

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.

Contents

Introduction.....2

Safety Precautions .....4

Explosion Proof Specifications .....11

    FM Approval ..... 12

        Control Drawing (Doc. No. NFM027-A14) ..... 14

    CSA Certification..... 16

    ATEX ..... 20

    IECEX Certification..... 24

    Ground Cable Connection ..... 27

How to Use Online Manual ..... 28

Preparation to Use YFGW510 Attached Software ..... 28

Copyright and Trademark Notices ..... 29

Open Source Software ..... 29

About User's Manual..... 30

Information of User's Manual Revision ..... 30

YFGW510 Software License Agreement..... 31

---

# Introduction

## ■ 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.

<p><b>GB</b> 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.</p>	<p><b>SK</b> 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.</p>
<p><b>DK</b> 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.</p>	<p><b>CZ</b> 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.</p>
<p><b>I</b> 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.</p>	<p><b>LT</b> Visos gaminio ATEX Ex kategorijos Eksploatavimo instrukcijos teikiami anglų, vokiečių ir prancūzų kalbomis. Norėdami gauti prietaisų Ex dokumentaciją kitomis kalbomis susisiekiate su artimiausiu bendrovės "Yokogawa" biuru arba atstovu.</p>
<p><b>E</b> 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.</p>	<p><b>LV</b> 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 Yokogawa (Yokogawa) tuvāko ofisu vai pārstāvi.</p>
<p><b>NL</b> 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.</p>	<p><b>EST</b> Kõik ATEX Ex toodete kasutamishendid on esitatud inglise, saksa ja prantsuse keeles. Ex seadmete muukeelse dokumentatsiooni saamiseks pöörduge lähima Yokogawa (Yokogawa) kontori või esindaja poole.</p>
<p><b>SF</b> 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>	<p><b>PL</b> Wszystkie instrukcje obsługi dla urządzeń w wykonaniu przeciwybuchowym 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.</p>
<p><b>P</b> 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.</p>	<p><b>SLO</b> 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.</p>
<p><b>F</b> 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.</p>	<p><b>H</b> 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.</p>
<p><b>D</b> 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.</p>	<p><b>BG</b> 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.</p>
<p><b>S</b> 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.</p>	<p><b>RO</b> Toate manualele de instruciuni 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.</p>
<p><b>GR</b> 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.</p>	<p><b>M</b> Il-manwali kollha ta' l-istruzzjonijiet għal prodotti marbuta ma' ATEX Ex huma disponibbli bl-Ingliż, bil-Germaniż u bil-Franċiż. Jekk tkun teħtieġ struzzjonijiet marbuta ma' Ex fil-lingwa lokali tiegħek, għandek tikkuntattja lill-eqreb rappreżentant jew uffīċċju ta' Yokogawa.</p>

F01.ai

---

# 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-proof type products and fail to return them to their original state, the explosion-proof 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.

---



### WARNING

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

---



### 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

## ■ 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.

## ■ 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 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.

## ■ Cautions for Safely Applying the Device

### ● EMC Conformity Standards

EN61326-1 Class A, Table 2 (For use in industrial locations), EN55011 Class A, Group 1, EN61000-6-2

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.

### ● Low Voltage Directive

Applicable standard: EN61010-1

(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.

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

### ● Regulatory Compliance for Radio and Telecommunication

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

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

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.field-wireless.com/>

Destination countries are as follows:

AT	BE	BG	CY	CZ	DK
EE	FI	FR	DE	GR	HU
IE	IT	LV	LT	LU	MT
NL	PL	PT	RO	SK	SI
ES	SE	GB	IS	LI	NO
CH	HR				

#### IEEE 802.11a Restrictions:

YFGW510 is for indoor use only when using channels 36, 40, 44, 48, 52, 56, 60, or 64 (5150–5350 MHz).

### ● 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.

#### 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 20cm 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 then 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 discontinues 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, 50Ω	
Sleeve	2.4GHz/5GHz	2.14dBi, 50Ω	8999A-WIC007/008 Only
Collinear	2.4GHz	9dBi, 50Ω	

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, 50Ω	
Sleeve	2.4GHz/5GHz	2.14dBi, 50Ω	8999A-WIC007/008 Only
Collinear	2.4GHz	9dBi, 50Ω	

#### **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 20cm 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.

# Explosion Proof Specifications



## CAUTION

This instrument has been tested and certified as being explosion proof. 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 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: ≤ 3000m 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 60079-0:2009, EN 60079-0:2012, EN 60079-11:2012, EN 60079-15:2010 II 3 G Ex nA [ic] IIC T4 Gc Enclosure: IP66, Um: 250V Amb. Temp. (Tamb): -30 to 65°C (-22 to 149°F)	KN27
	Flameproof Approval	-
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
	Flameproof Approval	-

## ■ 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 3000m
- 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

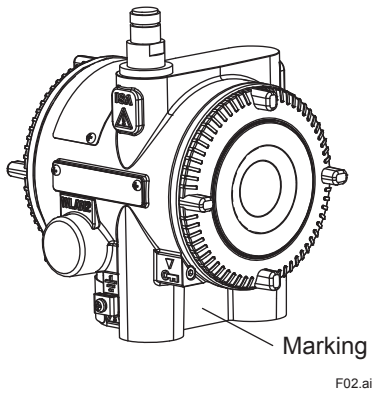
- The installation of the devices should be carried out by the engineers or other professional personnel of the related expertise. The installation should not be carried out by operators or other unprofessional personnel.
- The equipment shall be installed in accordance with the user's manual and following 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

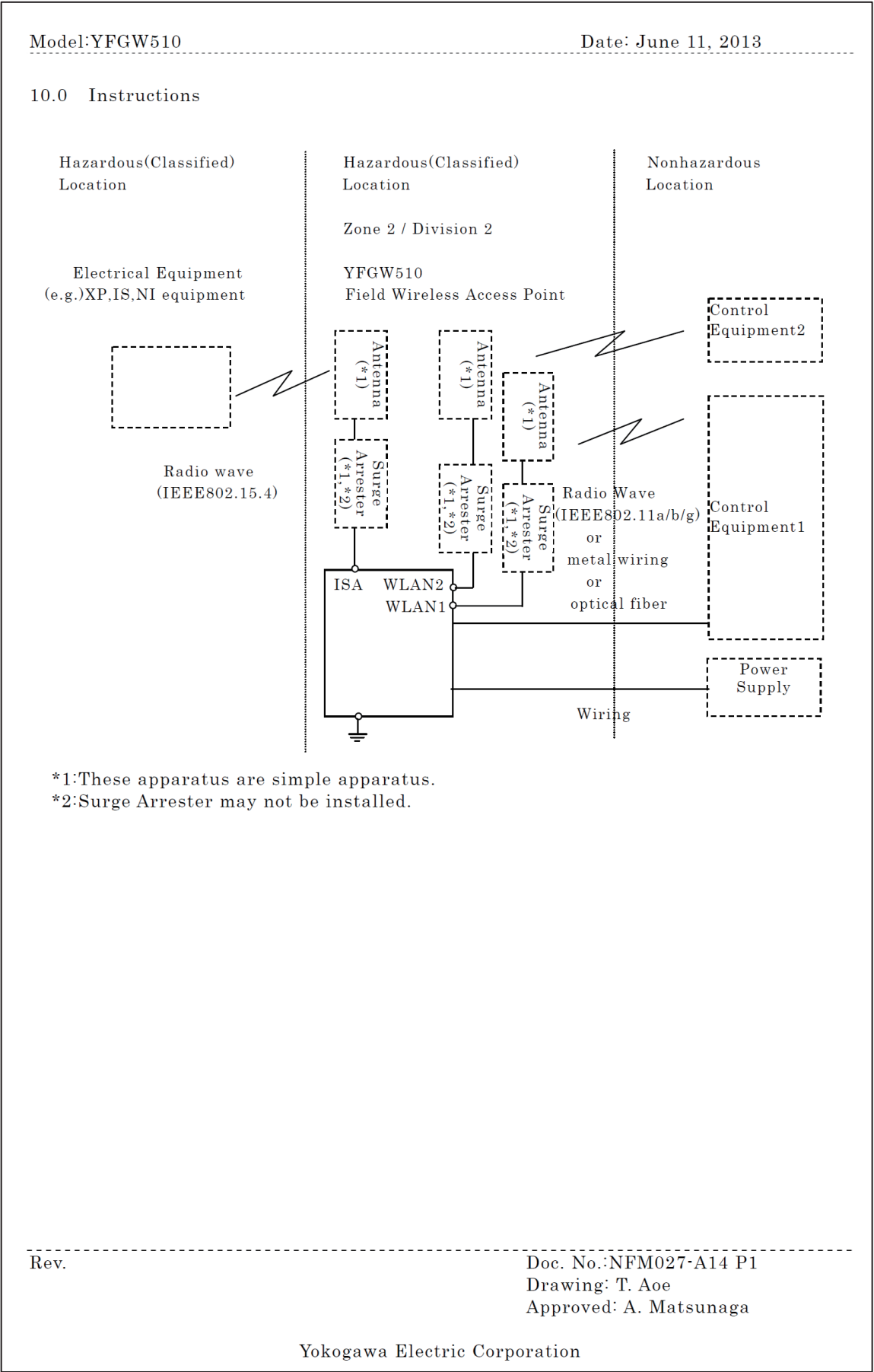
- The type of electrical connection depends on the marking below on YFGW510.

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



F03.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:  
Ccable = 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

F04.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: ≤ 3000m
- 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

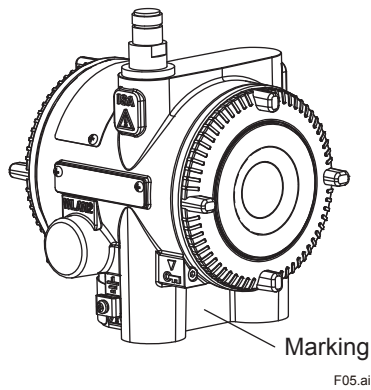
Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.

#### (3) Electrical Connection

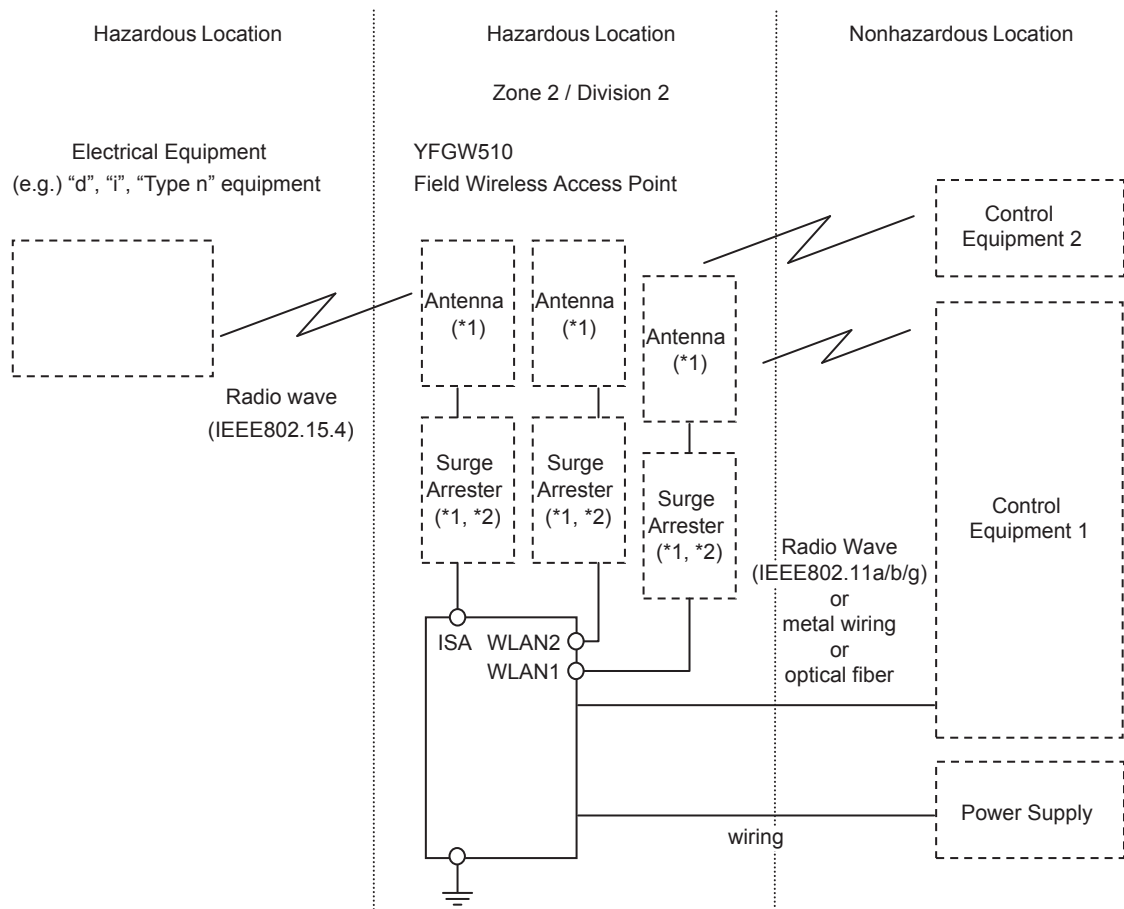
- The type of electrical connection depends on the marking below on YFGW510.

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.

F06.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  $P_o = 60 \text{ mW}$  for ISA and  $P_o = 64 \text{ mW}$  for WLAN1/WLAN2.
- Cable parameters for the connection of the antenna and/or the surge arrester are:  
 $C_{\text{cable}} \leq 4 \text{ nF}$ ;  $L_{\text{cable}} \leq 20 \text{ } \mu\text{H}$
- 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

FIELD WIRELESS ACCESS POINT			
MODEL	YFGW	EUI64	
SUFFIX		MAC	
		MAC WLAN1	
		MAC WLAN2	
STYLE			
SUPPLY	VDC ≡		⚠
NO.			
YOKOGAWA ◆		Made in Japan TOKYO 180-8750 JAPAN	

F07.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

GW5 CN17	 <b>LR81741C</b> <b>WARNING</b> ⚠	<b>CL I DIV 2 GP ABCD, CL II DIV 2 GP FG, CL III, T4</b> <b>Ex nA [nL] IIC T4 -30≤Ta≤65°C Type 4X, IP66</b> DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT NE PAS OUVRIR SI UNE ATMOSPHERE EXPLOSIVE PEUT ÊTRE PRÉSENTE POTENTIAL ELECTROSTATIC CHARGING HAZARD - SEE INSTRUCTIONS DANGER POTENTIEL DE CHARGES ÉLECTROSTATIQUES - VOIR INSTRUCTIONS

F08.ai

## ■ ATEX



### WARNING

- Potential electrostatic charging hazard – see instructions.
- Do not open when an explosive atmosphere may be present.

#### Caution for ATEX Type n declaration

##### (1) Technical Data

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

- Applicable standard: EN60079-0: 2009, EN60079-0: 2012, EN60079-11: 2012, EN60079-15: 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
- Um: 250 V
- Power dissipation:  $\leq 3.5 \text{ W}$
- RF power:  $\leq 60 \text{ mW}$  (ISA100.11a; IEEE802.15.4)  
 $\leq 64 \text{ mW}$  (Wireless LAN: IEEE802.15.11a/b/g)
- Cable parameters for antenna connection: Cc: 4 nF, Lc: 20  $\mu\text{H}$

#### Note 2. Specific condition of use

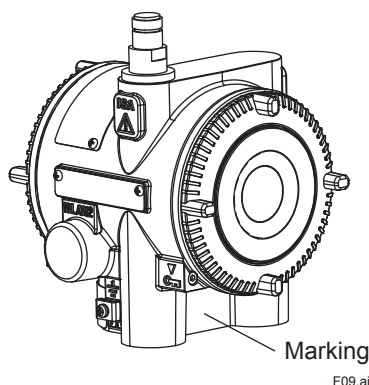
Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.

#### Note 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.



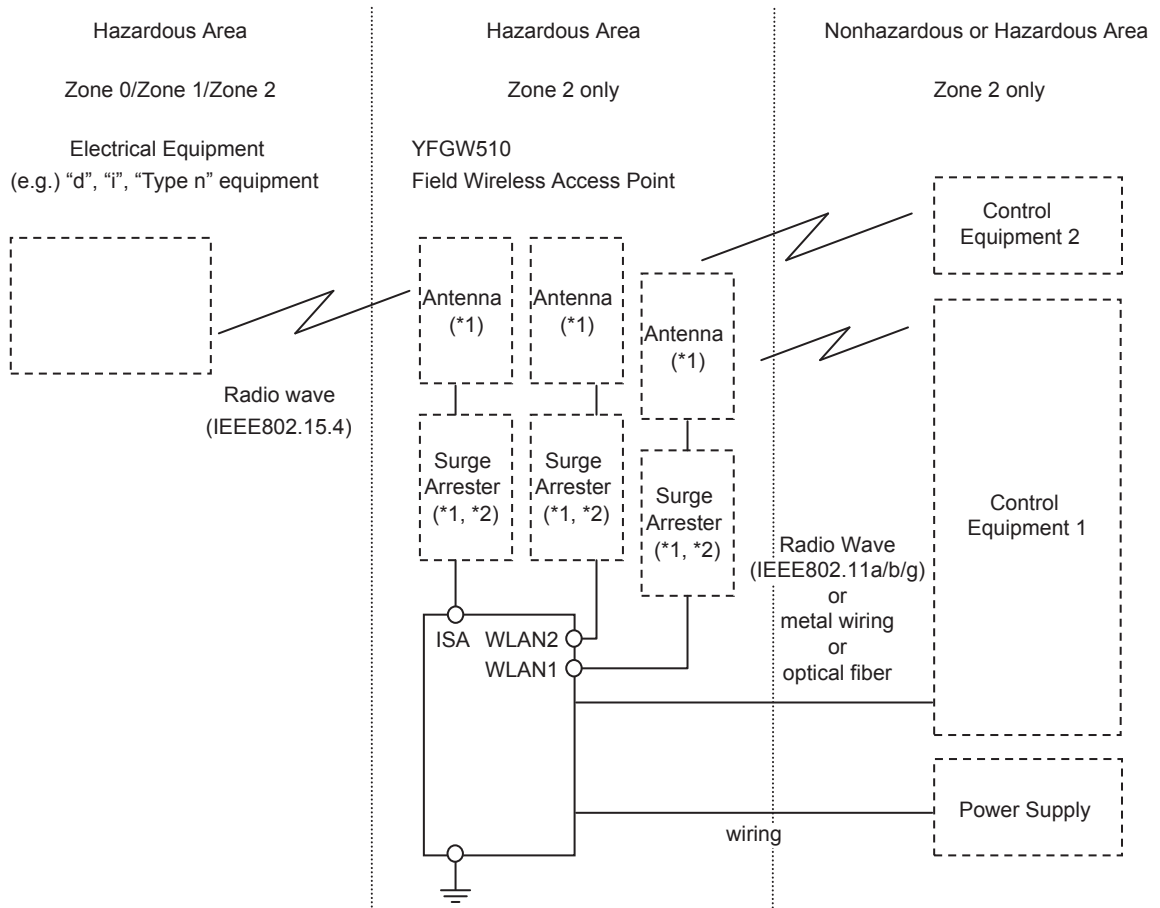
#### Note 4. Installation



### 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.
  - 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 EN60079-11. 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 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.
  - 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.

## [Control drawing]



\*1: These apparatus are simple apparatus.

\*2: Surge Arrester may not be installed.

F10.ai

## (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 the ingress of water and dust.

**(4) Name Plate**

- Main name plate

FIELD WIRELESS ACCESS POINT			
MODEL	YFGW	EUI64	
SUFFIX		MAC	
		MAC WLAN1	
		MAC WLAN2	
STYLE			
SUPPLY	VDC ≡		
NO.			

**YOKOGAWA** ◆ Made in Japan  
TOKYO 180-8750 JAPAN



F11.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

KN27	 II 3 G	Ex nA [ic] IIC T4 Gc Tamb:-30 to 65°C, ENCLOSURE:IP66, Um:250V
<b>WARNING</b> 		DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT POTENTIAL ELECTROSTATIC CHARGING HAZARD - SEE INSTRUCTIONS

F12.ai

## ■ IECEx Certification

### Caution for IECEx Type n Certification

#### (1) Technical Data

**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: ≤ 3.5 W
- RF power: ≤ 60 mW (ISA100.11a; IEEE802.15.4)  
≤ 64 mW (Wireless LAN: IEEE802.11a/b/g)
- Antenna Connection: The following condition shall be met.  
(Total Li of simple apparatuses) + (Total Lc) ≤ 3 mH  
(Total Ci of simple apparatuses) + (Total Cc) ≤ 0.8 μH

#### (2) Specific condition of use

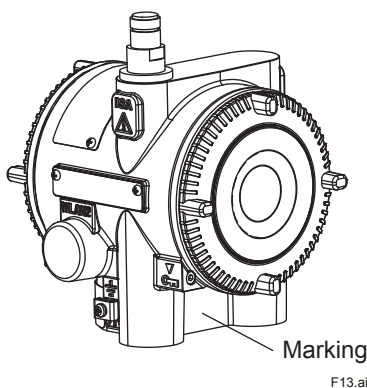
Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.

#### (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
N	1/2NPT	1/2 NPT

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



#### (4) Installation



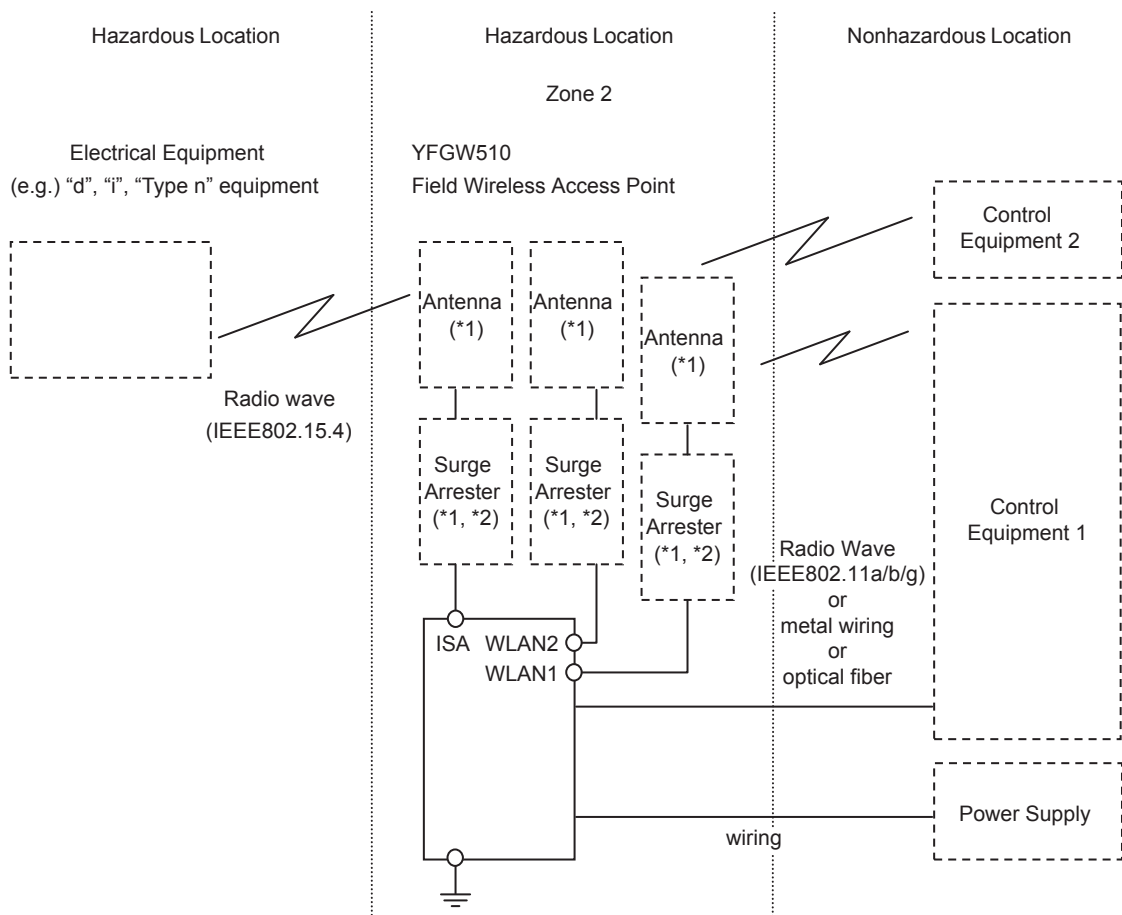
### WARNING

- 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  $P_o = 60 \text{ mW}$  for ISA antenna connector, and  $P_o = 64 \text{ mW}$  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)  $\leq 3 \text{ mH}$   
(Total Ci of simple apparatuses) + (Total Cc)  $\leq 0.8 \mu\text{F}$
- 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.



\*1: These apparatus are simple apparatus.

\*2: Surge Arrester may not be installed.

F14.ai

## (5) Maintenance and Repair



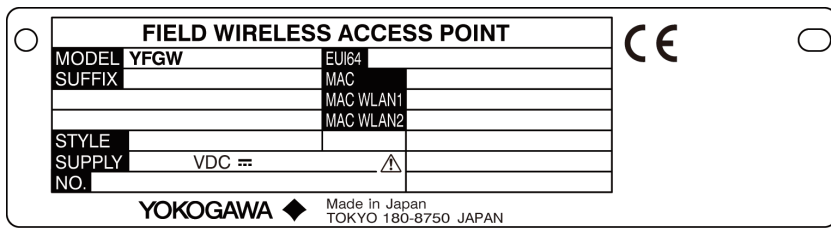
### WARNING

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

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

## (6) Name plate

- Main name plate



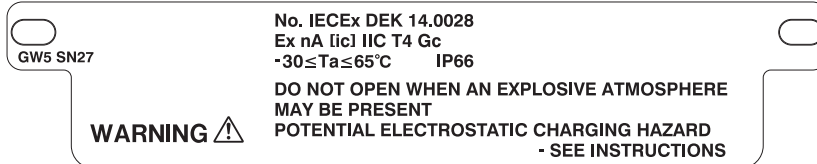
F15.ai

- 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



F16.ai

## ■ 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:\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
Windows 7 Professional SP1 (32-bit)/(64-bit)
Windows Vista Business Edition SP2 (32-bit)
Windows Server 2008 Enterprise SP2 (32-bit)
Windows Server 2008 R2 Enterprise (64-bit)

Microsoft .NET Framework 3.5 Service Pack 1 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:\Readme\_en.txt

---

# Copyright and Trademark Notices

## ■ All Rights Reserved

The copyrights of the media and this manual are reserved.

No part of the manual may be transferred, sold, distributed (including delivery via a commercial PC network or the like), or registered or recorded on video tapes or other media.

## ■ Trademark Acknowledgments

- CENTUM, PRM, FieldMate, STARDOM and VigilantPlant are either trademarks or registered trademarks of Yokogawa.
- Microsoft, Windows, Windows Server, Windows Vista, Windows 7, Visual Basic, VisualC++, VisualC#, VisualStudio and Microsoft .NET Framework 3.5 are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Adobe, Acrobat and Acrobat Reader are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.
- Ethernet is a registered trademark of XEROX Corporation.
- All other company and product names mentioned in this User's Manual are trademarks or registered trademarks of their respective companies.
- We do not use TM or ® mark to indicate those trademarks or registered trademarks in this User's Manual.

# Open Source Software

This product uses open source software.

## ■ About Open Source License

The text of the open source license terms is provided to the License\_en.txt in attached DVD-ROM.

DVD-ROM Drive:\Open Source Software\License\_en.txt

## ■ Operation Guarantee

According to the terms and conditions of the license shown above, we do not guarantee the operation of open source software itself.

## ■ Information on Respective Open Source License Software

For module names and source codes of open source software that is used in this product, please contact us.

# 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: 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:** 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

# 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.  
IF YOU ARE NOT THE END USER OF THE SOFTWARE PRODUCT, YOU ARE REQUIRED TO PRESENT THE TERMS AND CONDITIONS OF THIS AGREEMENT TO THE END USER AND OBTAIN ITS CONSENT TO ABIDE BY THEM BEFORE IT STARTS TO USE THE SOFTWARE PRODUCT. SHOULD THERE BE ANY DISCREPANCY BETWEEN THIS AGREEMENT AND ANY OTHER WRITTEN AGREEMENT MADE BETWEEN YOU AND YOKOGAWA, THE LATTER SHALL PREVAIL.

## 1. Scope

- 1.1 This Agreement applies to the YFGW510 software products (the "Software Product"). The Software Product consists of:
  - a) Standard Software Product: The software products listed in the catalogues or "General Specifications" of Yokogawa.
  - b) Customized Software Product: The software products made by Yokogawa based on individually agreed specifications, which will be used with or in addition to the function of the Standard Software Product.
- 1.2 The Software Product includes, without limitation, computer programs, manuals and other associated documents, databases, fonts, input data, and any images, photographs, animations, video, voice, music, text, and applets (software linked to text and icons) embedded in the software.
- 1.3 Unless otherwise provided by Yokogawa, this Agreement applies to the updates and upgrades of the Software Product.

## 2. Grant of License

- 2.1 Subject to the terms and conditions of this Agreement, Yokogawa hereby grants to you a non-exclusive and non-transferable right to use the Software Product on the computer specified by Yokogawa or if not specified, on a single computer and solely for your internal operation use, in consideration of full payment by you to Yokogawa of the license fee separately agreed upon.
- 2.2 Unless otherwise agreed or provided by Yokogawa in writing, the following acts are prohibited:
  - a) to reproduce the Software Product;
  - b) to sell, lease, distribute, transfer, pledge, sublicense, make available via the network or otherwise convey the Software Product or the license granted herein to any other person or entity;
  - c) to use the Software Product on any unauthorized computer via the network;
  - d) to cause, permit or attempt to dump, disassemble, decompile, reverse-engineer, or otherwise translate or reproduce the Software Product into source code or other human readable format, or to revise or translate the Software Product into other language and change it to other formats than that in which Yokogawa provided;
  - e) to cause, permit or attempt to remove any copy protection used or provided in the Software Product; or
  - f) to remove any copyright notice, trademark notice, logo or other proprietary notices or identification shown in the Software Product.
- 2.3 Any and all technology, algorithms, know-how and process contained in the Software Product are the property or trade secret of Yokogawa or licensors to Yokogawa. Ownership of and all the rights in the Software Product shall be retained by Yokogawa or the licensors and none of the rights will be transferred to you hereunder.
- 2.4 You agree to maintain the aforementioned Yokogawa and the licensors property and trade secret in strict confidence, not to disclose it to any party other than your employees, officers, directors or similar staff who have a legitimate need to know to use the Software Product and agreed in writing to abide by the obligations hereunder.

- 2.5 Upon expiration or termination of this Agreement, the Software Product and its copies shall be returned to Yokogawa and any copies retained in your computer or media shall be deleted irretrievably. If you dispose of media in which the Software Product or its copy is stored, the contents shall be irretrievably deleted.
- 2.6 The Software Product may contain software which Yokogawa is granted a right to sublicense by third party suppliers ("Third Party Software"). If suppliers of the Third Party Software ("Supplier") provide special terms and conditions for the Third Party Software which differ from this Agreement, you agree to abide by such terms and conditions separately provided by Yokogawa.

### **3. Restrictions on Application**

- 3.1 Unless otherwise agreed in writing between you and Yokogawa, the Software Product is not intended, designed, produced or licensed for aircraft operation or control, ship navigation or marine equipment control, or ground facility or device for support of the aforesaid operation or control, nor for planning, construction, maintenance or operation of any nuclear related facility.
- 3.2 If the Software Product is used for the abovementioned purposes, neither Yokogawa nor Supplier assumes liability for any claim or damage arising from the said use and you shall indemnify and hold Yokogawa, Supplier, their affiliates, subcontractors, officers, directors, employees and agents harmless from any liability or damage whatsoever, including any court costs and attorney's fees, arising out of or related to the said use.

### **4. Warranty**

- 4.1 Yokogawa warrants that, for one year from the delivery by Yokogawa or any other period to be agreed by Yokogawa in writing ("Warranty Period"), the Software Product shall, if it is properly used under the operational conditions and on the hardware designated by Yokogawa and if used in accordance with the environmental or other conditions defined by Yokogawa or hardware supplier, operate substantially in compliance with the manuals or functional specifications provided by Yokogawa. The Warranty Period commences from the delivery of the Software Product by Yokogawa or when any part of the Software Product is used for operation, whichever comes earlier.
- 4.2 Under no conditions will Yokogawa warrant that:
  - a) the Software Product is uninterrupted;
  - b) the Software Product is error free;
  - 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.
- 4.3 In case, during the Warranty Period, it is found that the Software Product does not operate in compliance with the manuals or functional specifications of Yokogawa, or its medium has a physical defect, Yokogawa will, at Yokogawa's discretion, repair, replace or present a workaround without charge, unless otherwise agreed by Yokogawa. However, if Yokogawa engineer or other engineer is required to attend for repair, replacement or implementing a workaround at the site, you will be charged for the site service fee. If Yokogawa deems necessary, you are required to initialize or stop the operation of the system, facility or equipment in or on which the Software Product is installed.
- 4.4 The above warranties shall not be applied to and Yokogawa shall not be liable for the defect or noncompliance which is subject to any of the following circumstances:
  - a) the hardware on which the Software Product is installed has ceased to be covered by the warranty or maintenance contract of the hardware supplier;
  - 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.

- 4.5 Notwithstanding the foregoing, any warranty with respect to the Third Party Software is subject to the terms and conditions of the Supplier.
- 4.6 THE ABOVE WARRANTY IS GIVEN AND ACCEPTED AS A SOLE AND EXCLUSIVE LIABILITY AND IN LIEU OF ALL OTHER LIABILITY OR WARRANTIES OF ANY KIND WHATSOEVER ON THE PART OF YOKOGAWA OR SUPPLIER, EXPRESS OR IMPLIED, IN FACT OR IN LAW. ALL IMPLIED WARRANTIES AND ESPECIALLY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT ARE EXPRESSLY EXCLUDED AND DISCLAIMED. The warranty provisions of the applicable law are expressly excluded to the extent permitted.

## **5. Maintenance Services**

- 5.1 Scope and terms and conditions of maintenance service for the Software Product shall be subject to the latest Yokogawa standard terms and conditions of service or otherwise defined by Yokogawa. Unless otherwise provided in Yokogawa catalogues or General Specifications, services for the Standard Software Product will be available only for the latest version and the immediately preceding version. In any event service for the immediately preceding version will be available only for 5 years after the latest version has been released. In addition, no service will be provided by Yokogawa for the Software Product which has been discontinued for more than 5 years. As for the Customized Software Product, basically, Yokogawa will not provide maintenance service after the Warranty Period, provided that Yokogawa may provide alteration work subject to individual written agreement.
- 5.2 Notwithstanding otherwise stated in the preceding sub-clause, any maintenance service for the Third Party Software shall be subject to the terms and conditions provided by the Supplier.

## **6. Infringement**

- 6.1 If you are warned or receive a claim by a third party that the Software Product in its original form infringes any third party's patent (which is issued at the time of delivery of the Software Product), trade mark, copyright or other intellectual property rights ("Claim"), you shall promptly notify Yokogawa thereof in writing.
- 6.2 If the infringement is attributable to Yokogawa, Yokogawa will defend you from the Claim at Yokogawa's expense and indemnify you from the damages finally granted by the court or otherwise agreed by Yokogawa out of court. The foregoing obligation and indemnity of Yokogawa shall be subject to that i) you promptly notify Yokogawa of the Claim in writing as provided above, ii) you grant to Yokogawa and its designees the full authority to control the defense and settlement of such Claim and iii) you give every and all necessary information and assistance to Yokogawa upon Yokogawa's request.
- 6.3 If Yokogawa believes that a Claim may be made or threatened, Yokogawa may, at its option and its expense, either a) procure for you the right to continue using the Software Product, b) replace the Software Product with other software product to prevent infringement, c) modify the Software Product, in whole or in part, so that it become non-infringing, or d) if Yokogawa believes that a) through c) are not practicable, refund you the paid-up amount of the book value of the Software Product as depreciated.
- 6.4 Notwithstanding the foregoing, Yokogawa shall have no obligation nor liability for, and you shall defend and indemnify Yokogawa and its suppliers from, the Claim, if the infringement is arising from a) modification of the Software Product made by a person other than Yokogawa, b) combination of the Software Product with hardware or software not furnished by Yokogawa, c) design or instruction provided by or on behalf of you, d) not complying with Yokogawa's suggestion, or e) any other causes not attributable to Yokogawa.

## **7. Limitation of Liability**

EXCEPT TO THE EXTENT THAT LIABILITY MAY NOT LAWFULLY BE EXCLUDED IN CONTRACT, YOKOGAWA AND SUPPLIERS SHALL NOT BE LIABLE TO ANY PERSON OR LEGAL ENTITY FOR LOSS OR DAMAGE, WHETHER DIRECT, INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES, OR OTHER SIMILAR DAMAGES OF ANY KIND, INCLUDING WITHOUT LIMITATION, DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OR DESTRUCTION OF DATA, LOSS OF AVAILABILITY AND THE LIKE, ARISING OUT OF THE USE OR INABILITY TO USE OF THE SOFTWARE PRODUCT, OR ARISING OUT OF ITS GENERATED APPLICATIONS OR DATA, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, WHETHER BASED IN WARRANTY (EXPRESS OR IMPLIED), CONTRACT, STRICT LIABILITY, TORT (INCLUDING NEGLIGENCE), OR ANY OTHER LEGAL OR EQUITABLE GROUNDS. IN NO EVENT YOKOGAWA AND SUPPLIER'S AGGREGATE LIABILITY FOR ANY CAUSE OF ACTION WHATSOEVER (INCLUDING LIABILITY UNDER CLAUSE 6) SHALL EXCEED THE DEPRECIATED VALUE OF

THE LICENSE FEE PAID TO YOKOGAWA FOR THE USE OF THE CONCERNED PART OF THE SOFTWARE PRODUCT.

If the Software Product delivered by Yokogawa is altered, modified or combined with other software or is otherwise made different from Yokogawa catalogues, General Specifications, basic specifications, functional specifications or manuals without Yokogawa's prior written consent, Yokogawa shall be exempted from its obligations and liabilities under this Agreement or law.

#### **8. Assignment**

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.