This document specifies the important information to use this product correctly and safely and the License Agreement of Attached Software for YFGW520 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 01W02E02-11EN) describes the safety precautions, explosion protected type specifications and the license agreement of attached software for the YFGW520.

There are three documents including this one for the YFGW520 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 01W02E02-01EN</td>
<td>YFGW520 Field Wireless Access Point</td>
<td>This manual is stored in the attached DVD-ROM for YFGW520. It describes installation, wiring, operation, maintenance and specification of the YFGW520.</td>
</tr>
<tr>
<td>IM 01W02E02-11EN</td>
<td>YFGW520 Field Wireless Access Point Read Me First</td>
<td>This manual. It describes the safety precaution, explosion protected type specifications and the license agreement of the attached software for the YFGW520.</td>
</tr>
<tr>
<td>GS 01W02E02-01EN</td>
<td>YFGW520 Field Wireless Access Point</td>
<td>Product specification including detailed model and suffix code, optional specifications and accessory of the YFGW520.</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.
Safety Precautions

Safety, Protection, and Modification of the Product

- In order to protect the operator, product, and system controlled by the product, observe the safety precautions described in this User's Manual. If users handle contrary to these instructions, we can not guarantee the safety.

- If this instrument is used in a manner not specified in this User’s Manual, the protection provided by this instrument may be impaired.

- Modification of the product is strictly prohibited.

- If customers attempt to repair or modify explosion protected type products and fail to return them to their original state, the explosion protected structure of this product will be lost, resulting in a hazardous state. All repairs and modifications of the product must be consulted with Yokogawa.

- If any protection or safety circuit is required for the system controlled by the product or for the product itself, prepares it separately.

- Be sure to use the spare parts approved by Yokogawa Electric Corporation (hereafter simply referred to as Yokogawa) when replacing parts or consumables.

- The following symbols are used in the product and User’s Manual to indicate that there are precautions for safety:

  **WARNING**
  Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

  **CAUTION**
  Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or physical damage. It may also be used to alert against unsafe practices.

  **IMPORTANT**
  Indicates that operating the hardware or software in this manner may damage it or lead to system failure.
NOTE
Draws attention to information essential for understanding the operation and features.

TIP
Indicates additional information.

SEE ALSO
Indicates a source to refer to

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

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

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

(b) Wiring
• The instrument must be installed by an engineer or technician who has an expert knowledge of this instrument. Operators are not permitted to carry out wiring unless they meet this condition.

(c) Operation
• Wait 1 min. after the power is turned off, before opening the covers.

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

(e) Explosion Protected Type Instrument
• Users of explosion protected instruments should refer first to “Explosion Protected Type Specifications” section of this manual.
• The use of this instrument is restricted to those who have received appropriate training in the device.
• Take care not to create sparks when accessing the instrument or peripheral devices in a hazardous location.

• Repair or modification to this instrument by customer will cause malfunction of explosion protect function and hazardous situation. If you need to repair or modification, please contact the nearest Yokogawa office.

(f) Modification

• Yokogawa will not be liable for malfunctions or damage resulting from any modification made to this instrument by the customer.

(g) Product Disposal

• The instrument should be disposed of in accordance with local and national legislation/regulations.

**Warranty**

- The warranty terms of this instrument are described in the quotation. We will make any repairs that may become necessary during the guaranteed term free of charge.

- Please contact our sales office or your local distributor if this instrument requires repair.

- If the instrument is faulty, contact us with complete details about the problem and the length of time it has been faulty, and state the model and serial number. We would appreciate the inclusion of drawings or additional information.

- The results of our examination will determine whether the product will be repaired free of charge or on an at-cost basis.

**The guarantee will not apply in the following cases:**

- Damage due to negligence or insufficient maintenance on the part of the customer.

- Problems or damage resulting from handling, operation or storage that violates the intended use and specifications.

- Problems that result from using or performing maintenance on the instrument in a location that does not comply with the installation location specified by Yokogawa.

- Problems or damage resulting from repairs or modifications not performed by Yokogawa or someone authorized by Yokogawa.

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

Warranty and Disclaimer

- Yokogawa assumes no responsibilities for this product except as stated in the warranty.

- Yokogawa shall have neither liability nor responsibility to any person or entity with respect to any direct or indirect loss or damage arising from using the product or any defect of the product that Yokogawa can not predict in advance.

Authorized Representative in the EEA

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

Notes on Hardware

- Appearance and Accessories
  
  Check the following when you receive the product:
  
  - Appearance
  
  - Standard accessories
  
  Contact our sales representative or your local distributor if the product's coating has come off or any accessories are missing.

- Model and Suffix Codes

  The name plate on the product contains the model and suffix codes. Verify that the specification indicated in the “MODEL AND SUFFIX CODES” and “OPTIONAL SPECIFICATIONS” in General Specifications “GS 01W02E02-01EN” 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 YFGW520 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 YFGW520 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, EN 55011 Class A, Group 1, EN 61000-6-2

CAUTION
This equipment is a Class A product.

This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.

Please use this equipment in the industrial environment only.

- Safety Conformity Standards
  Applicable standard: EN 61010-1, EN 62479, EN 60825-1
  (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.
  (3) Laser Safety
  100BASE-FX (Single mode Fiber) model of YFGW520 is compliant with IEC 825-1 Class 1 and CDRH 21-CFR 1040 Class 1 eye safety requirements.

CAUTION
- To avoid eye injury although, please do not see a light source.

CAUTION
- When the maximum operating temperature is more than 60°C, use the wiring cable of 80°C or higher temperature rating.
- **Spectrum Conformity Standard**
  EN 300 328

- **FCC compliance**
  
  **FCC ID:** SGJ-WFC015

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

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

  **FCC WARNING**
  Changes or modifications not expressly approved by the party responsible for compliance could void the 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. This equipment should be installed and operated keeping the radiator at least 20 cm or more away from person’s body.
ISED compliance

IC: 8999A-WIC014

This device complies with ISED’s applicable 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.

This radio transmitter 8999A-WIC014 has been approved by ISED 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>Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sleeve</td>
<td>2.14 dBi</td>
</tr>
<tr>
<td>Collinear</td>
<td>9 dBi</td>
</tr>
<tr>
<td>Hybrid patch</td>
<td>15 dBi</td>
</tr>
</tbody>
</table>

French:

Le présent appareil est conforme aux CNR d’ISDE 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.

Le présent émetteur radio 8999A-WIC014 a été approuvé par Industrie Canada pour fonctionner avec les types d’antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d’antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l’exploitation de l’émetteur.

<table>
<thead>
<tr>
<th>Type d’antenne</th>
<th>Gain</th>
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</thead>
<tbody>
<tr>
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<td>Collinear</td>
<td>9 dBi</td>
</tr>
<tr>
<td>Hybrid patch</td>
<td>15 dBi</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 should be installed and operated keeping the radiator at least 20 cm or more away from person’s body.

French:

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 doit être installé et utilisé en gardant une distance de 20 cm ou plus entre le radiateur et le corps humain.

RRA compliance

This product complies with the Radio Waves Act (Republic of Korea).

Registration No:  R-R-YHQ-WRA011, R-C-YHQ-WRA013
Equipment Name: Field Wireless Access Point
Model name: YFGW520
Trade Name: Yokogawa Electric Corp.
Manufacturer: Yokogawa Electric Corp.
Country of Origin: Japan
Control of Pollution Caused by the Product

- 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)

- 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>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>YFGW520</td>
<td>壳体</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>
</tr>
<tr>
<td></td>
<td>电源连接线</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>
</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。
# Explosion Protected Type Specifications

## Optional Specifications (For Explosion Protected Type)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
</table>

*1: G1/2 electrical connection (Electrical connection code: 0) cannot be selected.<br>**2: Applies only English manual language (Manual language code: 1).<br>**3: CE marking is omitted from the product when this option is selected.
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

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.

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.

WARNING

- A modification of the equipment would no longer comply with the construction described in the certificate documentation.
- 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.

NOTE

- 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.
NOTE

- YFGW520 should be installed in upright position.
- YFGW520 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 shut off 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 the non-metallic parts (excluding glass parts) or coated parts of product.
- Take care not to generate mechanical sparking when access to the instrument and peripheral devices in hazardous area.
- The antenna and surge protective device provided with YFGW520 are simple apparatus in accordance with IEC 60079-11 or 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.
  - Surge protective device is not separated from the earth and must earthed together with YFGW520 in accordance with IEC 60079-14 or EN 60079-14.
  - Surge protective device has metallic enclosures and no risk for electrostatic discharges.
- As for the temperature class, they are classified as T4 for $T_a \leq 70^\circ C$, since the power applied to them is $\leq 130\text{ mW}$ and their surface area is $> 20\text{ mm}^2$.
  - $L_c$ of the provided cable is $0.21\mu\text{H/m}$.
  - $C_c$ of the provided cable is $83\text{ pF/m}$.
FM Approval (United States)

Caution for FM Nonincendive Approval (United States).

(1) Technical Data

Note 1. Model YFGW520 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; Class I, Zone 2, Group IIC
  Suitable for Class II, Division 2, Groups F and G, and Class III, Division 1
- Locations: Indoor and Outdoor use
- Enclosure: Type 4X
- Temperature Class: T4
- Ambient Temperature: –40 to 70°C (-40 to 158°F)
- Altitude: Up to 3000 m
- Power Supply: Rated Voltage: 24 V DC
  Voltage Range*1: 10.0-26.4 V DC
  *1: The equipment shall not be operated outside the range.
- Power dissipation: ≤ 3.5 W
- RF Power: ≤ 60 mW

(2) Electrical Parameters

Refer to Control Drawing (NFM027-A15).

(3) Operation

Refer to Control Drawing (NFM027-A15).

(4) Maintenance and Repair

WARNING

- Only personnel authorized by Yokogawa Electric Corporation can repair the equipment.
(5) Control Drawing

Model: YFGW510

Control Drawing for YFGW520 (US)

Hazardous (Classified) Location

Electrical Equipment (e.g. XP.18, NI equipment)

Radio wave (IEEE802.15.4)

Hazardous (Classified) Location

Zone 2 / Division 2

Nonhazardous Location

YFGW520 Field Wireless Access Point

ISA

metal or optical fiber

Wiring

Control Equipment

Power Supply

Specific Condition of Use:

1. These apparatus are simple apparatus.
2. Surge Protective device is not always installed.

- The equipment may be used at altitudes up to 3000 m.
- Upon installation, the intrinsically safe circuits of the field wireless access point shall be connected to earth.

Yokogawa Electric Corporation
The equipment must be installed in accordance with the user’s manual.
FM Approval (Canada)

Caution for FM Nonincendive Approval (Canada).

(1) Technical Data

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

- Certificate: FM17CA0150X
- Applicable standards:
  C22.2 No. 94-2:2015, C22.2 No. 213:2017, CAN/CSA-C22.2 No. 60079-0:2015,
  CAN/CSA-C22.2 No. 60529:2016, CAN/CSA-C22.2 No. 61010-1-12
- Hazardous Location Ratings:
  Nonincendive for Class I, Division 2, Groups A, B, C, D;
  Suitable for Class II, Division 2, Groups F, G; Class III, Division 1
  Ex nA [ic] IIC T4 Gc
- Temperature Class: T4
- Ambient Temperature: –30 to 70°C (-22 to 158°F)
- Altitude: ≤ 3000 m
- Enclosure: Type 4X, IP66
- Power Supply: Rated Voltage: 24 V DC
  Voltage Range*: 10.0–26.4 V DC
  *1: The equipment shall not be operated outside the range.
- Power dissipation: ≤ 3.5 W
- RF Power: ≤ 60 mW

(2) Electrical Connection

The type of electrical connection depends on the marking below on YFGW520.

<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

The equipment shall be installed so that pollution degree 2 in accordance with IEC 60664-1 is maintained inside the enclosure.

WARNING

- Electrostatic charges on the non-metallic parts (excluding glass parts) or coated parts of the Field Wireless Access Point shall be avoided.
- Take care not to generate mechanical sparking when accessing to the equipment and peripheral device in hazardous locations.

(4) Maintenance and Repair

The maintenance of the equipment must be in accordance with the user’s manual.

When opening the cover, the enclosure should be dry and clean to prevent the ingress of water and dust.

WARNING

- Only personnel authorized by Yokogawa Electric Corporation can repair the equipment.
Control Drawing for YFGW520 (Canada)

Hazardous Location

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

Hazardous Location

Zone 2 / Division 2

YFGW520
Field Wireless Access Point

Radio wave
(IEEE802.15.4)

Metal wiring
or optical fiber

wiring

Control Equipment

Power Supply

*1: These apparatus are simple apparatus.
*2: Surge Protective device is not always installed.

Specific Condition of Use:
- The equipment shall be installed so that pollution degree 2 in accordance with IEC 60664-1 is maintained inside the enclosure.
- The equipment may be used at altitudes up to 3000 m.
- Upon installation, the intrinsically safe circuits of the field wireless access point shall be connected to earth.

Yokogawa Electric Corporation
The equipment must be installed in accordance with the user’s manual.
ATEX

(1) Technical Data

a. Caution for ATEX Type n declaration

Note 1. Model YFGW520 Field Wireless Access Point with optional code /KN27 is applicable for use in hazardous area.

- Ambient temperature: -30 to 70°C (-22 to 158°F)
- IP code: IP66 according to EN 60079-15
- Power supply: Rated voltage: 24 V d.c.
  Voltage Range(Note): 10.0 V d.c. to 26.4 V d.c.
  Note: The equipment shall not be operated outside the range.
- Overvoltage Category: I
- Power consumption: ≤ 3.5 W
- RF power: ≤ 60 mW
- Name plate: See (5) Name plate.
- Atmospheric pressure: 70 kPa to 110 kPa (Altitude: Up to 3000 m)
- Antenna Connection: The following condition must be met.
  \[(\text{Total } L_i \text{ of simple apparatuses}) + (\text{Total } L_c) \leq 3 \text{ mH}\]
  \[(\text{Total } C_i \text{ of simple apparatuses}) + (\text{Total } C_c) \leq 0.8 \mu \text{F}\]

Note 2. Specific condition of use

The equipment shall be installed so that pollution degree 2 in accordance with IEC 60664-1 is maintained inside the enclosure.

Note 3. Warning

WARNING

- POTENTIAL ELECTROSTATIC CHARGEING HAZARD– SEE INSTRUCTIONS.
- DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT
- WHEN THE AMBIENT TEMPERATURE IS ≥ 60°C, USE HEAT-RESISTING CABLES AND CABLE GLANDS WITH RATED TEMPERATURES OF ≥ 80°C.
**Note 4. Installation**

*Hazardous Location*

- Electrical Equipment (e.g.) “d”, “T”, “Type n” equipment
- Zone 2
- YFGW520 Field Wireless Access Point
- Antenna (*1)
- Surge protective device (*1,*2)

*Nonhazardous Location*

- Control Equipment1
- Power Supply

---

*1: These apparatus are simple apparatus.
*2: Surge protective device is not always installed.

---

**NOTE**

- The equipment must be installed in accordance with EN 60079-14 and relevant local codes.
- The equipment must be installed in accordance with the user's manual.
- Electrostatic charges on the non-metallic parts (excluding glass parts) or coated parts of the Field Wireless Access Point must be avoided.
- 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 must be of Ex "n", Ex "e" or Ex "d" and must be installed so as to maintain the specified degree of protection (IP code) according to the environmental conditions. IP must be least IP54.
- 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 protective device are simple apparatus. Li and Ci of the simple apparatus shall be negligible.
NOTE

- The temperature class of the antennas and the surge protective devices must be determined in accordance with EN 60079-14, using Po = 60 mW for ISA antenna connector.

- The following conditions must be met for the connections to ISA
  (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 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 earth connection to the equipment. Care must be taken to avoid multi-point earthing since the equipment is not galvanically isolated from the power supply.

b. Caution for ATEX Flameproof Certification

Note 1. Model YFGW520 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 db [ib] IIC T4 Gb
- Ambient temperature: -40 to 70°C (-40 to 158°F)
- Power supply: Rated voltage: 24 V d.c.
  Voltage Range(Note): 10.0 V d.c. to 26.4 V d.c.
  Note: The equipment shall not be operated outside the range.
- Power dissipation: ≤ 3.5 W
- Um: 250 V
- RF power: ≤ 130 mW
- 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

Note 2. Specific condition of use

- The flame paths differ from the standard values in EN 60079-1. Only personnel authorized by Yokogawa Electric Corporation may repair the equipment.
- From the safety point of view, the intrinsically safe circuit of the Field Wireless Access Point model YFGW520 shall be assumed to be connected to earth.
Note 3. Warning

**WARNING**

- DO NOT REMOVE COVER WHILE CIRCUIT IS LIVE WHEN A FLAMABLE OR COMBUSTIBLE ATMOSPHERE IS PRESENT.
- AFTER DE-ENERGIZING, DELAY 1 MINUTE BEFORE OPENING.
- POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS.
- WHEN THE AMBIENT TEMPERATURE IS ≥ 60°C, USE HEAT-RESISTING CABLES AND CABLE GLANDS WITH RATED TEMPERATURES OF ≥ 80°C.

Note 4. Installation

Electrical Equipment

### Hazardous Location

- Zone 1
- YFGW520
- Field Wireless Access Point

### Nonhazardous Location

- Control Equipment
- Power Supply
- Metal wiring or optical fiber

---

*1: These apparatus are simple apparatus.
*2: Surge protective Device is not always installed.
NOTE

• The equipment must be installed in accordance with EN 60079-14 and relevant local codes.
• The equipment must be installed in accordance with the user’s manual.
• Electrostatic charges on the non-metallic parts (excluding glass parts) or coated parts of the Field Wireless Access Point must be avoided.
• 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” (or “db”) for Ex “d” (or “db”) installations.
• The antenna and the surge protective device are simple apparatus. Li and Ci of the simple apparatus shall be negligible.
• The temperature class of the antenna and the surge protective device must be determined in accordance with EN 60079-14, using Po = 130 mW for ISA antenna connector.
• The following conditions must be met for the connections to ISA  
  (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.
• A marking to indicate type of electrical connection is at the back side of the electrical connection block. 
  marking M : M20(ISO) pitch 1.5  
  marking N : 1/2 NPT
• 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.
(2) Electrical Connection

- The type of electrical connection depends on the marking below on YFGW520.

<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.
- Only personnel authorized by Yokogawa Electric Corporation can repair the equipment 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

<table>
<thead>
<tr>
<th>FIELD WIRELESS ACCESS POINT</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODEL: YFGW520</td>
</tr>
<tr>
<td>SUFFIX: L001</td>
</tr>
<tr>
<td>STYLE: 1301</td>
</tr>
<tr>
<td>SUPPLY: 230V</td>
</tr>
<tr>
<td>S/N:</td>
</tr>
</tbody>
</table>

YOKOGAWA ♦ Made in Japan
TOKYO 180-8750 JAPAN

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

(1) Technical Data

a. Caution for IECEx Type n Certification

Note 1. Model YFGW520 Field Wireless Access Point with optional code SN27 is applicable for use in hazardous area.

- No. IECEx DEK 14.0028X
- Type of Protection and Marking code: Ex nA [ic] IIC T4 Gc
- Ambient Temperature: –30 to 70°C (–22 to 158°F)
- IP code: IP66 according to IEC 60079-15
- Power Supply: Rated Voltage: 24 V d.c.
  Voltage Range(Note): 10.0 V d.c. to 26.4 V d.c.
  Note: The equipment shall not be operated outside the range.
- Overvoltage Category: I
- Power consumption: ≤ 3.5 W
- RF power: ≤ 60 mW
- Name plate: See (5) Name plate.
- 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

The equipment shall be installed so that pollution degree 2 in accordance with IEC 60664-1 is maintained inside the enclosure.

Note 3. Warning

WARNING

- POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS.
- DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT.
- WHEN THE AMBIENT TEMPERATURE IS ≥ 60°C, USE HEAT-RESISTING CABLES AND CABLE GLANDS WITH RATED TEMPERATURES OF ≥ 80°C.
Note 4. Installation

Hazardous Location

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

YFGW520
Field Wireless Access Point

Zone 2

Nonhazardous Location

Hazardous Location

Radio wave (IEEE802.15.4)

Antenna

Surge protective device

ISA
metal wiring or optical fiber

Control Equipment1

Power Supply

wiring

*1: These apparatus are simple apparatus.
*2: Surge protective device is not always installed.
NOTE

- The equipment must be installed in accordance with IEC 60079-14 and relevant local codes.
- The equipment must be installed in accordance with the user’s manual.
- Electrostatic charges on the non-metallic parts (excluding glass parts) or coated parts of the Field Wireless Access Point must be avoided.
- 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 must be of Ex “n”, Ex “e” or Ex “d” and must be installed so as to maintain the specified degree of protection (IP Code) according to the environmental conditions. IP must be at least IP54.
- 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 protective device are simple apparatus. Li and Ci of the simple apparatus shall be negligible.
- The temperature class of the antennas and the surge protective devices must be determined in accordance with IEC 60079-14, using Po = 60 mW for ISA antenna connector.
- The following conditions must be met for the connections to ISA.
  - (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.
b. Caution for IECEx Flameproof Certification

Note 1. Model YFGW520 Field Wireless Access Point with optional code SF27 is applicable for use in hazardous locations.

- Certification: IECEx DEK 15.0021X
- Type of Protection and Marking code: Ex db [ib] IIC T4 Gb
- Ambient Temperature: -40 to 70°C
- Power supply: Rated Voltage: 24 V d.c.
  Voltage Range(Note): 10.0 V d.c. to 26.4 V d.c.
  Note: The equipment shall not be operated outside the range.
- Power dissipation: ≤ 3.5 W
- Um: 250 V
- RF power: ≤ 130 mW
- 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

Note 2. Specific condition of use

- The flame paths differ from the standard values in IEC 60079-1. Only personnel authorized by Yokogawa Electric Corporation may repair the equipment.
- From the safety point of view, the intrinsically safe circuit of the Field Wireless Access Point model YFGW520 shall be assumed to be connected to earth.

Note 3. Warning

WARNING

- DO NOT REMOVE COVER WHILE CIRCUIT IS LIVE WHEN A FLAMABLE OR COMBUSTIBLE ATMOSPHERE IS PRESENT.
- AFTER DE-ENERGIZING, DELAY 1 MINUTE BEFORE OPENING.
- POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS.
- WHEN THE AMBIENT TEMPERATURE IS ≥ 60°C, USE HEAT-RESISTING CABLES AND CABLE GLANDS WITH RATED TEMPERATURES OF ≥ 80°C.
Note 4. Warning

Hazardous Location

Electrical Equipment

Radio wave (IEEE802.15.4)

Hazardous Location

Zone 1

YFGW520
Field Wireless Access Point

Nonhazardous Location

Control Equipment

metal wiring or optical fiber

Wiring

 ISA

100BASE-TX/
100BASE-FX

*1: These apparatus are simple apparatus.
*2: Surge protective Device is not always installed.
NOTE

• The equipment must be installed in accordance with IEC 60079-14 and relevant local codes.

• The equipment must be installed in accordance with the user’s manual.

• Electrostatic charges on the non-metallic parts (excluding glass parts) or coated parts of the Field Wireless Access Point must be avoided.

• 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” (or “db”) for Ex “d” (or “db”) 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 protective device are simple apparatus. Li and Ci of the simple apparatus shall be negligible.

• The temperature class of the antenna and the surge protective device must be determined in accordance with IEC 60079-14, using Po = 130 mW for ISA antenna connector.

• The following conditions must be met for the connections to ISA.
  (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 IEC 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.

• A marking to indicate type of electrical connection is at the back side of the electrical connection block.
  marking M : M20(ISO) pitch 1.5
  marking N : 1/2 NPT

• 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.
(2) Electrical Connection
- The type of electrical connection depends on the marking below on YFGW520.

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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.
- Only personnel authorized by Yokogawa Electric Corporation can repair the equipment.

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 Frameproof type and Type n**

<table>
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<td><strong>MODEL</strong></td>
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<td><strong>STYLE</strong></td>
</tr>
<tr>
<td><strong>SUPPLY</strong></td>
</tr>
<tr>
<td><strong>S/N</strong></td>
</tr>
</tbody>
</table>

**YOKOGAWA**: Made in Japan

**TOKYO**: 180-8750 JAPAN

**MODEL**: Specified model code.

**SUFFIX**: Specified suffix code.

**STYLE**: Style code.

**SUPPLY**: Specified supply voltage and wattage.

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

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

*1: Production year and month are shown as yyyy.mm. For example, 2015.01 denotes January 2015.

*2: “180-8750” is a zip code which represents the following address.

2-9-32 Nakacho, Musashino-shi, Tokyo Japan

- **Hazardous class name plate for Type n**

![WARNING](image1)

No. IECEx DEK 14.0028X
Ex na [i] IIC T4 Gc
-30°C ≤ Ta ≤ 70°C
IP66

- **Hazardous class name plate for Frameproof type**

![WARNING](image2)

No. IECEx DEK 15.0021X
Ex db [ib] IIC T4 Gb
-40°C ≤ Ta ≤ 70°C
Um: 250V

**WARNING**: Do not open when in an explosive atmosphere. It may result in a explosion 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 01W02E02-01EN.

2) External grounding terminal

To connect the grounding cable to YFGWS20 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 01W02E02-01EN.
How to Use Online Manual

It is necessary to install Adobe Acrobat Reader to read the instruction manual (YFGW520 Field Wireless Access Point: IM 01W02E02-01EN).

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:\YFGW520\Document\en\IM01W02E02-01EN.pdf

Preparation to Use YFGW520 Attached Software

To use YFGW520 Attached Software, any of the following operating systems must have been installed in the PC.

<table>
<thead>
<tr>
<th>Supported OS</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows 10 Pro / Home</td>
<td>32/64 bit</td>
</tr>
<tr>
<td>Windows 7 Professional / Home Premium SP1</td>
<td>32/64 bit</td>
</tr>
</tbody>
</table>

*1: Japanese or English version is supported.
*2: Microsoft .NET Framework 4.6.1 is required.

For details on how to install YFGW520 Attached Software, see User's Manual (IM 01W02E02-01EN)

The details of attached DVD-ROM, refer to the Readme_en.txt

DVD-ROM Drive:\YFGW520\Readme_en.txt
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About User’s Manual

- **Composition of User’s Manual**
  This chapter explains the composition of User’s Manual.

  The following printed user’s manual is attached to YFGW520 hardware.
  
  • IM 01W02E02-11EN: YFGW520 Field Wireless Access Point Read Me First

  The following online user’s manual is stored in the attached DVD-ROM for YFGW520.
  
  • IM 01W02E02-01EN: YFGW520 Field Wireless Access Point
# Information of User’s Manual Revision

**Material Name:** YFGW520 Field Wireless Access Point Read Me First  
**Material Number:** IM 01W02E02-11EN

<table>
<thead>
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<th>Edition</th>
<th>Date</th>
<th>Page</th>
<th>Revised Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Edition</td>
<td>March 2018</td>
<td>—</td>
<td>New Issue</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Add FM Approvals (United States and Canada)</td>
</tr>
</tbody>
</table>
| 3rd Edition | Mar. 2019 | 9    | Add RPA compliance  
|            |          | 10   | Add China RoHS                                       |
Field Wireless Access Point Setup Tool
Software License Agreement

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2.7 The Software Product may contain open source software ("OSS"), for which separately provided special terms and conditions shall take precedence over this Agreement.

3. Restrictions on use

3.1 Unless otherwise agreed in writing between Licensee and Yokogawa, the Software Product is not intended, designed, produced or licensed for aircraft operation or control, ship navigation, 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 above mentioned purposes, neither Yokogawa nor Supplier assumes liability for any claim or damage arising from the said use and Licensee 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 and/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) operation of 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 therefrom 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 run is specified, such 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 for the Third Party Software and/or OSS is subject to the special terms and conditions separately provided with respect to such Third Party Software and/or OSS.

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, INCLUDING WITHOUT LIMITATION, 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. 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 Licensee is warned or receives 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”), Licensee shall promptly notify Yokogawa thereof in writing.

6.2 If the infringement is attributable to Yokogawa, Yokogawa will defend Licensee from the Claim at Yokogawa’s expense and indemnify Licensee from the damages finally granted by the court or otherwise settled by Yokogawa out of court. The foregoing obligation and indemnity of Yokogawa shall be subject to i) Licensee promptly notifying Yokogawa of the Claim in writing as provided above, ii) Licensee granting to Yokogawa and its designees the full authority to control the defense and settlement of such Claim and iii) Licensee to 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 Licensee 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 becomes non-infringing, or d) if Yokogawa believes that a) through c) are not practicable, refund Licensee the 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 Licensee shall defend and indemnify Yokogawa and its suppliers from and against, the Claim, if the infringement is arising from, based on or caused by a) any modification of or addition to the Software Product or related documentation not provided or approved by Yokogawa, b) a combination of the Software Product and other equipment, software or systems, whether or not Yokogawa supplied or suggested such use of combination, c) design or instruction provided by or on behalf of Licensee, d) not complying with Yokogawa’s suggestion, e) an act or omission of Licensee, its customers or any other persons than Yokogawa, except those carried out on the express instruction of Yokogawa, or f) any other causes not attributable to Yokogawa.

6.5 This section states the entire liability of Yokogawa and its suppliers and the sole remedy of Licensee with respect to any claim of infringement of third party’s intellectual property rights. Notwithstanding anything to the contrary stated herein, with respect to the claims arising from or related to the Third Party Software or OSS, the special terms and conditions separately provided for such Third Party Software or OSS shall prevail.

7. Limitation of Liability
EXCEPT TO THE EXTENT THAT LIABILITY MAY NOT LAWFULLY BE EXCLUDED OR LIMITED BY CONTRACT, YOKOGAWA AND SUPPLIERS SHALL NOT BE LIABLE TO ANY PERSON OR LEGAL ENTITY FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OF MATERIALS OR PRODUCTS, LOSS OF PRODUCTION, LOSS OF CONTRACTS, LOSS OR DESTRUCTION OF DATA, LOSS OF AVAILABILITY AND THE LIKE, OR INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES, OR OTHER SIMILAR DAMAGES OF ANY KIND, 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 5) SHALL EXCEED THE BOOK VALUE OF THE LICENSE FEE PAID TO YOKOGAWA FOR THE USE OF THE CONCERNED PART OF THE SOFTWARE PRODUCT.

If the product delivered by Yokogawa is altered, modified or combined with other software or is otherwise made different from Yokogawa’s 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 by law.

8. Assignment
Licensee shall not assign its rights or obligations under this Agreement without prior written consent of Yokogawa. If Licensee novates or assigns this Agreement and the Software Product with Yokogawa’s consent, Licensee shall transfer all copies and whole part of the Software Product to the assignee and shall delete any and all copy of the Software Product in possession irretrievably. This Agreement shall inure to the benefit of and shall be binding on the successors of the parties.

9. Export Control
Licensee agrees 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 Licensee exports or re-exports the Software Product, to obtain export/import permit and take all necessary procedures under Licensee’s own responsibility and at Licensee’s own expense.

10. Audit; Withholding
10.1 Yokogawa shall have the right to access and audit Licensee’s facilities and any of Licensee’s records, including data stored on computers, in relation to the use of the Software Product as may be reasonably necessary to verify that the requirements of this Agreement are being met.

10.2 Even after the 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 inappropriate for Licensee 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 Licensee, if Licensee or end users breach any of the terms and conditions hereof. Upon termination of this Agreement, Licensee 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 Licensee 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; Dispute Resolution
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 does not prevent such party from doing so at a later time, either in relation to that default or any subsequent default.