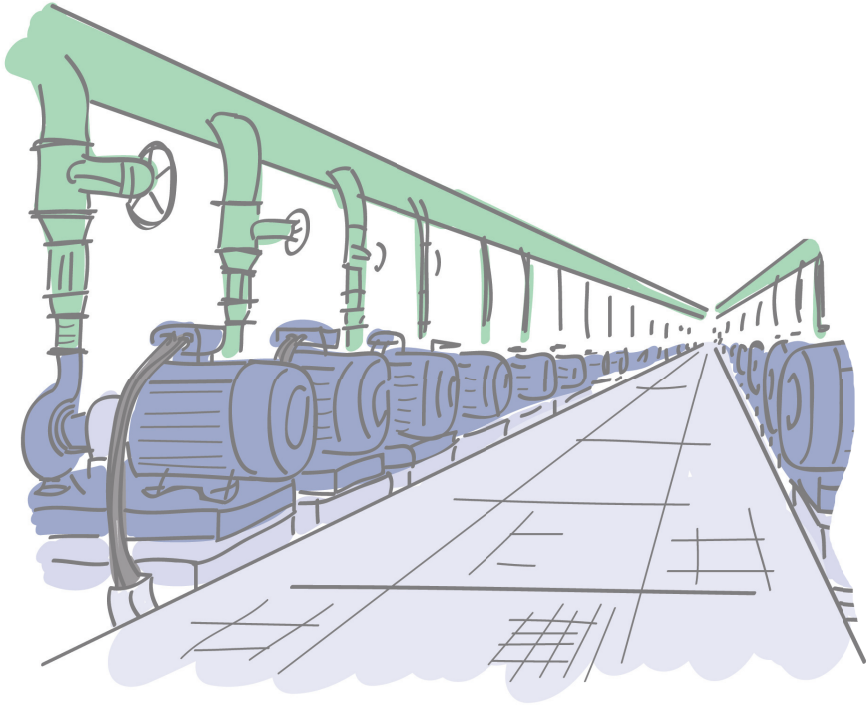


A3800 Step by Step



MASTER THE LANGUAGE OF YOUR MACHINERY

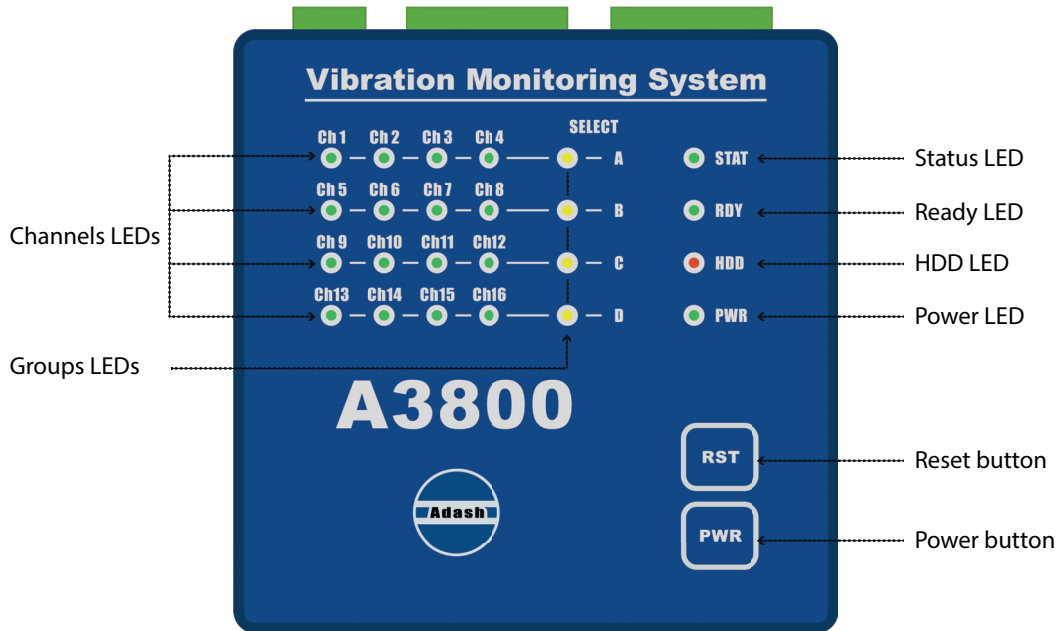




A3800 - Vibration Monitoring System

The **A3800** unit is the compact size on-line monitoring and diagnostic system. It is designed to increase machine reliability. The small size of the A3800 enables to mount it directly on the DIN rail. The optional number of channels (4, 8, 12, 16) is available on the A3800 unit. The same number of AC and DC channels are always available. The 4 tachometer sensors can be used in 16 channel option. The number of channels is determined by the license file. When the user wants to increase the number of channels, then only the new license file is written to unit memory. No unit disassembling is required. Each group of 4 channels measures fully simultaneously. Individual groups of 4 channels are multiplexed.

The A3800 unit can be also used as a powerful multichannel analyzer. The setting and control is made by Virtual Unit software installed inside the A3800 unit.



A3800 - Front Panel

Channels LEDs indicate on which channels the measurement is defined.

Green color ... indicates good condition of the input channel, sensor and cable.

Flashing red color ... indicates sensor or cable error.

Groups LEDs indicate which channel group is active for measurement.

Orange color ... indicates active group.

Status LED indicates status of A3800 DSP board.

Fast flashing green color (four times per sec) ... measurement is running.

Slow flashing green color (one time per sec) ... waiting for measurement.

Red color ... DSP board error.

Ready LED indicates status of A3800 control board.

Green color ... control board OK.

Red color ... control board error.

HDD LED indicates r/w operation on HDD.

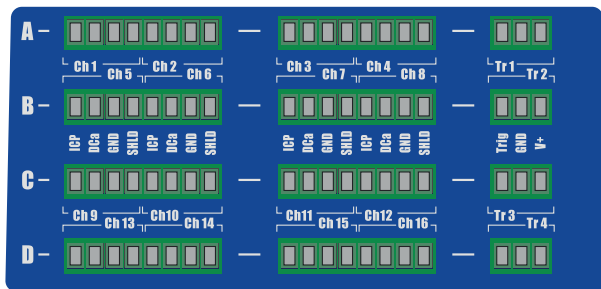
Red color ... r/w operation in progress.

Power LED indicates power on of A3800 unit.

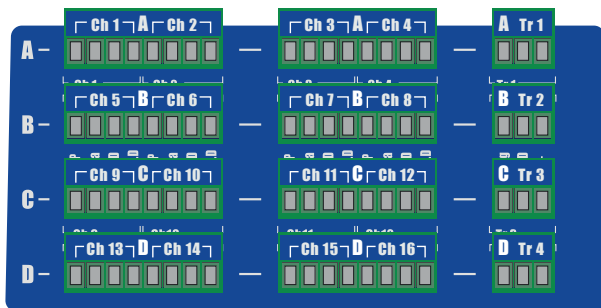
Green color ... A3800 unit is power on.

Reset button ... press and hold for at least 5 seconds to reset control board.

Power button ... press and hold for at least 5 seconds to switch ON/OFF A3800 unit.



A3800 without connection terminals.



A3800 with connection terminals.

A3800 - Top Panel

The connectors for connecting the sensors are located on the top panel. Connectors are divided into groups **A**, **B**, **C**, **D**.

Group A: AC and DC channels 1 – 4, TACHO input 1.

Group B: AC and DC channels 5 – 8, TACHO input 2.

Group C: AC and DC channels 9 – 12, TACHO input 3.

Group D: AC and DC channels 13 – 16, TACHO input 4.

Input labels:

ICP ... AC input with ICP® powering

DCa ... DC input

GND ... common ground for AC and DC inputs

SHLD ... shielding

Trig ... TACHO (trigger) input

GND ... ground

V+ ... 5 V TACHO powering, max. 250 mA

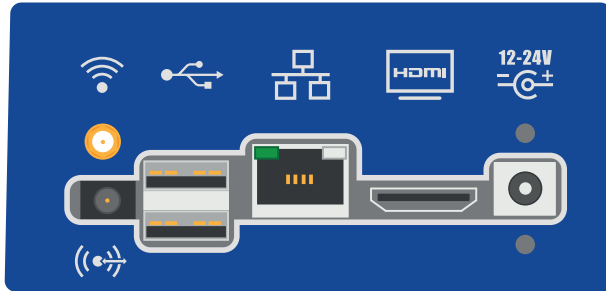
Input ranges:

AC input: +/-12 V peak - peak

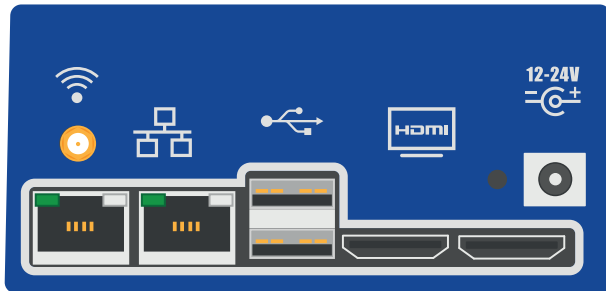
DC input: +/-24 V or 4 – 20 mA

TACHO +10 V

A3800 - Bottom Panel



A3800 ver.: 1



A3800 ver.: 2

A3800 - Bottom Panel



WiFi: input for WiFi antenna (optional).



AUDIO I/O: 3.5 jack audio socket.



USB 2.0: two USB ports.



ETHERNET: Ethernet socket.

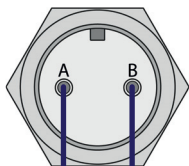


HDMI: HDMI port (monitor connection).



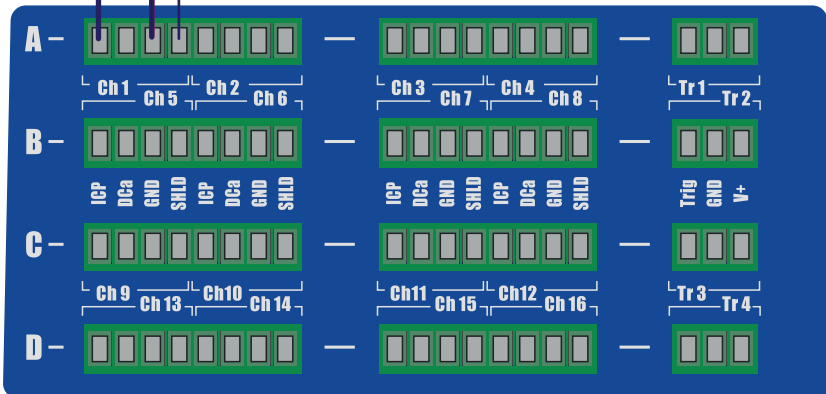
POWER: socked for 12-24 V DC powering.

Acceleration Sensor Connection - AC Input

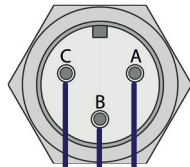


A ... AC, ICP® powering, 22 V, 4 mA
B ... Ground

Shielding

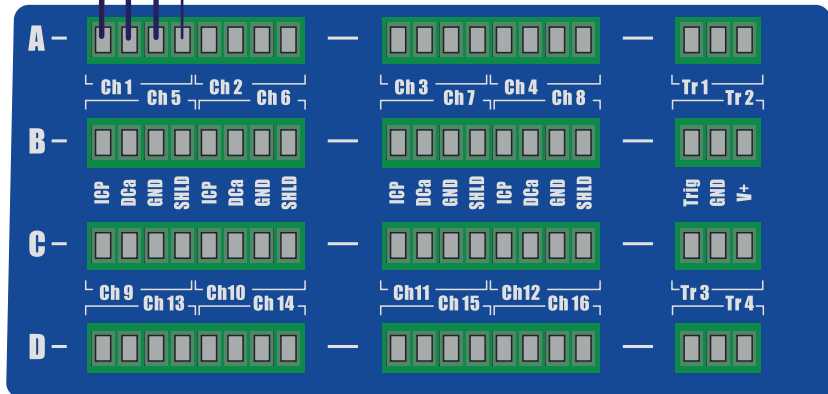


Acceleration and Temperature Sensor Connection - AC and DC Input



- A ... AC signal, ICP® powering, 22 V, 4 mA
- B ... Ground
- C ... DC signal, temperature

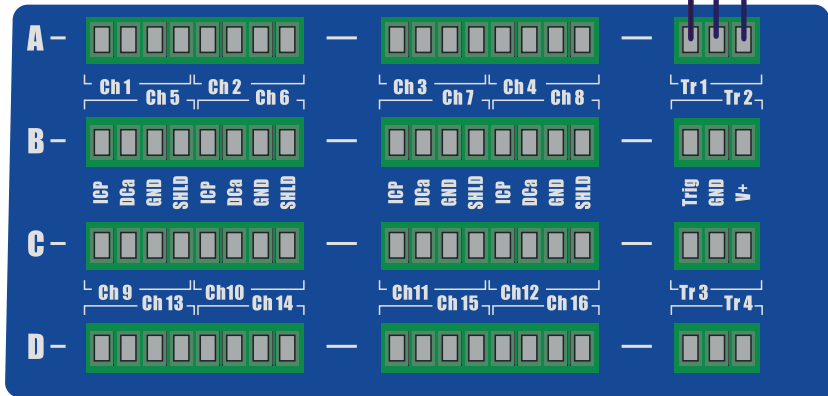
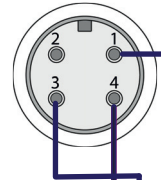
Shielding



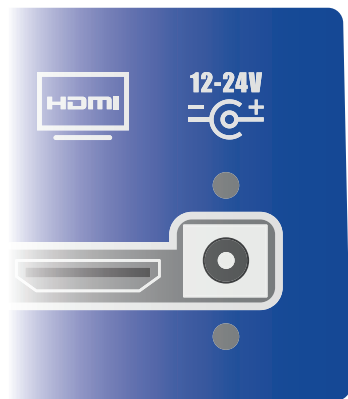
Tacho Trigger (Speed Probe) Connection

Tacho: MINI VLS 2011

- 1 ... +5 V Powering
- 2 ... No Used
- 3 ... Ground
- 4 ... Trigger Signal Out



The A3800 unit is powered by DC voltage 12 - 24 V. Power consumption is max. 10 W.



Connection to the Computer Network

Serial Number:

Each A3800 unit has a unique 6-digit serial number. This serial number is used for creation of the unit name and its IP address.

Unit Name:

This is the name under which the unit is displayed in the computer network.

Initially it is "A3800-Serial Number. For the unit below it is "A3800-628905".

IP Address:

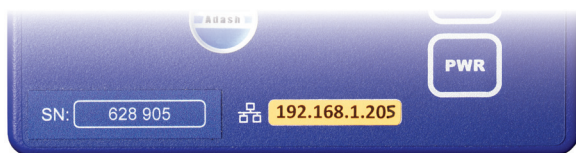
Is a numerical label assigned to each device connected to a computer network.

The IP address is initially set to:

192.168.1.2xx ... for unit serial number ending by 00-09,

192.168.1.1xx ... for unit serial number ending by 10-99.

IP address (factory setting) is written on the A3800 front panel.



Serial Number

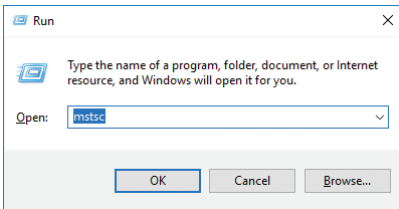
IP Address

How to Change the IP Address of A3800

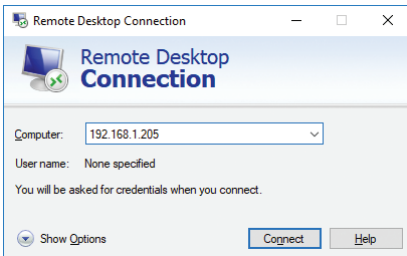
You will probably need to change the A3800's IP address for proper operation.

1. Use the Ethernet cable and connect the A3800 unit with PC directly or through network (switch).

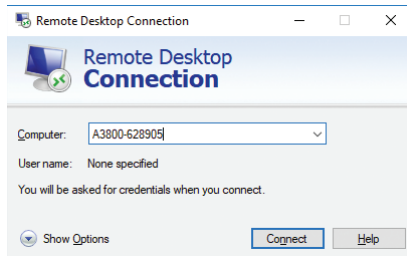
2. Press Win  + R. Type "mstsc" and press Enter.



3. New window **Remote Desktop Connection** appears. Enter **Unit Name** or **IP Address** and press **Connect**.



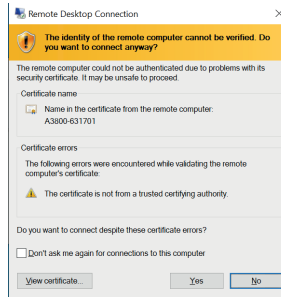
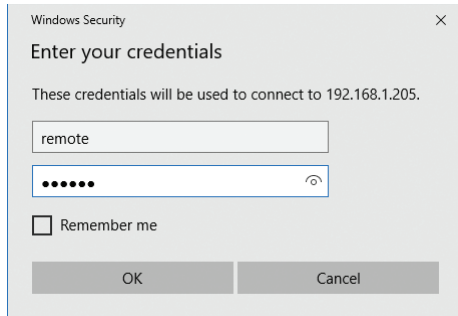
IP Address



Unit Name

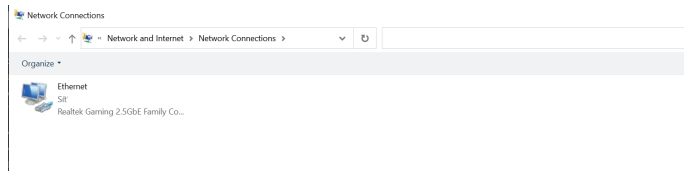
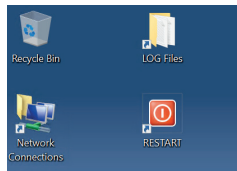
How to Change the IP Address of A3800

4. New window appears. Type "remote" for user name and password. Then you get following window with warning if you really want to connect. To proceed further confirm it with 'Yes' button.



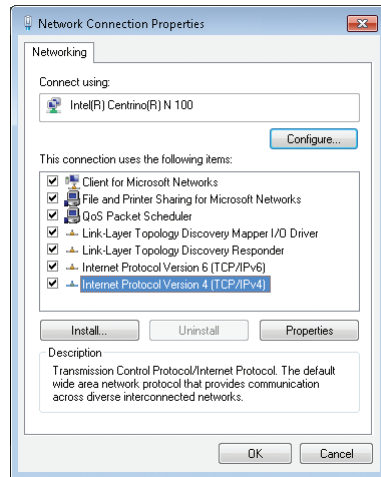
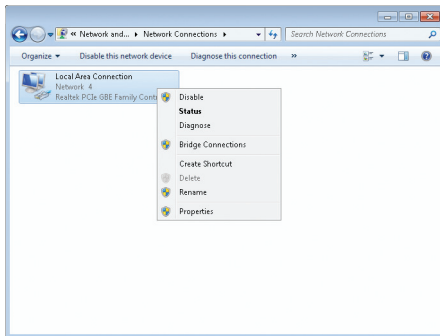
5. Now you will be connected to the A3800 unit. Click on windows start button (left bottom corner). Directly type there command `ncpa.cpl` and press Enter. You can get this 'Network connections' folder also with choosing an icon on remote desktop. Network connection window will open.

Note: Please make sure that you run `ncpa.cpl` command on remote desktop, not on your computer's desktop.



How to Change the IP Address of A3800

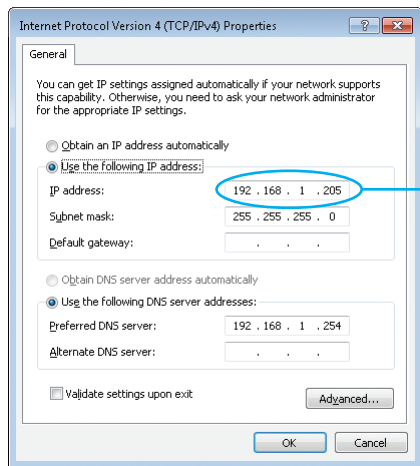
6. Select network adapter (usually Local area connection), click right mouse button and select **Properties**.



7. Select **Internet Protocol IP Version 4 (TCP/IPv4)** and click on **Properties** button.

How to Change the IP Address of A3800

8. New window appears. You can change IP address of A3800 unit on **General** tab in the box **IP address**. After this change you have to create the new remote connection (connection with old IP address will stop working).



Type new IP address.

The A3800 unit's IP address has to be in the same subnet as your PC. Contact your IT department in order to get IP address according to your network.

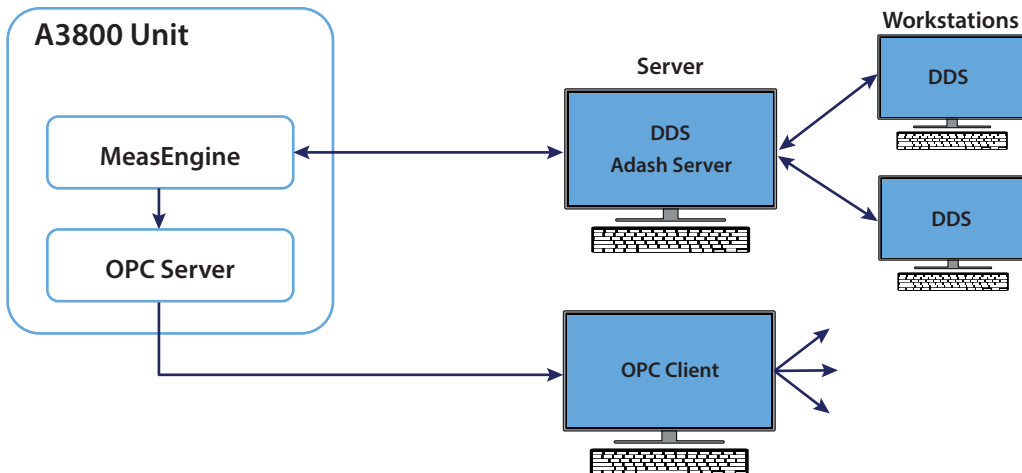
How to Read Data from A3800

OPC protocol:

Each A3800 unit has an OPC server installed. OPC UA standards is available.

DDS:

This software allows you to make measurement settings and data transfer to the database.



How to Set up the A3800 Unit

To set up A3800 unit you need to install **DDS** and **Adash Server (MySQL)** software. Microsoft SQL Server database system is also supported. For more information about installation of DDS and Adash Server visit our web site www.adash.com.

Run the **DDS** software after installation.

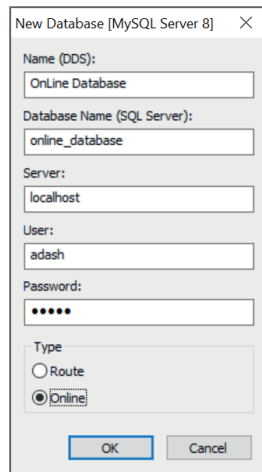
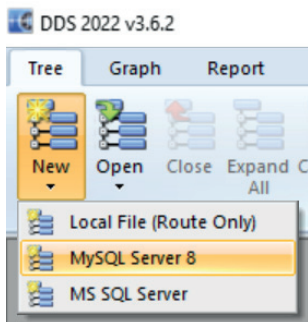


DDS software startup window.

How to Set up the A3800 Unit

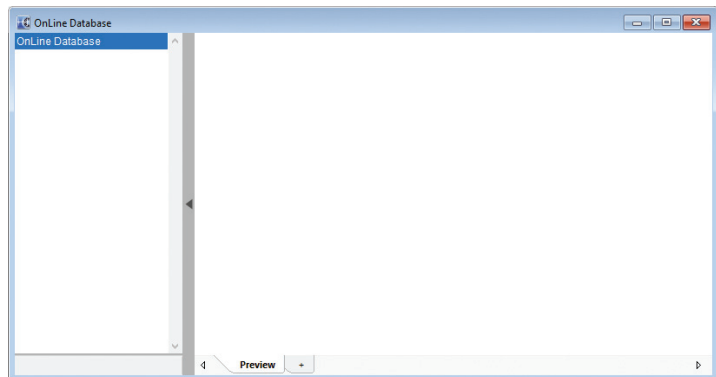
Click **New** in the **Tree** tab (small down arrow) and select MySQL Server 8 (in case you have Adash server installed) or MS SQL Server (in case you have Microsoft SQL server installed).

Database parameters window appears. Enter the DDS database name and SQL server database name (small characters, without space and special characters), IP address or name of the computer where you installed **Adash Server**. In case you installed the **Adash Server** on your local PC, type "**localhost**" into the **Server** item. Then enter "**adash**" as **User** name and "**adash**" as a **Password**. Confirm by **OK** and new empty online database will be created.

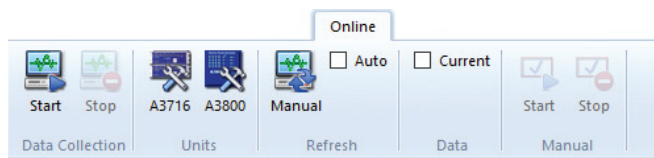


How to Set up the A3800 Unit

Created online database with empty window and empty tree will appear.

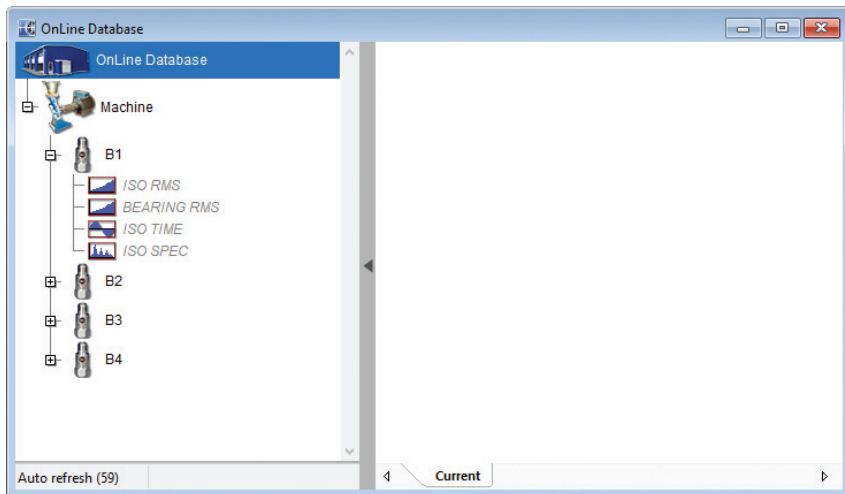


New **Online** tab will appear on the **DDS** software tool bar.



How to Set up the A3800 Unit

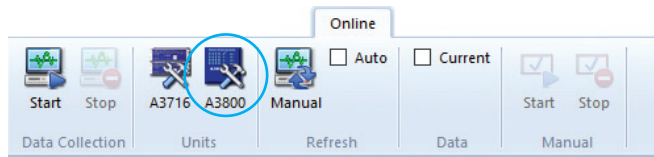
Now you have to create required tree structure in the **OnLine Database**. The following hierarchy will be done: Machine -> Measurement Point -> Data Cells. See **DDS** manual about how to create the tree structure. All data cells in the **OnLine Database** tree will be used for online readings.



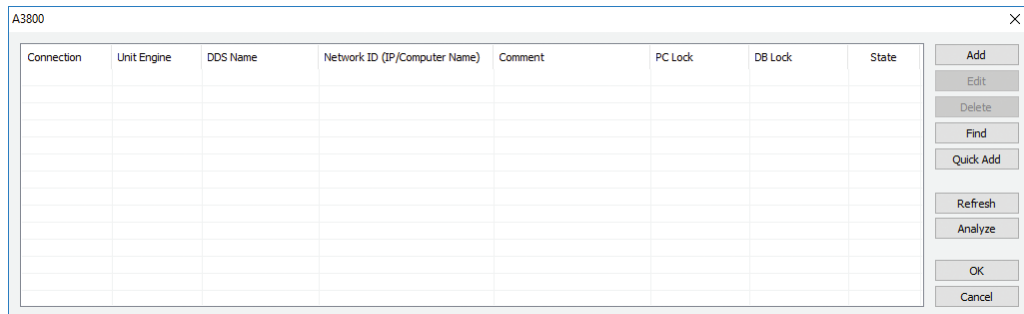
How to Set up the A3800 Unit

Now you have to assign the A3800 unit into the **OnLine Database**. For this purpose the A3800 unit must be already connected to the local network.

Select **Online** tab and click on **A3800** units button.

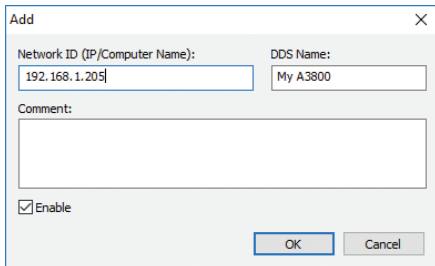


New window with list of A3800 units list appears.



How to Set up the A3800 Unit

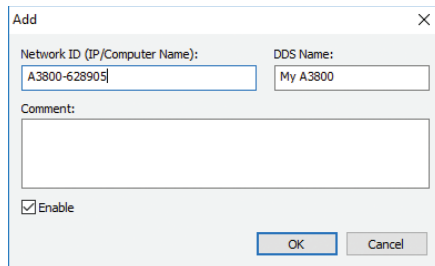
Click **Add** button and enter IP address or network name of the new unit. Enter the **DDS Name** also. The unit will be visible under this name in the DDS software. We entered My 3800 name.



The 'Add' dialog box is shown with the following fields and values:

- Network ID (IP/Computer Name): 192.168.1.205
- DDS Name: My A3800
- Comment: (empty text area)
- Enable
- Buttons: OK, Cancel

IP address

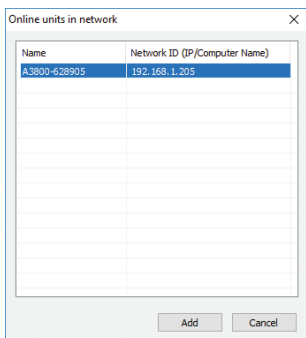


The 'Add' dialog box is shown with the following fields and values:

- Network ID (IP/Computer Name): A3800-628905
- DDS Name: My A3800
- Comment: (empty text area)
- Enable
- Buttons: OK, Cancel

Unit name

You can also use the **Find** button in order to find A3800 units on the local network.



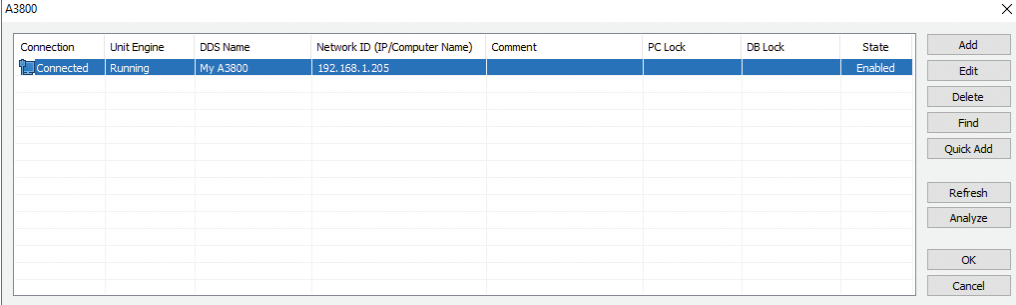
The 'Online units in network' dialog box displays a table of discovered units:

Name	Network ID (IP/Computer Name)
A3800-628905	192.168.1.205

Buttons: Add, Cancel

How to Set up the A3800 Unit

A3800 unit will be displayed in the list. **DDS Name** is **My A3800**. Click OK for adding it into the list.



The screenshot shows a window titled "A3800" with a close button (X) in the top right corner. Inside the window is a table with the following columns: Connection, Unit Engine, DDS Name, Network ID (IP/Computer Name), Comment, PC Lock, DB Lock, and State. The first row is highlighted in blue and contains the following data: Connected, Running, My A3800, 192.168.1.205, (empty), (empty), (empty), and Enabled. Below the table is a sidebar with several buttons: Add, Edit, Delete, Find, Quick Add, Refresh, Analyze, OK, and Cancel.

Connection	Unit Engine	DDS Name	Network ID (IP/Computer Name)	Comment	PC Lock	DB Lock	State
Connected	Running	My A3800	192.168.1.205				Enabled

Buttons functions:

Add: adds A3800 online device into database (in our case into the **OnLine Database**).

Edit: edits selected A3800 online device.

Delete: removes selected A3800 online device from database (in our case from the **OnLine Database**).

Find: searches for A3800 online devices inside local network.

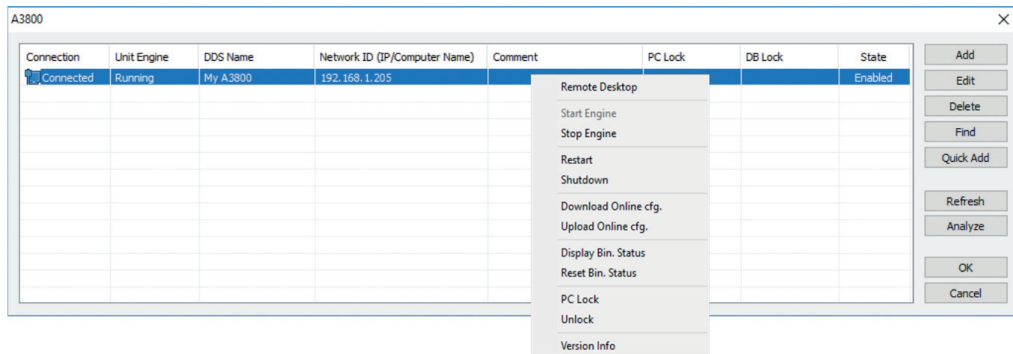
Quick Add: adds all A3800 online devices which were found in the local network into database.

Refresh: updates information about all A3800 online devices on the list.

Analyze: analyzes all measurements that were sent to selected A3800 online device.

How to Set up the A3800 Unit

After right mouse click the local menu will appear.



Local menu functions (for selected A3800 online device):

Start Engine: starts Measurement Engine of A3800 online device.

Stop Engine: stops Measurement Engine of A3800 online device.

Restart: resets A3800 online device (RST button on A3800).

Shutdown: - shutdowns A3800 online device (PWR button on A3800).

Download Online cfg.: downloads configuration file of A3800 online device (adaptive algorithm settings).

Upload Online cfg.: uploads configuration file of A3800 online device (adaptive algorithm settings).

Display Bin. Status: displays internal parameters of adaptive algorithm (relative changes).

Reset Bin. Status: resets internal parameters of adaptive algorithm (relative changes).

PC Lock: locks A3800 online device to the computer.

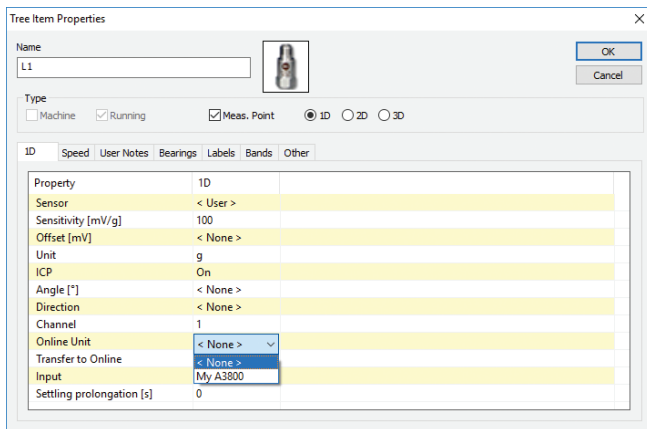
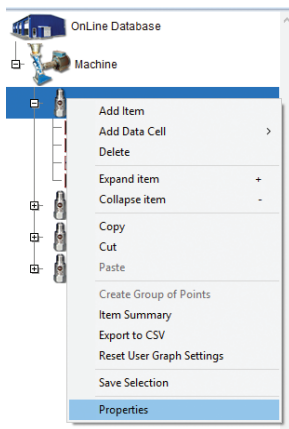
Unlock: removes PC Lock.

Version Info: displays firmware version of A3800 online device.

How to Set up the A3800 Unit

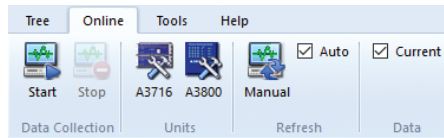
Now we are ready to assign A3800 unit and channel to selected measurement point in the **OnLine Database**.

Open the local menu of selected measurement point (right-click on the point and select **Properties**). Select the first tab (**1D**, **2D** or **3D**) and set item **Online Unit** and **Channel**. If the data cells are already defined, then the tree structure of **OnLine Database** is ready to send to A3800 unit and to start the data readings.

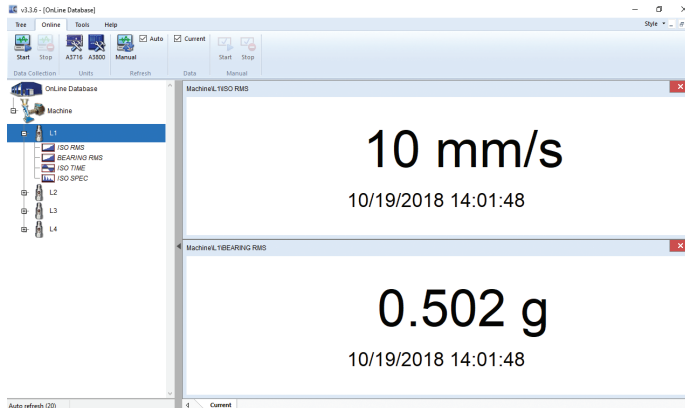


How to Set up the A3800 Unit

To start/stop of the data collection use the **Start** or **Stop** buttons in **Data Collection** section in **Online** tab. After pressing Start the data collection is started. The software is registered as service (with the name AdashDM_NameDB). In case of a computer reset the service starts again automatically.



DDS enables to read the actual static measurements anytime. Select required measurement point(s) in the tree and select **Current** check box in **Data** section.



Adash

Hlubinska 1379/32

702 00 Ostrava

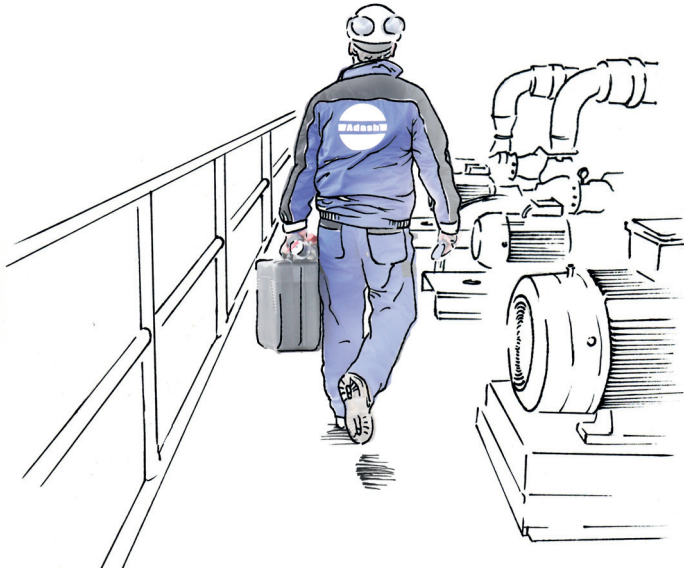
Czech Republic

tel.: +420 596 232 670

e-mail: info@adash.com

www.adash.com

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MASTER THE LANGUAGE OF YOUR MACHINERY

