



TOOLS FOR SMART MINDS

# Yokogawa WT330 Driver for iDaq

*User guide*

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## OVERVIEW

iDaq supports installation of additional components to extend capabilities and features of iDaq itself. With additional components, new types of acquisition devices, new signals processing features, and other kinds of functionalities can be added to iDaq.

WT330 Driver is a component for iDaq that allows the acquisition from Yokogawa WT330 products (digital power meters) using a serial connection (RS-232). This guide explains how to install and use this component.

## INTRODUCTION

WT330 for iDaq is a component for iDaq that acquires analog input signals from Yokogawa WT330 products (digital power meters) using a serial connection (RS-232). With this component, signals acquired from WT330 devices can be visualized, processed, and stored in the same way as signals acquired from any other device supported by iDaq.

WT330 component has the following features:

- Acquisition of Voltage, Current and Power channels (element 1, 2 and 3).
- Signals acquired from WT330 devices are managed by iDaq in the same way as DAQ-mx devices.
- No special skills are required to acquire data from WT330 devices.
- Quick setup.

## REQUIREMENTS

This section contains the list of requirements that users should know before using WT330 component for iDaq.

### MINIMUM HARDWARE REQUIREMENTS

Ensure that your computer fulfills the following hardware requirements:

- Dual core CPU or higher.
- 2 GB RAM (4 GB is strongly recommended).
- Display resolution 1900x1080 or higher.
- Mouse or other pointing device.
- A Yokogawa WT330 product.

### MINIMUM SOFTWARE REQUIREMENTS

Ensure that your computer fulfills the following software requirements:

- OS: Windows 7 or higher.
- National Instruments Drivers rel. 14.5 or higher. You can download a free copy of DAQ-mx drivers at the following URL:  
<http://www.ni.com/nisearch/app/main/p/bot/no/ap/tech/lang/it/pg/1/sn/catnav:du,n8:3478.41.181.5495,ssnav:ndr/>
- iDaq 2016 Edition or higher. You can download an evaluation copy of iDaq at the following URL:

<http://www.idaq-datalogger.com>

## INSTALLATION

Before installing WT330 Driver for iDaq, you have to install National Instruments DAQ-mx Drivers and iDaq 2016.

To install WT330 Driver for iDaq, run iDaq, open **Device & Sensors tab** and click on **Install button** as indicated in figure below.



FIGURE 1 - INSTALLING A NEW COMPONENT FOR IDAQ

Browse your files in File Explorer and select the component file (**YokogawaWT330\_1.1.0.xx.zip**). Once file is selected, iDaq will automatically install it. You can check if WT330 Driver for iDaq component for iDaq is installed on your computer, opening device Option dialog from **Device & Sensors tab**. As shown in the following figures, if the installation process has been successfully completed, *YokogawaWT330* and *YokogawaWT330Acquisition* are listed among the installed components. If the installation process has not been successfully completed, an error will appear.

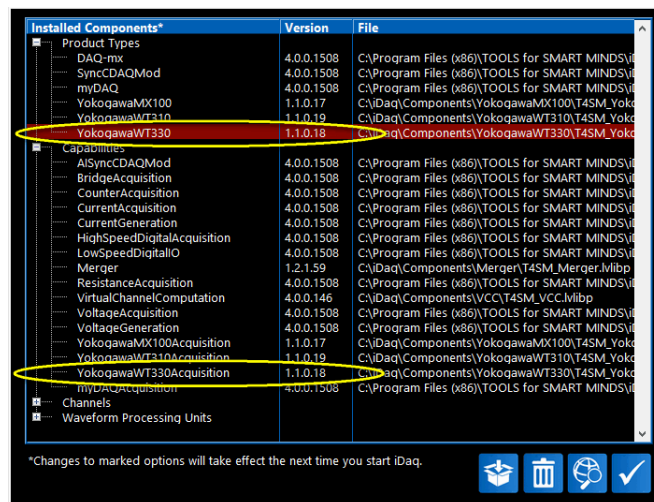


FIGURE 2 - INSTALLING YOKOGAWA WT330 DRIVER FOR IDAQ

Once installation is completed, you can start to use your WT330 devices with iDaq.

# GETTING STARTED WITH WT330 DEVICES

This section explains how to add, configure and use an WT330 device with iDaq.

## ADDING AN WT330 DEVICE TO THE LIST OF ACTIVE DEVICES

To add a new WT330 Device to the list of active devices, open the **Device & Sensors** tab from the iDaq main window and select **Add button**, as shown in figure below.

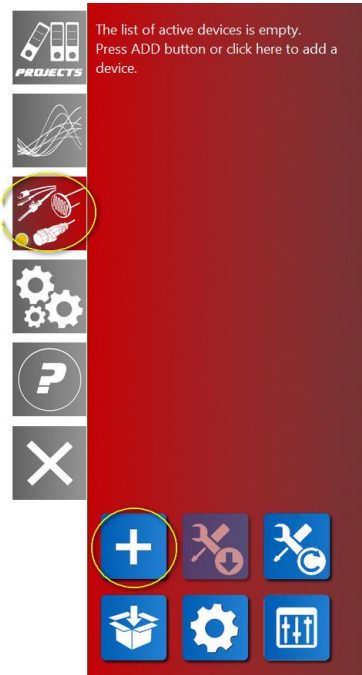


FIGURE 3 - ADDING A NEW WT330 IN iDAQ

A new dialog window shows the icons of available devices you can use in iDaq to acquire data. The list of icon in your iDaq installation may be different from the image below, according to the number of components you have installed.

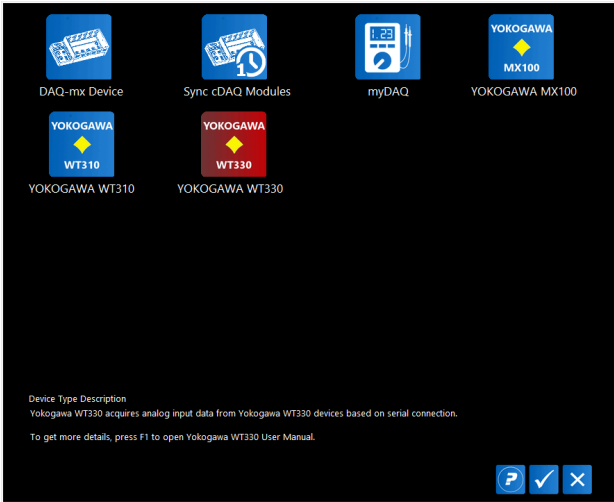
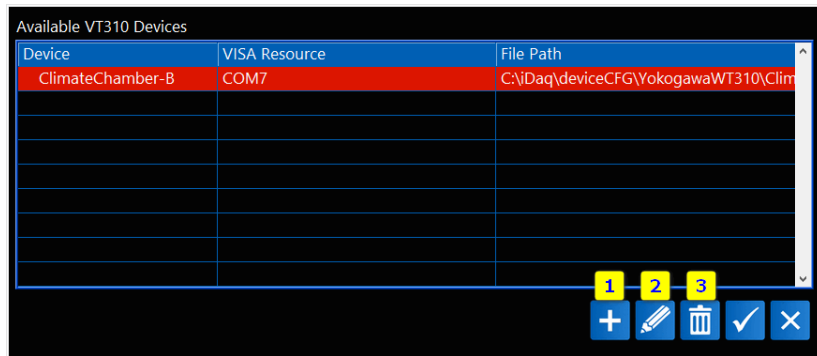


FIGURE 4 – DEVICE TYPE SELECTION WINDOW



From this window, click on **YOKOGAWA WT330 Device** icon and press OK button. The following window appears.



**FIGURE 5 - WT330 DEVICE EDITOR**

*WT330 Device Editor* shows the list of all WT330 devices created with YokogawaWT330 Driver for iDaq. For each device, the following details are shown:

- **Device name.** This name must be unique because iDaq cannot manage two devices with the same name.
- **VISA Resource.**
- **File Path of device file, typically stored into c:\iDaq\DeviceCFG\Yokogawa folder.**

To add an existing device, highlight its row in device table and press **OK button**. It will be added to the list of active devices and the last-used device settings are loaded.

To add a new WT330 device, press Add Button [1]. The following dialog appears:



**FIGURE 6 - CREATING A NEW WT330 DEVICE EDITOR**

You should type the following information:

- **New device name [1].** Notice that the device name is used as file name and only a subset of chars is allowed (A..Z,a..z,0..9, space and '\_')
- **VISA resource [2].** It is the RS-232 COM name (i.e. COM1, COM2, COM3...). Use *NIMAX* or *Windows Device Manager* to identify the COM name used for the WT330 in use. Please ensure that WT330 is powered on and properly connected to your PC.

Notice that if you are using an Ethernet/RS232 adapter (i.e. NI ENET-232/4), you should use the complete VISA resource name. Use the following VISA resource string format to access the ENET ports:

*ASRL::IPAddress::PortNumber::INSTR*

For example, the ENET-232/4 has four RS-232 serial ports, numbered 1-4. If your ENET-232/4 had an IP address of 10.0.0.1, and you were attempting to access port 2, your VISA resource name would be:

```
ASRL::10.0.0.1::2::INSTR
```

Use Test Button to verify that iDaq can communicate with WT330.

**NOTE:**

Only reachable devices can be created. IDaq doesn't allow to create an WT330 device if cannot establish a connection with the specified VISA resource.

### SERIAL CONFIGURATION

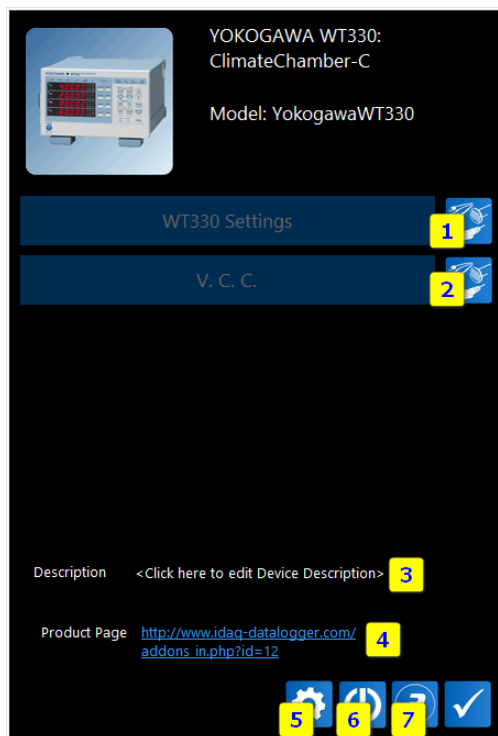
Before creating a new WT device, configure the instrument as follow:

- Baud rate: 9600
- Parity: none
- Data bits: 8
- Stop bits: 1
- Flow Control: None

If the WT instrument is not configure as reported above, communication cannot be established.

### WT330 CAPABILITIES

As shown in the following figure, to edit settings of a WT330 device, open **Device & Sensors tab** and click on the device icon, WT330 device editor will be displayed as indicated in following figure.



**FIGURE 7 – WT330 DEVICE EDITOR**

To edit channels properties, click on Device Channel property Button [1]. To Add/Edit virtual channels, click on Virtual Channel property Button [2]. To edit Device Description, click on device description [3]. To open Device page on iDaq website, click on Product Page URL [4].

To edit WT330 VISA Resource, click on the Advanced Settings Button [5]. The following dialog appear:



FIGURE 8 – ADVANCED SETTINGS EDITOR TO CHANGE WT330 VISA RESOURCE

To re-init device, click on RE-INIT Button [6]. iDaq prompts a message box to ensure that you want to re-init WT330 Device. If you confirm your choice, re-init button changes color to red, as indicated below:



FIGURE 9 – RE-INIT BUTTON INDICATES THAT DEVICE WILL BE RE-INITIALIZED WHEN USER WILL PRESS OK BUTTON.

To open WT330 Driver for iDaq User Guide, click on Help Button [7].

## EDITING WT330 CHANNEL PROPERTIES

WT330 acquires nine channels:

- V1. It is the voltage of element 1 of the digital power meter WT330.
- I1. It is the current of element 1 of the digital power meter WT330.
- P1. It is the power of element 1 of the digital power meter WT330.
- V2. It is the voltage of element 2 of the digital power meter WT330.
- I2. It is the current of element 2 of the digital power meter WT330.
- P2. It is the power of element 2 of the digital power meter WT330.
- V3. It is the voltage of element 3 of the digital power meter WT330.
- I3. It is the current of element 3 of the digital power meter WT330.
- P3. It is the power of element 3 of the digital power meter WT330.

As shown in the following figure, to view and edit channels properties, click on **Channels** button from the *Device Editor Window*.

Name	Units	Actual value	Physical Resource
✓ V1	Volt	0,421	ClimateChamber-
✓ I1	Volt	-0,000	ClimateChamber-
✓ P1	Volt	-0,000	ClimateChamber-
✓ V2	Volt	0,007	ClimateChamber-
✓ I2	Volt	-0,001	ClimateChamber-
✓ P2	Volt	-0,000	ClimateChamber-
✓ V3	Volt	-0,014	ClimateChamber-
✓ I3	Volt	-0,000	ClimateChamber-

FIGURE 10 - OPENING CHANNEL EDITOR

Double click on channel row to edit channel name, units of measurements, signal range and Waveform Processing Units (WPU) associated to every signal. Refers to iDaq User Guide to learn how to edit WPUs.

Notice that acquisition mode of the power meter WT330 cannot be configured in iDaq. To change it, select the desired acquisition mode on the instrument (RMS, Voltage Mean, or DC).

## FURTHER DETAILS

iDaq product page: <http://www.idaq-datalogger.com/idaq.php>

iDaq ADD-ON Store <http://www.idaq-datalogger.com/addons.php>

Support: <http://www.idaq-datalogger.com/support.php>

NI ENET on 64-bit Window:

<http://digital.ni.com/public.nsf/allkb/D9467D5E9DCFACA386256D560070383E>