User's
Manual

YFGW610
Field Wireless Media Converter

Read Me First

IM 01W02D02-11EN

This document specifies the important information to use this product correctly and safely for YFGW610 Field Wireless Media Converter.

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

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YOKOGAWA
Yokogawa Electric Corporation

IM 01W02D02-11EN
5th Edition

Introduction

This manual (IM 01W02D02-11EN) describes the safety precautions, explosion protected type specifications for the YFGW610.

There are three documents including this one for the YFGW610 listed below. Read them along with this manual.

Document No.	Document name	Description
IM 01W02D02-01EN	YFGW610 Field Wireless Media Converter	This manual is for YFGW610. It describes installation, wiring, operation, maintenance and specification of the YFGW610.
IM 01W02D02-11EN	YFGW610 Field Wireless Media Converter Read Me First	This manual. It describes the safety precaution, explosion-protected type specifications for the YFGW610.
GS 01W02D02-01EN	YFGW610 Field Wireless Media Converter	Product specification including detailed model and suffix code, optional specifications and accessory of YFGW610.

Regarding This User's Manual

- **This manual should be provided to the end user. Please recommend end users to keep this manual at hand and refer to it as needed.**
- **Before use, read this manual thoroughly to comprehend its contents.**
- **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.**
- **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.**

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Safety Precautions

Safety, Protection, and Modification of the Product

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



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 this product and the system, please be sure to follow this manual's safety instructions when handling this product. If these instructions are not heeded, the protection provided by this product may be impaired. In this case, Yokogawa cannot guarantee that this product 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. All installation shall comply with local installation requirements and the local electrical code.

(c) Operation

CAUTION

When ambient temperature is beyond 50°C, a temperature of the surface is very high. Please be careful not to touch with bare hands.

(d) Maintenance

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

(e) Explosion-Protected Instrument

- Users of explosion-protected instruments should refer first to “Explosion-Protected type Specification” section of this manual.
- The use of this instrument is restricted to those who have received appropriate training in the device.
- Take care not to create sparks when accessing the instrument or peripheral devices in a hazardous location.
- Repair or modification to this instrument by customer will cause malfunction of explosion protect function and hazardous situation. If you need to repair or modification, please contact the nearest Yokogawa office.

(f) Modification

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

(g) Product Disposal

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

(h) Authorized Representative in EEA

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

Warranty

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

The guarantee will not apply in the following cases:

- **Damage due to negligence or insufficient maintenance on the part of the customer.**
- **Problems or damage resulting from handling, operation or storage that violates the intended use and specifications.**
- **Problems that result from using or performing maintenance on the instrument in a location that does not comply with the installation location specified by Yokogawa.**
- **Problems or damage resulting from repairs or modifications not performed by Yokogawa or someone authorized by Yokogawa.**
- **Problems or damage resulting from inappropriate installation after delivery.**
- **Problems or damage resulting from disasters such as fires, earthquakes, storms, floods, or lightning strikes and external causes.**

Warranty and Disclaimer

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

Notes on Hardware

Appearance and Accessories

Check the following when you receive the product:

- Appearance
- Standard accessories

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

Model and Suffix Codes

The name plate on the product contains the model and suffix codes. Verify that the specification indicated in the "MODEL AND SUFFIX CODES" and "OPTIONAL SPECIFICATIONS" in General Specifications "GS 01W02D02-01EN" is in compliance with the specifications written on the order sheet. If you have any questions, contact our sales office or your local distributor.

Cautions for Safely Applying the Device

EMC Conformity Standards

EN 61326-1 Class A, Table 2, 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 60825-1, CSA-C22.2 No. 61010-1

(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) Overvoltage 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) Indoor/Outdoor use

It can be used in indoors and outdoors.

(4) Altitude of installation site

Max. 3,000 m above sea level

About Laser

YFGW610-C is compliant with class 1 laser in accordance with EN 60825-1:2014 and CDRH 21-CFR 1040.

CAUTION

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

Wiring the Ground

Appropriate grounding is necessary for the stable operation of YFGW610.

The frame ground (FG) terminal (M4 screw) is located on the side of power supply connector on the top side of the mainbody.

To connect the ground cable to the FG terminal, use a ring tongue terminal for M4 with an insulation sleeve.

Secure the M4 screws at a tightening torque of 1.2 to 1.5 Nm.

SEE ALSO For grounding of YFGW610, see "B4.3 Grounding" of the YFGW610 user's manual (IM 01W02D02-01EN).

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

型号	部件名称	有害物质					
		铅（Pb）	汞（Hg）	镉（Cd）	六价铬（Cr(VI)）	多溴联苯（PBB）	多溴二苯醚（PBDE）
YFGW610 现场无线媒介转换器	壳体	×	○	○	○	○	○
	基板组件	×	○	○	○	○	○
	电缆	×	○	○	○	○	○
○：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 IEC 63000 (Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances)

Explosion Protected Type Specifications

CAUTION

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

Optional Specifications (For Explosion Protected Types)

Item	Description	Code
Factory Mutual (FM)	Nonincendive Approval *1	-
ATEX	Type n declaration *2 Applicable Standard: EN IEC 60079-0, EN 60079-15 II 3 G Ex nA IIC T4 Gc X Amb. Temp.(Tamb): -40 to 65°C Altitude: Up to 3000 m	KN27
Canadian Standards Association (CSA)	Nonincendive Approval *1	-
IECEx	Type n Approval *2	-

*1: To be compliant with these standards, the YFGW610 hardware needs to be installed in a lockable metal cabinet.
*2: To be compliant with these standards, the YFGW610 hardware needs to be installed in a lockable metal cabinet of IP54 or higher protection rating.

ATEX

Caution for ATEX Type n declaration

(1) Technical Data

Note 1. Model YFGW610 Field Wireless Media Converter with optional code /KN27 is applicable for use in hazardous area.

- Applicable Standards: EN IEC 60079-0, EN 60079-15
- Marking:  II 3 G Ex nA IIC T4 Gc X
- Ambient Temperature: -40 to 65°C
- Power Supply: Rated voltage: 24.0 V DC
  Voltage Range *1 10.8 to 26.4 V DC
  *1: The equipment shall not be operated outside the range.
- Power Dissipation: ≤ 10 W
- Altitude: Up to 3000 m
- Enclosure: The equipment shall be installed in an enclosure that provides a minimum ingress protection of IP54 in accordance with EN 60079-15.
- Pollution degree: 2
- Signals: Ethernet and Optical fiber communication
- Optical source
  YFGW610-B: ≤ -11 dBm (80μW)
  YFGW610-C: Class 1 in accordance with IEC 60825-1

(2) Specific Conditions of Use

- The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1.
- The equipment shall be installed in an enclosure that provides a minimum ingress protection of IP 54 in accordance with IEC 60079-15.

(3) Installation

WARNING

- The equipment shall be installed and used within their ratings.
- All equipment and wiring in hazardous areas shall be installed in accordance with EN 60079-14 and related local electrical codes and the installation shall also comply with the appropriate requirements for non-hazardous areas.
- The equipment must be installed in accordance with the user's manual.
- Instructions provided in GS (General specifications) ,TI (Technical Information of Installation Guidance) and/or IM (User's Manuals) shall be observed.
- The installation shall be carried out only by qualified personnel whose training has included instruction on the type of protection and installation practices, relevant rules and regulations and general principles of area classification.
- The degree of protection not less than IP54 shall be maintained at cable entries into the cabinet.
- It must be observed during the installation that the venting slots of the equipment are not blocked off by cable parts, fixing accessories etc.

- On completion of the installation and prior to first use, initial inspection of the equipment and installation shall be carried out in accordance with EN 60079-17.
- Screws of terminals for field wiring connections shall be tightened.
- Make sure that all the cables are rigidly fixed in the cabinet so as to ensure the safety and performance.

(4) Operation

WARNING

WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT

DO NOT OPEN THE CABINET WHILE THE EQUIPMENT ARE ENERGIZED

DO NOT SEPARATE THE CONNECTIONS WHEN ENERGIZED

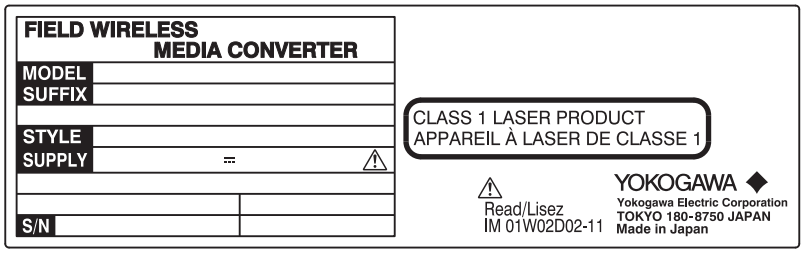
(5) Maintenance and Repair

WARNING

- A modification of the equipment would no longer comply with the construction described in the certificate documentation.
- Only personnel authorized by Yokogawa Electric Corporation can repair the equipment.

(6) Name Plate

- Main Name plate



MODEL: Specified model code.

SUFFIX: Specified suffix code.

STYLE: Style code.

SUPPLY: Specified Voltage Range and wattage.

S/N: 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 postal code which represents the following address.
2-9-32 Nakacho, Musashino-shi, Tokyo Japan

- Hazardous class name plate



Copyright and Trademark Notices

All Rights Reserved

The copyrights of these manuals are reserved.

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

Trademark Acknowledgments

- Ethernet is a registered trademark of XEROX Corporation.
- All other company and product names mentioned in this User's Manual are trademarks or registered trademarks of their respective companies.
- We do not use TM or ® mark to indicate those trademarks or registered trademarks in this User's Manual.

Patent Notice

Notice

NO RIGHTS OR LICENSES, EXPRESS OR IMPLIED, ARE GRANTED TO USE THIRD-PARTY DEVICES IN COMBINATION WITH THESE PRODUCTS IN A WIRELESS MESH NETWORK, OR TO USE THIRD-PARTY SERVICES TO ACCESS, MONITOR OR CONTROL THESE PRODUCTS IN A WIRELESS MESH NEWORK VIA THE INTERNET OR ANOTHER EXTERNAL WIDE AREA NETWORK.

Patent Marking

Covered by one or more claims of patents: http://sipcollc.com/patent-list/ and http://intusiq.com/patent-list/.

About User's Manual

Composition of User's Manual

This chapter explains the composition of User's Manual.

The following printed user's manuals are attached to YFGW610 hardware.

- IM 01W02D02-11EN: YFGW610 Field Wireless Media Converter Read Me First
- IM 01W02D02-01EN: YFGW610 Field Wireless Media Converter

Information of User's Manual Revision

Material Name: **YFGW610 Field Wireless Media Converter Read Me First**

Material Number: **IM 01W02D02-11EN**

Edition	Date	Page	Revised Item
1st Edition	May 2014		New Issue
2nd Edition	March 2016	2 5+ 9,10	Add document list Add "Safe Use of This Product" Delete Expired issue year of ATEX Applicable Standard "EN 60079-0:2009"
3rd Edition	March 2017	2 5 9 10, 11 13 14	Update "Introduction" Update "Safe Use of This Product" Add RoHS description Update ATEX Type n declaration Update name plates Add "Patent Notice"
4th Edition	March 2018	4-13	Add "About Laser" Update ATEX Type n declaration Modify alert symbol mark and signal word
5th Edition	July 2021	3 7 8 9 to 12	Delete ATEX documentation. Add notes for low battery alarm. Updated EU RoHS standard. Updated ATEX standard.