1. Installation

1-1 Connections and Wiring

1. Connect the Sensor to the Touch Finder or Computer via the FQ-WN01 Ethernet Cable.

2. Connect the IO Cable to the Sensor. The IO Cable indicates the IO supply power and IO. Connect the required lines.

1-2 Mounting

1. Check the mounting position. Use the optical charts in the User's Manual and check the installation distance to be sure it is suitable for the field of view to be measured.

2. Attach the Mounting Bracket to the Sensor and mount the Sensor at the correct position.

1-3 Starting the Sensor

1. Power ON the Sensor.

2. Power ON the Touch Finder. Turn on the power switch on the side of the Touch Finder, too.

To use the PC Tool, click (Program) \(\rightarrow (\text{IOMETRON}) \rightarrow (\text{FQ}) \rightarrow (\text{IP tool for FQ}) \) from the Windows Start Menu.

Confirm that the software version for the Touch Finder and also the PC Tool is version 1.6 or higher.

Select the language to display on the Touch Finder;

If more than one Sensor is connected, a display will appear to select the Sensor to be set. Select the Sensor.

The following initial display will appear when the Sensor is selected.

2. Settings

2-1 Image Setup

1. Make sure the image is stable and adjust the brightness and image input timing.

2. Focus the Image.

Press (Camera setup).

The camera image will be displayed.

Using the focus adjustment screw on the top of the Sensor to focus the image.

2. Adjust the brightness.

The FQ-CR1 Sensor will automatically adjust the brightness according to the measurement object. If the resulting brightness is not suitable, it can be adjusted manually.

Press [>] and then [Brightness].

3. Adjust the Image input timing.

Adjust the delay from when the trigger is input until the image is input.

Press ([Trigger setup]).

After triggering the input, images will be continuously input.

Select the image that was taken with the best timing.

Press ([OK]).

3. Connect a power supply to the Touch Finder.

Example 1

Here, measurements are performed when the trigger signal is input and the overall judgment is output.

The TRIG signal is not received while the BUSY signal is ON. Turn ON the TRIG signal while the BUSY signal is OFF.

Example 2

Here, a switching signal is input from an external device to switch the scene.

Press ([ON]) to automatically set the brightness according to the image.

Note

- Turning on the [DR] button improves the image quality for entry items. Refer to the User's Manual for details.
- Attach the achieved Focusing Filter if the image is blurred by refraction.

FQ-CR1-M Fixed Mount Multi Code Reader Quick Startup Guide
4 Set up the Position Compensation.
To enable measurement even if the location of the measurement object is not consistent, register a mark that exists on all measurement objects. This function is called position compensation.

1 Perform tests.
Press [Test].
Then press [Continuous test].

Press [Graphics=Details].
Continuous measurements will be performed. Input images of some samples to see if the judgements are correct.

2 If correct judgements are not made, adjust the judgement parameters.
Press [Adjust judgement].

2-2 Measurement Settings
Select an item that is appropriate for the purpose of measurement, and set the measurement settings. The procedure for automatically setting the 2D-code measurement settings is shown here.

1 Select the inspection items.
Ex.: Reading 2D-codes
Press [Inspect], [Test], [Inspection].
Press an unused inspection item number and then press [Add Item] on the menu.

Touch [2D-code].

2 Set the 2D-code read conditions.
Press [Teach].

Set a corner to the rectangle, then press [Teach].

Check the area, press the [OK] button, and then press the [TEACH] button. The characteristic part and reference position for position compensation will be registered.

Press [OK].

Press [Teach],
If reading is successful, the 2D-code type and num. of characters will display.

Touch [Yes],
Press [Back] to end teaching.

The text string read in as master data will display.

Press [Back],
To register additional master data, follow the procedure shown below, Touch the master data to be registered,
Touch [Automatic Registration].
Touch [TEACH].

To manually register master data, follow the procedure shown below.
Touch the master data to be registered.
Touch [Manual Registration],
Input the text string to be registered.

If reading is unsuccessful, check the condition of the workspace and the lighting, and then perform the teaching process again.

3 Adjust the judgement parameters.
Press [Judgement].

Adjust the judgement parameters for the num. of characters and the text string while inputting images of a number of sample items.

2-3 I/O Settings
The data that is output to external devices and the input signal assignments can be changed. (Changes are not normally required.) For example, the following can be input or output.
Judgements for individual inspection items can be output.
If you want to output characters
If you want to output data externally
Refer to the User’s Manual for details.

3. Testing
Tests are made with some samples to see if correct measurements are possible. When Test Mode is entered, images are measured continuously. A trigger input is not required. Measurement results are only displayed. They are not output to an external device.