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.

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

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

At 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.

Alle brugetvedligheder for produkter relatet 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.

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.

Todos los manuales de instrucciones para los productos antexplosivos de ATEX están disponibles en inglés, alemán y francés. Si desea solicitar las instrucciones de estos artículos antexplosivos en su idioma local, deberá ponerse en contacto con la oficina o el representante de Yokogawa más cercano.

Alle handleidingen voor de producten die te maken hebben met ATEX explosieveiligheid (Ex) zijn verkrijgbaar in het Engels, Duits en Frans. Neem, indien u aanwijzingen op het gebied van explosieveiligheid nodig hebt in uw eigen taal, contact op met de dichstdoorbijzijnde vestiging van Yokogawa of met een vertegenwoordiger.

Kaikkien ATEX Ex -kyyppisten tuotteiden käyttöohjeet ovat sasattavilla englanniksi, saksan- ja ranskansiksi. Mikäli tarvitsette Ex -kyyppisten tuotteiden ohjelia oman paikalla teki kieli, otakaa yhteyttä lähipäälläsi Yokogawahin tällaisen takaadulla.

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.

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.

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.

Alle instruktionsböcker för ATEX Ex (explosionsäkta) produkter är tillgängliga på engelska, tyska och franska. Om Ni behöver instruktioner för dessa explosionsäkta produkter på annat språk, skall Ni kontakta närmaste Yokogawakontor eller representant.

Ωλα τα εγχειρίδια λειτουργίας των προϊόντων με ATEX Ex διαθέτονται στα Αγγλικά, Γερμανικά και Γαλλικά. Ωστόσο, εάν αναζητάτε ιδιαίτερα εγχειρίδια σε άλλες γλώσσες με βάση την τεχνική γλώσσα που χρησιμοποιείτε, σας αποκαλύπτουμε ότι μπορείτε να αναζητήσετε τα πλέον εύφορα γραφεία της Yokogawa και αντίστροφα της.
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 cannot 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:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>!</td>
<td>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.</td>
</tr>
<tr>
<td>!</td>
<td>WARNING Indicates instructions that must be observed in order to prevent the software or hardware from being damaged or the system from becoming faulty.</td>
</tr>
<tr>
<td>!</td>
<td>IMPORTANT Indicates important information required to understand operations or functions.</td>
</tr>
</tbody>
</table>
NOTE

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

TIP

Indicates additional information.

SEE ALSO

Indicates a source to refer to

 дана смотра, не допускается использование продукта. Если эти инструкции не следуют, защита от опасности, предоставляемая этим инструментом, может быть испорчена. В этом случае, Yokogawa не может гарантировать безопасное использование продукта. Пожалуйста, обратите особое внимание на следующие пункты:

(a) Installation

• Этот прибор может быть установлен только инженерами или техниками, имеющими экспертные знания о данном устройстве. Операторам не разрешается проводить установку, если они не удовлетворяют этому условию.

(b) Wiring

• Инструмент должен быть установлен инженерами или техниками, имеющими экспертные знания о данном инструменте. Операторам не разрешается проводить настройку, если они не удовлетворяют этому условию.

(c) Operation

• Ожидайте 1 мин. после того, как кнопка питания включена, до открытия крышек.

(d) Maintenance

• Пожалуйста, проведите только технические процедуры, описанные в этом руководстве. Если вам требуется дополнительная помощь, пожалуйста, свяжитесь с ближайшим офисом Yokogawa.

• Обратите внимание на предотвращение образования пыли или других материалов на поверхности дисплея и наклейки. Для очистки этих поверхностей, используйте мягкую, сухую ткань.

(e) Explosion Protected Type Instrument

• Пользователи приборов, защищенных от взрывов, должны обратиться в первую очередь к разделу "Индикация типа устройства при взрывоопасных условиях" этого руководства.

• Использование этого инструмента ограничено теми, кто получит соответствующее обучение в устройстве.
- 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. “I” applies to electrical equipment which is supplied from the circuit when appropriate transient overvoltage control means (interface) are provided.

- **Spectrum Conformity Standard**
  EN 300 328
FCC compliance
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 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.

<table>
<thead>
<tr>
<th>Antenna type</th>
<th>Frequency Band</th>
<th>Gain, Impedance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sleeve</td>
<td>2.4GHz</td>
<td>2.14dBi, 50 Ω</td>
<td></td>
</tr>
<tr>
<td>Sleeve</td>
<td>2.4GHz/5GHz</td>
<td>2.14dBi, 50 Ω</td>
<td>8999A-WIC007/008 Only</td>
</tr>
<tr>
<td>Collinear</td>
<td>2.4GHz</td>
<td>9dBi, 50 Ω</td>
<td></td>
</tr>
</tbody>
</table>

Conformément à la réglementation d’Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne de 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.

<table>
<thead>
<tr>
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<th>Frequency Band</th>
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<tr>
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<tr>
<td>Collinear</td>
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<td></td>
</tr>
</tbody>
</table>
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.

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

<table>
<thead>
<tr>
<th>型号</th>
<th>部件名称</th>
<th>有害物质</th>
<th>铅(Pb)</th>
<th>汞(Hg)</th>
<th>镉(Cd)</th>
<th>六价铬(Cr(VI))</th>
<th>多溴联苯(PBB)</th>
<th>多溴二苯醚(PBDE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>YFGW510现场无线接入点</td>
<td>壳体</td>
<td>×</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>基板组件</td>
<td>×</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>电缆</td>
<td>×</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>天线组件</td>
<td>×</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

○：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)
## Optional Specifications (For Explosion Protected Type)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
</table>
| Factory Mutual (FM)           | **FM Nonincendive Approval**  
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:  
Cable: ≤ 4 nF, Lcable: ≤ 20 μH | FN17  |
| Canadian Standards Association (CSA) | **CSA Non-Incendive Approval**  
Certificate: 2655412  
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;  
Ambient Temperature: –30 to 65 °C (–22 to 149°F), Altitude: ≤ 3000 m  
Enclosure: Type 4X, IP66  
Cable parameters for antenna connection:  
Cable: ≤ 4 nF, Lcable: ≤ 20 μH | CN17  |
| ATEX                          | **Type n Declaration**  
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  
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                         | **Type n Approval**  
Certificate: IECEx DEK 14.0028  
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  
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.

- 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 65ºC
- 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 µH

(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.

<table>
<thead>
<tr>
<th>Marking</th>
<th>The type of electrical connection</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>M20 (ISO)</td>
<td>M20 X 1.5</td>
</tr>
<tr>
<td>N</td>
<td>1/2 NPT</td>
<td>1/2-14</td>
</tr>
</tbody>
</table>

- 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

Hazardous (Classified) Location

Electrical Equipment (e.g. XP, IS, NI equipment)

Radio wave (IEEE 802.15.4)

YFGW510 Field Wireless Access Point

Zone 2 / Division 2

Nonhazardous Location

Surge Arrester

Radio Wave (IEEE 802.11a/b/g) or metal wiring or optical fiber

Control Equipment 1

Control Equipment 2

Power Supply

Wiring

*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
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 Po = 60 mW for ISA and Po = 64 mW for WLAN1/WLAN2.

- Cable parameters for the nonincendive field wiring connection of the antenna and/or the surge arrester are:
  \( C_{\text{cable}} = 4 \text{ nF}, L_{\text{cable}} = 20 \mu \text{H} \)

- 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.

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

Yokogawa Electric Corporation
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.

<table>
<thead>
<tr>
<th>Marking</th>
<th>The type of electrical connection</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>M20 (ISO)</td>
<td>M20 X 1.5</td>
</tr>
<tr>
<td>A</td>
<td>ANSI 1/2 NPT</td>
<td>1/2-14 NPT</td>
</tr>
</tbody>
</table>
• This marking is incused at the back side of the electrical connection block.

(4) Installation

Hazardous Location

Electrical Equipment
(e.g.) “d”, “i”, “Type n” equipment

Radio wave
(IEEE802.15.4)

YFGW510
Field Wireless Access Point

Antenna
(*1)

Antenna
(*1)

Antenna
(*1)

Surge Arrester
(*1, *2)

Surge Arrester
(*1, *2)

Surge Arrester
(*1, *2)

ISA
WLAN2
WLAN1

Radio Wave
(IEEE802.11a/b/g)
or
metal wiring
or
optical fiber

Control Equipment 2

Control Equipment 1

Nonhazardous Location

Power Supply

*1: These apparatus are simple apparatus.
*2: Surge Arrester may not be installed.
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 OUVIR 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 $Po = 60 \text{ mW}$ for ISA and $Po = 64 \text{ mW}$ for WLAN1/WLAN2.
• Cable parameters for the connection of the antenna and/or the surge arrester are: $C_{\text{cable}} \leq 4 \text{ nF}; \ L_{\text{cable}} \leq 20 \mu\text{H}$
• 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

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

CL I DIV 2 GP ABCD, CL II DIV 2 GP FG, CL III, T4
Ex nA [in L] IIC T4 -30°C to +65°C Type 4X, IP66

DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT
NE PAS OUVRIR SI UNE ATMOSPHERE EXPLOSIVE PEUT ETRE PRESENTE
POTENTIAL ELECTROSTATIC CHARGING HAZARD - SEE INSTRUCTIONS
DANGER POTENTIEL DE CHARGES ELECTROSTATIQUES

- VOIR INSTRUCTIONS
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.
• Marking: 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: ≤ 3.5 W
• RF power: ≤ 60 mW (ISA100.11a; IEEE802.15.4)
  ≤ 64 mW (Wireless LAN: IEEE802.15.11a/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 μF

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 Po = 60 mW for ISA and Po = 64 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) ≤ 3 mH
  - (total Ci of simple apparatuses) + (total Cc) ≤ 0.8 μF

• 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**

<table>
<thead>
<tr>
<th>Hazardous Location</th>
<th>Nonhazardous Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Equipment (e.g.) &quot;d&quot;, &quot;i&quot;, &quot;Type n&quot; equipment</td>
<td>Power Supply</td>
</tr>
<tr>
<td>Radio wave (IEEE802.15.4)</td>
<td>Control Equipment 1</td>
</tr>
<tr>
<td>Antenna (1)</td>
<td>Control Equipment 2</td>
</tr>
<tr>
<td>Surge Arrester (1)</td>
<td>Control Equipment 3</td>
</tr>
<tr>
<td>ISA</td>
<td></td>
</tr>
<tr>
<td>WLAN 2</td>
<td></td>
</tr>
<tr>
<td>WLAN 1</td>
<td></td>
</tr>
</tbody>
</table>

*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
- Type of Protection and Marking: 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: ≤ 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) ≤ 0.5 mH (total Ci of simple apparatuses) + (total Cc) ≤ 0.09 μF
- 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 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) ≤ 0.5 mH
  (total Ci of simple apparatuses) + (total Cc) ≤ 0.09 μF

• 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

![Control Drawing](image)

*1: These apparatus are simple apparatus.

*2: Surge Arrester may not be installed.

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 Arrestor must be determined in accordance with EN 60079-14, using Po = 100 mW for ISA antenna connector, and Po = 130 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) ≤ 0.5 mH
  (total Ci of simple apparatuses) + (total Cc) ≤ 0.09 μF

• 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 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 Ta ≤ 65 °C, since the power applied to them is ≤ 130 mW and their surface area is > 20 mm².
  • Lc of the provided cable is 0.21μH/m.
  • Cc of the provided cable is 83 pF/m.
(2) Electrical Connection

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

<table>
<thead>
<tr>
<th>Marking</th>
<th>The type of electrical connection</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>M20 (ISO)</td>
<td>M20 X 1.5</td>
</tr>
<tr>
<td>A or N</td>
<td>ANSI 1/2 NPT</td>
<td>1/2-14 NPT</td>
</tr>
</tbody>
</table>

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

**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

- Hazardous class name plate for Frameproof type
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
- 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 μF

Note 2. Specific condition of use

Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.
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 Arrestor must be determined in accordance with IEC 60079-14, using Po = 60 mW for ISA antenna connector, and Po = 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) ≤ 3 mH (Total Ci of simple apparatuses) + (Total Cc) ≤ 0.8 μF
- 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

Hazardous Location

Electrical Equipment
(e.g.) “d”, “i”, “Type n” equipment

Radio wave
(IEEE802.15.4)

Surge
Arrester
(*1, *2)

YFGW510
Field Wireless Access Point

Hazardous Location

Zone 2

Nonhazardous Location

Control
Equipment 1

Radio Wave
(IEEE802.11a/b/g)
or
metal wiring
or
optical fiber

Control
Equipment 2

Power Supply

Antenna (*1)

Antenna (*1)

Antenna (*1)

Antenna (*1)

Surge
Arrester (*1, *2)

Surge
Arrester (*1, *2)

Surge
Arrester (*1, *2)

WLAN1

WLAN2

ISA

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
- 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.
  \[(\text{total } L_i \text{ of simple apparatuses}) + (\text{total } L_c) \leq 0.5 \text{ mH}\]
  \[(\text{total } C_i \text{ of simple apparatuses}) + (\text{total } C_c) \leq 0.09 \mu F\]

• 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. \(L_i\) and \(C_i\) of the simple apparatus shall be negligible. Temperature class of them shall be determined from \(P_0 = 100 \text{ mW for ISA}\) and \(P_0 = 130 \text{ mW for WLAN1/WLAN2}\).

• The following conditions must be met for the connections to ISA, WLAN1, and WLAN2.
  \[(\text{total } L_i \text{ of simple apparatuses}) + (\text{total } L_c) \leq 0.5 \text{ mH}\]
  \[(\text{total } C_i \text{ of simple apparatuses}) + (\text{total } C_c) \leq 0.09 \mu F\]

• 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

Hazardous Location

Electrical Equipment

Radio wave (IEEE802.15.4)

Antenna (*1)

Surge Arrester (*1, *2)

Antenna (*1)

Surge Arrester (*1, *2)

Antenna (*1)

Surge Arrester (*1, *2)

YFGW510 Field Wireless Access Point

Zone 1

Electrical Equipment 1

Power Supply + -

Radio Wave (IEEE802.11a/b/g)

Surge Arrester (*1, *2)

Surge Arrester (*1, *2)

Surge Arrester (*1, *2)

Nonhazardous Location

Control Equipment 1

Control Equipment 2

Metal wiring or optical fiber

Radio wave (IEEE802.15.4)

Wiring

WLAN1

WLAN2

ISA WLAN

100BASE-TX/100BASE-FX

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.

<table>
<thead>
<tr>
<th>Marking</th>
<th>The type of electrical connection</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>M20 (ISO)</td>
<td>M20 × 1.5</td>
</tr>
<tr>
<td>A or N</td>
<td>ANSI 1/2 NPT</td>
<td>1/2-14 NPT</td>
</tr>
</tbody>
</table>

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

**FIELD WIRELESS ACCESS POINT**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SUFX</th>
</tr>
</thead>
<tbody>
<tr>
<td>YFGW</td>
<td>MC</td>
</tr>
<tr>
<td>YFGW</td>
<td>MC WLAN</td>
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</table>

<table>
<thead>
<tr>
<th>STYLE</th>
<th>SUPPLY</th>
<th>NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VDC</td>
<td></td>
<td></td>
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</tbody>
</table>

**YOKOGAWA ☯ TOKYO 180-8750 JAPAN:**

The manufacturer name and the address *2.

---

**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.

*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

**WARNING**

No. IECEx DEK 14.0028
Ex na, IIC T4 Gc
-30°C ≤ Ta ≤ 65°C
IP66
DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT
POTENTIAL ELECTROSTATIC CHARGING HAZARD
SEE INSTRUCTIONS

• Hazardous class name plate for Frameproof type

**WARNING**

No. IECEx DEK 15.0021X
Ex d [ib] IIC T4 Gb
-40°C ≤ Ta ≤ 65°C
Um:250V
AFTER DE-ENERGIZING, DELAY 1 MINUTE BEFORE OPENING
POTENTIAL ELECTROSTATIC CHARGING HAZARD
SEE INSTRUCTIONS
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.

<table>
<thead>
<tr>
<th>Windows operating system</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows 10 Pro*1</td>
<td>32/64 bit</td>
</tr>
<tr>
<td>Windows 8.1 Pro Update*2</td>
<td>32/64 bit</td>
</tr>
<tr>
<td>Windows 7 Professional Service Pack 1*2</td>
<td>32/64 bit</td>
</tr>
<tr>
<td>Windows Server 2012 R2 Standard Update*2</td>
<td>64 bit</td>
</tr>
<tr>
<td>Windows Server 2008 R2 Enterprise Service Pack 1*2</td>
<td>64 bit</td>
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<tr>
<td>Windows Server 2008 Enterprise Service Pack 2*2</td>
<td>32 bit</td>
</tr>
</tbody>
</table>

*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

<table>
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<th>Edition</th>
<th>Date</th>
<th>Page</th>
<th>Revised Item</th>
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<tbody>
<tr>
<td>1st Edition</td>
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<td></td>
<td>New Issue</td>
</tr>
<tr>
<td>2nd Edition</td>
<td>June 2013</td>
<td></td>
<td>Add ATEX Type n declaration</td>
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<tr>
<td>3rd Edition</td>
<td>March 2014</td>
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<td>February 2015</td>
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<td>Add IECEx Certification</td>
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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 |
YFGW510 Software License Agreement

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