Inside the crate you will find a box with necessary items and the dyno itself.

The dyno comes completely assembled. In some rare cases, the columns were removed for shipping.

There will be a box with items that you will need.

The crossbar should be on and installed most of the way down the columns. You can move it up to start.

Position the split collar to rest under the crossbar and we will use this later for testing. There is a T-handle Allen key inside the box to use for adjusting it.

The IR-Temperature sensor will be on the right column, later you will position it for temperature recording of the damper body.

The load cell and IR-Temp. will have cables installed and going inside the top plate of the damper machine and already connected to the electronics board.

Set the dyno onto a sturdy table or strong cart. It can be on wheels for mobility as we have many customers that move them in and out of haulers and trailers. Your main concern will be connecting to power so keep that in mind as to where you place the machine.

Inside the box

In the box, we have included your Software license, USB Memory stick, your clevis fixtures, T-handle Allen-key and a CTW Printed Preload block and a USB cable.

The Software key/Dongle (left) is your license to collect data with our CTW Software. In order to collect data you will need to have this plugged into the computer to collect data. It is not needed to use the software in a demo-viewing mode. The USB memory stick (right) is loaded with everything you need to run and use the damper dyno.

We recommend a Win10 i7 laptop with (3) USB ports. At this time, the dual core processor is the best suggestion for performance. If you have less USB ports, you can use a USB hub for expansion.

USB Hub with Software key – USB cable from Data card – USB for motor control

CTW AUTOMATION / 336-542-2103 / support@ctwautomation.com

Overview

This cable should not be present, please ignore as it is now internal

USB cable for Data Card - square end to port, other end to computer USB

Main Power Cable - typically for 200-240 VAC single/three phase power

Motor Control Cable - connected internally, connect other end to computer USB

Emergency Stop Button - up or down - up is the "ready" state while "down" is the E-State. Make sure it is up.

A quick view of the dyno and the important cables is shown above.

The internal power supply is now wired to be powered from the input power and will not extend out of the top plate. This unit uses one leg of power, a neutral and a ground. If your plug does not have a neutral, please jumper ground to the neutral: Green/Yellow and Blue wires.

USB data cable. The square end goes into the port in the top of the machine while the other end plugs into the computer.

High voltage power supply cable. See below for more information.

Motor control cable is already connected to the motor inverter while the other end will go to the computer USB port.

The red Emergency Stop button is located at the front. During shipping this may have been depressed, please check to make sure it is in the "up" and ready position. Pressing this button will cut the main power to the motor controller.

Main Power

Your main power will be delivered through the cable coming from the top of the unit. This machine should be for 380/440 VAC three phase input consisting of:
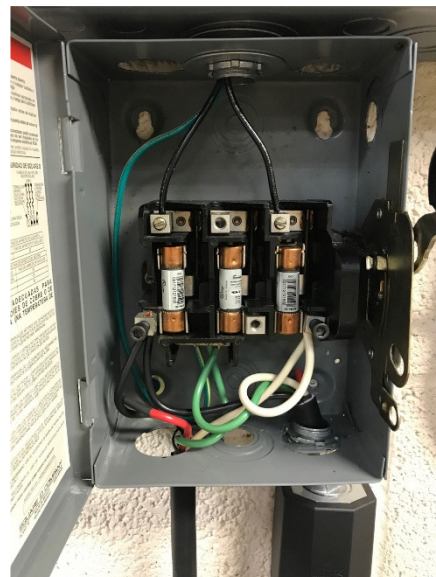 L1-Black
 L2-Brown
 L3-Gray
 Ground-Green
 Blue-Neutral   If you do not have a neutral then connect the Blue and Green.

Note – both machines will run on less supply amperage but may not achieve peak power output.

Best practice is a fused switch box for power. You can also use a plug and receptacle of a proper amperage rating.

Plug in your low voltage and your high voltage and apply power. The dyno needs to be powered on before moving to the next step. There is a light in the upper left corner of the front plate that will illuminate when power is on to the machine.

Software Install

- Create a folder on your computer's Desktop called "CTW Info" and copy all the files from the USB memory stick to this folder. You should have the files shown below noting a different model serial number. It includes our Software, Manual, drivers for the motor controller and the data card, your calibration settings (ZIP folder), TeamViewer remote access program and a Sheet for how to run a Test.

  - Autoinstaller_WHQL_CDM2.12.26_Win 2K, XP, Vista, 7, 8, 8.1, 10, 32_64bit
  - CTW Automation 300 x 300 LOGO Example
  - CTW Automation Inc. - General Terms and Conditions V2
  - CTW Automation Probe 20.9.2.1634 Setup
  - CTW Probe Software Manual - Rev D
  - Field instructions Rev C
  - icalsetup
  - Install RD2-RD3-RD5 200-240 I & III Rev D
  - Keyspan Windows 2008 Server R2, 7, 8 and 8.1_v4
  - RD3-110 CTW 10-28-2020
 - Run a Test with CTW Probe Rev B
  - TeamViewerQS_en-idctjrujv7

- Plug in all (3) required items for running your dyno, one at a time, allowing for the computer to find them and load any drivers it needs. This will happen automatically.
  - The software key / dongle
  - The USB data card cable
  - The USB motor control cable
- Run the "icalsetup" program. This will load an app called Instacal. You will want to run this program and it will find your data card. Click "OK" on all prompts until it finishes and loads your data card. You will want to pin this t the taskbar.
 -

- Run the "Autoinstaller_WHQL_CDM2.12.26_win 2K, XP, Vista, 7, 8, 8.1, 10, 32_64bit"
    - When it is done, there is nothing else to do. This is for the motor control device.
- Run the TeamViewer program and when done, pin this to the taskbar. This program allows CTW to remote access your computer so we can help you when needed.
- Run the "CTW Automation Probe 1.0.175.213 Setup" program.
- When it is finished, you can start the program by clicking on the icon on the desktop.
    - Make sure the software key and both cables are plugged in and the power is on to the dyno and the low voltage cord is plugged in. Look for the light on the front left corner of the machine.
- Now you need to load your calibration settings we used for your dyno.
    - In the program, go up to the top and find "Preferences". Click and then look for the "Restore settings and restart….." and click
    -
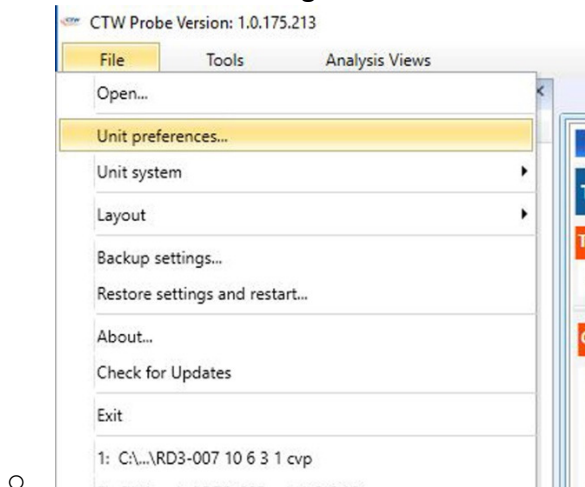
    - Next, a box will open and you will search on your Desktop for the "CTW" folder you created. Then inside that folder, look for the Zip folder labeled with your dyno serial number on it. These are your settings and calibrations. You can see an example below.
    -
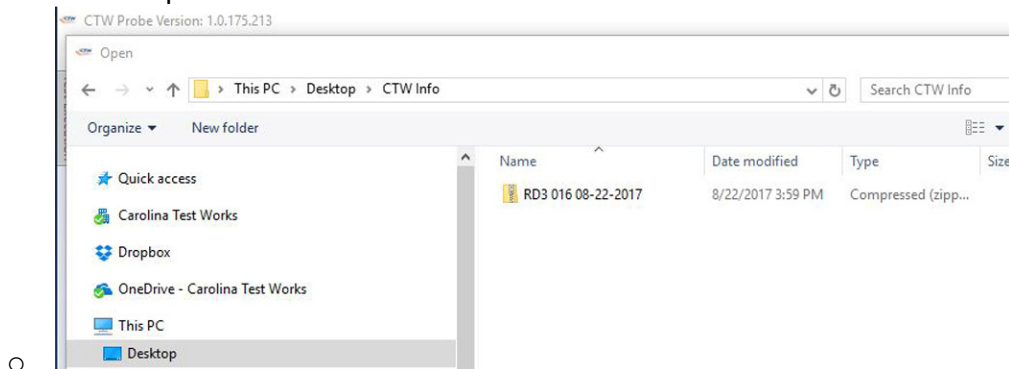
- You should now be ready to start using your dyno. There is a PDF included with the information on how to run a test.
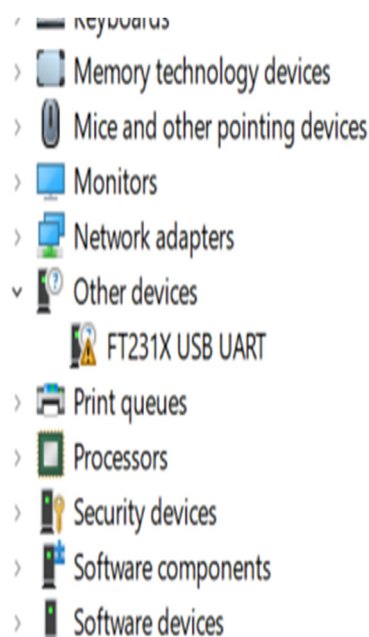
Troubleshooting

If after opening Probe and loading your calibration settings file your 'Shock Dyno' shield (upper-right corner) is still red, ensure that the software key, and motor & data card cables are plugged into the computer, then follow these steps.

- Hover your mouse over the Shock Dyno shield to open up the information window as seen below.
- If Commands Sent is "0" and/or the Serial Port is blank or listed as "None", close the Probe program.

- Open your computer's Device Manager. Go to the 'Control Panel' and choose 'View by: Icons' (large or small) and double-click on 'Device Manager' to open.

- Find 'Ports (Com & LPT)' and expand using the arrow. Make a note of the USB Serial Port Com number.

o If there is no Com Port number listed or if 'Other Devices' shows a yellow warning error on FT231X USB, you will need to close the Device Manager and load additional drivers for the motor controller cable.

Troubleshooting (Cont.)

- Re-open the CTW Copy To Desktop Folder.

- Find the program "Autoinstaller_WHQL_CDM2.12.26_Win 2K, XP, Vista, 7, 8, 8.1, 10, 32_64bit.exe" and install it by double-clicking. This is the driver for device communication to the motor / actuator, which is the black cable from the dyno.

- Now go back to Device Manager and find the Ports (COM & LPT) area and note the USB Serial Port (COM#). We need the COM # for Probe.

- Next, start Probe and go to the Configuration Tab. Scroll down to find the COM Port area and set the number to match what was listed in the Device Manager. Then click on the "Save" icon. Give the program a few moments to reset. You may need to click "Save" again. The Shock Dyno shield should change to green and you can begin testing.