPMENT IS SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A, B, C, D OR NON-HAZARDOUS LOCATIONS ONLY.
- The equipment shall be installed in accordance with Canadian Electrical Code Part I or local electrical codes.
- The equipment shall be installed in accordance with the user's manual.
- 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: 1.2 Nm to 1.4 Nm.
- 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 simple apparatus. Li and Ci of the simple apparatus shall be negligible. Temperature class of them shall be determined from  $P_o = 60$  mW for ISA and  $P_o = 64$  mW for WLAN1/WLAN2.
- Cable parameters for the connection of the antenna and/or the surge arrester are:  
 $C_{cable} \leq 4$  nF;  $L_{cable} \leq 20$   $\mu$ H
- The equipment shall be grounded in accordance with Canadian Electrical Code Part I and ANSI/ISA-RP12.06.01, in order to maintain intrinsic safety. Care should be taken to avoid multi-point earthing since the equipment is not galvanically isolated from the power supply.

(5) Name plate

- Main name plate



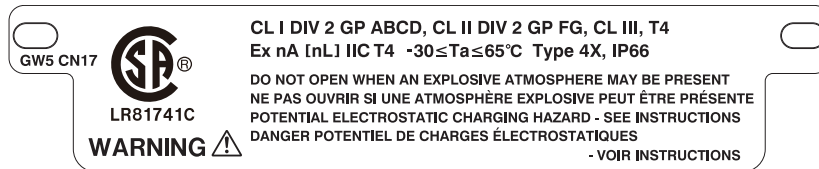
F08.ai

- MODEL: Specified model code.
- SUFFIX: Specified suffix code.
- STYLE: Style 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: Production year and month are shown as yyyy.mm.  
For example, 2013.01 denotes January 2013.

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

- Hazardous class name plate



F09.ai

## ■ ATEX Certification



### WARNING

- DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT.
- POTENTIAL ELECTROSTATIC CHARGING HAZARD.

#### (1) Technical Data

##### a. Caution for ATEX Type n declaration

**Note 1. Model YFGW510 Field Wireless Access Point with optional code /KN27 is applicable for use in hazardous area.**

- Applicable standard: EN 60079-0: 2012+A11:2013, EN 60079-11: 2012, EN 60079-15: 2010
- Marking:  $\text{Ex}$  II 3 G Ex nA [ic] IIC T4 Gc
- Ambient temperature: -30 to 65°C (-22 to 149°F)
- IP code: IP66
- Power supply: 10.0 V DC to 26.4 V DC (Rated voltage: 24.0 V DC)
- Overvoltage Category: I
- Power dissipation:  $\leq 3.5$  W
- RF power:  $\leq 60$  mW (ISA100.11a; IEEE802.15.4)  
 $\leq 64$  mW (Wireless LAN: IEEE802.15.11a/b/g)
- Antenna Connection: The following condition shall be met.

$$(\text{Total Li of simple apparatuses}) + (\text{Total Lc}) \leq 3 \text{ mH}$$

$$(\text{Total Ci of simple apparatuses}) + (\text{Total Cc}) \leq 0.8 \mu\text{F}$$

##### **Note 2. Specific condition of use**

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

##### **Note 3. Installation**



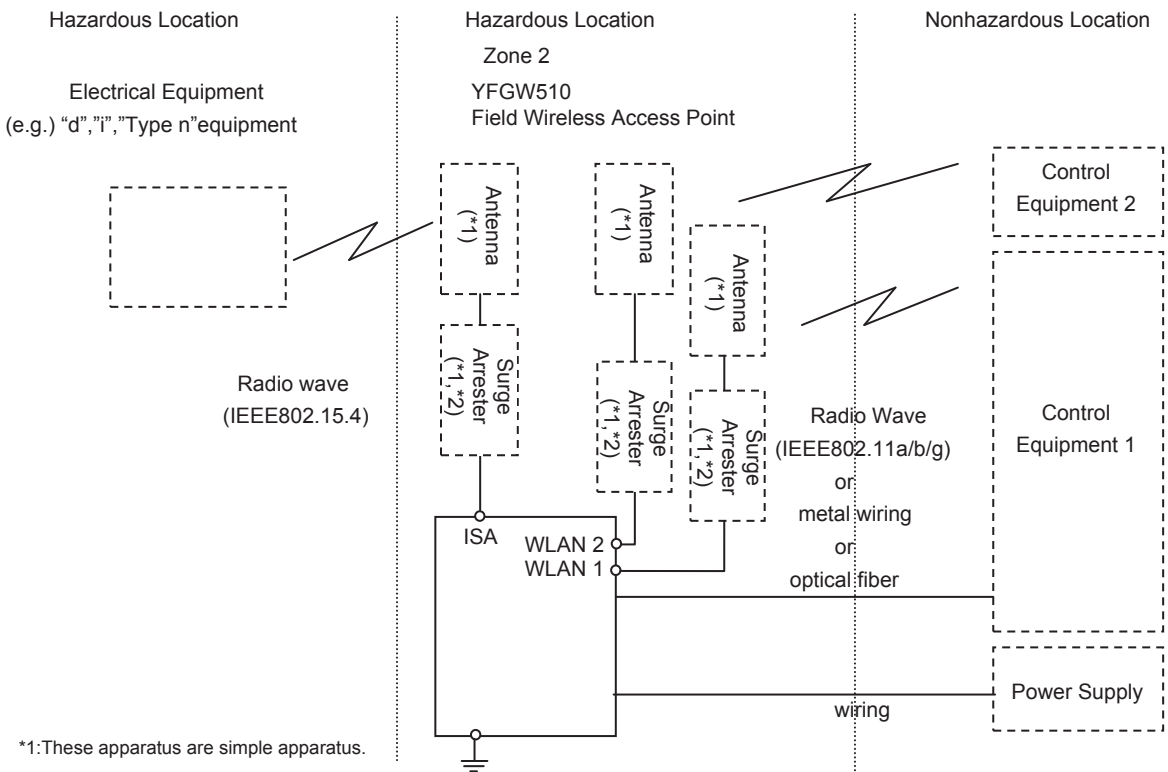
### WARNING

- 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 EN 60079-14 and Local Electrical Code.
- The equipment shall be installed in accordance with the user's manual.
- YFGW510 should be installed in upright position.

- 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: 1.2 Nm to 1.4 Nm.
- 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 EN 60079-11. Li and Ci of the simple apparatus shall be negligible. Temperature class of them shall be determined from  $P_o = 60 \text{ mW}$  for ISA and  $P_o = 64 \text{ mW}$  for WLAN1/WLAN2.
- The following conditions must be met for the connections to ISA, WLAN1, and WLAN2.  
 (total Li of simple apparatuses) + (total Lc)  $\leq 3 \text{ mH}$   
 (total Ci of simple apparatuses) + (total Cc)  $\leq 0.8 \mu\text{F}$
- The equipment shall be earthed in accordance with EN 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.
- YFGW510 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.
- 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.

**Note 4. Control Drawing**



\*1: These apparatus are simple apparatus.

\*2: Surge Arrester may not be installed.



## b. Caution for ATEX Flameproof Certification

**Note 1. Model YFGW510 Field Wireless Access Point with optional code KF27 is applicable for use in hazardous locations.**

- Certification: DEKRA 15ATEX0042 X
- Applicable Standards:  
EN 60079-0:2012+A11:2013, EN 60079-1:2007, EN 60079-1:2014, EN 60079-11:2012
- Type of Protection and Marking:  $\text{Ex}$  II 2 G Ex d [ib] IIC T4 Gb
- Ambient temperature: -40 to 65°C (-40 to 149°F)
- Location: Indoor and Outdoor use
- Power supply: 24 V d.c. (10 to 26.4 V d.c. at the Power Supply terminals)
- Power dissipation:  $\leq 3.5$  W
- Um: 250 V
- RF power:  $\leq 100$  mW (ISA100.11a; IEEE802.15.4)  
 $\leq 130$  mW (Wireless LAN: IEEE802.15.11a/b/g)
- Antenna Connection: The following conditions shall be met.  
(total Li of simple apparatuses) + (total Lc)  $\leq 0.5$  mH  
(total Ci of simple apparatuses) + (total Cc)  $\leq 0.09$   $\mu$ F
- Coating of Enclosure: Epoxy resin coating, Polyurethane resin coating or Polyester powder coating.

### Note 2. Specific condition of use

- Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.
- The flame paths differ from the standard values in EN 60079-1. Repair of the equipment is only allowed when done by the manufacturer or an authorized representative.
- From the safety point of view, the intrinsically safe circuit of the Field Wireless Access Point model YFGW510 shall be assumed to be connected to earth.

### Note 3. Installation

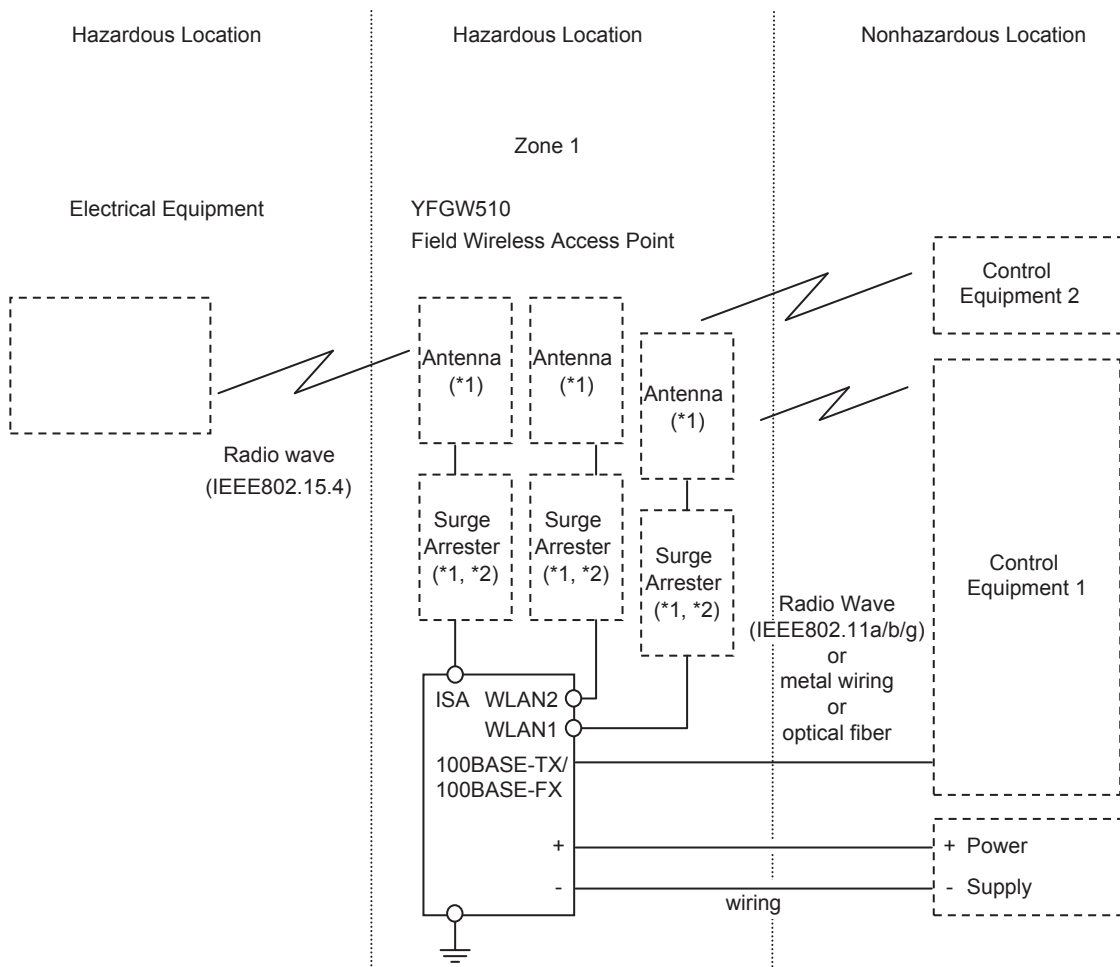


## WARNING

- 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 equipment must be installed in accordance with EN 60079-14 and Local Electrical Codes.
  - The equipment shall be installed in accordance with the user's manual.
  - YFGW510 should be installed in upright position.
  - DO NOT REMOVE COVER WHILE CIRCUIT IS LIVE WHEN A FLAMABLE OR COMBUSTIBLE ATMOSPHERE IS PRESENT.
- 
- The thread type of the cable entries shall be confirmed according to the user's manual.
  - Cable glands and adapters must be of Ex "d" for Ex "d" installations.

- Cable glands, adapters and/or blanking elements shall be installed so as to maintain the specified degree of protection (IP Code) of the equipment.
- The antenna and the surge arrester shall be simple apparatus in accordance with EN 60079-14. Li and Ci of the simple apparatus shall be negligible. Temperature class of them shall be determined from  $P_o = 100 \text{ mW}$  for ISA and  $P_o = 130 \text{ mW}$  for WLAN1/WLAN2.
- The following conditions must be met for the connections to ISA, WLAN1, and WLAN2.  
 (total Li of simple apparatuses) + (total Lc)  $\leq 0.5 \text{ mH}$   
 (total Ci of simple apparatuses) + (total Cc)  $\leq 0.09 \mu\text{F}$
- The equipment shall be earthed in accordance with EN 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.

**Note 4. Control Drawing**



\*1: These apparatus are simple apparatus.

\*2: Surge Arrester may not be installed.

F11.ai



**WARNING**

- AFTER DE-ENERGIZING, DELAY 1 MINUTE BEFORE OPENING
- POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS

**NOTE**

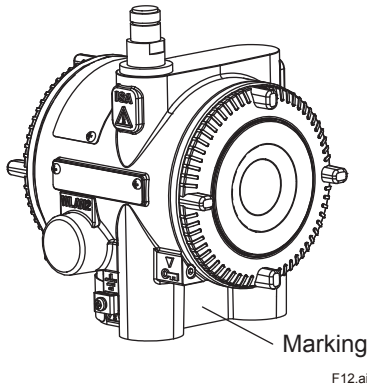
- The equipment must be installed in accordance with EN 60079-14 and local electrical codes.
- The equipment must be installed in accordance with the user's manual.
- The thread type of the cable entries must be confirmed according to the user's manual.
- Screws of power supply terminals must be tightened with specified torque values: 1.2 Nm to 1.4 Nm.
- Cable glands and adapters must be of Ex "d" for Ex "d" installations.
- The antenna and the surge arrester are simple apparatus.
- The temperature class of Antenna and Arrester must be determined in accordance with EN 60079-14, using  $P_o = 100 \text{ mW}$  for ISA antenna connector, and  $P_o = 130 \text{ mW}$  for WLAN1/ WLAN2 antenna connector.
- The following conditions must be met for the connections to ISA, WLAN1, and WLAN2.  
(total  $L_i$  of simple apparatuses) + (total  $L_c$ )  $\leq 0.5 \text{ mH}$   
(total  $C_i$  of simple apparatuses) + (total  $C_c$ )  $\leq 0.09 \mu\text{F}$
- The equipment must be earthed in accordance with EN 60079-14, in order to maintain intrinsic safety. A cable lug or a similar device must be used to maintain the secureness of the connection to the equipment. Care must be taken to avoid multi-point earthing since the equipment is not galvanically isolated from the power supply.
- In order to prevent the earthing 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.
- The antenna, arrester provided with YFGW510 are simple apparatus in accordance with EN 60079-11.
  - They are passive components and their internal inductance and capacitance are negligible regarding intrinsically safe installation.
  - They do not contain any voltage and/or current-limiting devices.
  - They do not contain any means of increasing voltage or current, such as DC-DC converters.
  - They are not separated from the earth and must be earthed together with YFGW510 in accordance with EN 60079-14.
  - They have metallic enclosures and no risk for electrostatic discharges.
  - As for the temperature class, they are classified as T4 for  $T_a \leq 65 \text{ }^\circ\text{C}$ , since the power applied to them is  $\leq 130 \text{ mW}$  and their surface area is  $> 20 \text{ mm}^2$ .
  - $L_c$  of the provided cable is  $0.21 \mu\text{H/m}$ .
  - $C_c$  of the provided cable is  $83 \text{ pF/m}$ .

## (2) Electrical Connection

- The type of electrical connection depends on the marking below on YFGW510.

Marking	The type of electrical connection	Note
M	M20 (ISO)	M20 X 1.5
A or N	ANSI 1/2 NPT	1/2-14 NPT

This marking is incused at the back side of the electrical connection block.



## (3) Operation



### WARNING

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

- Electrostatic charge may cause an explosion hazard.
- Avoid any actions that cause the generation of electrostatic charge, such as rubbing with dry cloth on coating face of product.

## (4) Maintenance and Repair



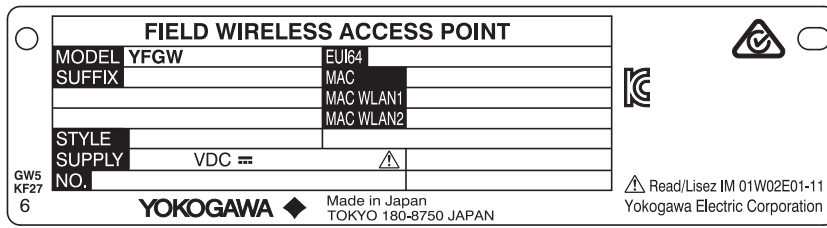
### WARNING

- After De-Energizing, delay 1 minute before opening.
- 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 the ingress of water and dust.

**(5) Name Plate**

- Main name plate for Frameproof type and Type n

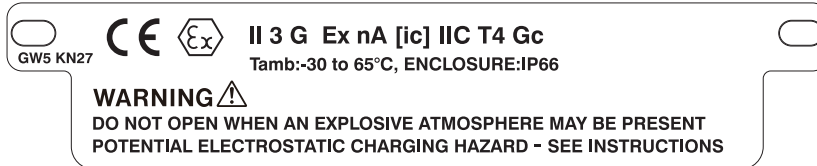


F13.ai

- MODEL: Specified model code.
- SUFFIX: Specified suffix code.
- STYLE: Style 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.

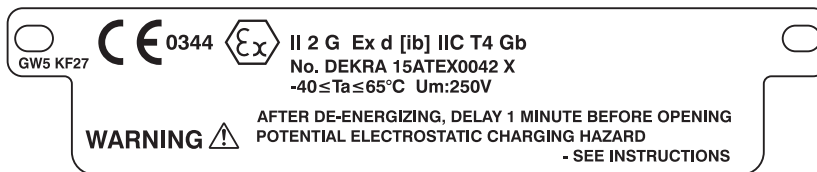
\*1: Production year and month are shown as yyyy.mm.  
For example, 2013.01 denotes January 2013.  
\*2: "180-8750" is a zip code which represents the following address.  
2-9-32 Nakacho, Musashino-shi, Tokyo Japan

- Hazardous class name plate for Type n



F14.ai

- Hazardous class name plate for Frameproof type



F15.ai

## ■ IECEx Certification

### (1) Technical Data

#### a. Caution for IECEx Type n Certification

**Note 1. Model YFGW510 Field Wireless Access Point with optional code SN27 is applicable for use in hazardous area.**

- No. IECEx DEK 14.0028
- Applicable standards: IEC60079-0:2011, IEC60079-11:2011, IEC60079-15:2010
- Type of Protection and Marking code: Ex nA [ic] IIC T4 Gc
- Ambient Temperature: -30 °C to +65 °C
- Enclosure: IP66
- Power Supply: 24 V DC (10 to 26.4 V DC at the Power Supply terminals)
- Overvoltage Category: I
- Power dissipation:  $\leq 3.5$  W
- RF power:  $\leq 60$  mW (ISA100.11a; IEEE802.15.4)  
 $\leq 64$  mW (Wireless LAN: IEEE802.11a/b/g)
- Antenna Connection: The following condition shall be met.  
(Total Li of simple apparatuses) + (Total Lc)  $\leq 3$  mH  
(Total Ci of simple apparatuses) + (Total Cc)  $\leq 0.8$   $\mu$ F

#### **Note 2. Specific condition of use**

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

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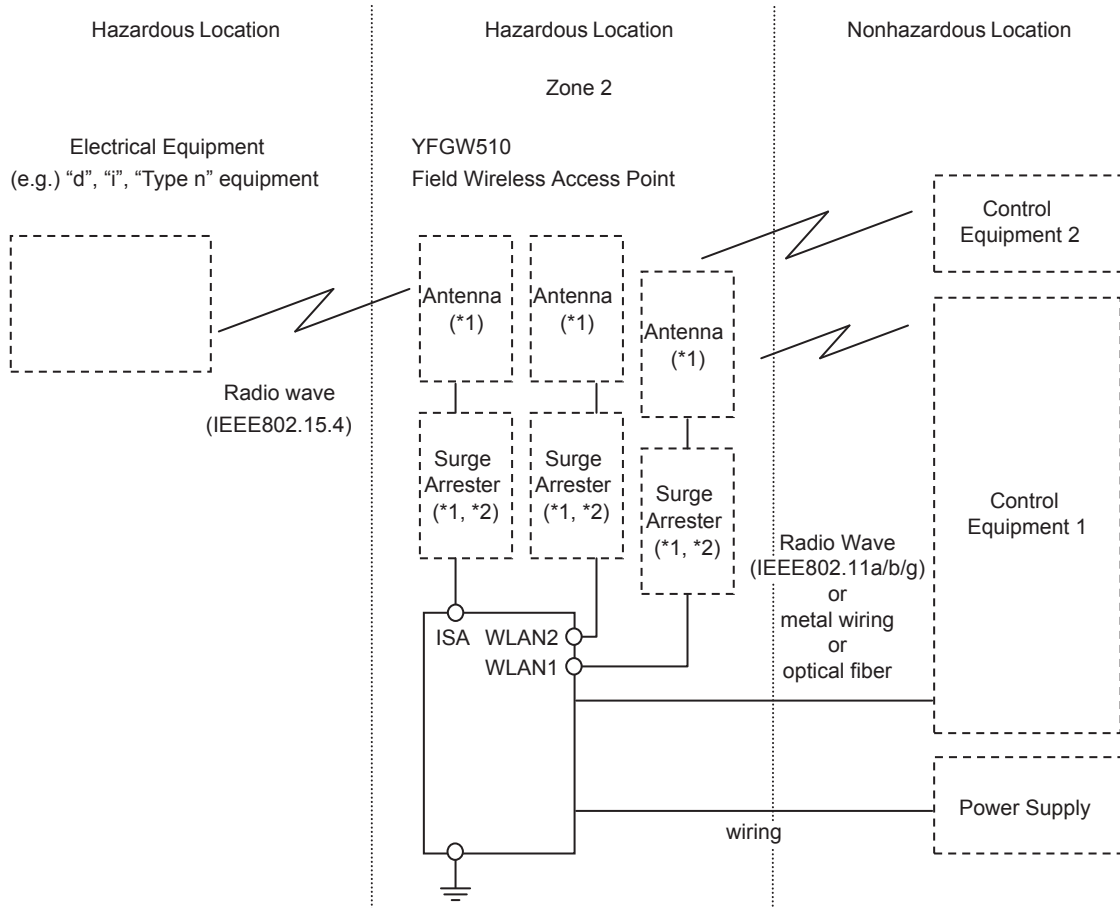
**Note 3. Installation****WARNING**

- POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS
  - DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT
- 

**NOTE**

- The equipment must be installed in accordance with IEC 60079-14 and local electrical codes.
  - The equipment must be installed in accordance with the user's manual.
  - The thread type of the cable entries must be confirmed according to the user's manual.
  - Screws of power supply terminals must be tightened with specified torque values: 1.2 Nm to 1.4 Nm.
  - Cable glands, adapters and/or blanking elements shall be of type "n", type "e" or type "d" and must 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 must be protected from exposure of light.
  - The antenna and the surge arrester are simple apparatus.
  - The temperature class of Antenna and Arrester must be determined in accordance with IEC 60079-14, using  $P_o = 60$  mW for ISA antenna connector, and  $P_o = 64$  mW for WLAN1/ WLAN2 antenna connector.
  - The following conditions must be met for the connections to ISA, WLAN1 and WLAN2:  
(Total Li of simple apparatuses) + (Total Lc)  $\leq$  3 mH  
(Total Ci of simple apparatuses) + (Total Cc)  $\leq$  0.8  $\mu$ F
  - The equipment must 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 earth connection. Care must be taken to avoid multi-point earthing since the equipment is not galvanically isolated from the power supply.
-

**Note 4. Control Drawing**



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

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**b. Caution for IECEx Flameproof Certification**

**Note 1. Model YFGW510 Field Wireless Access Point with optional code SF27 is applicable for use in hazardous locations.**

- Certification: IECEx DEK 15.0021 X
- Applicable Standards: IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-11:2011
- Type of Protection and Marking code : Ex d [ib] IIC T4 Gb
- Ambient Temperature: -40 to 65°C
- Temperature Class : T4
- Location: Indoor and Outdoor use
- Power supply: 24 V d.c. (10 to 26.4 V d.c. at the Power Supply terminals)
- Power dissipation: ≤ 3.5 W
- Um: 250 V
- RF power: ≤ 100 mW (ISA100.11a; IEEE802.15.4)  
 ≤ 130 mW (Wireless LAN: IEEE802.15.11a/b/g)



- Antenna Connection: The following conditions shall be met.  
(total Li of simple apparatuses) + (total Lc)  $\leq$  0.5 mH  
(total Ci of simple apparatuses) + (total Cc)  $\leq$  0.09  $\mu$ F
- Coating of Enclosure: Epoxy resin coating, Polyurethane resin coating or Polyester powder coating.

### Note 2. Specific condition of use

- Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.
- The flame paths differ from the standard values in IEC 60079-1. Repair of the equipment is only allowed when done by the manufacturer or an authorized representative.
- From the safety point of view, the intrinsically safe circuit of the Field Wireless Access Point model YFGW510 shall be assumed to be connected to earth.

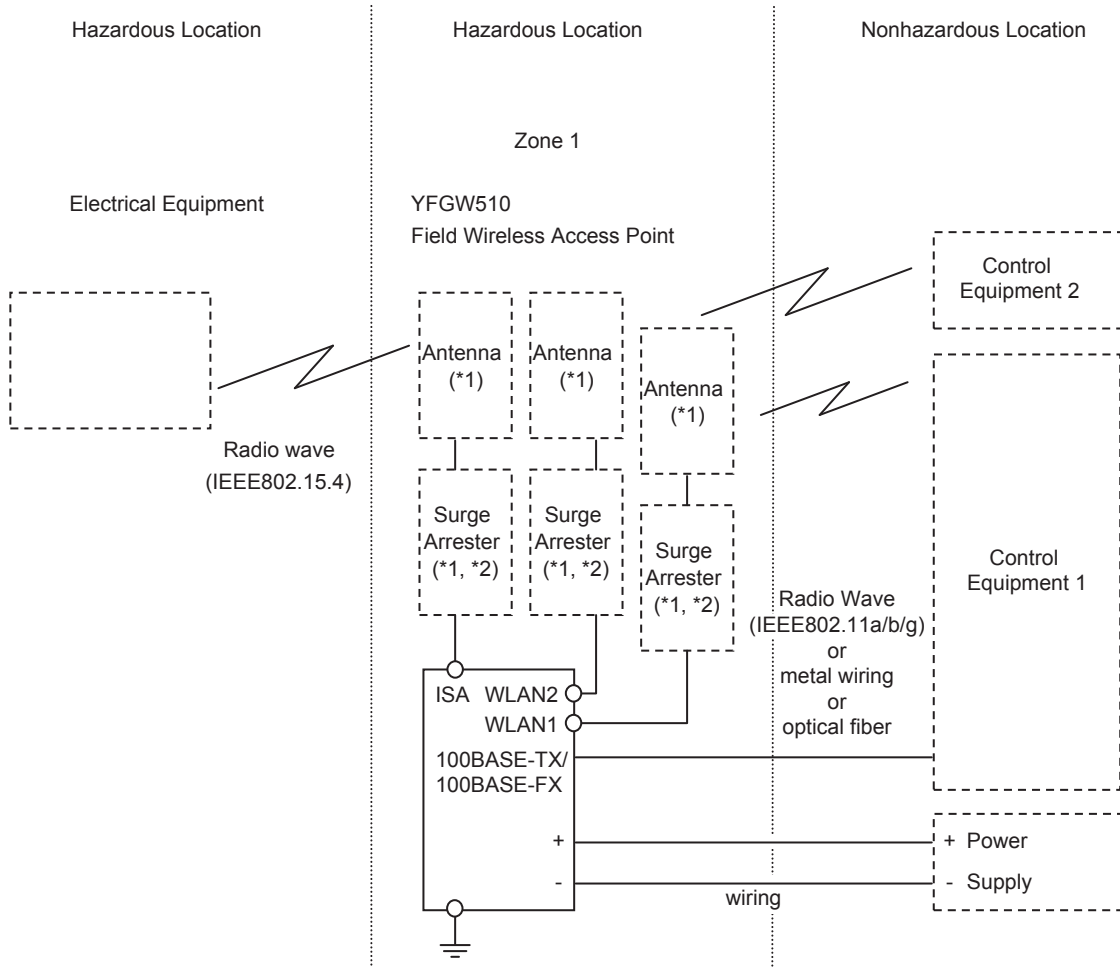
### Note 3. Installation



## 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 equipment must be installed in accordance with IEC 60079-14 and Local Electrical Codes.
  - The equipment shall be installed in accordance with the user's manual.
  - YFGW510 should be installed in upright position.
  - DO NOT REMOVE COVER WHILE CIRCUIT IS LIVE WHEN A FLAMABLE OR COMBUSTIBLE ATMOSPHERE IS PRESENT.
- 
- The thread type of the cable entries shall be confirmed according to the "Electrical Connections" of this manual.
  - Cable glands and adapters must be of Ex "d" for Ex "d" installations.
  - Cable glands, adapters and/or blanking elements shall be installed so as to maintain the specified degree of protection (IP Code) of the equipment.
  - The antenna and the surge arrester shall be simple apparatus in accordance with IEC 60079-14. Li and Ci of the simple apparatus shall be negligible. Temperature class of them shall be determined from Po = 100 mW for ISA and Po = 130 mW for WLAN1/WLAN2.
  - The following conditions must be met for the connections to ISA, WLAN1, and WLAN2.  
(total Li of simple apparatuses) + (total Lc)  $\leq$  0.5 mH  
(total Ci of simple apparatuses) + (total Cc)  $\leq$  0.09  $\mu$ F
  - 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.

**Note 4. Control Drawing**



\*1: These apparatus are simple apparatus.

\*2: Surge Arrester may not be installed.

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**WARNING**

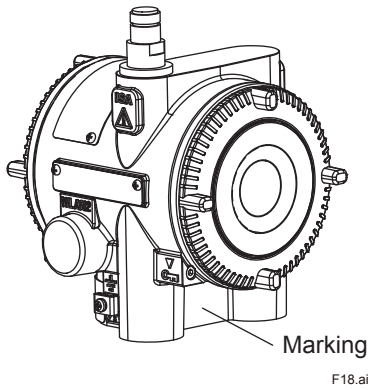
- AFTER DE-ENERGIZING, DELAY 1 MINUTE BEFORE OPENING
- POTENTIAL ELECTROSTATIC CHARGING HAZARD

**(2) Electrical Connection**

- The type of electrical connection depends on the marking below on YFGW510.

Marking	The type of electrical connection	Note
M	M20 (ISO)	M20 X 1.5
A or N	ANSI 1/2 NPT	1/2-14 NPT

This marking is incused at the back side of the electrical connection block.



### (3) Operation



## WARNING

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

- Electrostatic charge may cause an explosion hazard.
- Avoid any actions that cause the generation of electrostatic charge, such as rubbing with dry cloth on coating face of product.

### (4) Maintenance and Repair



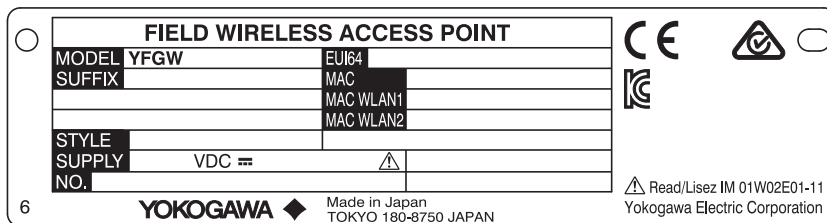
## WARNING

- After De-Energizing, delay 1 minute before opening.
- The instrument modification or parts replacement by other than authorized Representative of Yokogawa Electric Corporation is prohibited and will void the certification.

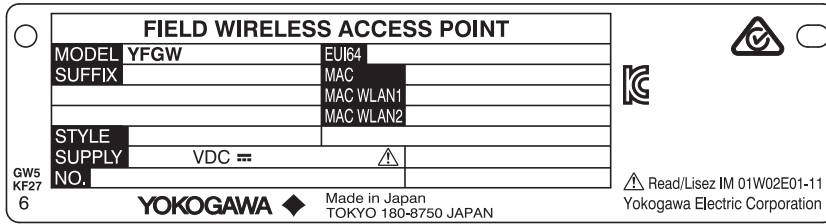
When opening the cover, the enclosure must be dry and clean to prevent from ingress water or dust.

### (5) Name plate

- Main name plate for Type n



- Main name plate for Frameproof type

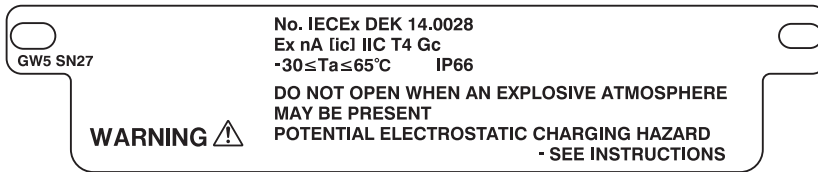


F20.ai

- MODEL: Specified model code.
- SUFFIX: Specified suffix code.
- STYLE: Style 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.

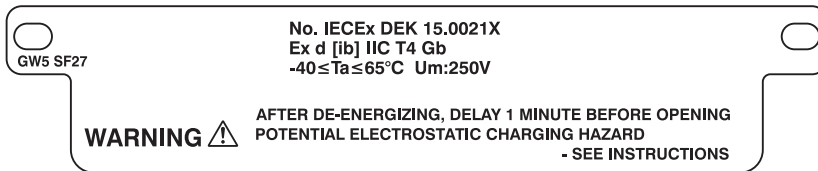
\*1: Production year and month are shown as yyyy.mm.  
For example, 2015.01 denotes January 2015.  
\*2: "180-8750" is a zip code which represents the following address.  
2-9-32 Nakacho, Musashino-shi, Tokyo Japan

- Hazardous class name plate for Type n



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- Hazardous class name plate for Frameproof type



F22.ai

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## ■ 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 supply cable is a shielded cable, connect the grounding cable to the ground terminal next to the power supply terminal.

For details of the connection, see C5.1 Power Supply Cable Connection of IM 01W02E01-01EN.

### 2) External grounding terminal

To connect the grounding cable to YFGW510 directly, use the ground terminal on the right side of the housing.

For details of the connection, see C5.2 Grounding Cable Connection of IM 01W02E01-01EN.

# How to Use Online Manual

It is necessary to install Adobe Acrobat Reader to read the instruction manual (YFGW510 Field Wireless Access Point: IM 01W02E01-01EN).

Install the following Adobe Reader by the administrator authority.

- Adobe Reader 9.3 or later

**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:\YFGW510\Document\en\IM 01W02E01-01EN.pdf

## Preparation to Use YFGW510 Attached Software

To use YFGW510 Attached Software, any of the following operating systems must have been installed in the PC.

Windows operating system	Type
Windows 10 Pro*1	32/64 bit
Windows 8.1 Pro Update*2	32/64 bit
Windows 7 Professional Service Pack 1*2	32/64 bit
Windows Server 2012 R2 Standard Update*2	64 bit
Windows Server 2008 R2 Enterprise Service Pack 1*2	64 bit
Windows Server 2008 Enterprise Service Pack 2*2	32 bit

\*1: Microsoft .NET Framework 4.6 is required.

\*2: Microsoft .NET Framework 4.5.2 is required.

For details on how to install YFGW510 Attached Software, see User's Manual (IM 01W02E01-01EN)

The details of attached DVD-ROM, refer to the Readme\_en.txt

DVD-ROM Drive:\YFGW510\Readme\_en.txt

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DVD-ROM Drive:\YFGW510\Open Source Software\License\_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 YFGW510 hardware.

- IM 01W02E01-11EN: YFGW510 Field Wireless Access Point Read Me First

The following online user's manual is stored in the attached DVD-ROM for YFGW510.

- IM 01W02E01-01EN: YFGW510 Field Wireless Access Point



# Information of User's Manual Revision

**Material Name:** YFGW510 Field Wireless Access Point Read Me First

**Material Number:** IM 01W02E01-11EN

Edition	Date	Page	Revised Item
1st Edition	August 2012		New Issue
2nd Edition	June 2013		Add ATEX Type n declaration
3rd Edition	March 2014		Add FM Nonincendive Approval and CSA Non-Incendive Certification
4th Edition	February 2015		Add IECEX Certification
5th Edition	March 2016		Document title is changed. Add ATEX/IECEX Flameproof Certification.
6th Edition	March 2017	2 5 12 13, 24 24 29 30 39	Update "Introduction" Update "Safe Use of This Product" Add RoHS description Update ATEX Type n declaration Update Control Drawing Update name plates Fix typo of IECEX certification Add "Patent Notice"
7th Edition	June 2017	8 29 35	Update regulatory compliance description (RE directive)
8th Edition	July 2017	13, 25	Update ATEX flameproof certification
9th Edition	February 2018	38, 40	Update directory of DVD-ROM

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# YFGW510 Software License Agreement

IMPORTANT - PLEASE READ CAREFULLY BEFORE INSTALLING OR USING:  
THIS AGREEMENT IS A LEGAL AGREEMENT BETWEEN YOU AND YOKOGAWA ELECTRIC CORPORATION AND/OR ITS SUBSIDIARIES (COLLECTIVELY, "YOKOGAWA") FOR YOU TO INSTALL OR USE YOKOGAWA YFGW510 SOFTWARE PRODUCT. BY VIEWING OR OTHERWISE USING THE SOFTWARE PRODUCT THROUGH A STANDARD WEB BROWSER OF CERTAIN OPERATING SYSTEMS, YOU AGREE TO BE BOUND BY THE TERMS AND CONDITIONS OF THIS AGREEMENT. IF YOU DO NOT AGREE, DO NOT USE THE SOFTWARE PRODUCT AND PROMPTLY CONTACT YOUR LOCAL DISTRIBUTOR.  
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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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  - 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;
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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.

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#### **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.