
**User's
Manual**

**Model FLXA202 / FLXA21
2-Wire Analyzer
Start-up Manual**



IM 12A01A02-12E

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This Start-up Manual explains mainly the installation and wiring of the FLXA202/FLXA21.
For detailed information and other information, the User's Manual of the FLXA202/FLXA21
should be referred to.

◆ Introduction

Thank you for purchasing the FLXA202/FLXA21 2-Wire Analyzer.

Please read the following respective documents before installing and using the FLXA202/FLXA21.

When the FLXA21 with the output of FOUNDATION Fieldbus or PROFIBUS PA Communication is used, please refer to the User's Manual, IM 12A01A02-71E or IM 12A01A02-72E, too.

The related documents are as follows.

General Specifications

| Contents | Document number | Note |
|-------------------------|------------------|---------------------------------------|
| FLXA202 2-wire Analyzer | GS 12A01A03-01EN | These are included In attached CD-ROM |
| FLXA21 2-wire Analyzer | GS 12A01A02-01E | |

* the "E" or "EN" in the document number is the language code.

User's Manual

| Contents | Document number | Note |
|---|-----------------|--|
| FLXA202/FLXA21 Start-up Manual | IM 12A01A02-12E | This manual Attached to the product |
| FLXA202/FLXA21 Safety Precautions | IM 12A01A02-20E | Attached to the product |
| FLXA202/FLXA21 User's Manual | IM 12A01A02-01E | These are included In attached CD-ROM |
| FLXA21 FOUNDATION Fieldbus Communication | IM 12A01A02-71E | |
| FLXA21 PROFIBUS PA Communication | IM 12A01A02-72E | |

* the "E" in the document number is the language code.

Please read the General Specifications for Checking the model and suffix code. The General Specifications includes it.

■ Notes on Handling User's Manuals

- Please hand over the user's manuals to your end users so that they can keep the user's manuals on hand for convenient reference.
- Please read the information thoroughly before using the product.
- The purpose of these user's manuals is not to warrant that the product is well suited to any particular purpose but rather to describe the functional details of the product.
- No part of the user's manuals may be transferred or reproduced without prior written consent from YOKOGAWA.
- YOKOGAWA reserves the right to make improvements in the user's manuals and product at any time, without notice or obligation.
- If you have any questions, or you find mistakes or omissions in the user's manuals, please contact our sales representative or your local distributor.

■ Drawing Conventions

Some drawings may be partially emphasized, simplified, or omitted, for the convenience of description.

Some screen images depicted in the user's manual may have different display positions or character types (e.g., the upper / lower case). Also note that some of the images contained in this user's manual are display examples.

■ **Authorised Representative in EEA**

The Authorised Representative for this product in EEA is Yokogawa Europe B.V. (Euroweg 2, 3825 HD Amersfoort, The Netherlands).

Model FLXA202 / FLXA21

2-Wire Analyzer

Start-up Manual

IM 12A01A02-12E 8th Edition

CONTENTS

| | | |
|-------|--|----|
| ◆ | Introduction..... | i |
| 1. | Instrument Check..... | 1 |
| 2. | Wiring and Installation..... | 3 |
| 2.1 | Installation site..... | 3 |
| 2.2 | Wiring the power supply..... | 3 |
| 2.2.1 | Cables, terminals and glands for FOUNDATION Fieldbus or PROFIBUS PA..... | 4 |
| 2.2.2 | Grounding..... | 5 |
| 2.2.3 | Connection of the power supply..... | 6 |
| 2.2.4 | Installing the cable glands..... | 6 |
| 2.3 | Wiring the sensor..... | 9 |
| 2.3.1 | pH Measurement..... | 10 |
| 2.3.2 | ORP Measurement..... | 11 |
| 2.3.3 | SC Measurement..... | 12 |
| 2.3.4 | ISC Measurement..... | 13 |
| 2.3.5 | DO Measurement..... | 13 |
| 2.3.6 | SENCOM pH/ORP Measurement..... | 14 |
| 2.3.7 | Wiring of YOKOGAWA sensors..... | 15 |
| 2.3.8 | Wiring of HAMILTON sensors..... | 16 |
| 2.3.9 | Wiring covers..... | 16 |
| 3. | Operation..... | 18 |
| 3.1 | Change language..... | 18 |
| 3.2 | Quick setup..... | 18 |
| 3.3 | Basic operation (when two sensors are connected)..... | 19 |
| 4. | Commissioning..... | 20 |
| 5. | Maintenance..... | 21 |
| ◆ | Appendix..... | 22 |
| | Revision Record..... | i |

1. Instrument Check

Upon delivery, unpack the instrument carefully and inspect it to ensure that it was not damaged during shipment. If damage is found, retain the original packing materials (including the outer box) and then immediately notify the carrier and the relevant Yokogawa sales office.

■ Checking the model and suffix code

● FLXA202

Make sure the model and suffix code on the nameplate affixed to the left side of the housing.

NOTE

Be sure to apply correct power to the unit, as detailed on the nameplate.

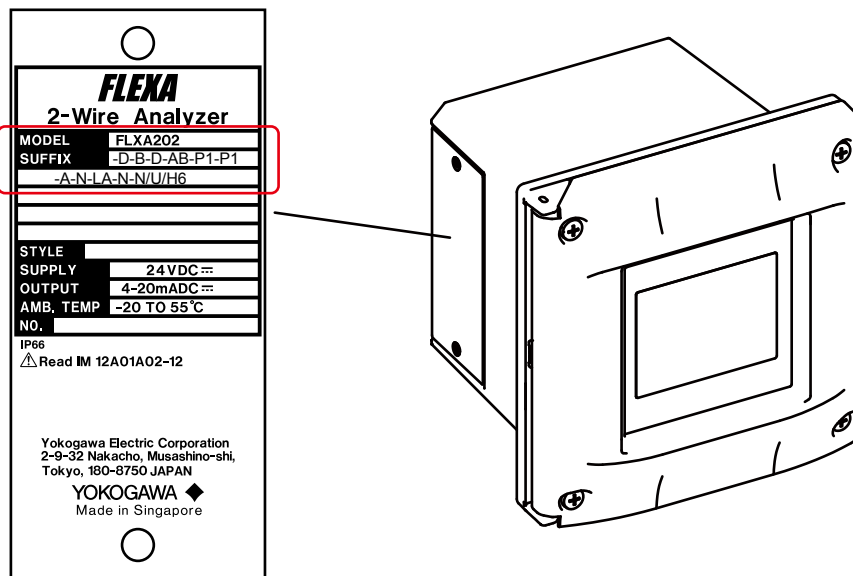


Figure 1.1 Inside of the FLXA202 and example of nameplate

● FLXA21

Loosen four front panel screws of the FLXA21, open the panel to the left, and make sure the model and suffix code on the nameplate affixed to the back side of the front panel agrees with your order.

CAUTION

When you open the front panel, make sure the screws are completely out of the screw holes, and then open the front panel slowly in order not to damage the threaded parts on the housing. If the threaded parts are damaged and the screws cannot be tightened, the waterproof performance will deteriorate.

NOTE

Be careful not to lose the four front panel screws.

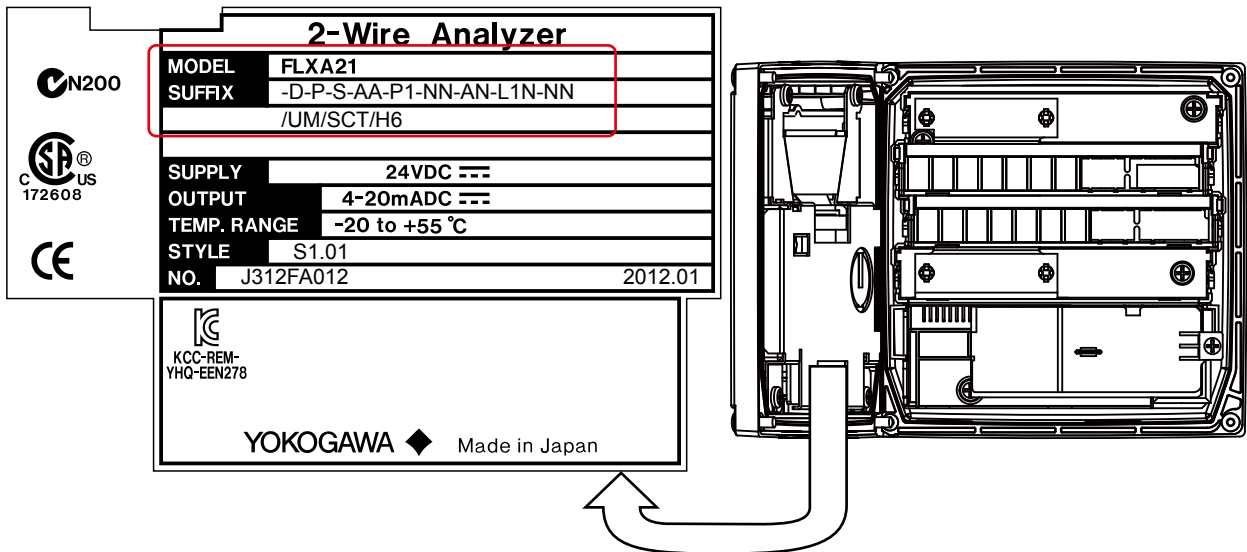


Figure 1.2 Inside of the FLXA21 and example of nameplate

● **Checking the accessories**

Make sure the accessories in Table 1.1 are included.

Table 1.1 Accessories

| | Product Name | Quantity | Remark | |
|--------------------|-----------------------------|-------------------------|--|--|
| Cable glands | FLXA202 | 3 sets | One rubber plug attachment. | |
| | FLXA21 | Plastic housing | 3 or 4 sets | 4 sets when 2 sensors are used. One grommet for grounding attachment. |
| | | Stainless steel housing | 3 sets | One rubber plug attachment. |
| pH analyzer | Jumper | 2 pcs/module | | |
| | Grommet set | 1 set/module | | |
| SENCOM pH analyzer | Grommet | 1 | | |
| Option | Bracket | 1 set | Option code /UM*, /U, /PM | |
| | Sun shade hood | 1 set | Option code /H6, /H7, /H8 | |
| | Tag plate | 1 | Option code /SCT | |
| | Adapter for conduit work | 3 or 4 sets | Option code /CB4, /CD4, /CF4 4sets when Plastic housing are used. | |
| | Instruction Manual (CD-ROM) | 1 copy | | |
| | Startup Manual | 1 copy | This manual | |
| | Safety Precautions | 1 copy | | |

*: The universal mounting kit (/UM) contains the brackets for both /U and /PM options.

2. Wiring and Installation

Open the front panel and remove the plastic wiring covers, and then install the cable glands (refer to the Appendix A1). The wiring covers will be re-installed after the wiring is completed.

2.1 Installation site

The FLXA202/FLXA21 is weatherproof and can be installed both inside and outside. It should, however, be installed as close as possible to the sensor to avoid long cable runs between the instrument and sensor. When a pH sensor is used, the cable length including the sensor cable should not exceed 20 meters (65.6 feet); 60 meters (197 feet) when using BA10 extension box and WF10 cable. For a conductivity sensor the cable run should not exceed 60 meters (197 feet). For dissolved oxygen the sensor cable run should not exceed 30 meters (100 feet). For SENCOM pH/ORP the sensor cable run should not exceed 20 meters (65.6 feet).

Select an installation site that meets the following conditions.

- Mechanical vibrations and shocks are negligible
- No relay switch and power switch are installed close to the converter
- There is space for cable connection beneath the cable glands
- Not exposed to direct sunlight or severe weather conditions
- Maintenance is possible
- No corrosive atmosphere
- Ambient Operating Temperature: -20 to +55 °C
- Humidity: 10 to 90% RH at 40 °C (Non-condensing)
- Water Protection: IP66 (except Canada), NEMA 4X (except Canada), Type 3S/4X (Canada)

If the instrument is installed outside and exposed to direct sunlight, a sun shade hood should be used.

The FLXA202/FLXA21 can be mounted on a wall, pipe or panel when the mounting kit is ordered. For dimensional information please refer to the Appendix, Mounting methods.

2.2 Wiring the power supply

FLXA202/FLXA21 is a 2-wire analyzer and can be powered by a DC power supply.

- Output is FOUNDATION Fieldbus and PROFIBUS PA option
The Power Supply voltage is 9 to 32V DC.
- Output is mA with HART
The load resistance: impedance of electronic equipment: typically 250 Ohm
Number of input modules: 1-sensor measurement or 2-sensor measurement.

One (1) Sensor module (1 input):

16 to 40 V DC (for pH/ORP, SC and DO)

17 to 40 V DC (for ISC)

21 to 40 V DC (SENCOM pH/ORP)

Two (2) Sensor modules (2 inputs):

22.8 to 40 V DC (for pH/ORP, SC and DO)

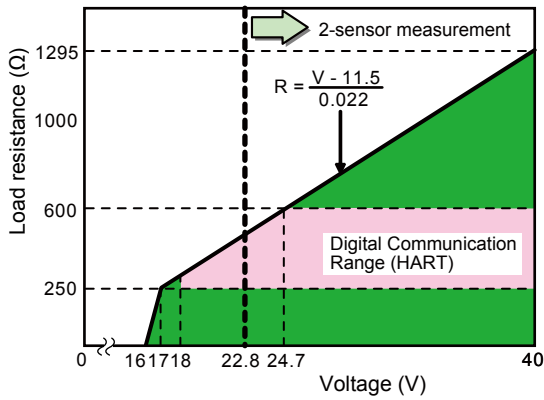


Figure 2.1 Supply Voltage and Load Resistance for pH/ORP (analog sensor), SC and DO

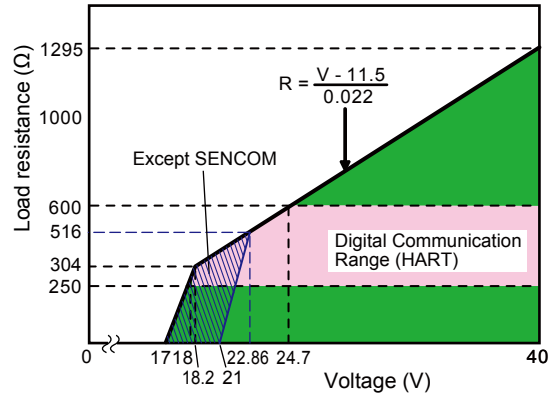


Figure 2.2 Supply Voltage and Load Resistance for ISC and pH/ORP SENCOM sensor

2.2.1 Cables, terminals and glands for FOUNDATION Fieldbus or PROFIBUS PA

Wire and install the system by referring to chapter 2 in the FLXA21 instruction manual (IM 12A01A02-01E).

The FOUNDATION Fieldbus or PROFIBUS PA power supply is 9 to 32 V DC. The wiring is the same.

However, for the FOUNDATION Fieldbus or PROFIBUS PA cables, see Table 2.1.

Table 2.1 FOUNDATION Fieldbus or PROFIBUS PA Cables and transmissible Length

| Parameters | Conditions | Type A | Type B | Type C | Type D |
|-------------------------|------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Max DC Resistance, Ω/km | per conductor | 22 | 56 | 132 | 20 |
| Max Attenuation, dB/km | 1.25 f, (39 kHz) | 3.0 | 5.0 | 8.0 | 8.0 |
| Gauge | — | #18 AWG (0.82 mm ²) | #22 AWG (0.32 mm ²) | #26 AWG (0.13 mm ²) | #16 AWG (1.25 mm ²) |
| Max Length, meters | — | 1,900 | 1,200 | 400 | 200 |

Note: 1900 m is trunk + sum of Spurs (Max length type A cable)

Yokogawa recommends the use of Type A.

Usage of Type B and D is restricted.

Yokogawa does not recommend the use of Type C.

Table 2.2 Recommended length of Spur Cables

| Number of spur cables | Length of a non-intrinsically safe spur cable |
|-----------------------|---|
| 15-16 | 60 m |
| 13-14 | 90 m |
| 1-12 | 120 m |

Note: • 1 device per spur.
• Keep as short as possible (min 1 m)

● **When using a SENCOM module**

When using a SENCOM module, you need to use the supplied cable clamp to fix the sensor cables in place. Attach the supplied cable clamp as shown in Figure 2.3.

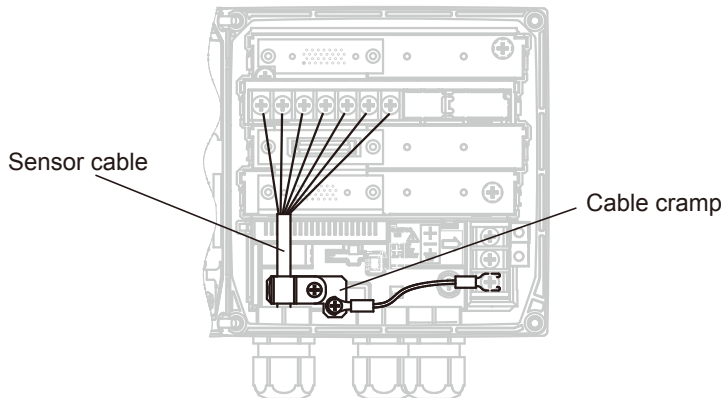


Figure 2.3 When using a SENCOM module

● **DIP switches**

Figure 2.4 shows the DIP switches for setting the address and write protection. Normally, you do not have the change them from the default settings.

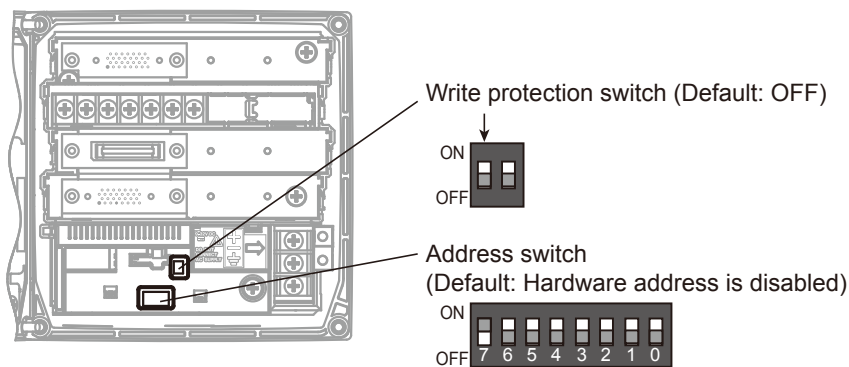
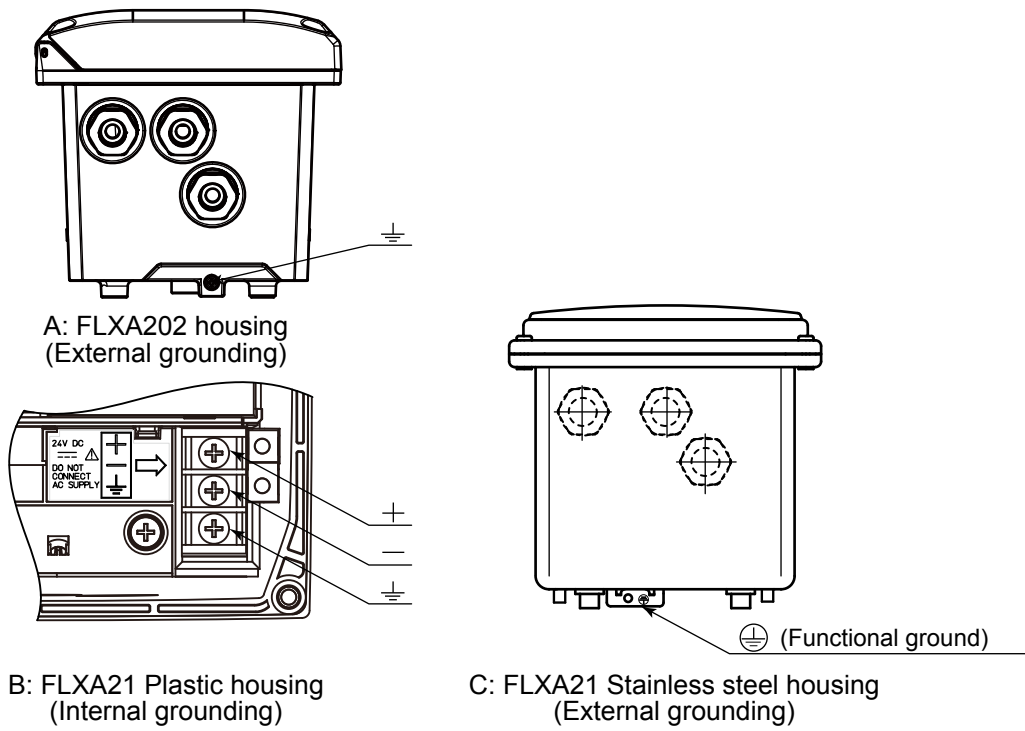


Figure 2.4 DIP switches

2.2.2 Grounding

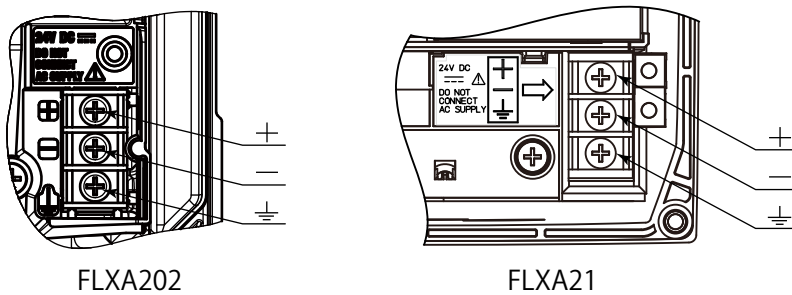
The way of connecting the grounding is different from Plastic housing, Stainless steel housing.

- FLXA202
The ground cable is connected to the outer terminal marked \perp
- Plastic housing of FLXA21
The ground cable is connected to the inner terminal marked \perp
- Stainless steel housing of FLXA21
The ground cable is connected to the outer terminal marked \oplus



2.2.3 Connection of the power supply

The power supply is connected to the terminals marked with + and – which corresponds with the polarity of the DC power supply. The shield of cable is connected to the terminal marked ⊥, then replace ground wiring cover.



CAUTION

The FLXA202/FLXA21 is used with a DC power supply. Do not use an alternating current or 100 volt mains power supply.

2.2.4 Installing the cable glands

The supplied cable glands are for cables with an outside diameter of 6 to 12 mm (0.24 to 0.47 inches). Unused cable entry holes must be sealed with cable glands including the supplied close up plugs.

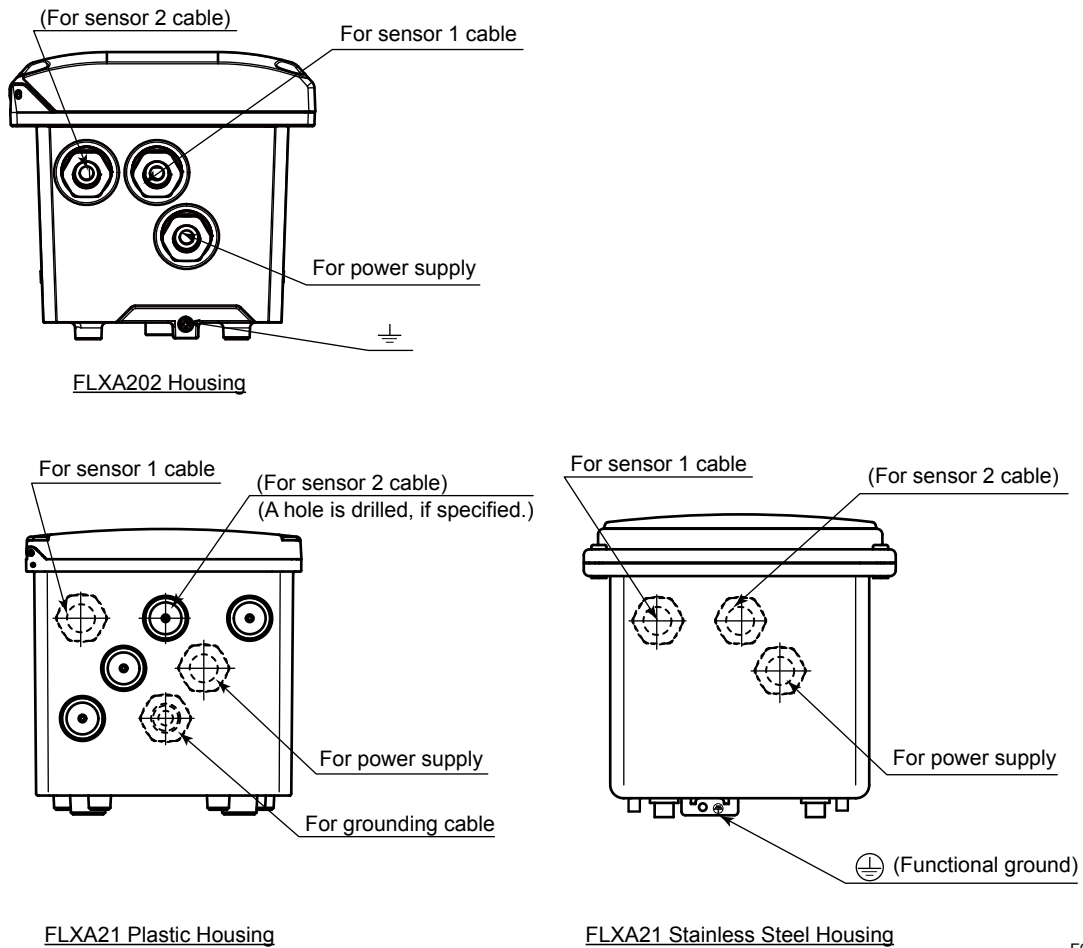


Figure 2.5 Cable gland diagram

F0202.ai

CAUTION

Be careful not to be injured by the sharp hole edges on the housing.

Install the supplied cable gland as shown in Figure 2.6. When using an adapter for conduit work, see Figure 2.7.

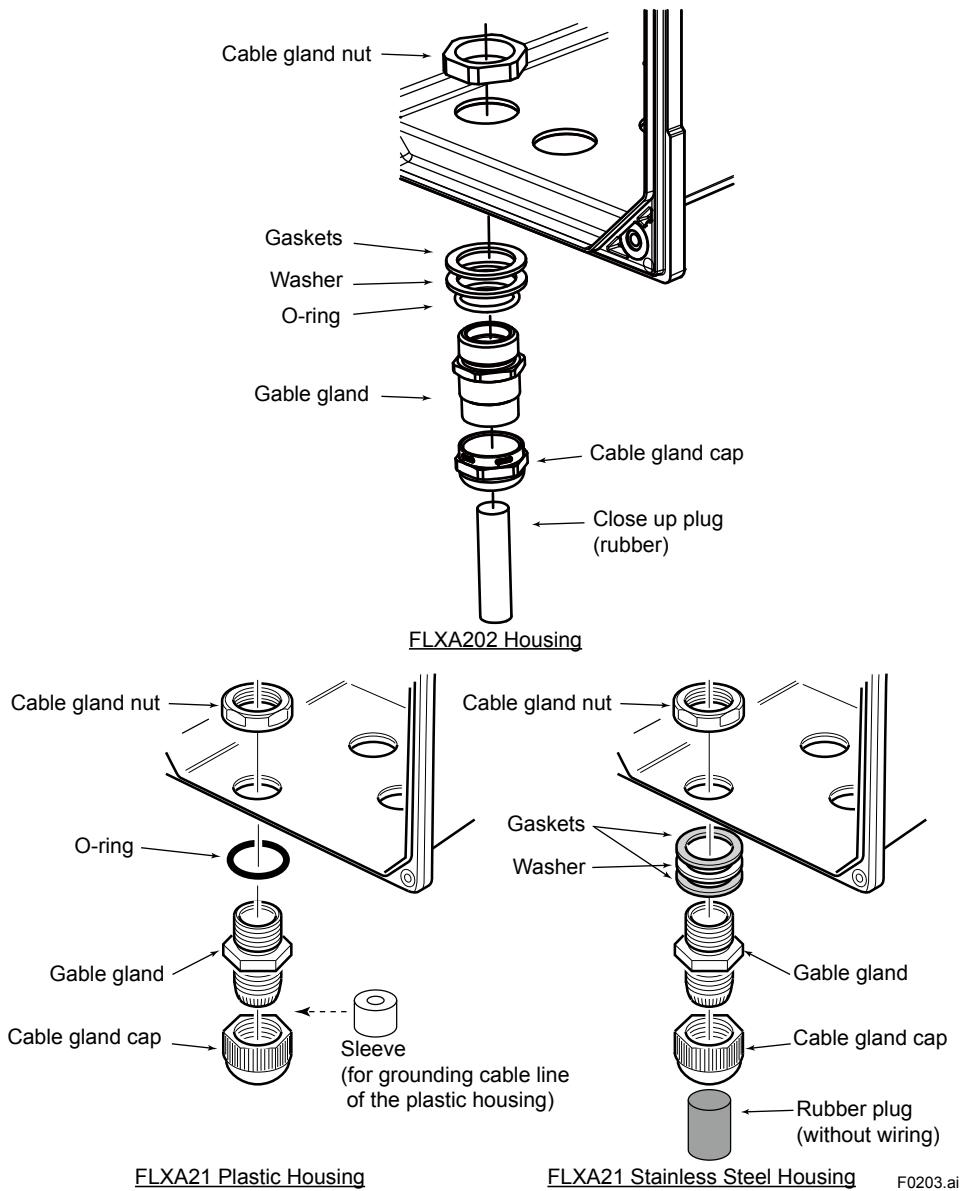


Figure 2.6 Cable glands

The unused cable glands should be sealed with the supplied close up plug.

CAUTION

When installing cable glands, hold cable glands and tighten cable gland nuts to a torque of 6 N•m. If cable glands, not gland nuts, are tightened, O-rings may be come out from the proper positions.

● **Adapter for conduit work**

When protecting the cable with a conduit, use an adapter (option codes: /CB4, /CD4, or /CF4). Set the adapter as shown in figure 2.7, instead of using the cable gland as shown in figure 2.6.

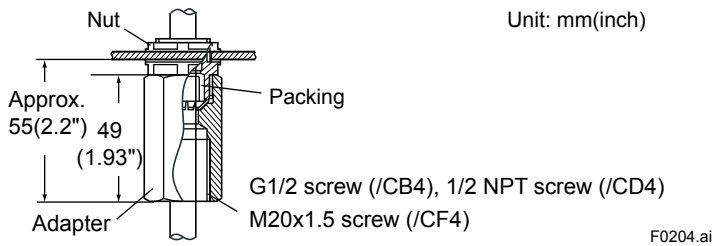


Figure2.7 Adapter for conduit work (option)

CAUTION

When using a cable conduit, use a flexible conduit to avoid stress on the conduit adapter. The stress on the conduit adapter may damage the housing.

2.3 Wiring the sensor

The FLXA202/FLXA21 can be used with a wide range of commercially available sensor types, both from Yokogawa and other manufacturers.

Terminal screw size is M4, and torque of screw up is 1.2N•m

Pin terminal, ring terminal and spade terminal can be used.

Pin terminal: pin diameter: max. 1.9mm

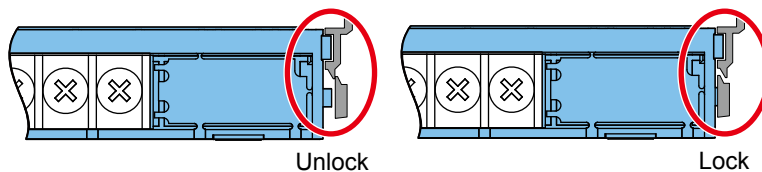
Ring and spade terminal: width: max. 7.8mm

For details on the sensors, refer to the respective instruction manuals of the sensors.



WARNING

Confirm that all locking-tabs (including for BLANK slots) of FLXA21 are in “Lock” position before you close the front panel. If the locking-tabs are in “Unlock” position, the front panel may be interfered with locking-tabs.





WARNING

Do not tighten up four front panel screws one by one.

Each front panel screw should be tightened up in two times of screwing. And, firstly the screw at the upper left should be screwed a bit, the next is at the lower right, third is at the upper right, and fourth is at the lower left. The second round is the same sequence again to tighten up four screws.

Do not use an electric screwdriver with high revolutions. If an electric screwdriver is used for these front panel screws, the revolutions of the electric screwdriver should be less than 400 rpm.

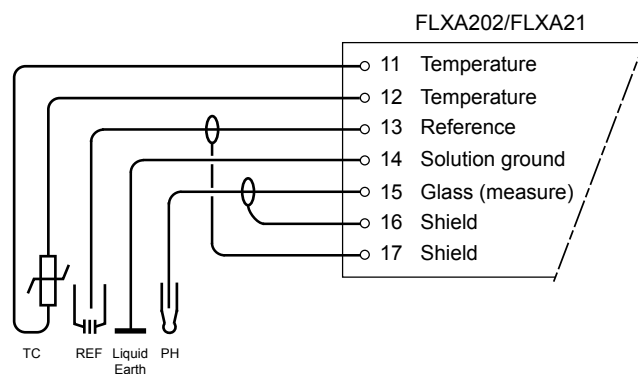
Four screws should be tightened to the following torque;

0.8 to 0.9 N•m (for the plastic housing)

1.5 to 1.6 N•m (for the stainless steel housing)

2.3.1 pH Measurement

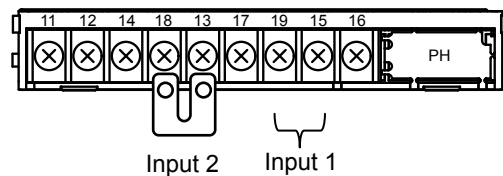
Conventional pH sensors are connected to the module as follows:



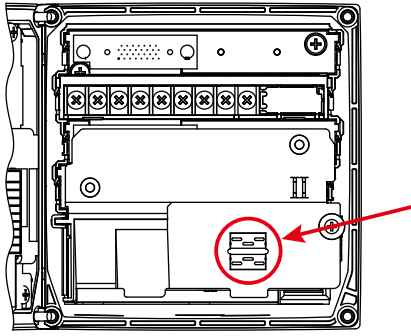
In addition to the wiring of the sensor, insure that a jumper for low-impedance sensor inputs is installed. The jumpers can be found on the plastic sensor module cover and can be stored in the lower level module wiring cover.

- pH Glass Electrode is a high impedance sensor input
- Standard reference electrodes and an ORP/REDOX electrode are low impedance sensor inputs
- Special electrodes using 2 glass sensor (example: Pfaudler, SC24V) do not need jumpers.

Terminals 15-16 are identified as input 1 (High Impedance) and terminals 13-17 are defined as input 2 (Low Impedance). For conventional pH sensors, the jumper is placed as illustrated:



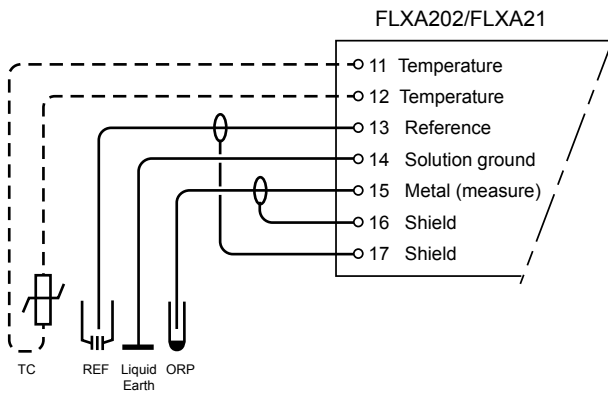
Glass sensor on Input 1.
Reference sensor on Input 2.



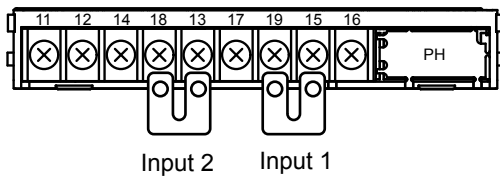
2.3.2 ORP Measurement

The ORP measurement uses the same sensor input module as the pH measurement. It is not uncommon to measure ORP as process variable and a pH Glass electrode as reference. This is the case with rH measurement and with pH compensated ORP measurement.

Conventional ORP sensors are connected to the module as follows:

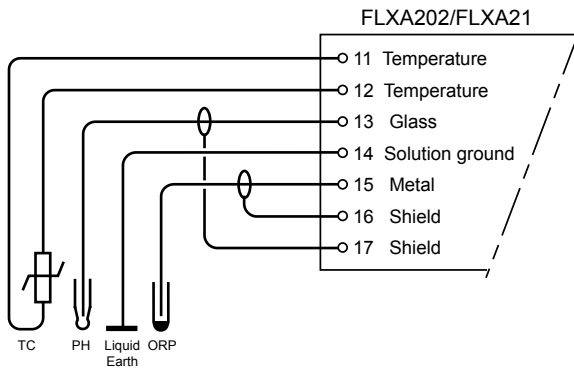


For conventional ORP sensors, the jumpers are placed as illustrated:

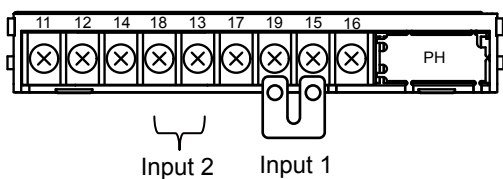


Metal sensor on Input 1.
Normal reference on Input 2.

pH Compensated ORP sensors are connected to the module as follows:



For pH Compensated ORP sensors, the jumper is placed as illustrated:



Metal sensor on Input 1.
pH glass (as reference) on Input 2.

NOTE

The special grommet is intended to be used to seal the multiple cables from the Yokogawa flow fittings such as FF20.

The designated cables are WU20 sensor cables, which are approximately 5 mm (0.2") in diameter, and K1500FV liquid earth cables, which are approximately 2.5 mm (0.1") in diameter.

For sensor systems using a single cable, like the FU20/FU24 and the PR10, PD20, PF20 and PS20, the standard gland will accommodate the cable adequately. Single cables between approximately 6 mm and 12 mm (0.24" and 0.47") can be sealed properly with these glands and the standard tulle.

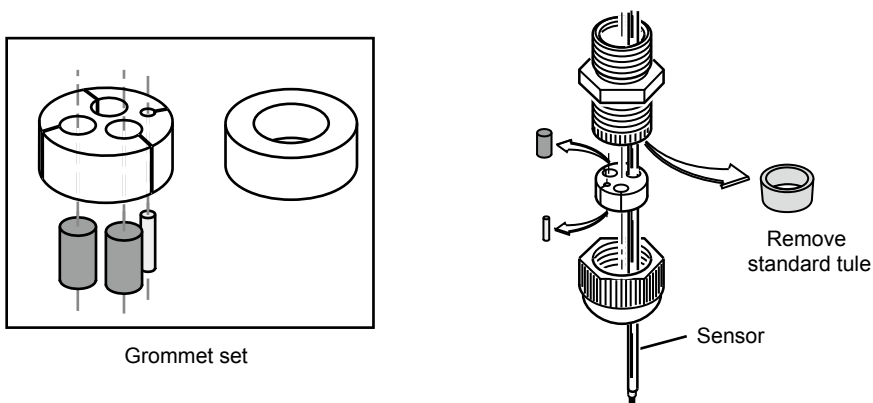
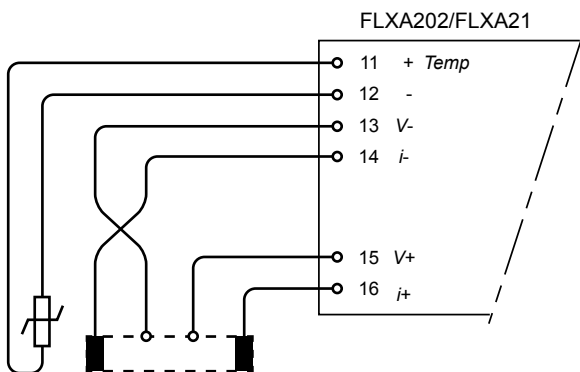


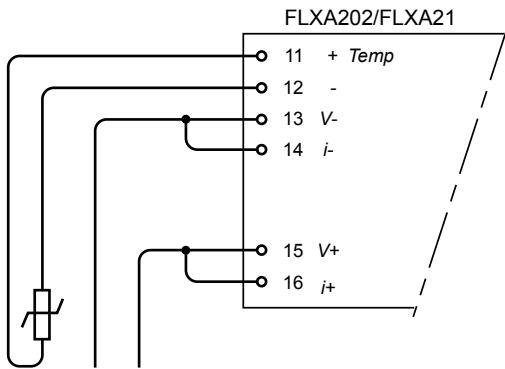
Figure 2.8 Grommet set use

2.3.3 SC Measurement

Contacting Conductivity, SC, sensors are connected to the module as follows:

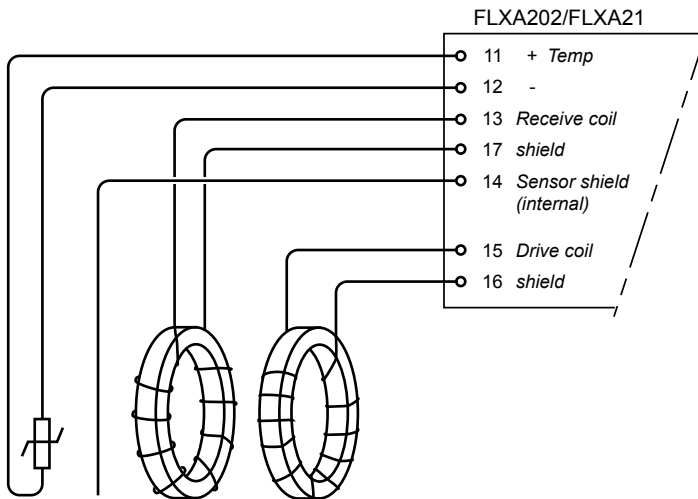


The above diagram shows wiring for 4-electrode conductivity sensors, such as SC42-SP34 large bore series. For 2-electrode conductivity sensors, such as SC42-SP36 small bore series, jumpers must be installed between terminals 13-14 and between terminals 15-16, as shown in the diagram below.



2.3.4 ISC Measurement

ISC40 sensors are connected to the module as follows:



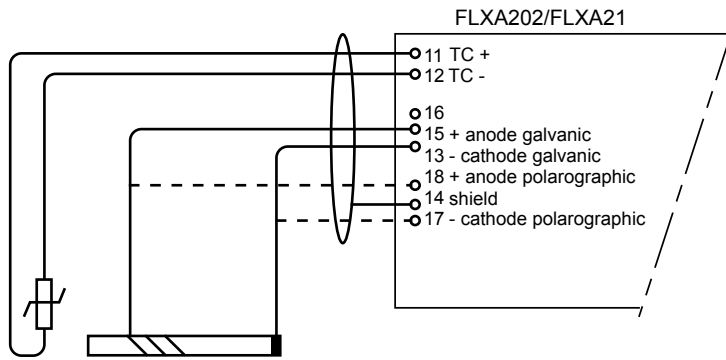
The sensors are supplied with integral cables and each individual wire is marked with the corresponding terminal numbers.

2.3.5 DO Measurement

The input module for DO measurement is suitable for different types of DO sensors:

- i. Galvanic sensors like model DO30G
- ii. Polarographic sensors like HAMILTON'S Oxyferm and Oxygold

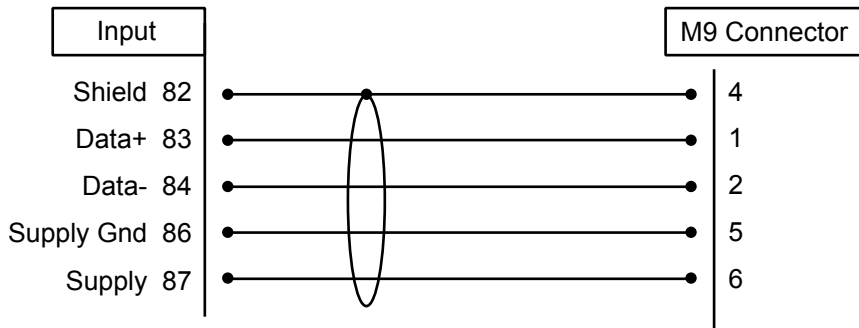
The connection is as follows:



The DO30G sensor comes with integral cable and the wires are labeled with the corresponding terminal numbers.

2.3.6 SENCOM pH/ORP Measurement

FU20F sensors are connected to the module as follows:



2.3.7 Wiring of YOKOGAWA sensors

| Sensor | Measurement | Board Terminals | | | | | | | Input 2 18/13 | Input 1 19/15 | Jumper | Remark |
|---------------------|---------------------|-----------------|----------------|------------------|-----------------|-------------|--------------|-----------------|------------------|------------------|-----------------------|--------------------------|
| | | 11 | 12 | 13 | 14 | 15 | 16 | 17 | | | | |
| DO30G | DO | 11 | 12 | 13 | 14 | 15 | 16 | | | | | Fixed Cable |
| FU20 /PH20/FU24 | pH, pH & ORP, rH | 11 | 12 | 13 | 14 | 15 | 16 | 17 | Yes | No | | Fixed Cable |
| FU20 /PH20/FU24 | ORP | 11 | 12 | 13 | | 14 | | | Yes | Yes | 13/14 | Fixed Cable |
| FU20 /PH20/FU24 | pH Comp. ORP | 11 | 12 | 15 | | 14 | | 16 | No | Yes | 13/14 | Fixed Cable |
| FU20-VP /FU24-VP | pH, pH & ORP, rH | E | F | B | D | A | | | Yes | No | | VP6-SC |
| FU20-VP/ FU24-VP | ORP | E | F | B | | D | | | Yes | Yes | 13/14 | VP6-SC |
| FU20-VP/ FU24-VP | pH Comp. ORP | E | F | A | | D | | | No | Yes | 13/14 | VP6-SC |
| ISC40 | ISC | 11 | 12 | 13 | 14 | 15 | 16 | | | | | Fixed Cable |
| PR20/PR10 | pH | 11 | 12 | 13 | 14 | 15 | 16 | | Yes | No | | Fixed Cable |
| SC21 | pH | | | Blue | Liquid Earth | Red | | (White) | No | No | | WU20 Triax |
| SC24V | pH | E | F | C | H | A | B | D | | | | VP8-DC |
| SC25V | pH | E | F | B | D | A | | | Yes | No | | VP6-SC |
| SC29-PTG | pH Comp. ORP | | | Red | Liquid Earth | Blue | | (White) | | | | WU20 Triax |
| SC29-PTP | ORP | | | Blue | Liquid Earth | Red | | (White) | Yes | Yes | | WU20 Triax |
| SC42 | SC | 11 | 12 | 13 | 14 | 15 | 16 | | | | | WU40 cable |
| SC4A | SC | 11 | 12 | 13 | 14 | 15 | 16 | | | | | Fixed Cable |
| SM21/SR20 /SM60 | pH | Green: Red | Green: Blue | Yellow: Red | Black | Red: Red | Red: Blue | Yellow: Blue | Yes | No | | WU20 Color Coded Coax |
| SM29 /SR20 | ORP | | | Yellow: Red | Black | Red: Red | Red: Blue | Yellow: Blue | Yes | Yes | | WU20 Color Coded Coax |
| SX42 | SC | Brown | Brown | Yellow: Green | | Red | | | | | 13/14 and 15/16 | Sensor Wiring |

| Sensor | Measurement | Board Terminals | | | | | Remark |
|--------|------------------|-----------------|----|----|----|----|------------|
| | | 82 | 83 | 84 | 86 | 87 | |
| FU20F | pH, pH & ORP, rH | 82 | 83 | 84 | 86 | 87 | WU11 Cable |

2.3.8 Wiring of HAMILTON sensors

| Sensor | Measurement | Board Terminals | | | | | | | | Input 2 18/13 | Input 1 19/15 | Jumper | Remark |
|--------------------|-------------|-----------------|--------|-------|--------------|-------------|-------------|---------|-------|------------------|------------------|--------|-------------------|
| | | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | | | | |
| CHEMTRODE | pH | | | Blue | | Red | | (White) | | Yes | No | 13/14 | WU20D Cable |
| CHEMTRODE-ORP | ORP | | | | | | | | | Yes | Yes | 13/14 | |
| CHEMTRODE-VP | pH | E | F | B | | A | | | | Yes | No | 13/14 | VP6-SC |
| CLARITRODE | pH | | | Blue | | Red | | (White) | | Yes | No | 13/14 | WU20D Cable |
| CLARITRODE-VP | pH | E | F | B | | A | | | | Yes | No | | VP6-SC |
| CONDCUELL | SC | White/Grey | Blue | Green | Pink | Brown | Yellow | | | | | | Fixed Cable |
| CONDCUELL-VP | SC | Blue | Yellow | Black | Black Shield | Grey | Grey Shield | | | | | | Hamilton VP Cable |
| EASYFERM | pH | | | Blue | | Red | | (White) | | Yes | No | 13/14 | WU20D Cable |
| EASYFERM-VP | pH | E | F | B | | A | | | | Yes | No | 13/14 | VP6-SC |
| INCHTRODE | pH | E | F | B | D | A | | | | Yes | No | | VP6-SC |
| MECOTRODE | pH | | | Blue | | Red | | (White) | | Yes | No | 13/14 | WU20D Cable |
| MECOTRODE-VP | pH | E | F | B | | A | | | | Yes | No | | VP8-DC |
| OXYFERM-VP/OXYGOLD | DO | White | Green | | Green/Yellow | | | Black | Red | | | | Hamilton VP Cable |
| OXYSENS | DO | Yellow | Blue | | Black | | | Clear | Brown | | | | Fixed Cable |
| pHEASY | pH | E | F | B | D | A | B | | | Yes | No | | |
| POLILYTE | pH | | | Blue | | Red | | (White) | | Yes | No | | WU20D Cable |
| POLILYTE-VP | pH | White | Green | Red | Blue | Black/Clear | | | | Yes | No | | Hamilton VP Cable |
| POLILYTE PLUS-VP | pH | White | Green | Red | Blue | Black/Clear | | | | Yes | No | | Hamilton VP Cable |

Color coding of Variopin cables

| PIN | | A | B | C | D | E | F | G | H |
|----------|--------|-------------|--------------|-------------|--------------|-------|-------|--------|-------|
| Hamilton | VP6-SC | Black/Clear | Red | Grey | Blue | White | Green | | |
| Hamilton | VP8-DC | Black/Clear | Black Shield | Red/Clear | Red Shield | White | Green | Yellow | Brown |
| WU20-V-S | VP6-SC | Clear | Brown | Black | Yellow | Red | Blue | | |
| WU20-V-D | VP8-DC | Brown Core | Brown Shield | White Cored | White Shield | Red | Blue | Yellow | |

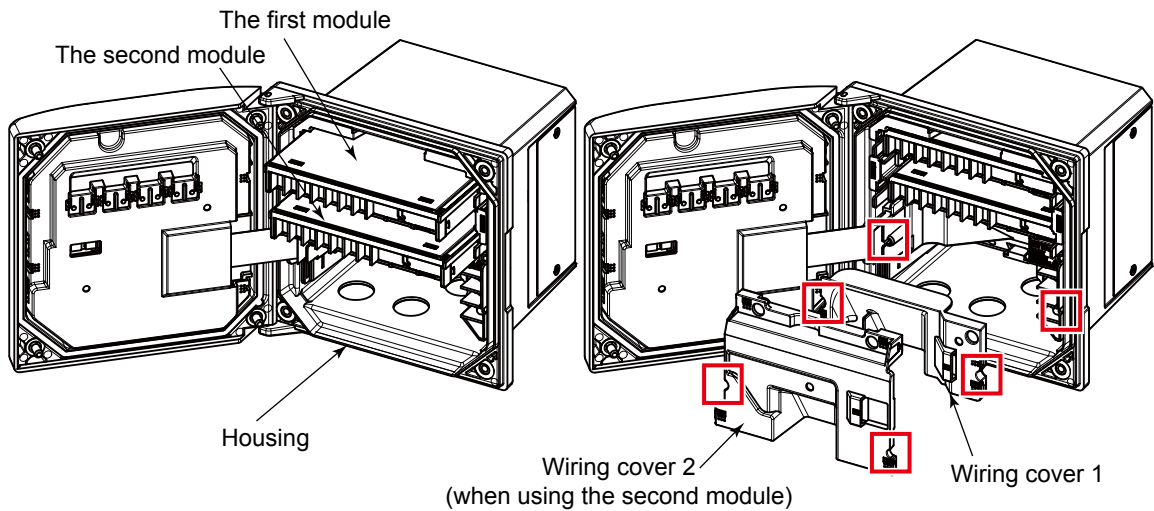
2.3.9 Wiring covers

- **FLXA202**

NOTE

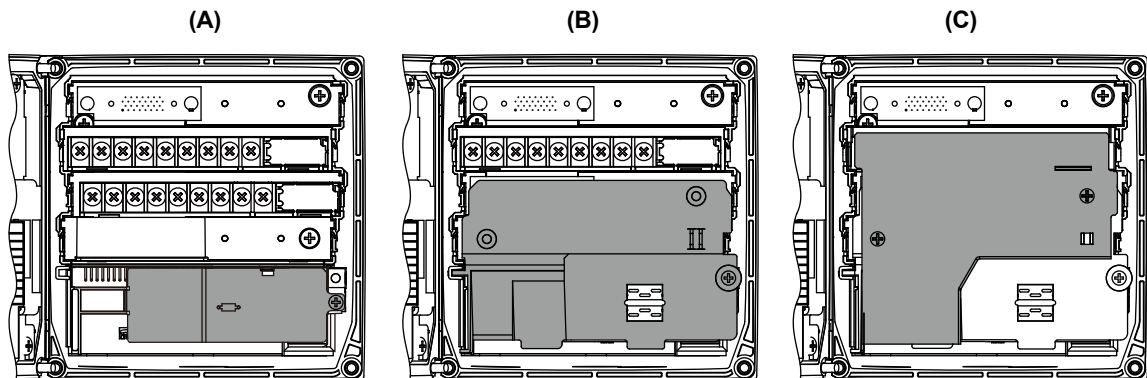
Wiring covers are required intrinsic safety (Type is -C*). In the case of other types, the cover is not attached to the FLXA202.

When two sensor modules are used, the upper-level module is for input 1 and the lower-level module is for input 2. For ease of installation, first wire input 2 sensor on the lower-level module, and attach the wiring cover 1; then wire input 1 sensor on the upper-level module and replace the module wiring cover 2.



● **FLXA21**

When two sensor modules are used, the upper-level module is for input 1 and the lower-level module is for input 2. For ease of installation, first wire input 2 sensor on the lower-level module (A), and attach the wiring cover; then wire input 1 sensor on the upper-level module (B) and replace the module wiring cover (C).



When all wiring is completed and all wiring covers have been installed, the front panel can be closed and the power can be switched on.

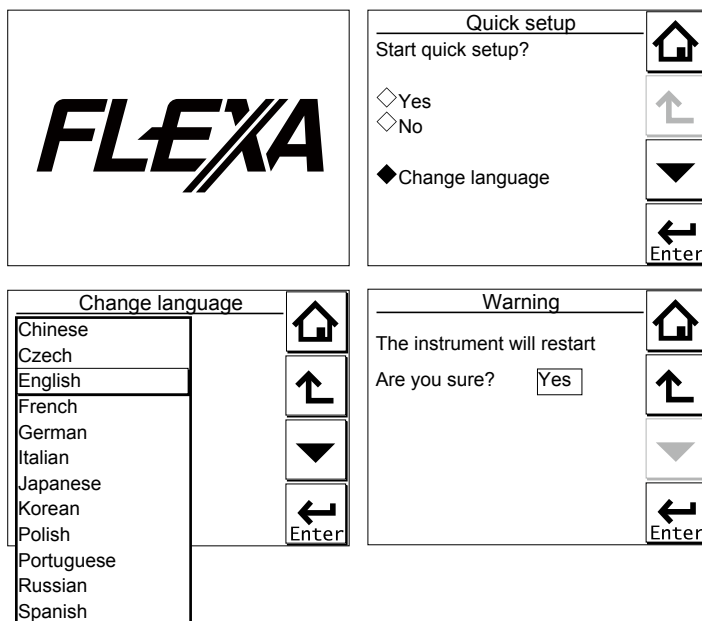
3. Operation

When all wiring is completed, turn on the power to the instrument. Make sure that the LCD screen turns on, and then wait for the Quick Setup menu to be displayed. Follow the on-screen instructions for set-up and calibration. If the instrument is not configured correctly an error indicator may be displayed, or the measurement values displayed may be incorrect. Consult the User's Manual supplied on CD with the analyzer, and check the initial settings and change them to suit your purpose.

Basic operation of the software is similar the EXAxt 450 series. For more detailed information please refer to the User's Manual of the FLXA202/FLXA21.


3.1 Change language

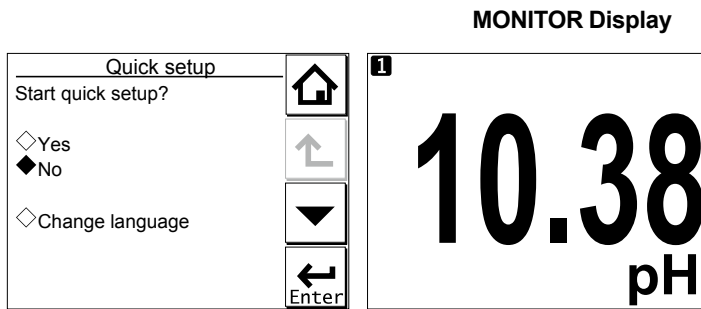
The default language setting for the FLEXA is English. To select a different language other than English, follow the steps below.



3.2 Quick setup


The Quick setup menu is used to program the basic items necessary to make the transmitter operational, such as the date/time and sensor settings. The detailed settings are described in the Commissioning in the User's Manual (for example, chapter 4 for pH/ORP). Each time the FLXA202/FLXA21 is started up, this menu is displayed. If it is not necessary to change the setup,

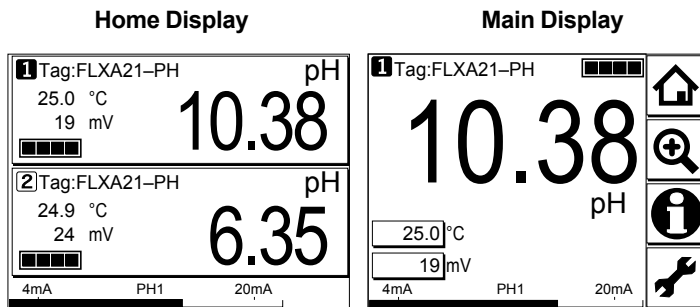
you may bypass the Quick setup by selecting No or . When no operation is performed for 10 minutes, the screen changes to the monitor display or the main display (or home display) automatically.



3.3 Basic operation (when two sensors are connected)

When 2 sensor modules are installed, the Home display shows both sensor information at one time, while the Main display will show the individual sensor information. If only one sensor

module is installed, the  is grayed out and disabled on the Main display. On the Home display, pressing the 1st sensor (top) information or the 2nd sensor (bottom) information causes the Main display of the selected sensor to appear.



4. Commissioning

NOTES for Quick Setup:

a. pH measurement module

Under “measurement” a selection is made for pH, ORP or pH&ORP. The selected measurement must be in accordance with the sensor wiring. When rH measurement is requested pH&ORP must be chosen on this level. The rH must then be selected in the commissioning menu.

b. SC measurement module

Under “measurement” a selection is made between Conductivity, Resistivity, Concentration or Concentration plus Conductivity. On this level only Conductivity or Resistivity can be selected. Settings for Concentration measurement must be done in the commissioning menu.

c. DO measurement module

Under “sensor type” a selection is made for Galvanic or Polarographic. The selected sensor type must be in accordance with the sensor wiring. Otherwise the analyzer or sensor can be damaged.

5. Maintenance

■ Periodic maintenance

The FLXA202/FLXA21 requires very little periodic maintenance, except to make sure the front window is kept clean in order to permit a clear view of the display and allow proper operation of the touchscreen. If the window becomes soiled, clean it using a soft damp cloth or soft tissue.

To deal with more stubborn stains, a neutral detergent may be used.

When you must open the front cover and/or glands, make sure that the seals are clean and correctly fitted when the unit is re-assembled in order to maintain the housing's weatherproof integrity against water and water vapor.

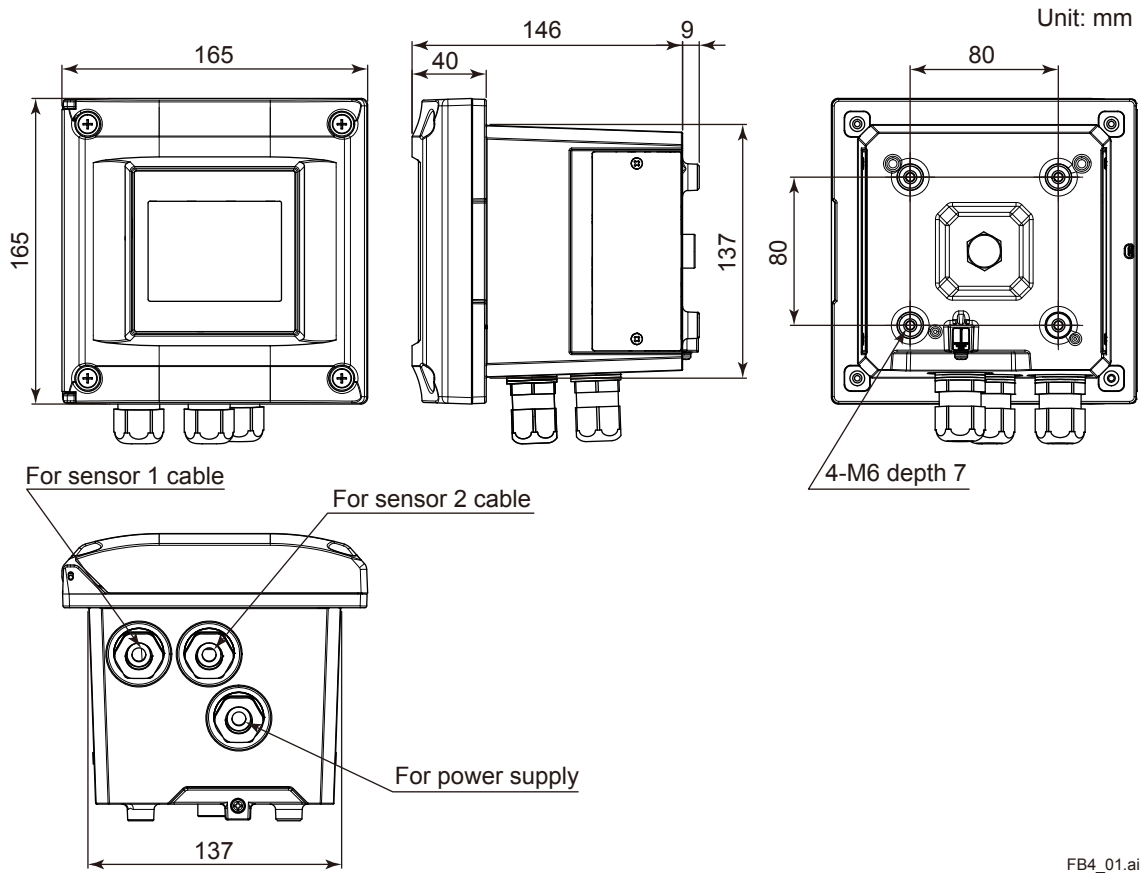
The pH measurement uses high impedance sensors and may otherwise be prone to problems caused by exposure of the circuitry to condensation.

CAUTION

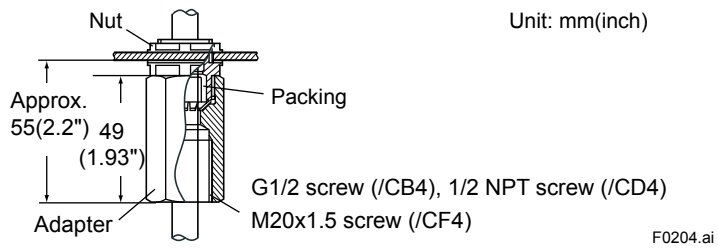
Never use harsh chemicals or solvents. In the event that the window does become heavily stained or scratched, refer to the parts list for replacement part numbers.

◆ Appendix

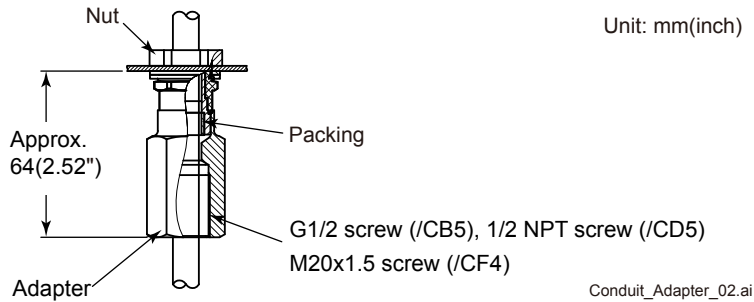
■ FLXA202 Dimensions and Mounting



Conduit Adapter (Option code: /CB4, /CD4, /CF4)

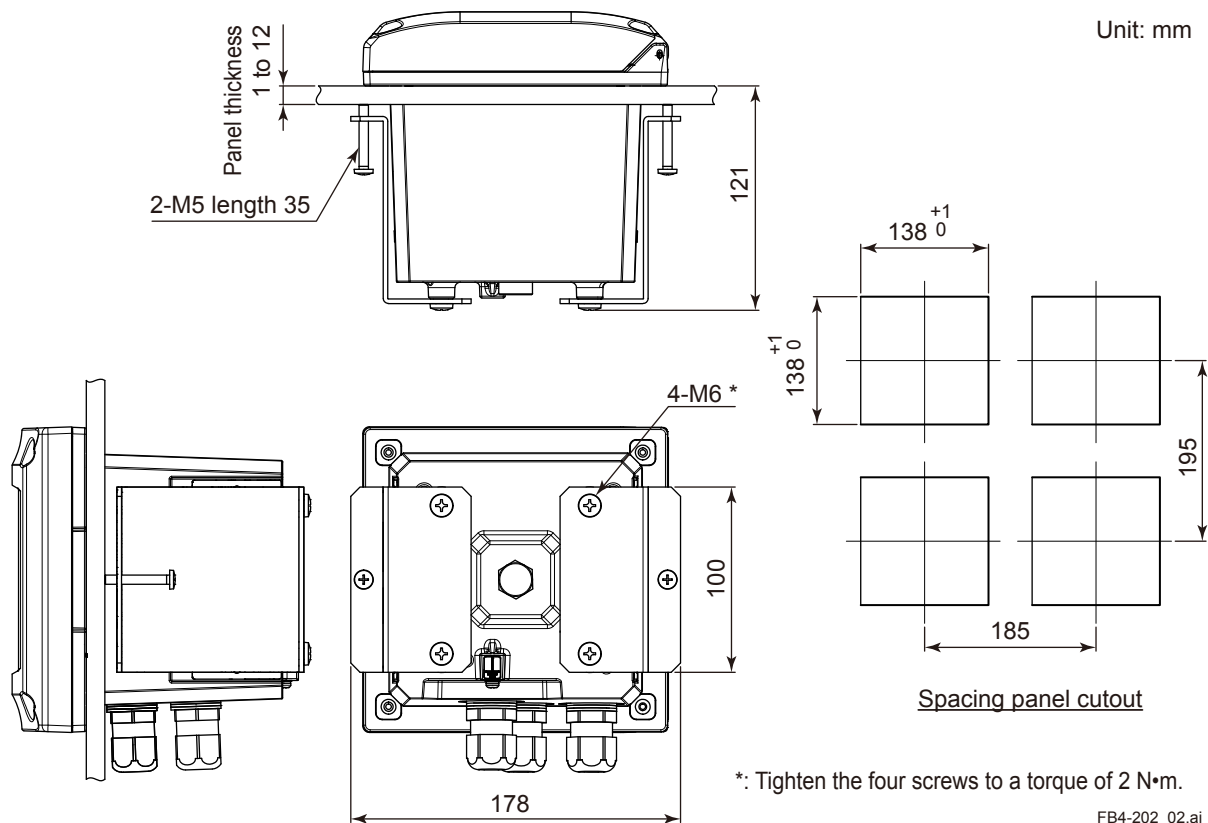


Conduit Adapter (Option code: /CB5, /CD5, /CF5)

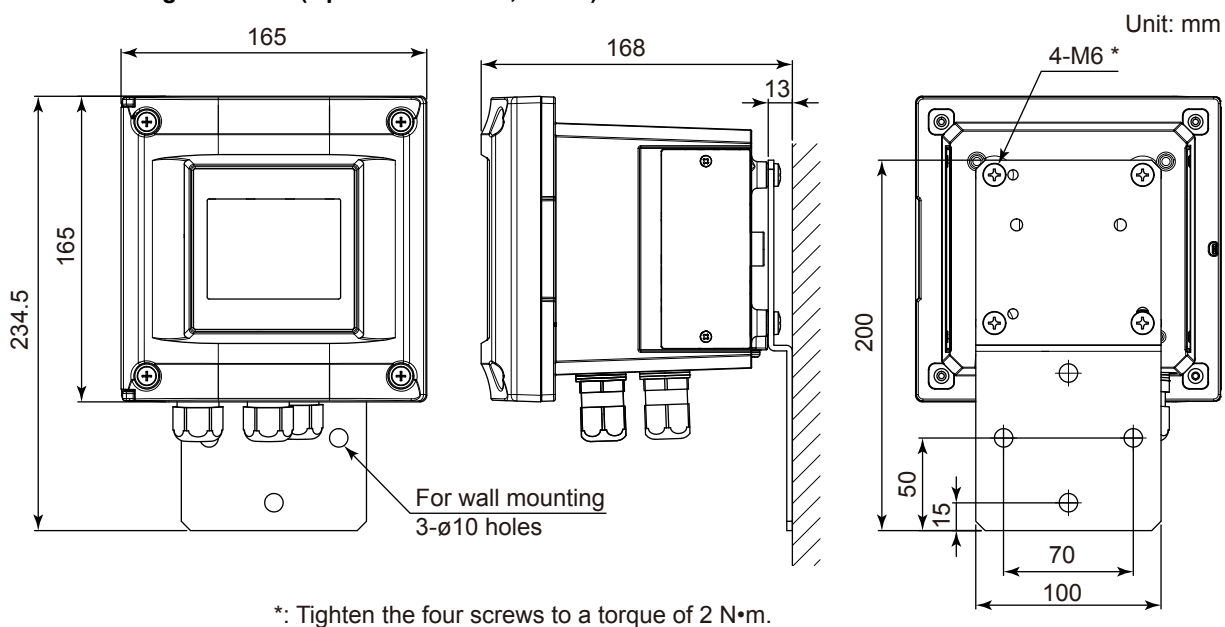


(Note) The universal mounting kit (/UM) contains the pipe and wall mounting hardware (/U) and the panel mounting hardware (/PM).

Panel mounting hardware (Option code: □/PM, □/UM)

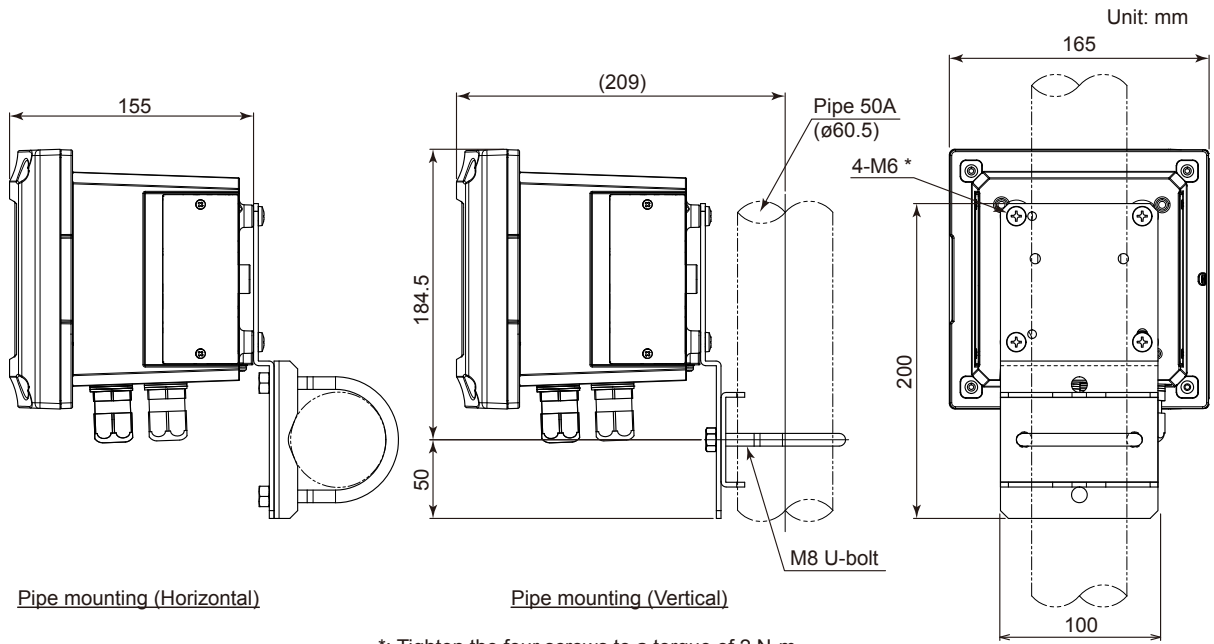


Wall mounting hardware (Option code: □/U, □/UM)



Note: The wall on which the analyzer is mounted should be strong enough to bear the weight of more than 8 kg.

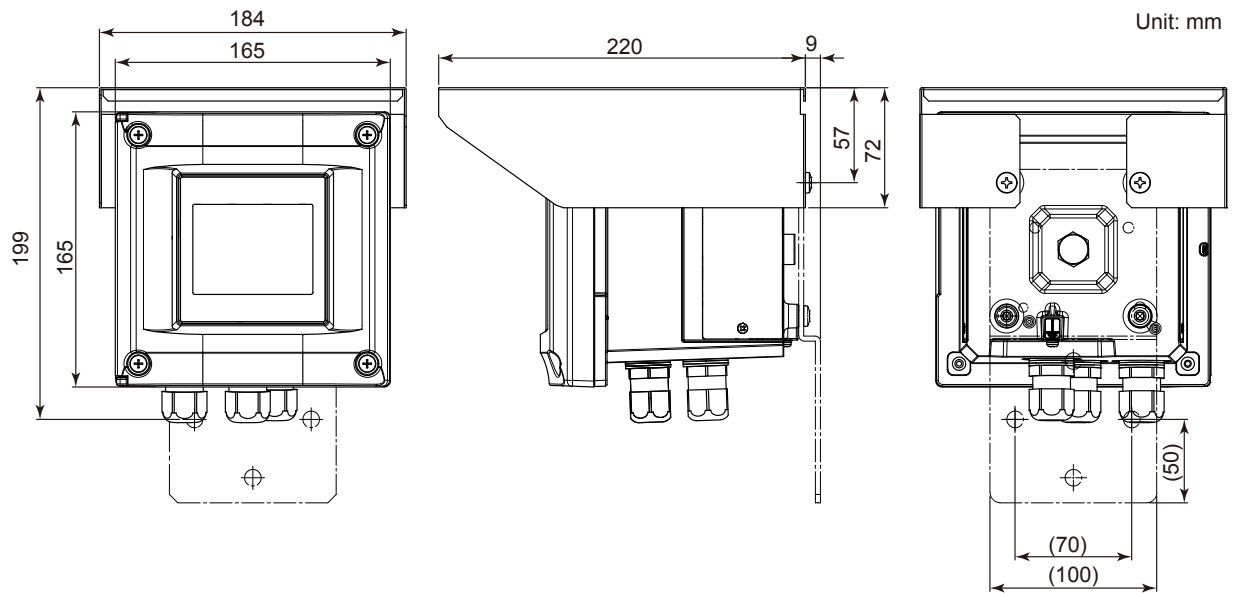
Pipe mounting hardware (Option code: /U, /UM)



*: Tighten the four screws to a torque of 2 N•m.

FB4-202_04.ai

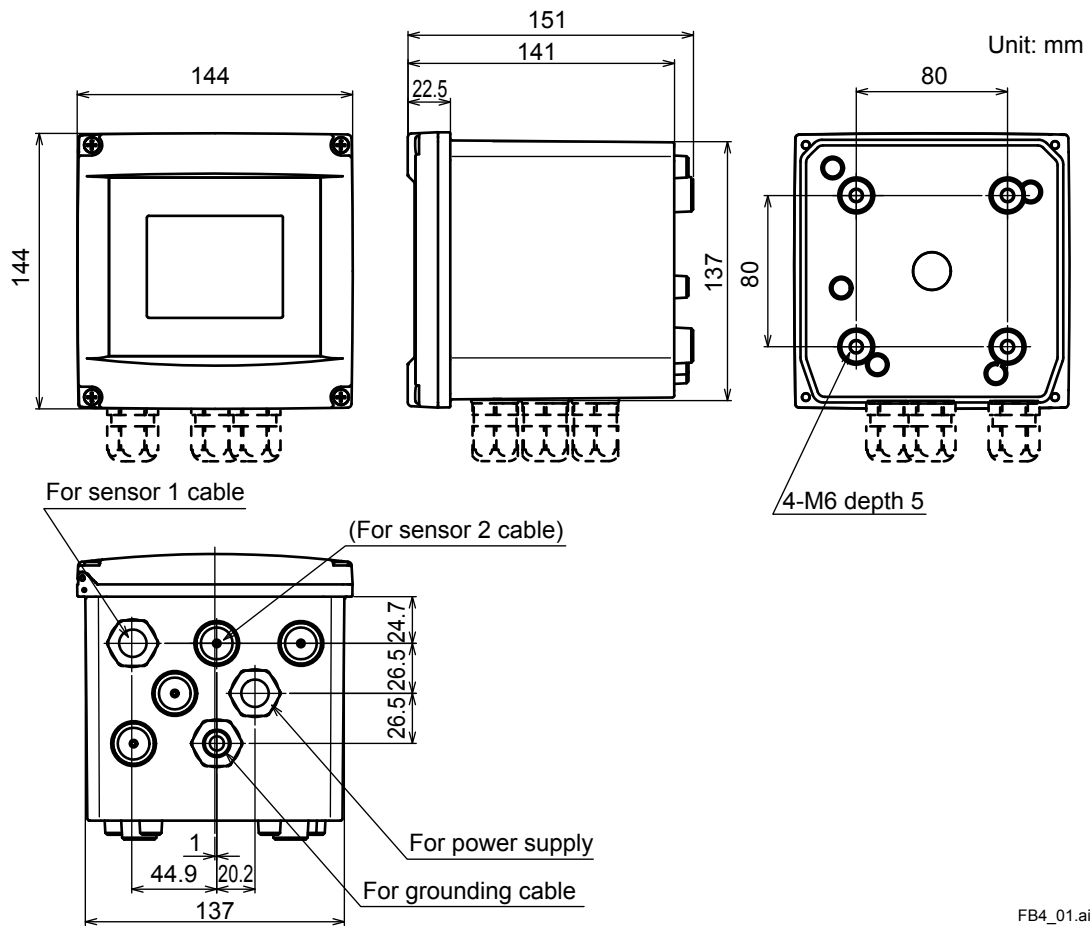
Stainless steel hood (Option code: /H6, /H7, /H8)



FB4-202_05.ai

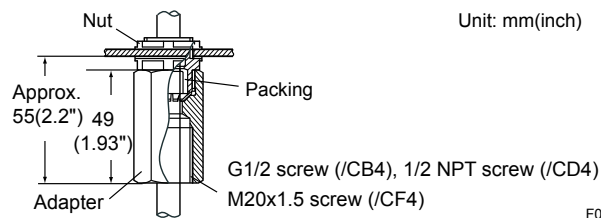
■ FLXA21 Dimensions and Mounting

Plastic Housing



FB4_01.ai

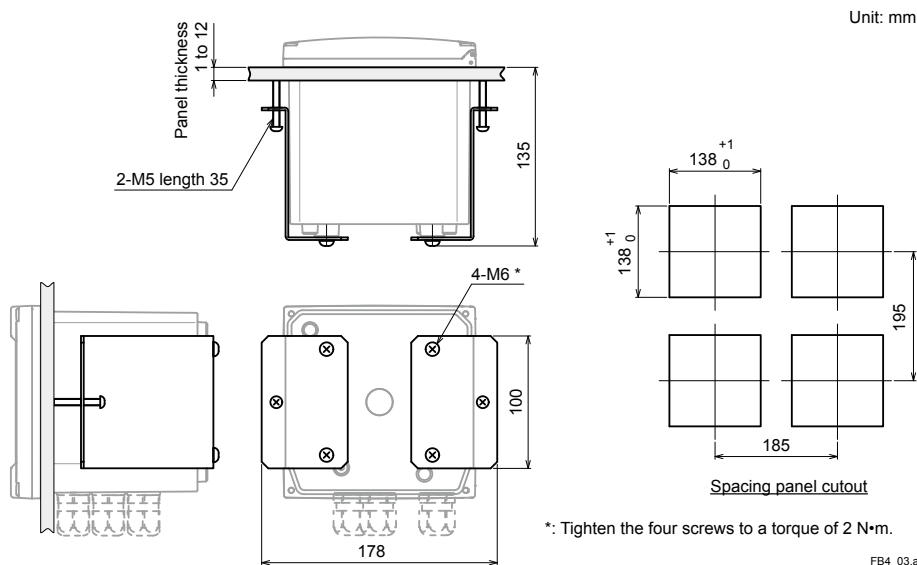
Conduit Adapter (Option code: □/CB4, □/CD4, □/CF4)



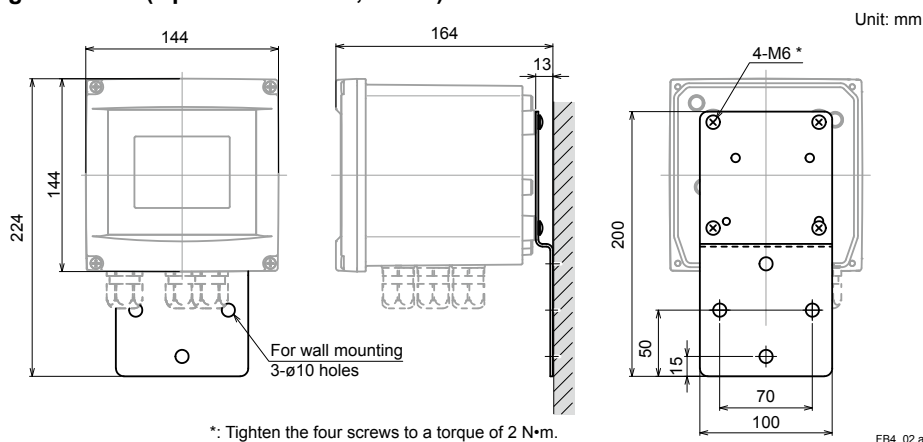
F0204.ai

(Note) The universal mounting kit (/UM) contains the pipe and wall mounting hardware (/U) and the panel mounting hardware (/PM).

Panel mounting hardware (Option code: □/PM, □/UM)

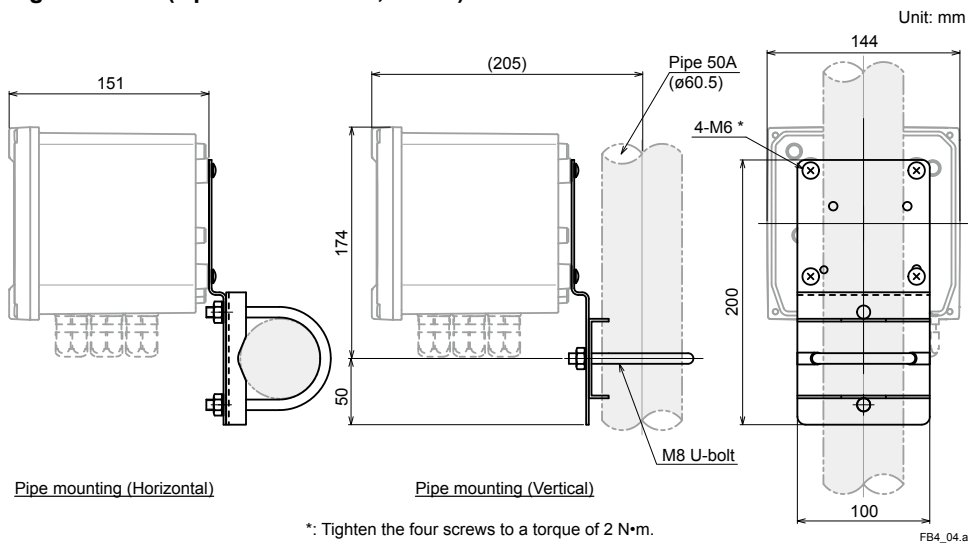


Wall mounting hardware (Option code: □/U, □/UM)

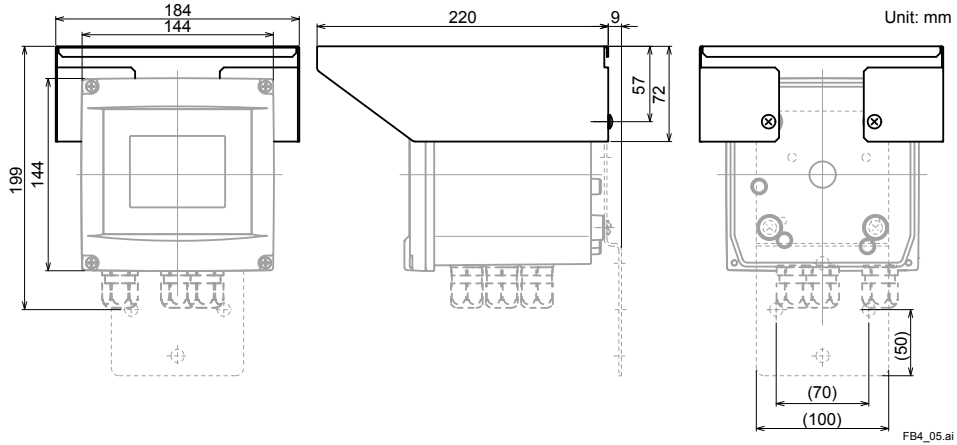


Note: The wall on which the analyzer is mounted should be strong enough to bear the weight of more than 8 kg.

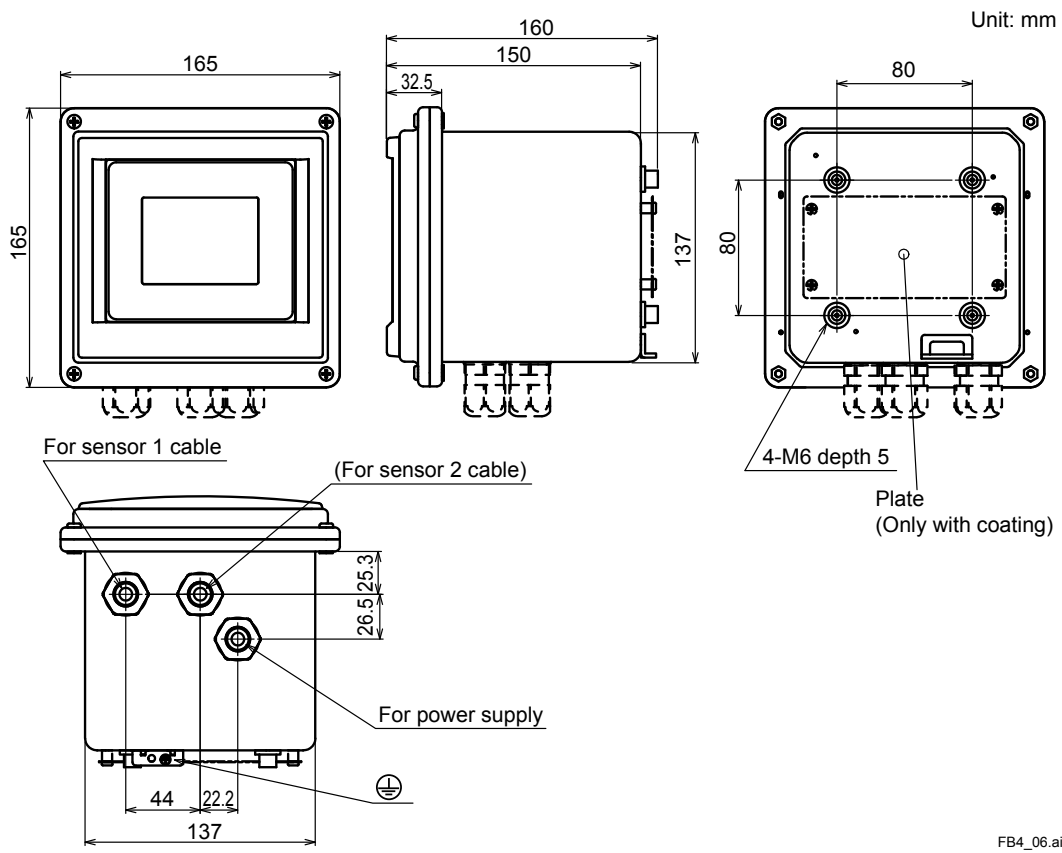
Pipe mounting hardware (Option code: □/U, □/UM)



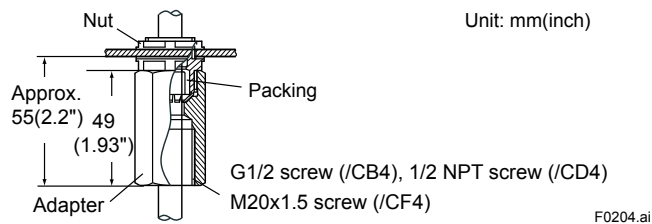
Stainless steel hood (Option code: □/H6, □/H7, □/H8)



Stainless Steel Housing

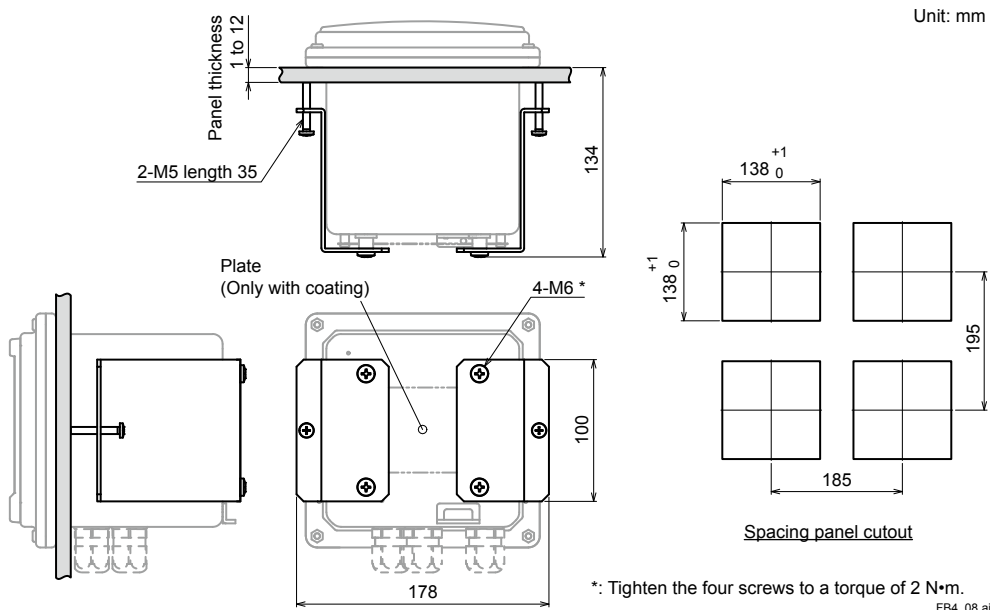


Conduit Adapter (Option code: □/CB4, □/CD4, □/CF4)

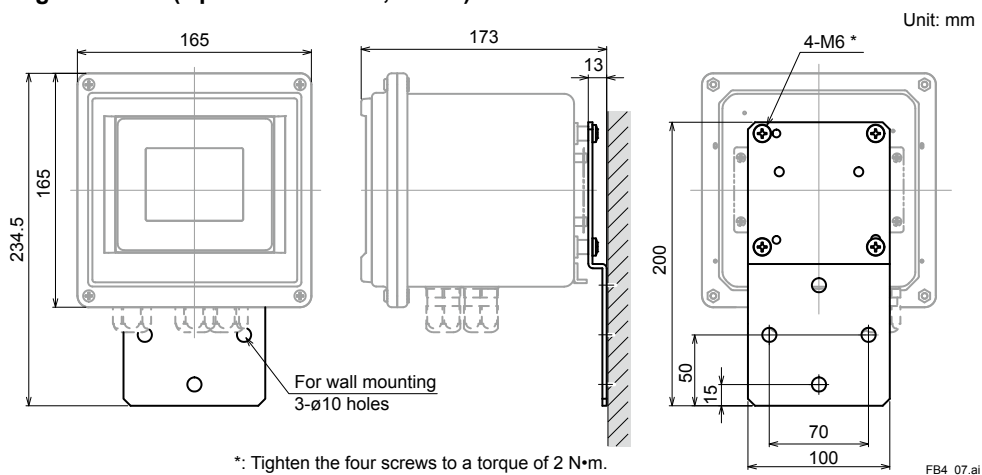


(Note)The universal mounting kit (/UM) contains the pipe and wall mounting hardware (/U) and the panel mounting hardware (/PM).

Panel mounting hardware (Option code: □/PM, □/UM)

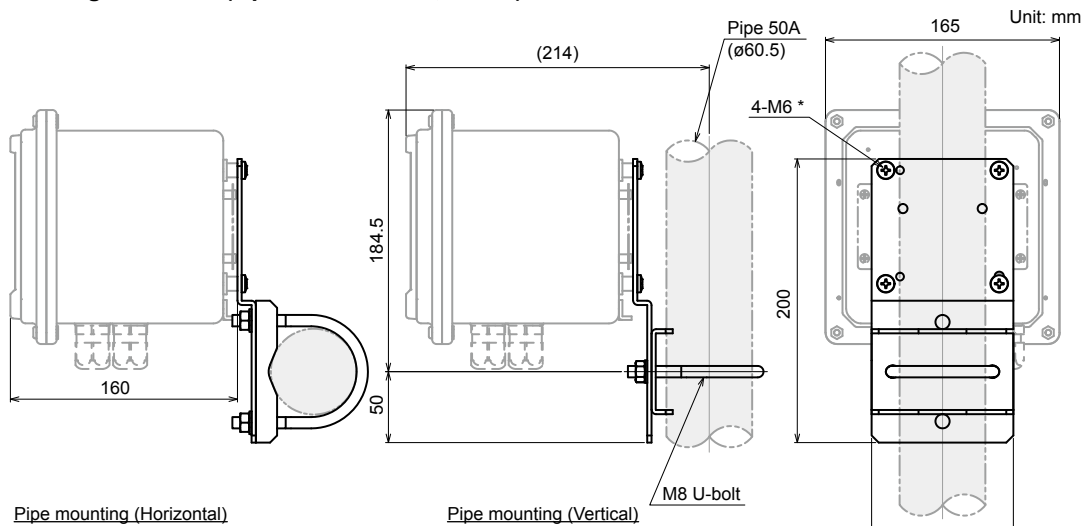


Wall mounting hardware (Option code: □/U, □/UM)



Note: The wall on which the analyzer is mounted should be strong enough to bear the weight of more than 8 kg.

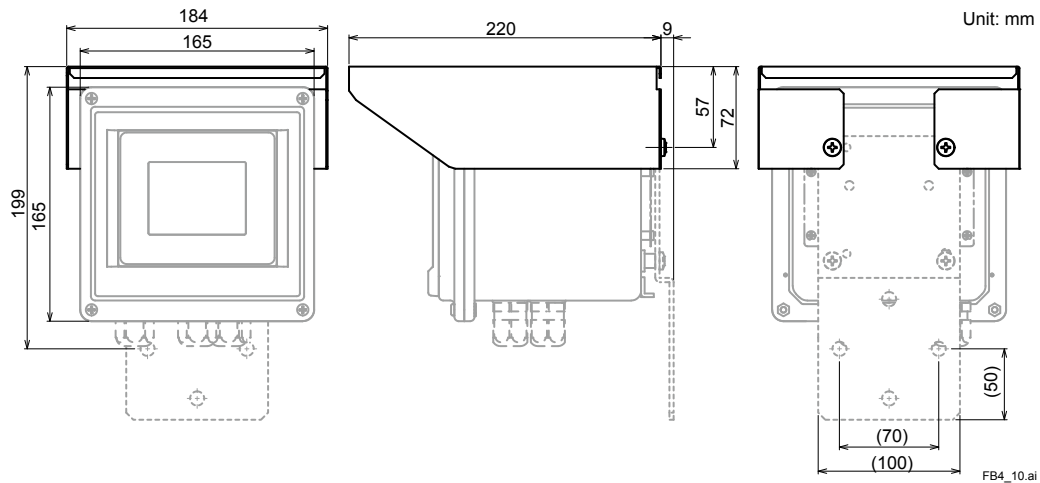
Pipe mounting hardware (Option code: /U, /UM)



*: Tighten the four screws to a torque of 2 N•m.

FB4_09.ai

Stainless steel hood (Option code: /H6, /H7, /H8)



FB4_10.ai

Revision Record

- Manual Title : Model FLXA202 / FLXA21 2-Wire Analyzer Start-up Manual
- Manual No. : IM 12A01A02-12E

Oct. 2015/8th Edition

Addition of FLXA202

Apr. 2015/7th Edition

Change of “type of ground” of the stainless steel housing (pages 14 and 15)
Note for wall mounting (pages 14 and 15)

Oct. 2014/6th Edition

Correction of discriptions and words

Oct. 2013/5th Edition

Addition of MONITOR display
Correction of discriptions and words

Sep. 2013/4rd Edition

Pages are significantly reduced

Feb. 2012/3rd Edition

Addition of descriptions and drawings for intrinsically safe type
Change of descriptions of messages on displays
Change of figures of housing due to change of position of external grounding for stainless steel housing
Change of figures of wiring covers
Change of description of message language due to addition of message languages
And, other corrections

Aug. 2010/2nd Edition

Followings are mainly revised;

Addition of grounding terminal position on stainless housing with specific mountings
Addition of plate position on stainless housing with specific coatings
Addition of explanation of sleeve for grounding wire for plastic housing
Correction of torques
Addition of Note, Warning etc.
Addition of detail descriptions for wire terminals
Addition of drawings of housing with hood
Addition of example displays for calculated data and redundant system
Addition of explanation of passwords
Correction of errors on the User setting tables

May 2010/1st Edition

Newly published

Thank you for selecting our FLXA202/FLXA21 2-Wire Analyzer.

Though User's Manual, IM 12A01A02-12E 8th Edition, is provided with the product, an addition to the manual has been made.

Please use the following contents after a reading before using the FLXA202/FLXA21.

Note

◆ Addition

(page i)

General Specifications

| Contents | Document number | Note |
|---|------------------------|---------------------------------------|
| FLXA21 2-wire Analyzer FOUNDATION Fieldbus Communication | GS 12A01A02-71E | These are included In attached CD-ROM |
| FLXA21 2-wire Analyzer PROFIBUS PA Communication | GS 12A01A02-72E | |

User's Manual

| Contents | Document number | Note |
|--------------------------------------|-----------------|--|
| FLXA202/FLXA21 Safety Precautions | IM 12A01A02-20E | Attached to the product Note |

Note: Please read the Safety Precautions (IM 12A01A02-20E) before using the product.

The Safety Precautions includes Control Drawings of intrinsic safety, nonincendive, and Type n that describes specific condition for using FLXA202/FLXA21 in hazardous/classified location.

An exclusive User's Manual might be attached to the products whose suffix codes or option codes contain the code "Z". Please read it along with this manual.

(page ii)

◆ CE marking products

■ Identification Tag

This manual and the identification tag attached on a packing box are essential parts of the product. Keep them together in a safe place for future reference.

■ Users

This product is designed to be used by a person with specialized knowledge.

◆ Change the location of the nameplate (FLXA21)

(page 1) replacement

● FLXA21

Make sure the model and suffix code on the nameplate affixed to the left side or inside of the housing.

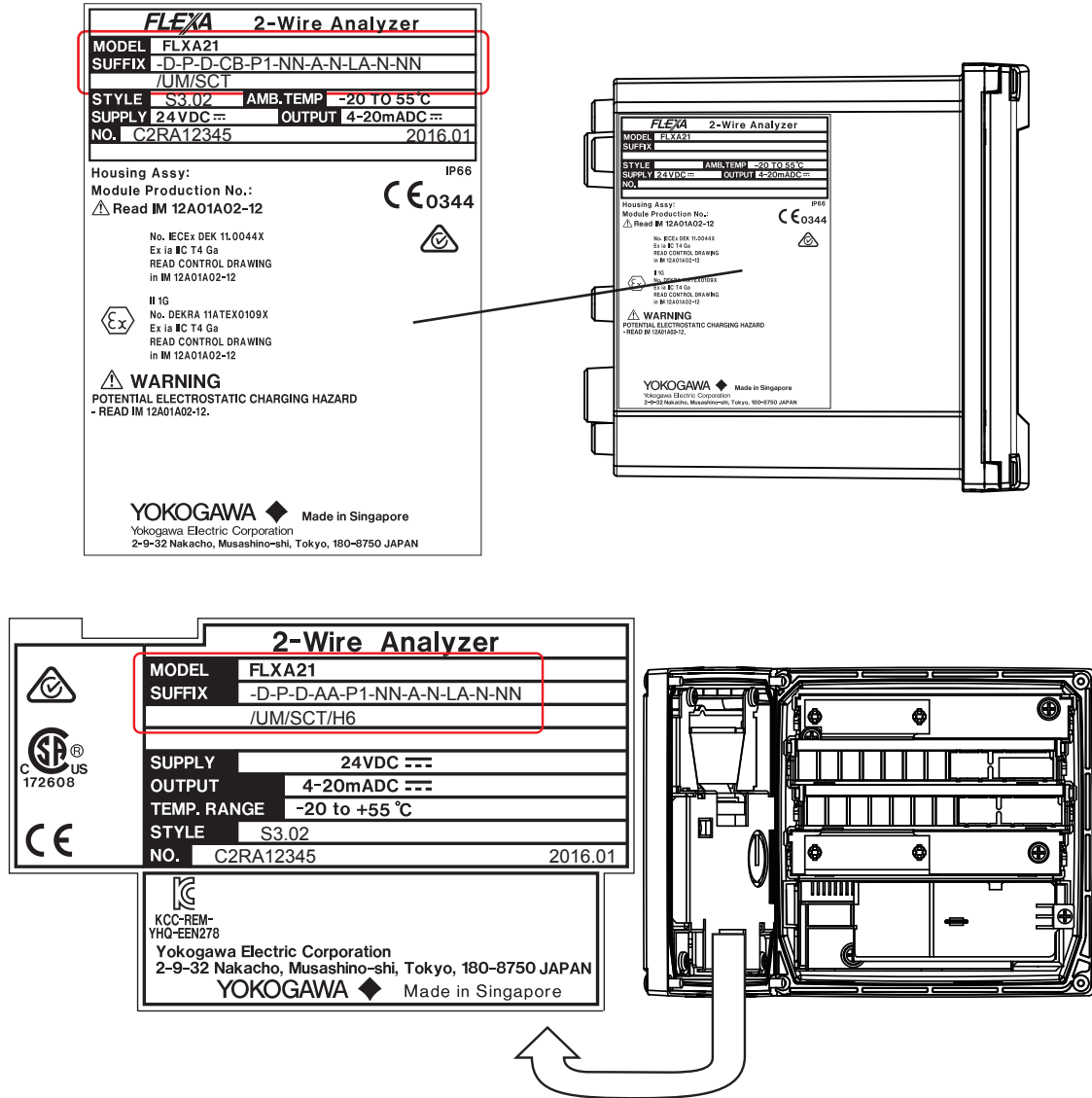


Figure 1.2 Example of nameplate (FLXA21)

◆ Addition of Type n

(page 6) addition of “2.2.4 Installing the cable glands”



WARNING

For Type n model (-DB, -DE),

- When the accompanying cable glands are used, external clamping is required additionally.
 - When the optional conduit adaptors (/CB5, /CD5, /CF5) are used with accompanying cable glands, clamping; e.g) sealing fitting is required.
 - If external clamping is not able to be prepared, Ex d, Ex e, or Ex n cable gland which provides sufficient clamping shall be used instead of the accompanying cable gland.
 - Unused cable gland shall be sealed with the accompanying metal plug.
-

(page 16) change of “2.3.9 Wiring covers”

NOTE

Wiring covers are required intrinsic safety **and Type n** (Type is -C*, **-DB, -DE**). In the case of other types, the cover is not attached to the FLXA202.
