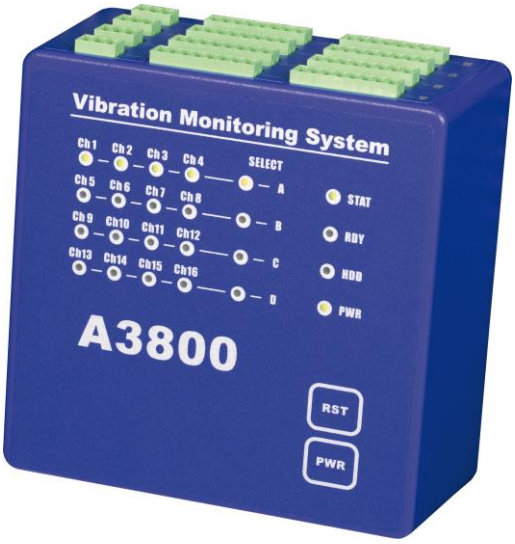
USER MANUAL

A3716, A3800
Online Monitoring System



Version: December 11, 2019

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Basic hardware explanatory notes

We would like to explain a few terms in the beginning of this manual.

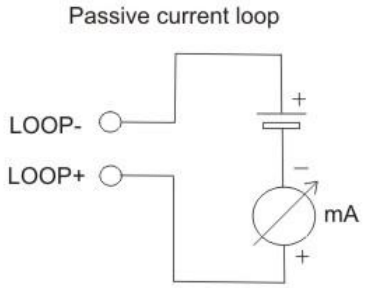
The Adash DSP board

The Adash DSP (Digital Signal Processing) board is the most important part of the instrument. The special chip provides all necessary operations, which are required for achieving of 4 channel synchronous data.

4-20mA current loops and its industrial use

For industrial process control instruments, analog 4–20 mA current loops are commonly used for analog signaling, with 4 mA representing the lowest end of the range and 20 mA the highest. The key advantages of the current loop are that the accuracy of the signal is not affected by voltage drop in the interconnecting wiring, and that the loop can supply operating power to the device. Current loop outputs of actual value are then used in control systems (PLC).

The current loops used in the A3716 are isolated from measuring circuits. They must be externally powered (they use passive mode).



Relay outputs

Two relay initial states exists. Energized and de-energized. Energized relay is initially powered and its internal connections are as seen on the picture below (NO-normally opened, NC-normally closed, COM-common are standard electrical terms). De-energized relay is initially not powered. Internal connections are seen on the pictures.

Latched relay

We describe it on example:
The factory initial state of the relay is de-energized (i.e. NC and COM is connected). The ISO RMS (10-1000Hz) value is measured on the machine. When the RMS value will exceed 2 mm/s, then the relay will switch on the red light in a control room. When the vibration value will decrease under the 2mm/s, then the relay will switch off the light.

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If the LATCH function is chosen, then the relay will not switch off the light when the vibration decreases less than 2mm/s. The relay keeps the switch ON until it is manually switched off (through the use of REL–RST).

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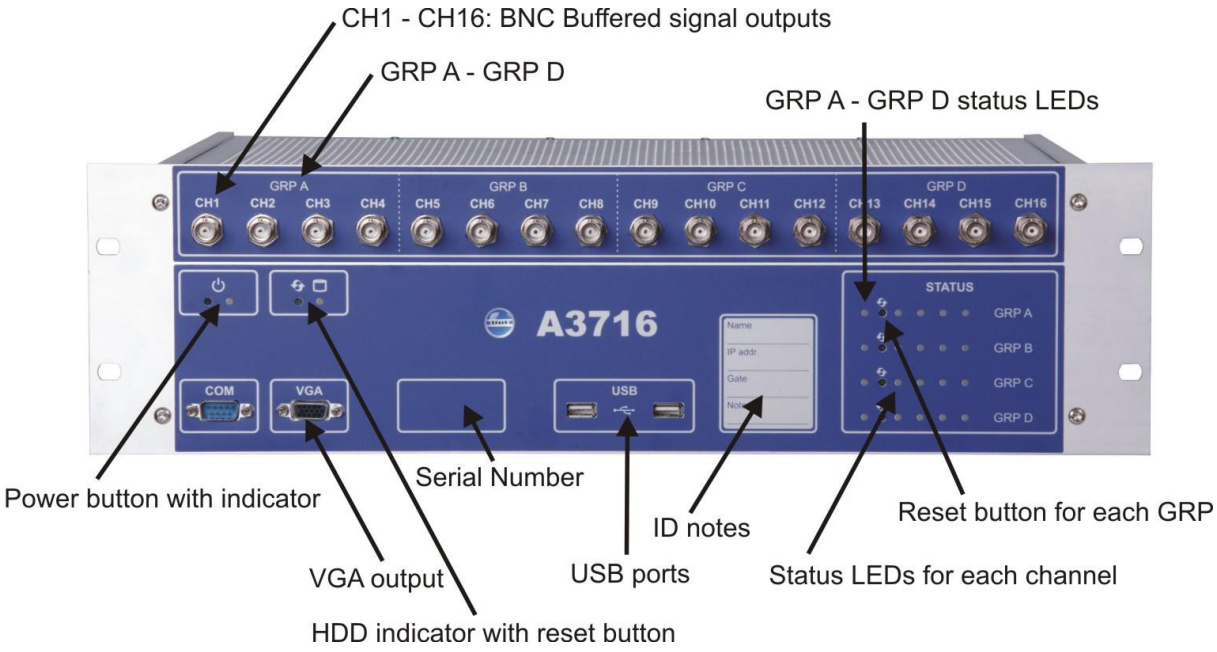
A3716 unit description

A3716 - Front panel



Legend:

CH1 - CH16 BNC buffered outputs (A3716/3U only) allows connecting of portable vibration analyzer and performing further analysis on required channel.

GRP A – GRP D. 16 channels are divided into 4 groups A,B,C,D. Each of them contains 4 channels, which are measured by one Adash DSP 4channel board.

GRP A – GRP D status LEDs enables to monitor each DSP board. Three states can appear:
- **OK, the measurement is running** - green light blinks in 0.25sec time interval (four times per sec)
- **OK-STANDBY, the measurement is stopped** - green light blinks in 1 sec time interval
- **ERROR** - red light.

Reset button enables to reset each Adash DSP board (A,B,C,D).

Power button runs the A3716 unit. There is a status LED as well.

VGA output allows connecting of monitor in case you use the A3716 as a 16 channel vibration analyzer.

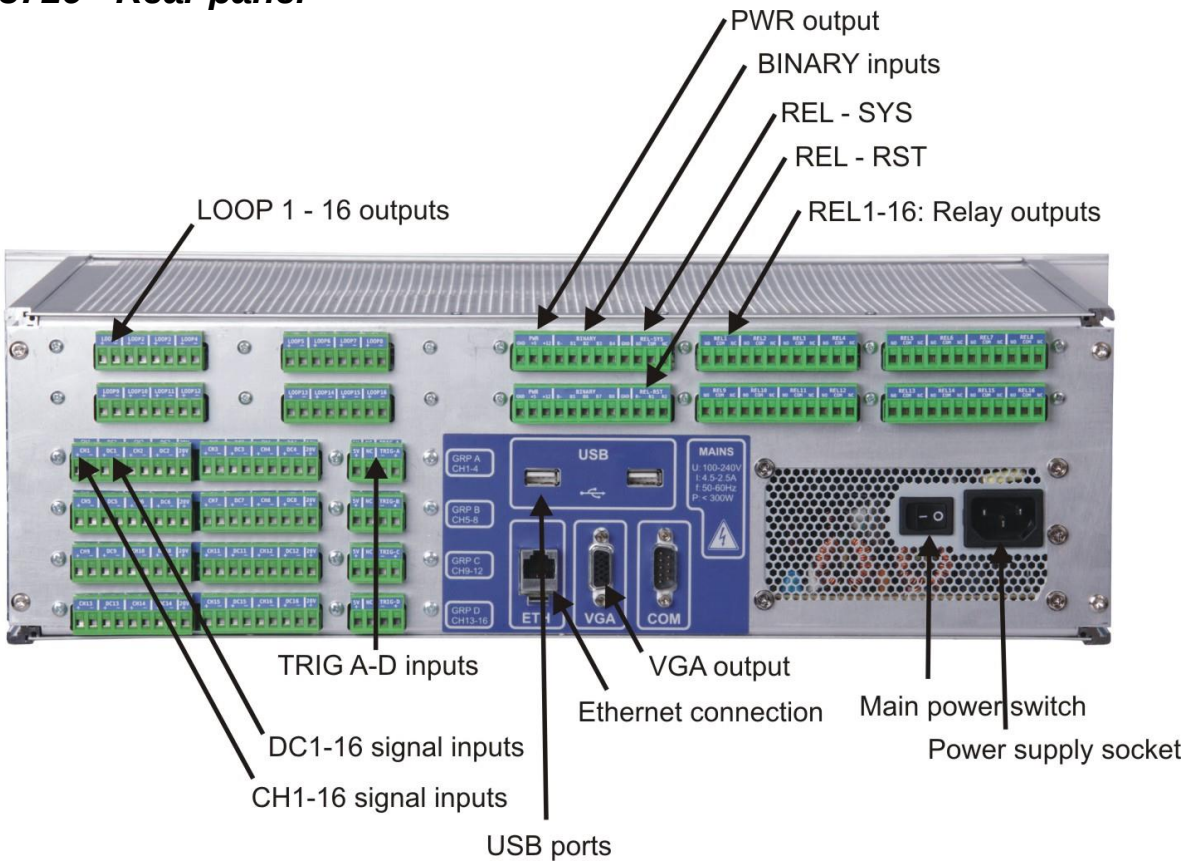
HDD status LED indicates the operation state of the hard drive.

Serial number of the A3716/3U is 6 digits number provided by Adash. If more A3716 unit is used, it helps to recognize them in setting.

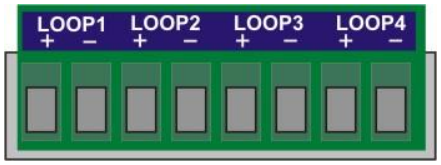
USB ports allows connecting of mouse and keyboard for control of the A3716 unit in case you use the A3716 as a 16 channel vibration analyzer the USB ports.

Status LEDs for each channel informs about the operation state of appropriate channel. Green color indicates good condition of the channel input, sensor and cable. Red color indicates error. In this case you should check the sensor and cable. Otherwise contact your supplier of A3716 unit.A3716 - Rear panel

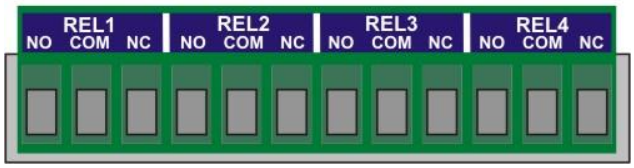
A3716 - Rear panel



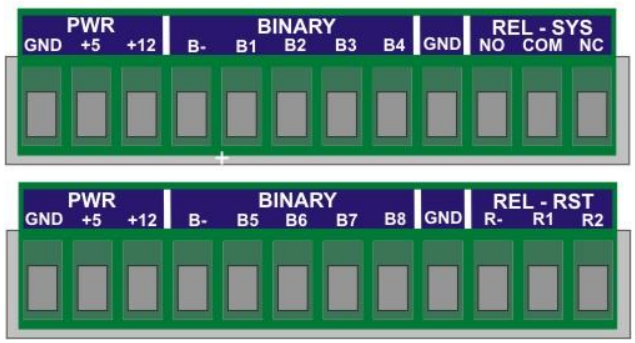
Legend:



LOOP 1-16 outputs (A3716/3U only) contains 4 – 20 mA current outputs clamps.



REL 1-16 Relay outputs (A3716/3U only) contains relay clamps (NO,COM,NC).



PWR output (A3716/3U only) is the source of +5V/1A and +12V/1A voltage outputs. All GND (grounds) clamps are shorted (connected together).

BINARY inputs (A3716/3U only) are logical inputs (states 0 or 1)
B- Common negative pole

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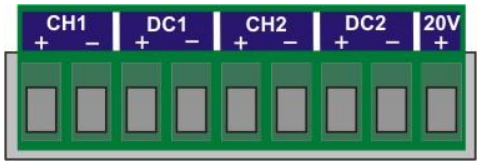
B1...B8 – Isolated inputs 5-30V/4mA max. The level of voltage on each input defines the logical state.
Logical 0 - DC voltage 0-3V is required
Logical 1 - DC voltage 5-30V is required.
You should avoid the voltage in 3-5V range. The response of the circuit is unclear and unpredictable. It may oscillate and accidentally change logical values.

REL - SYS - if the A3716 system is in correct operation then this system relay is energized (A3716/3U only). In case of DSP board error or ICP error relay is deenergized.

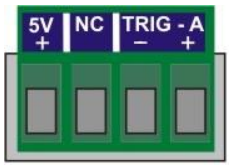
REL - RST resets all latched relays (A3716/3U only).
R-: Common negative pole
R1 and R2: (DC voltage 5-30V/4mA max.)
When the voltage appears on R-R1 or R-R2 then all latched relays will be reset. You may have a question: why two clamps are used (R1 and R2)? It enables to reset latched relays by two buttons which could be in two places. E.g. one reset button is near of the A3716 and second reset button is in the control room.



CH 1 – 16 AC inputs (ICP® powering available) for AC signals measurement, usually for vibration measurements (acceleration sensor connected). Max. Peak/Peak voltage range is +/- 12 V.

DC 1 – 16 DC inputs for DC signal measurement (e.g. process values like temperature, pressure, flow etc.). Max. voltage range is +/- 24V.

20V output, max.10mA. It is available for external powering of sensors. Use the minus pole from the appropriate input.



TRIG A-D inputs are for trigger connection for GRP A-D (see front panel description).
+5V: power for tacho (speed) probe (max 100 mA)
NC: not connected
-: ground
+: trigger signal input

VGA output allows connecting monitor in case you use the A3716 as a 16 channel vibration analyzer. It is shorted with the same output on the front panel.

USB ports allow connecting mouse and keyboard for control of the A3716 unit in case you use the A3716 as a 16 channel vibration analyzer the USB ports. They are shorted with the USB ports on the front panel.

Ethernet connection to LAN for setting and data transfer.

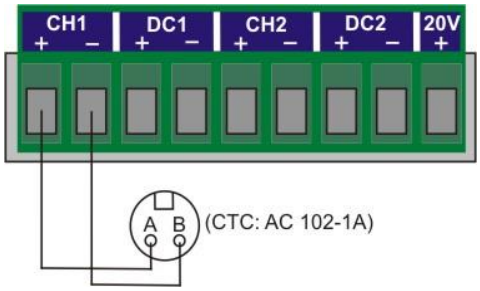
Main power switch for switch on/off of the A3716 unit.

Power supply socket requirements:
U: 100-240 V
I: 2,5-4,5A
f: 50-60 Hz

A3716 sensor and tacho connection

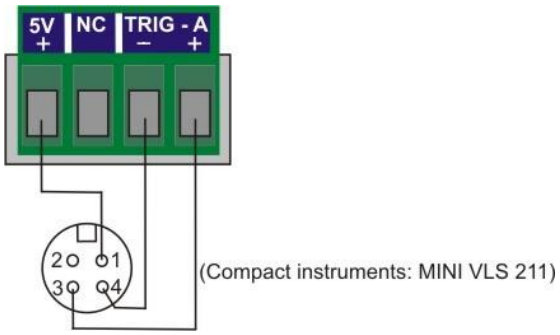
Acceleration sensor connection

Commonly used sensor is the acceleration sensor 100 mV/g with ICP®.



Tacho trigger (speed probe) connection

Tacho trigger input range is + 10V.



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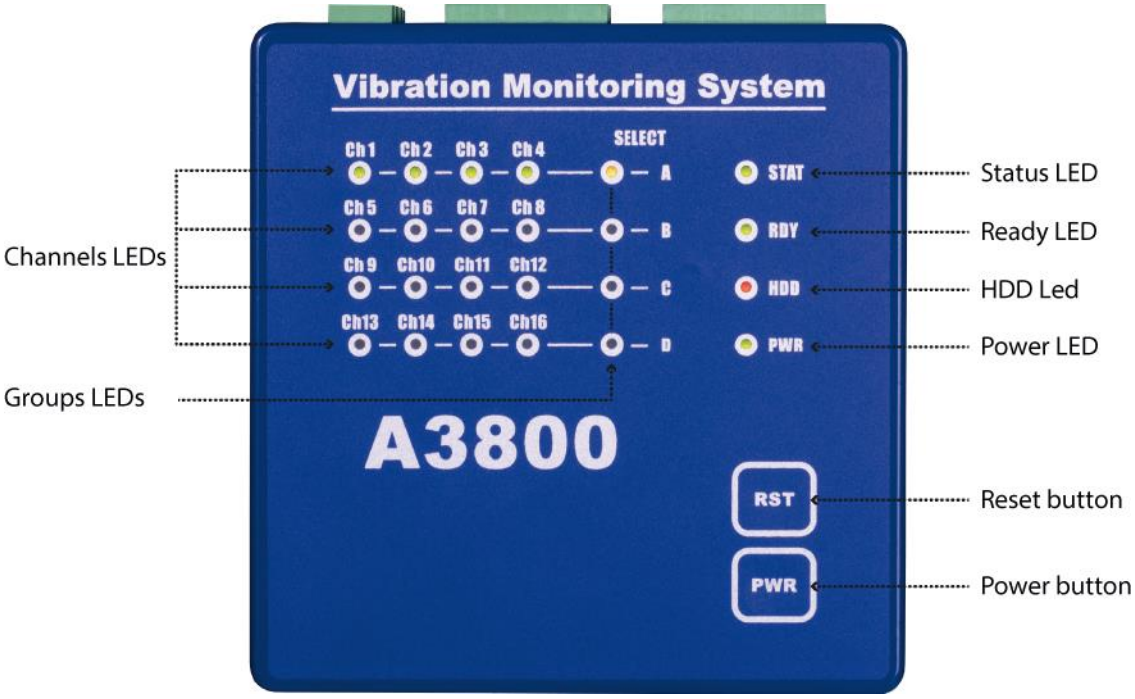
A3800 unit description

A3800 - Front panel



Legend:

Channels LEDs indicate on which channels the measurement is defined.
Green color … indicates good condition of the channel input, 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.

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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 - Bottom panel

Legend:

AUDIO I/O: socked for audio 3.5 jack.

USB 2.0: two USB ports.

ETHERNET: socked for Ethernet connection.

DISPLAY: HDMI display connection

POWER: socked for 12 V DC powering

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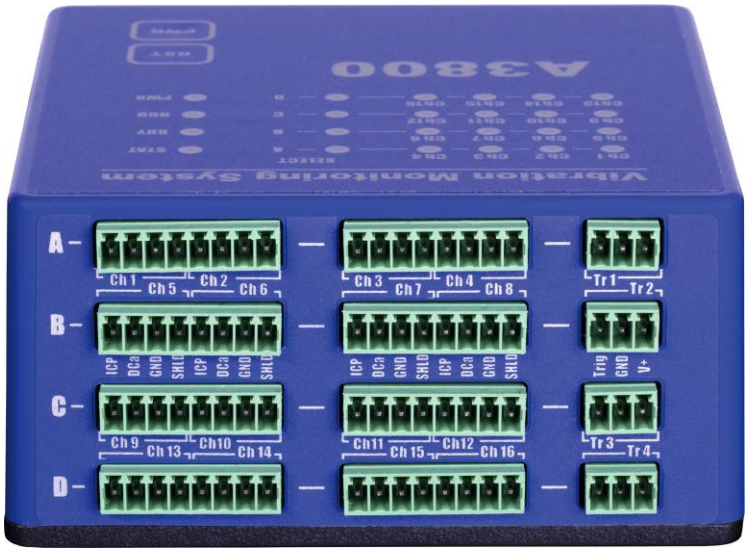
A3800 sensor and tacho connection

A3800 – Top panel

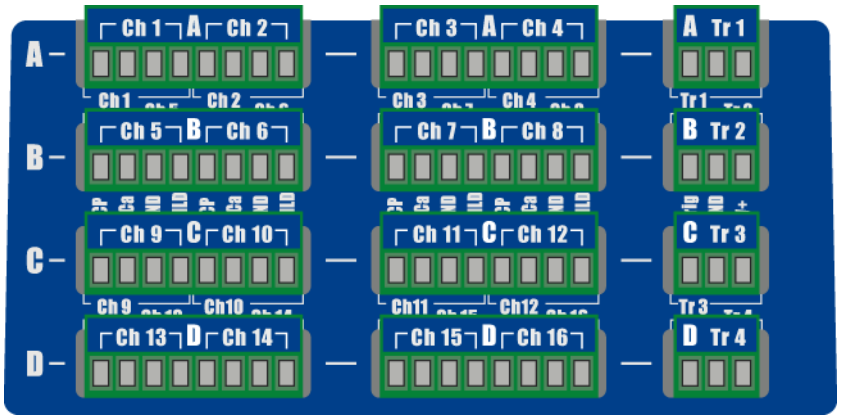


The connectors for connecting the sensors are located on the top panel. Connectors are divided into groups A, B, C, D.

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 ranges:
AC input: +/- 12 V peak - peak
DC input: +/- 24 V or 4 – 20 mA
TACHO +10 V

In this picture you can see top panel with installed plug-ins.



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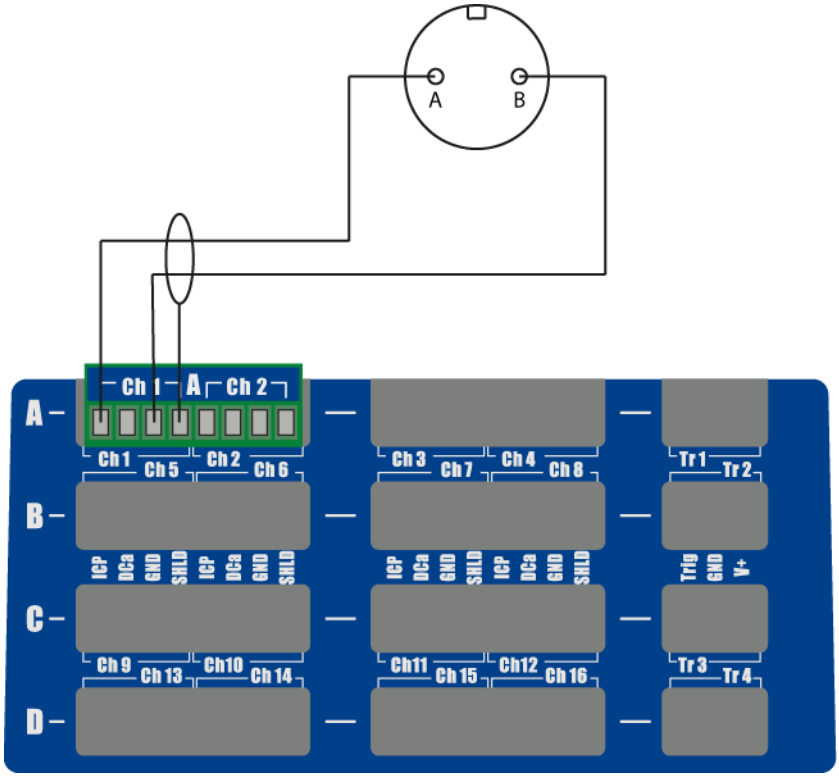
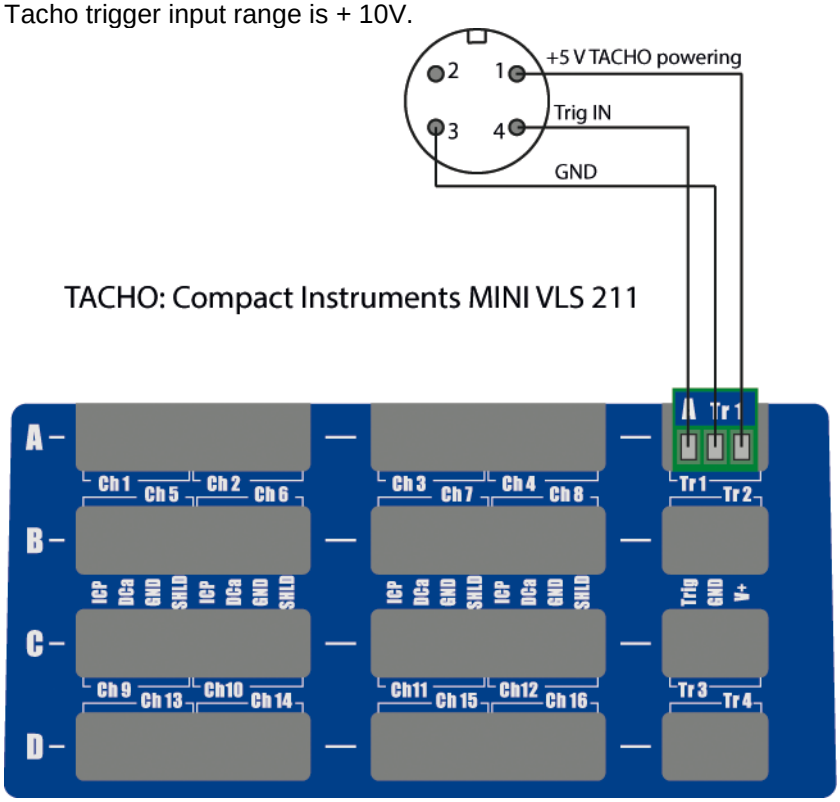
Acceleration sensor connection

Commonly used sensor is the acceleration sensor 100 mV/g with ICP®.



Tacho trigger (speed probe) connection

Tacho trigger input range is + 10V.



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A3764 – 64 channel multiplexer

A3764 multiplexer enables to use 64 AC channels. They are not synchronous. They are divided to 4 groups, each of them has 16 synchronous channels. These 4 groups are continuously switched (multiplexed) to AC inputs and then the measurements are taken.
The A3716 and A3764 are connected by 16 signal wires and a the USB cable is used for transfer of control signals.
Warning! The A3764 unit doesn't multiplex DC channels neither tacho inputs. It means the 16 DC inputs and 4 tacho inputs are available for all 64 AC channels.

Front panel

The terminal blocks for wire connection and LED diodes are on the front panel.

LED description:

READY	connected to A3716 (communication established)
1-16, 17-32, 33-48, 49-64	actually measured group

Terminal block view, channel order:

1	17	33	49
2	18	34	50
3	19	35	51
4	20	36	52
5	21	37	53
6	22	38	54
7	23	39	55
8	24	40	56
9	25	41	57
10	26	42	58
11	27	43	59
12	28	44	60
13	29	45	61
14	30	46	62
15	31	47	63
16	32	48	64

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Rear panel

The rear panel contains

output terminals for signals (OUT1 – OUT16),
USB B connector for communication,
terminal for powering of external equipments (+24V, +5V)
EURO socket with fuse for power supply.

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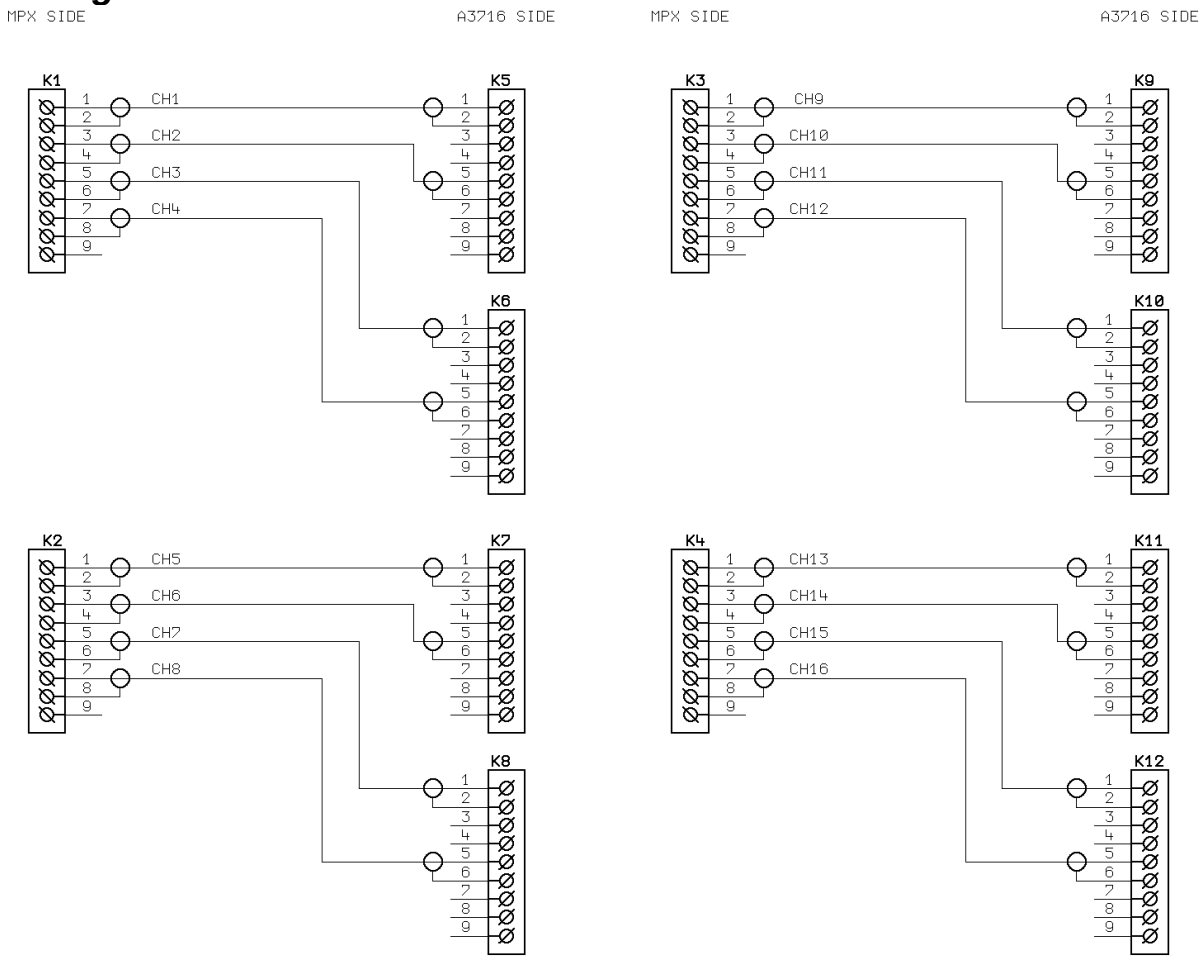
Wiring scheme



K1 – K4: Terminal blocks on A3764 side (MPX)
K5 – K12: Terminal blocks on A3716 side

Technical Specification

Powering:	85-265V AC / max 15W, protection 0.5A
Communicattion:	USB
Inputs:	16x4 (64) with ICP powering 24V / 4mA
Outputs:	24V/300mA, 5V/100mA, 16x AC signal output

ICP powering

The A3764 unit contains own ICP power supplying. It means the ICP is not switched from A3716 unit. All sensors are continuously powered and no additional settling time is required. All sensors connected to A3764 inputs are always powered. It is not possible to power only some of them. Unfortunately there's no way how to indicate an ICP error.
Optionally you can have an A3764 unit without ICP power supply. If you wish using sensors without ICP, please specify the demand in your order.

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A3716 IP address setting (the same for the A3800)

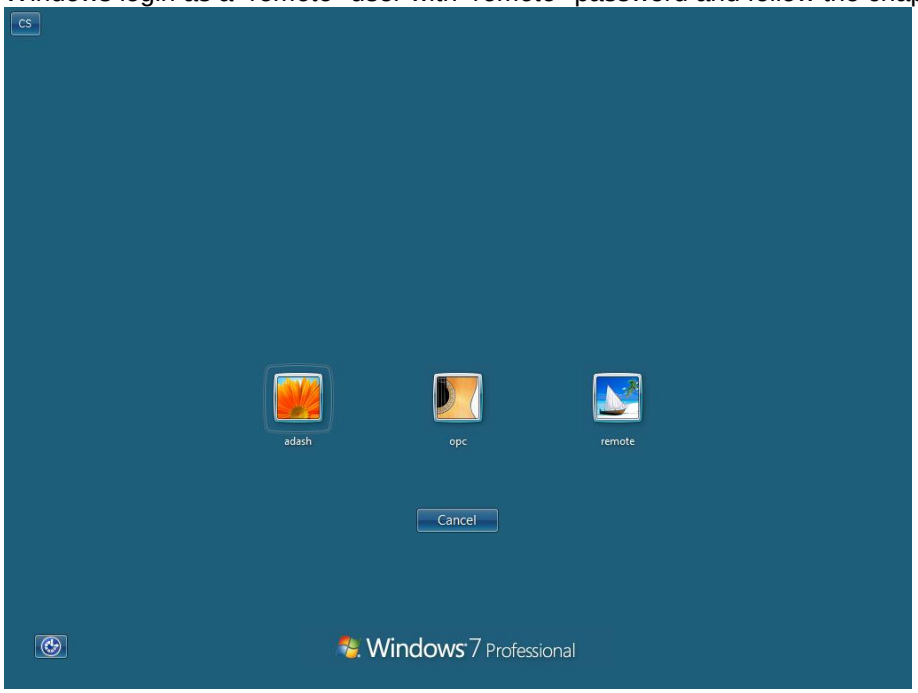
A3716 rack basically behaves as a local PC and it has its own IP address under which it is recognized in your network. Most common situation is that you will need to change the A3716 rack IP address because of your company's policy.

Remark: If you don't need to change the rack IP address, skip to chapter: **Network for data transfer**

There are two ways how the setup the IP address.

A3716 (A3800) as a stand alone computer

Windows OS is installed on A3716 measurement unit, so it is possible to connect with it like to a common PC. Connect USB keyboard, mouse and monitor (VGA interface or HDMI interface). In Windows login as a "*remote"* user with *"remote"* password and follow the chapter IP address setting.



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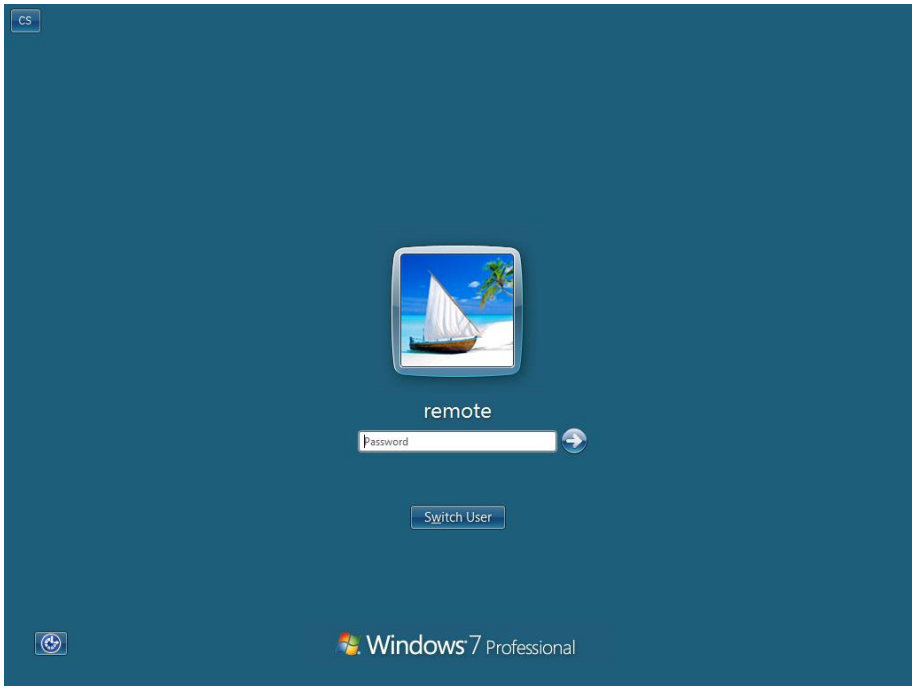
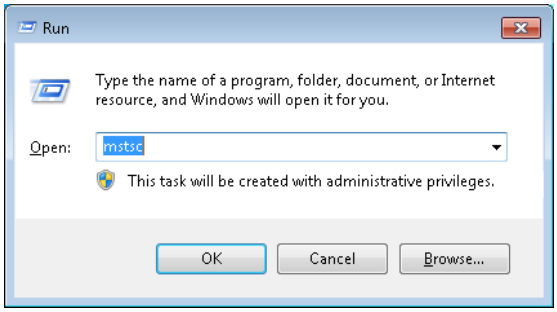


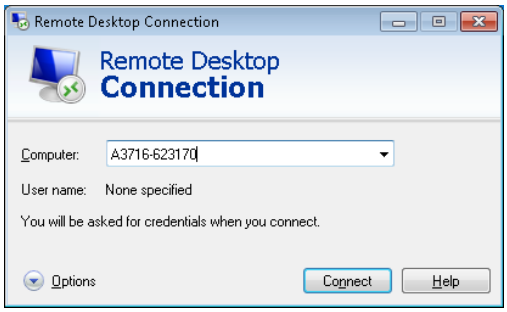
Network remote access

Second option how to change the A3716 IP address is to do it through network. Use the LAN cable and connect the A3716 unit with PC (laptop) directly or through network (switch/HUB). IP address (set during production) is written on the A3716 front panel. Use this IP address for remote desktop connection. You can also use name of the unit, which is *„A3716 – serial number“.*

Remote desktop connection

Remote desktop connection is a program which allows to control another PC on the network from your PC. From any PC on the network you can connect A3716 and change its setting (e.g. IP address). Remote desktop program is a standard part of the Windows OS. You can find it under Start button in Accessories folder.
It can be run also by "Search programs and files" in Start menu (Win7). Enter "*mstsc"* and press enter.
You can launch it also from "Run" window (press Win + R). Enter "*mstsc"* and press Enter.
New window **Remote desktop connection** appears then.



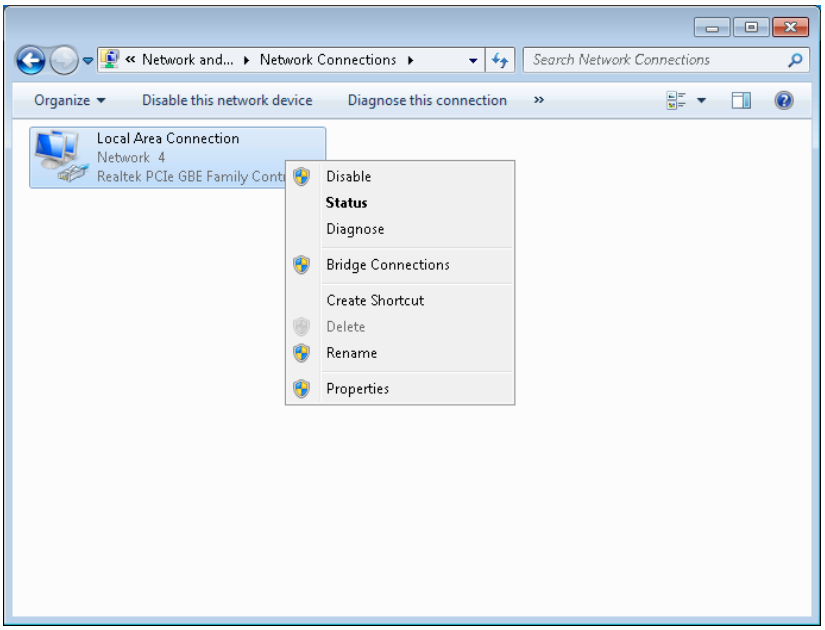


Enter the IP address or name of the computer into the **Computer** line and press *Connect*. Enter log in parameters (factory settings are ***remote*** for username and password).

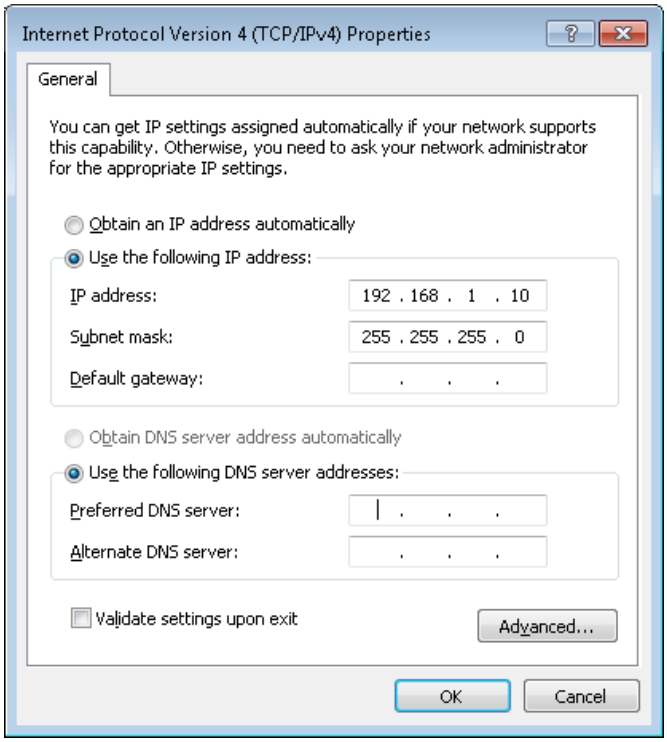
IP address setting

Press Win + R, enter "*ncpa.cpl"* and press Enter

Network connection window will open. Select network adapter (usually *Local area connection)* press right mouse button and select *Properties*.

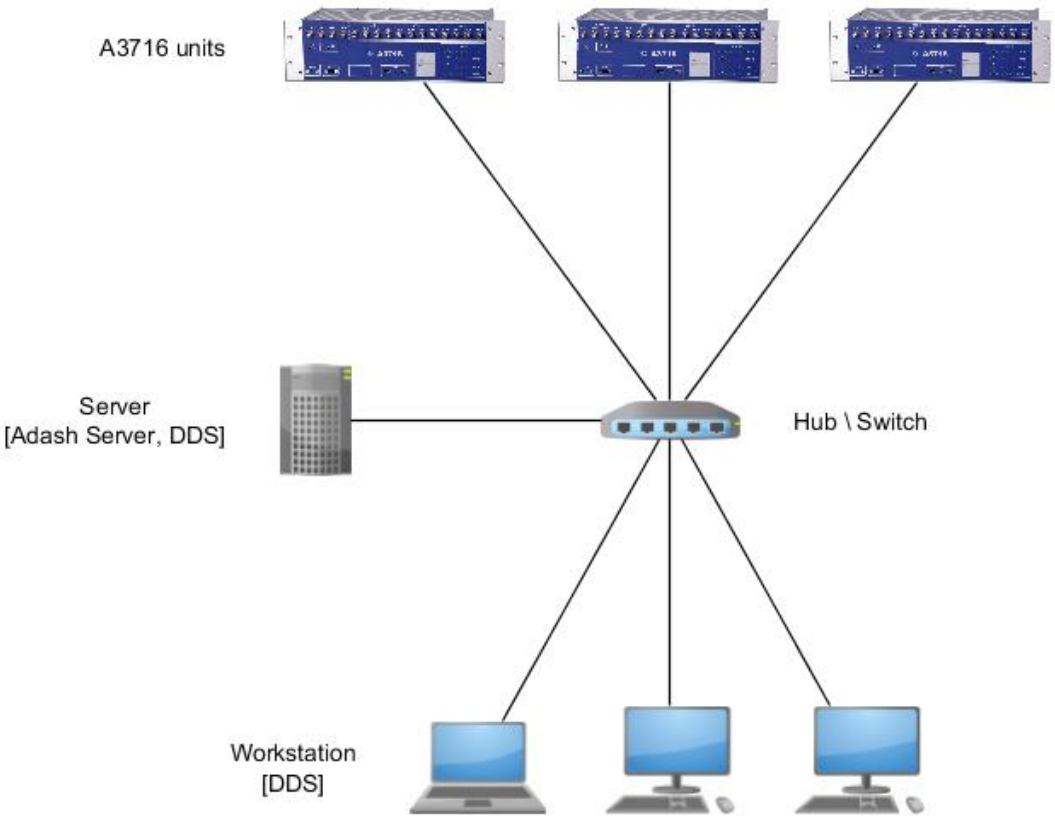


Select "*networks"* tab in "*This connection uses the following items"* section.
Select "*Protocol IP version 4 (TCP/IPv4)"* and press *„Properties".*
Select *"General"* tab and check the option "*Use the following IP address".* Enter the address which your network manager gave you.



If you are changing the IP address using remote desktop, then after this change you have to create the new connection (connection with and old IP address will stop working).

Network for data transfer (the same for the A3800)



Server (computer):
- Determined for data collection and storage
- Ideally stand alone computer which is not used for any other purposes
- Continuous operation – pay attention on a proper components selection
- Connect ideally Gbit network with A3716 with DDS computer
- Suitable size of RAM and HDD

Software on a Server:
- Windows OS on the server
- DDS for tree management / data collection
- Program Data Manager as a service which handles data

Company network usage

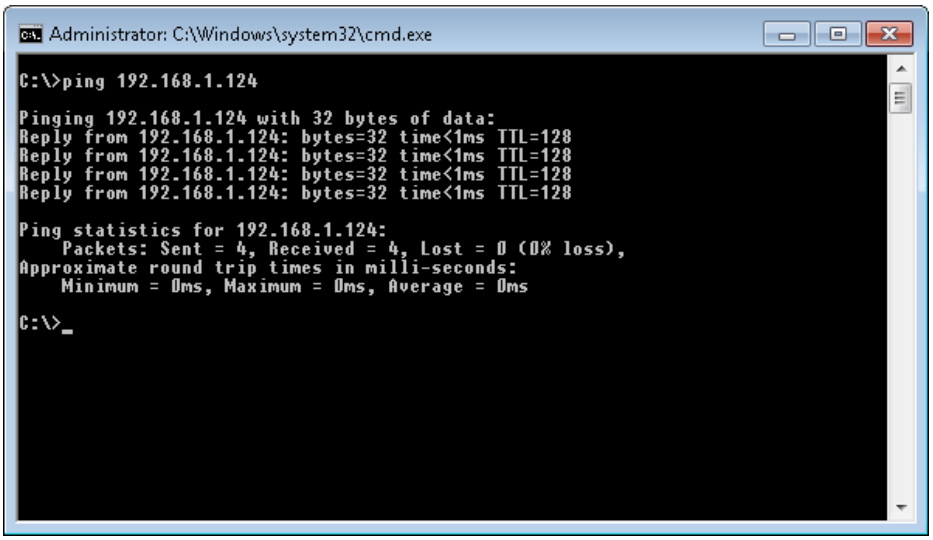
In case of using company network, you need to assign static IP addresses to all components (measuring units, server, users stations). We recommend to do it in cooperation with IT department.

Creating of your own network

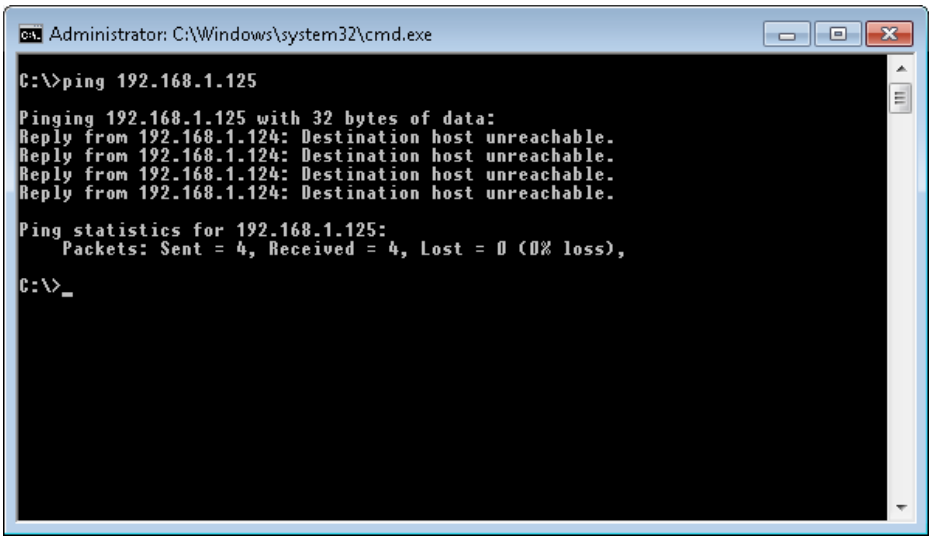
If you decide to build your own computer network, then follow the following procedure. We always recommend to create a network with cables, not wireless.

Connection test

Use "*ping"* program (part of the Windows OS)
Launch command line press Win + R enter "*cmd"* and press Enter.
The *cmd.exe*. window appears.
Enter command "*ping"* with the computer IP address whit which you want to test the transfer speed (e.g. ping 192.168.1.124).
If the other computer responds to your question then the list of Reply times will appear.



In case of unsuccessful connection, you will see *"Request time out"* or *"Destination host unrechable".*



If you did not establish a connection with another computers, make sure the computers are physically connected by a network cable (via switch), and if the cable is not damaged. Furthermore, make sure that required IP address of the other computers are correct. If you still fail, contact the IT department.

Server software installation (the same for the A3800)

Database system (MySQL)

It is a software which is in charge of measured data saving.

Data Manager

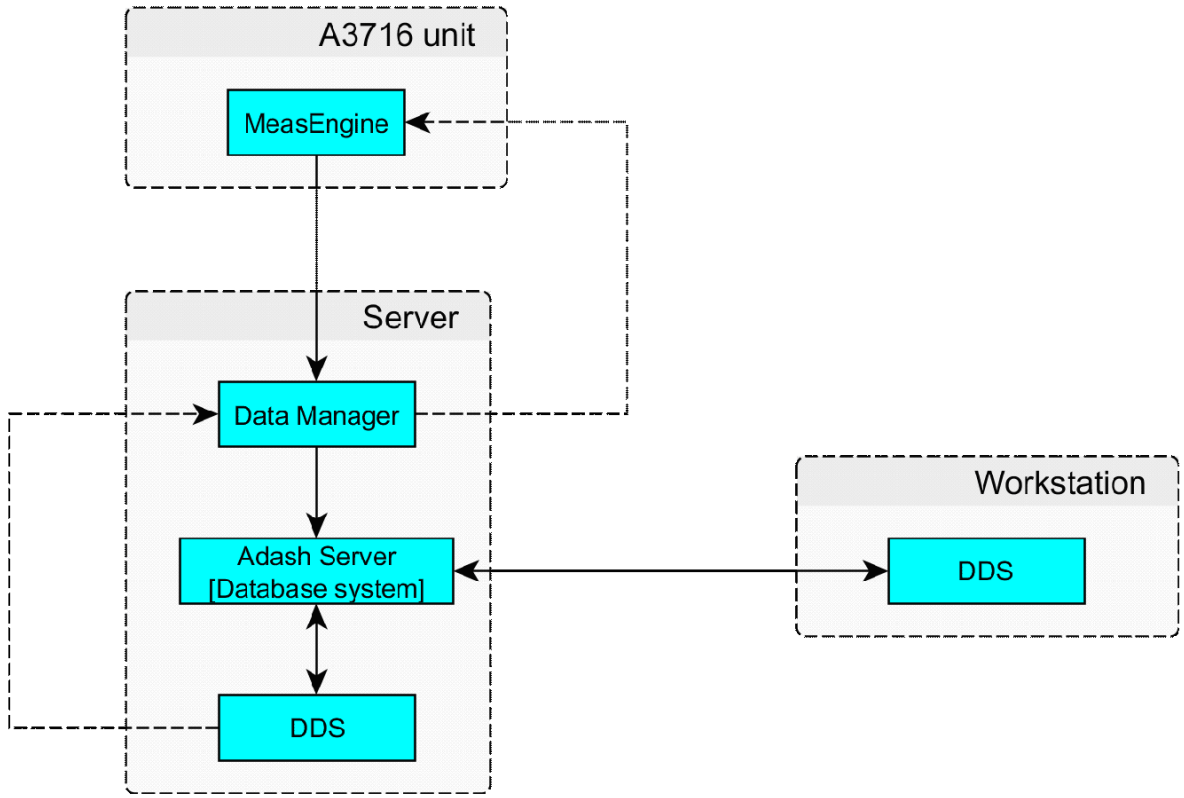
It is a software which collects measured data from A3716 units and sends them to database system. Data Manager is a part of DDS and is launched on the server only.

DDS

Is a software designed to analyze measured data and it also controls and set the online readings.

Meas Engine

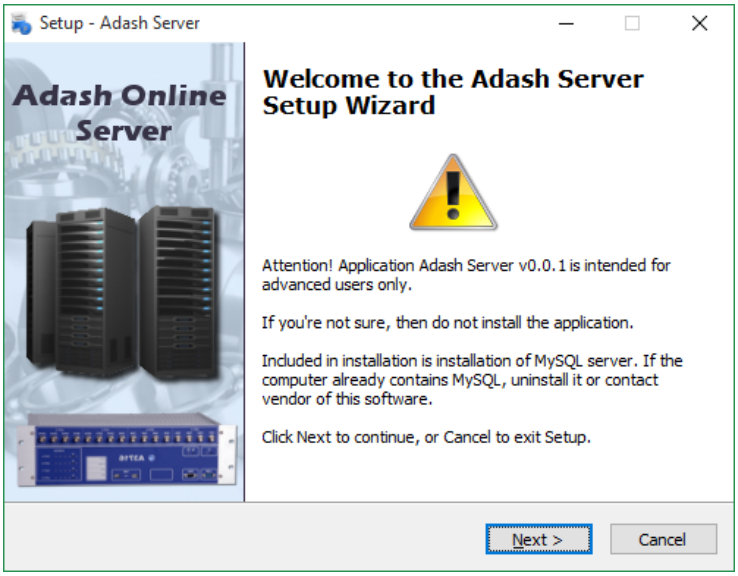
It is a software in each A3716 measurement unit. Performs specified measurements and provides readings to *Data Manager* software.



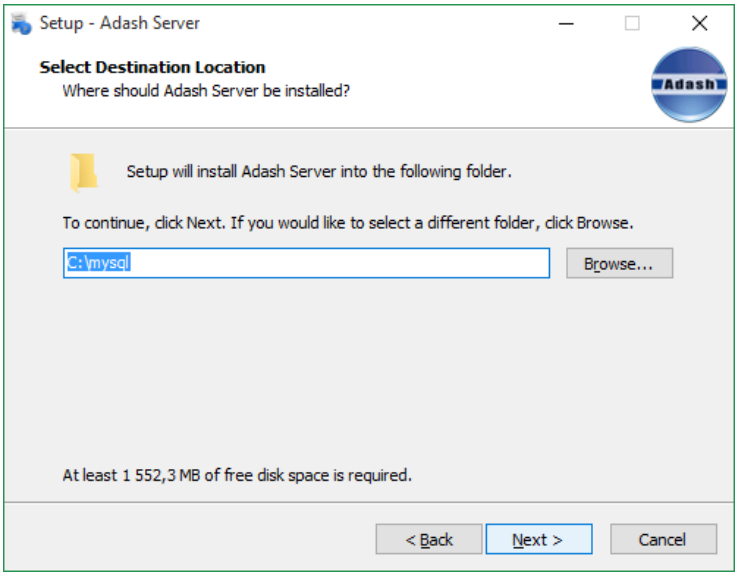
Once you will install the Adash server, you can also install DDS on the server and on remaining user computers. The installation is identical on all components and the installation wizard will guide you through the entire process. After completing of all DDS the installation, you can proceed to create a project and start collecting data.
The DDS installation is described in DDS user guide.

Adash Server installation

Run the **Adash_Server_vx.x.x.exe** . This file you can download from Adash website or it is supplied on USB flash drive which came with your A3716.



Press Next on the welcome screen.



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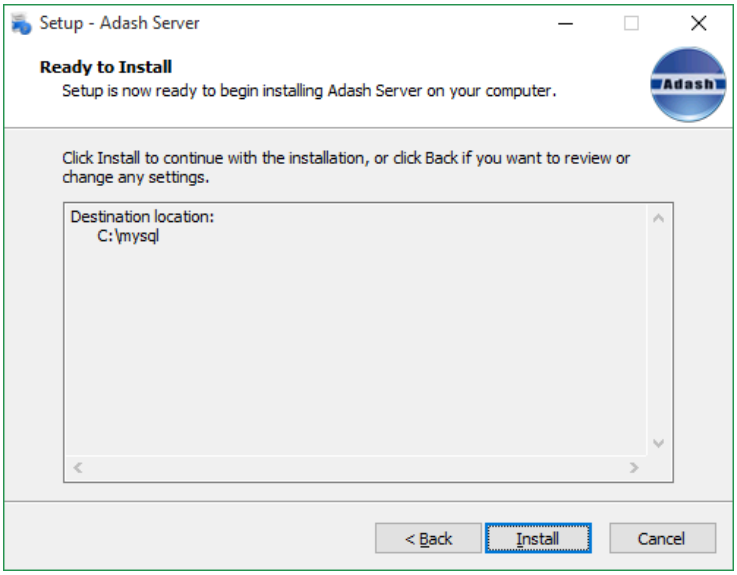
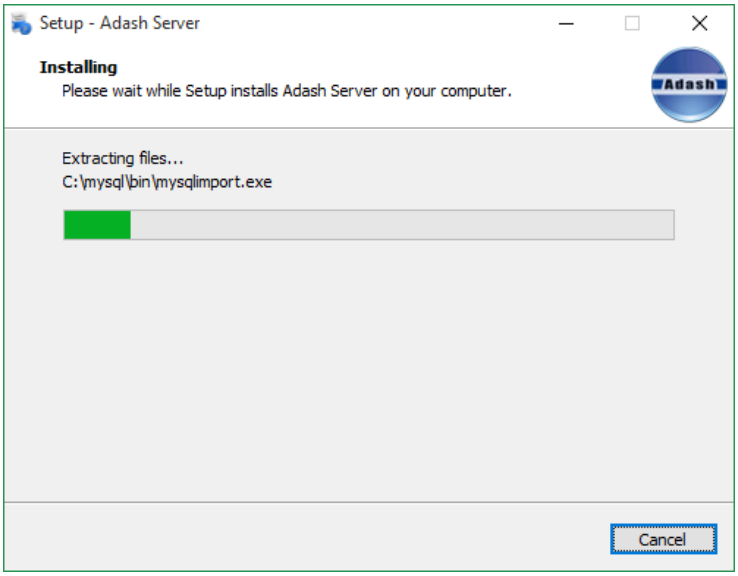


Press Install.



In the optional part of installation you can install *MySQL ODBC connector* and *MySQL Workbench*. *MySQL ODBC connector* is a database driver that is required by DDS. If you have it already installed from other sources, then you do not need to install it now.
MySQL Workbench is a database manager. It is not necessary to install this software for standard using of DDS.

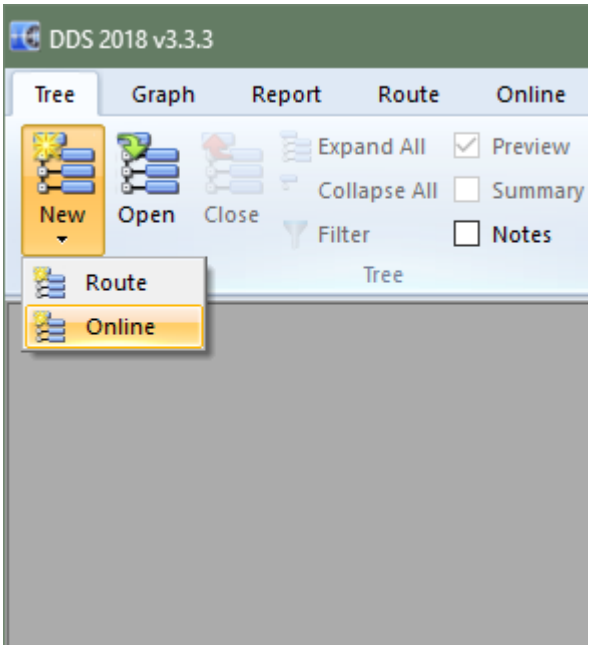
DDS – online database and collecting of readings (the same for the A3800)

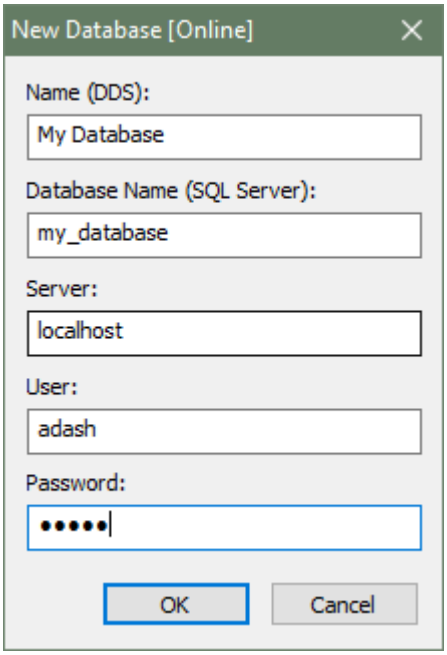
Install the DDS software on a server. We recommend to use DDS installed on the server (it means the computer with Adash_Server software).

Online database creation

Press *New* in the Tree tab (small down arrow) and select *Online* item. The new window with database parameters appears. Enter the DDS database name and SQL server database name for (small characters, without space and special characters are recommended), IP address or name of the computer (server where you installed Adash_server), enter "*adash" as* user name and "*adash"* as a password. Confirm by OK and new empty online database will be created.

Remark: In case you installed the Adash_server on your local PC, type **localhost** into the Server item. Not recommended!





Now you should create required database (tree) structure. The following hierarchy has to be done *Machine→Point→Data Cells.*

See *DDS* manual about how to create the tree structure. All data cells in the tree will be used for online readings.

If you have not installed the MySQL connector odbc (part of Adash server, see previous chapter), then the Online item is not displayed.

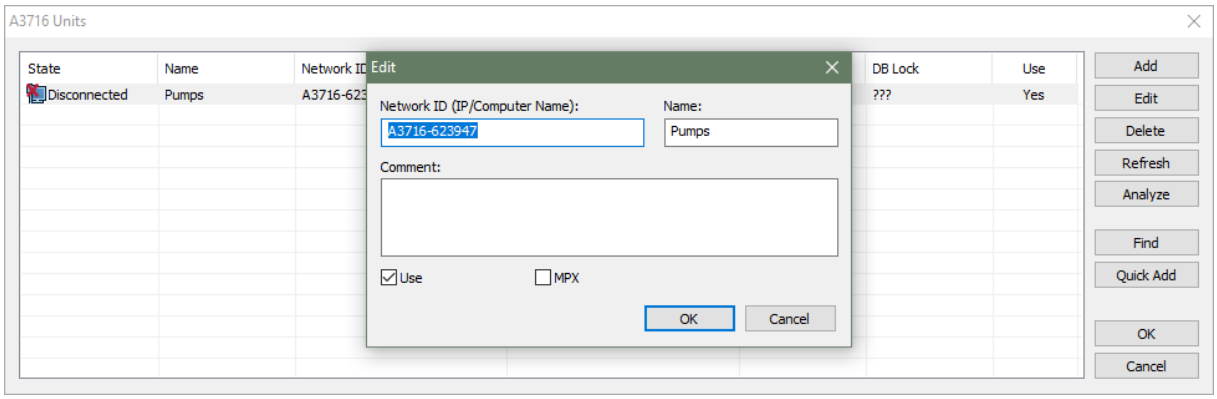
Microsoft SQL Server can be also used for data.base. Set the Global Setting/ General/ Other/ Allow MS SQL to yes.

Measuring unit and database connection

After measurement point creation you have to assign the A3716 unit.

List of A3716 (A3800) units

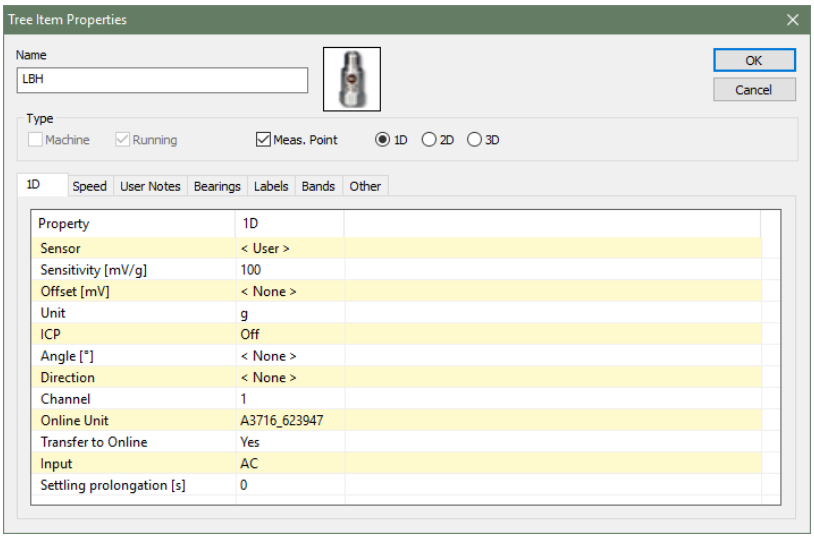
Select *Online* tab. Press *A3716 Units* button. New window with A3716 units list appears. Press *Add*. Enter IP address or network name of the new unit (usualy A3716-xxxxxx, where x is unit serial number), internal unit name (e.g. Fans 1.floor) and text description if necessary. If MPX unit is available check the “MPX” button (this will allow tree to use 64 channels). Check the *Use* item. The new unit appears in the list of units. Its actual network status is displayed (*Connect / Disconnect*). Check the LAN network when the unit is not available (server ←→ a3716). Use the *Refresh* button to obtain the new status. It can take a while. Button *Analyze* checks DDS setup and displays a list of measurements that will be sent into selected unit.



Assigning the unit and channel to point

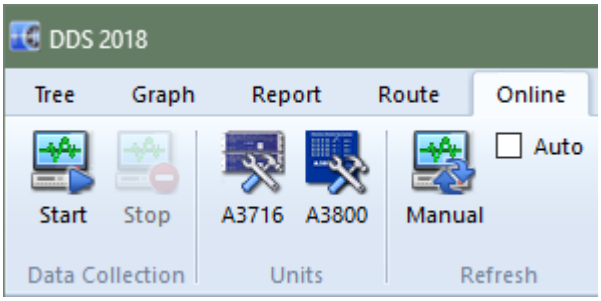
Open the *Properties* window of selected point (press right mouse button on the point and select Properties). Select the first tab (1D, 2D or 3D). Select required *Online unit* and *Channel* number.

If the data cells are already defined, then the tree structure is ready to be send to A3716 unit and to start the readings collection.

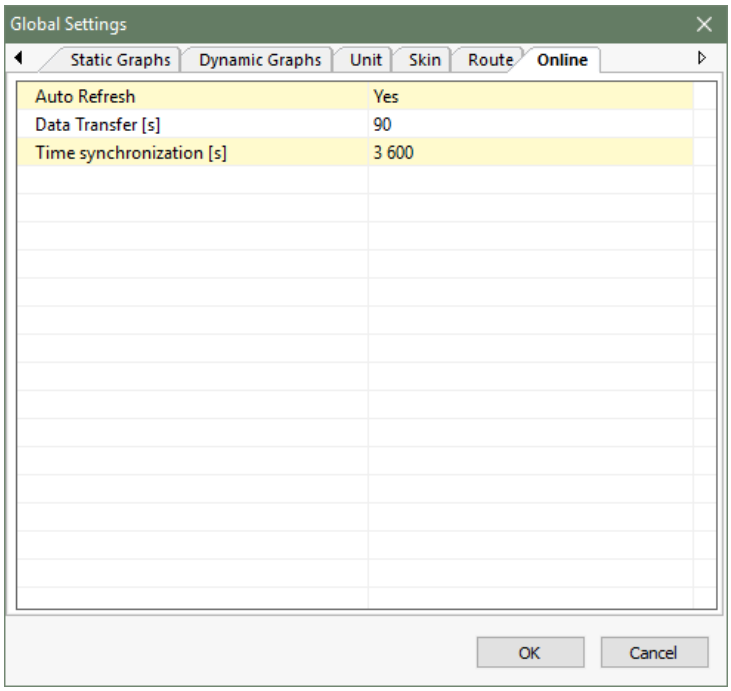


Start of the data collection

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 (registered with the name *AdashDM_NameDB*). In case of computer reset it starts again automatically.

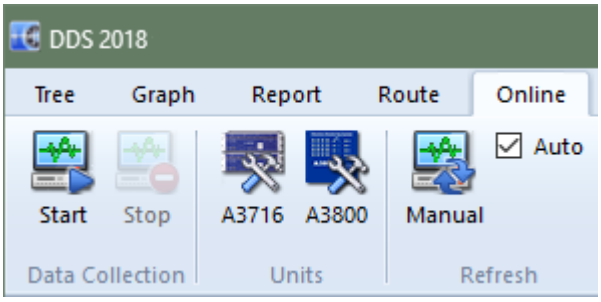


The readings will not appear immediately after you start the data collection. The data download is arranged in batches of many readings. The interval between downloads is set in the Global settings in the *Online* tab, *Data Tansfer* item. Do not use short interval (less 60 sec), the server may be overloaded.



Graph refresh time interval

The graphs are refreshed manually (*Manual* button) or automatically (check the *Auto* box).



Refresh interval is edited in the global settings in the *Online* tab. Use *Auto Refresh Interval.* Remember that graph refresh does not make any new reading. Refresh makes new reading from the database only

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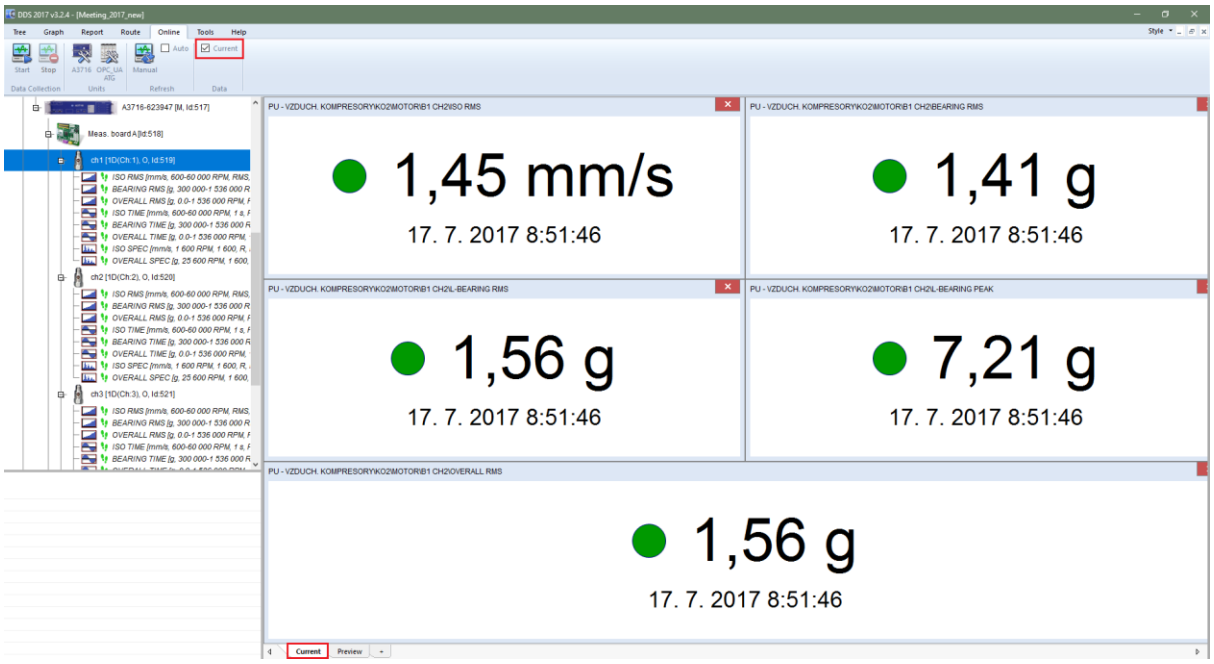
Actual data reading

DDS enables to read the actual measurement anytime. The static readings are available only.
Select required items (points) in the Tree and check the **View Actual** box in **Data** section.



Manually triggered measurement

The system allows conditional measurement of selected data cells by manual input. The Online tab (Data Cell Properties dialog) contains Manual item - No (Default) / Yes. If Manual is set to No, then measurement is taken standardtly. If the measurements are marked as Manual - Yes, no measurement is performed on these cells when online collection is started on the unit. It starts only after pressing the "Run" button on the Online tab. Pressing "Stop" again stops the collection of these cells.

This function is available from DDS ver. 3.3.6 and A3716 firmware ver. 2.67

Current loops and relays

Current loops and relays can be set only for static measurements. Its settings is situated in Online tab, in Porperties of data cell window.

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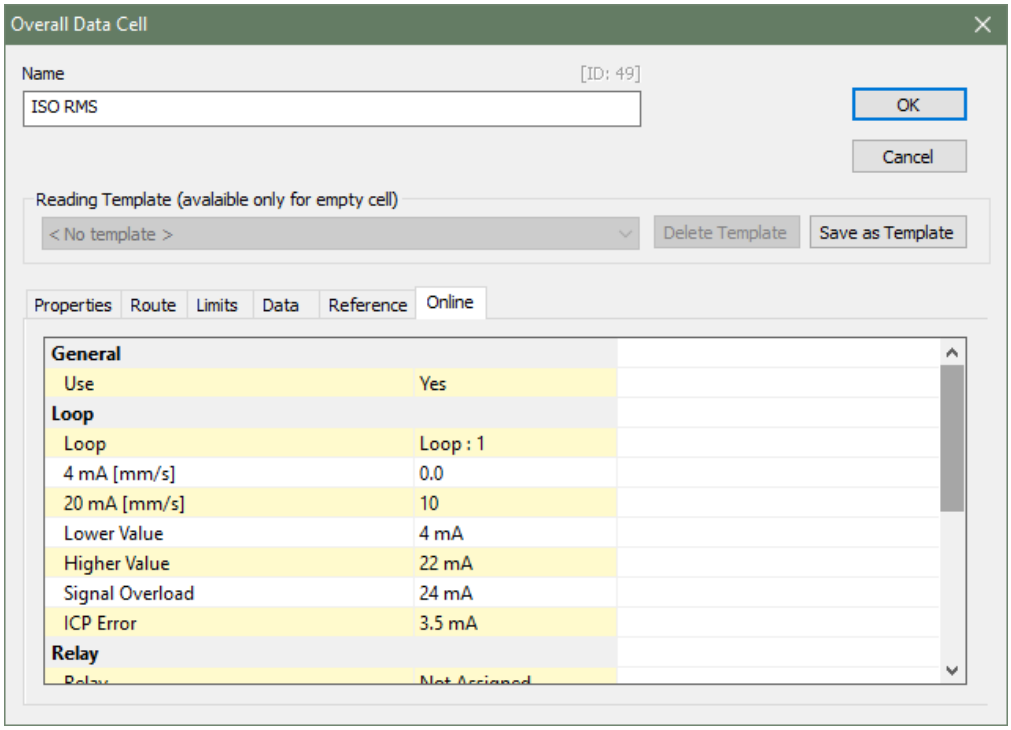
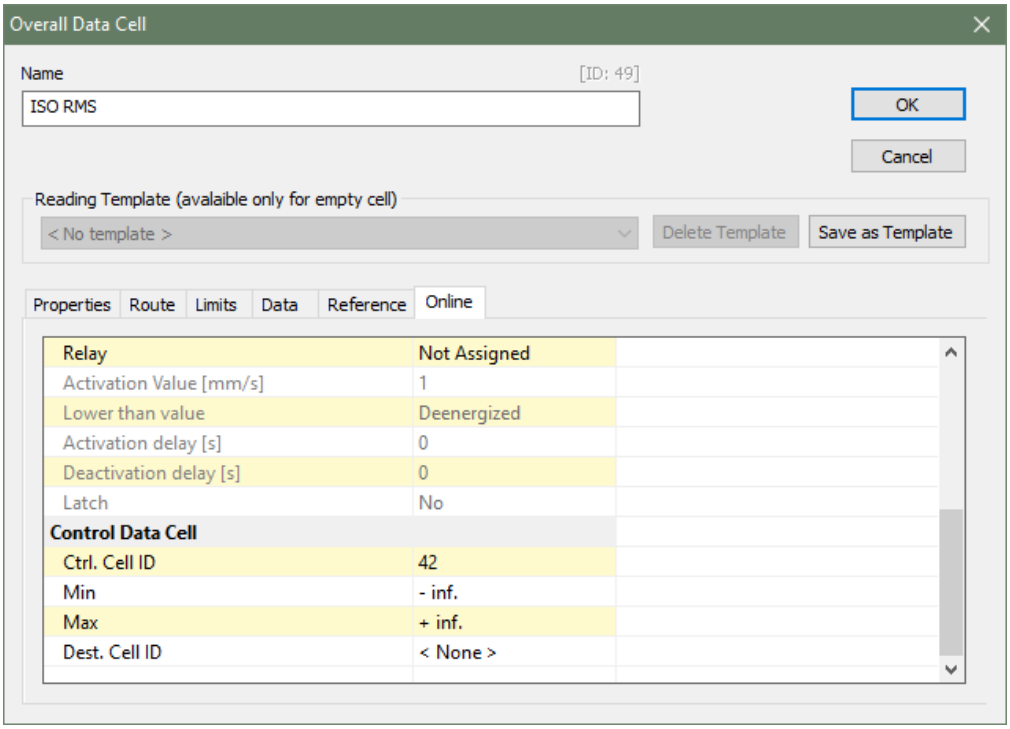


Conditional measurements

The Adash allows to set up a conditional measurement of the controlled data cell by the value of the controlling data cell. For example: When the Order analysis data cell is set that its controlling data cell (ID parameter of controlling data cell) is speed data cell and valid interval is 2500-3500 RPM (Min and Max parameters), then the measurement of order analysis will be take only in this interval. Data saving is then controlled by Adaptive algorithm (see Adaptive algortihm chapter).

The ID parameter of target data cell then indicates that all data of the data cell will be stored into data cell with specified ID.



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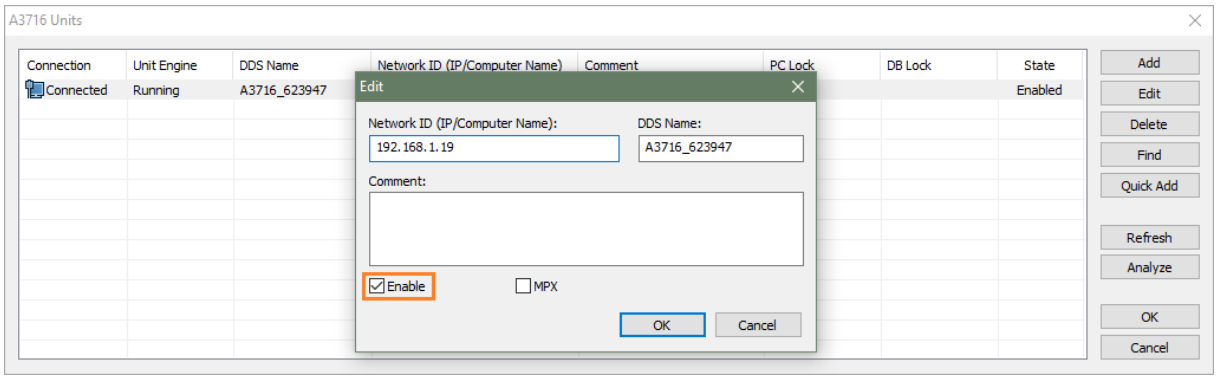
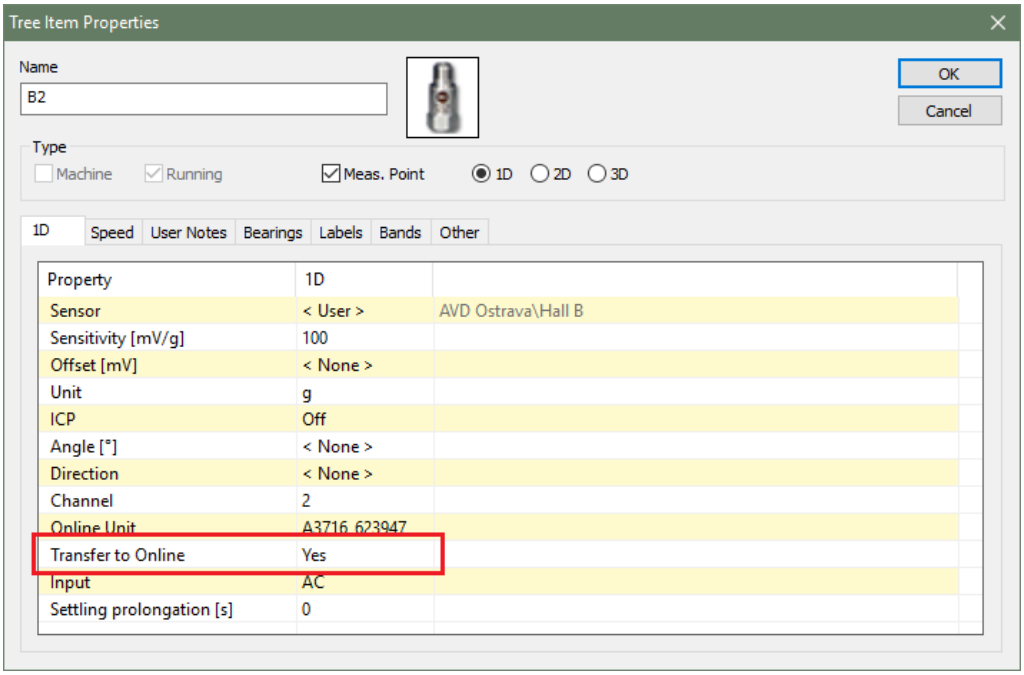
Temporary stop of readings

You can simply stop readings for whole A3716 unit or for one point (it means one channel) or for one data cell.



Push the A3716 Units button. Select the A 3716 unit. Push Edit button. Uncheck the *Enable* box and push OK. All readings made by this unit will be stopped. When you check back the Enable box then the readings will be taken again.

If you need to disable (temporarily) all measurements in measurement point, you can simply do it. Open the properties of selected point and set the **Transfer to Online** to **No**. It is available for all point dimensions (1D/2D/3D).



To disable one measurement, open properties of selected data cell, go to Online tab and set the **Use** to **No**.

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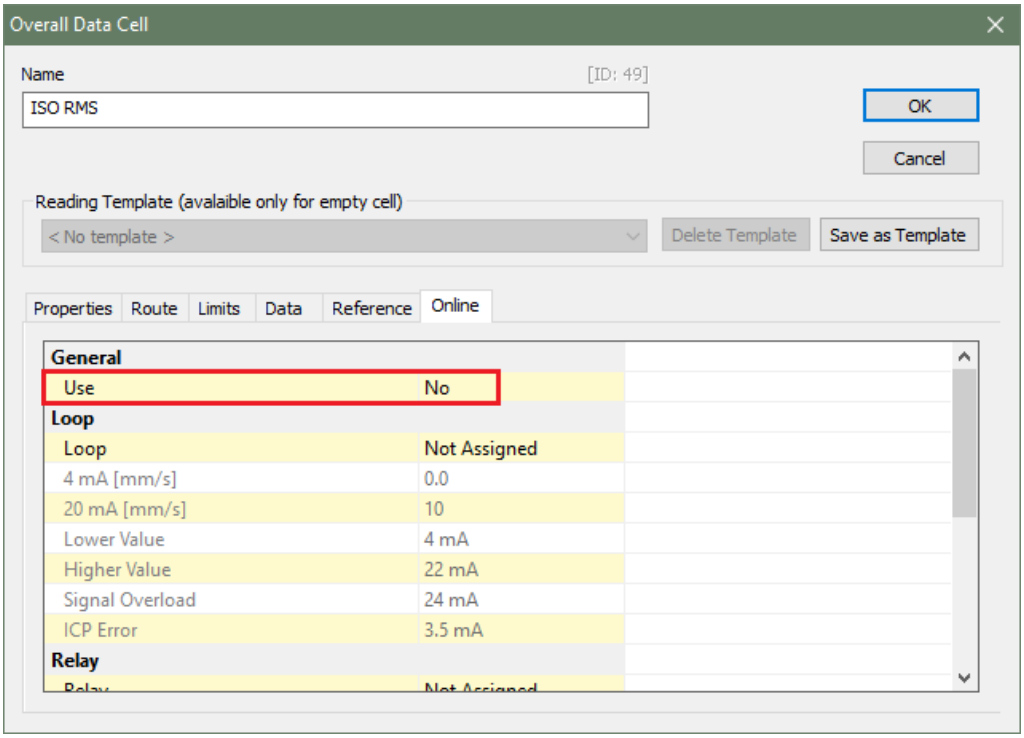
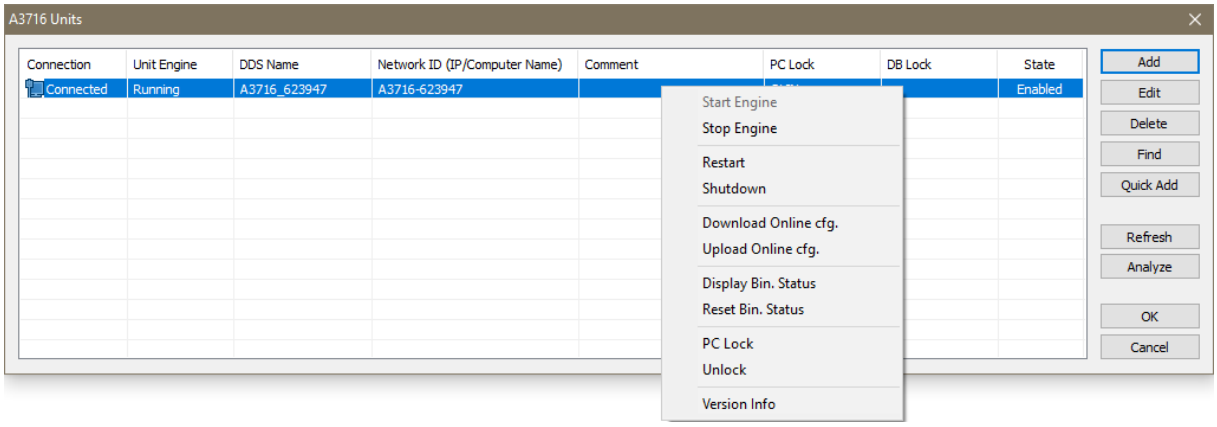


Advanced functions for A3716 (A3800) units

There are the set of advanced functions for A3716 unit. Use the right mouse click above selected A3716 unit (in management dialog *Online/Units/A3716*).



Start Engine - starts Measurement Engine of online device.
Stop Engine - stops Measurement Engine of online device.
Restart - remotely restarts the online device.
Shutdown - remotely switches off the online device.
Download Online cfg. - downloads the configuration file with setting of adaptive algorithm.
Upload Online cfg. - uploads the configuration file with setting of adaptive algorithm.
Display bin. status - displays internal parameters of adaptive algorithm (relative chnages).
Reset bin. status - resets internal parameters of adaptive algorithm (relative chnages).
PC Lock - locks the online device only for your computer.
Unlock - unlocks the online device for everybody.
Version Info. - displays a detailed description of the device.

A3716 (A3800) lock

As the units A3716 are accessible to all users in network, the more users can use the unit at the same time. To avoid this situation we use the functions Lock/Unlock. When you use the Lock function, your computer and database is registered in the A3716 unit as the only one computer which can have access to online data collection. The other users cannot change the configuration in the unit.

The Lock function of the unit is used automatically when data collection is started.
The Lock or Unlock can be done manually (Advanced function).

Updating DDS

DDS can't be updated while is data collection running. If you need to update DDS, please always Stop data collection first with older DDS version, then update DDS and Start data collection again.

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Email notifications

DDS allows sending of email notifications when defined alarms are exceeded. Notifications are being send from the computer running the Data Manager (the computer where the online data collection was started). The Data Manager processes the data in packages, ie once every X minutes downloads the data from all online devices and stores it in a database. Notifications are always processed while downloading this data, and therefore the response speed to direct value increase is proportional to the download interval settings (DDS -> Global Settings / Online / Data Transfer [s]).

Measurement alarm - user can define limit values for static measurements. Alarm is activated (traffic light colors) once the limit values are exceeded. Alarms are assigned to a certain band between limit values as per picture.

Machine alarm – machine has the same alarm value as the measurement with worst alarm (defined under this machine). Data manager sends the email notification immediately once the machine alarm has raised. If the measurement alarm has raised but the machine alarm has not raised, then the notification is delayed and send later. This prevents the mailbox from being flooded with emails from the machine with periodically increasing and decreasing alarm. This interval can be adjusted in DDS -> Global Settings / Email / General / Min. Time Between Emails (in minutes).

Outgoing email server
Data Manager does not create a mail server, but it uses the client's mail server to send notifications It is necessary to set parameters of outgoing mail server (SMTP server) correctly in order to send notifications. Outgoing mail server settings is located in Tools/Globals Settings/Email. All items has to be entered correctly. Use a Email Test button to check email notification functionality

Send email if limits exceed – email is being send once machine alarm has raised when YES defined.
Send email when data collection started – email is being send once data collection started when YES defined.
Sender – displayed sender's address. It does not have to bet be the same as SMTP server user.
Sender Name – displayed sender's name.
Recipient – email address of email notification recipient
Subject – e-mail notification subject
Min. Time Between Emails [min] – minimal time between sending emails. It reduces amount of emails from one machine.
Address – your SMTP server address (for example: smtps://smtp.gmail.com:465)
User – user account (for example: my.mail@gmail.com)
Password – user account password
Email Test – sends testing email

Adaptive algorithm for readings

The A3716 can take readings (setting using the DDS) completely different way than other systems.

Let's explain it on example. In the past the time interval between readings must have been defined. E.g. if 1 minute was defined, then the reading was triggered every minute. The time length of reading was e.g. 1 second. If the change in vibration level occurred during this minute, it was not captured.

The new adaptive system measures continuously. If one reading length is one second, then new reading is taken every second. You can not miss any change in vibration level.

If all these readings would be continuously stored, then the size of the database would enormously grow. Hard drive size would be filled very quickly and the access to the database would be very slow. That is not allowable.

Therefore the adaptive algorithm was developed. This software is installed in each A3716 unit. It controls, which reading will be saved to database and which will not. The basic rule is that it is not necessary to store the reading that is the same as the previous one.

How does the algorithm work?

We will demonstrate the algorithm function now. We want to measure the static value (overall value). Each reading is checked whether it is valid (ICP error, overload). The invalid reading is removed. When the system runs for the first time the first reading is always saved.
The capture of local extremes follows. Let's suppose that last values are 3.5 and 3.8 mm/s. It is the increasing trend (3.8 is higher then 3.5). We want to capture local extremes. If next reading is 3.1mm/s then the 3.8 is the local extreme and it is saved to database.
The basic function of the algorithm is to save significantly different readings. Significant change is evaluated on the basis of two relative limit levels (e.g. 5%) and absolute (0.1 mm/s). If the value of the current measurement differs from the last stored by more than 5% and also more than 0.1 mm/s, then it is the significant change and the reading is saved. The reasonable amount of readings should be saved. If the vibrations are oscillating, then the relative limit level is increased. When the vibrations again becomes stable, then the level is decreased. The special procedure is used for runup and coast down.
The next thing algorithm is checking is time interval between last saved reading and current. If this interval exceed the allowed value, then the current reading is saved. Even if there is no significant change.

Large dynamic readings processing

When the user defines large dynamic readings (too many lines or samples) then the readings are saved only when the time interval between expired defined value.

Data saving example

Next graphs contains examples of trend with various relative limit levels. The first graph contains full data and next are taken with 5%, 10%, 20% and 50% relative limit level. As you can see, no information is lost.

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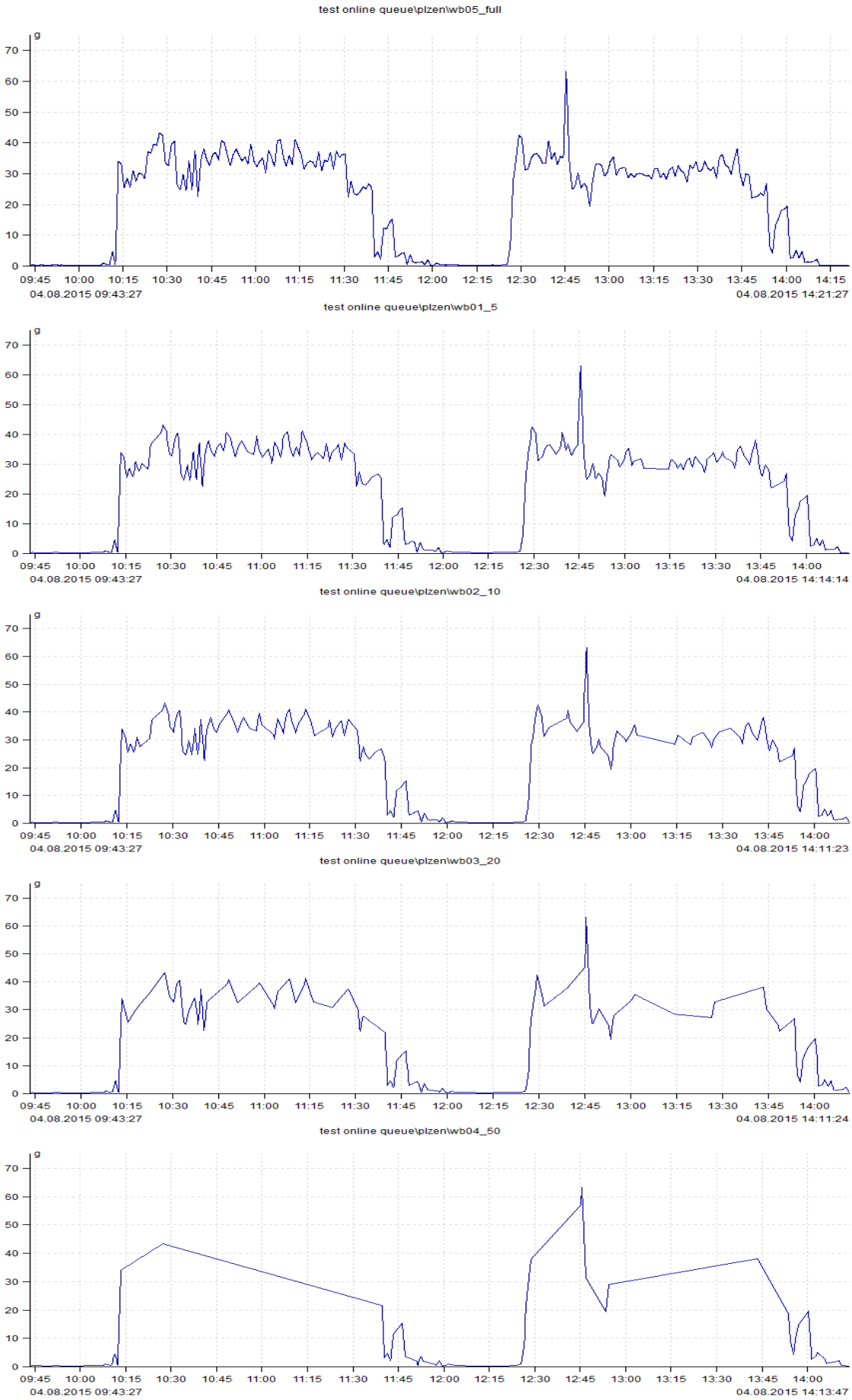

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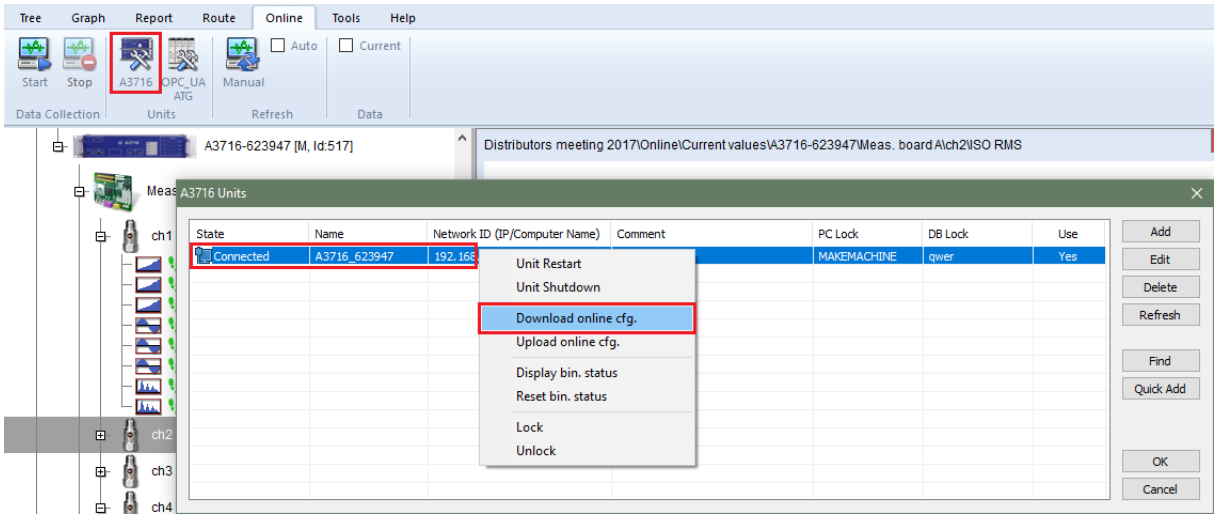
Variable settings of data collection

All control parameters are saved in A3716 unit in file **c:\A3716\data\online.cfg**. The factory setting uses the adaptive algorithm, but you can use also user modified collection control. It is strictly recommended to create backup copy of file before modification. Please, modify only the items, which you fully understand.

You can modify this file via DDS. In A3716 units list use right-click and **Download online.cfg**. You save it and you can edit it by Notepad. Use the **Upload online.cfg** to send it back to A3716 unit.

New parameters are applied after the project is restarted (or A3716 unit is restarted).



Regulator section

Find the section [Regulator] and modify parameters.

all readings

0 = adaptive algorithm or time interval savings is used for data storing (dilution).
1 = all data will be saved to database (only for limited time recommended, the disc can be full filed very quickly)

adaptive

0 = adaptive algorithm is disabled
1 = adaptive algorithm is enabled

short dynamic max samples

the maximum samples number, which is allowed for adaptive algorithm on dynamic measurements (called short dynamics). Longer measurements are saved only in **long dynamics interval save**

statics interval save

the number of seconds
if the adaptive algorithm is used, then it is the max time interval between saved static measurements
if the time interval saving is used, then it is the time interval between every saved static measurements

short dynamics interval save

the number of seconds
the same meaning as previous item, but used for short dynamic measurements

long dynamics interval save

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the number of seconds
the time interval between every saved long dynamic measurements, remember that adaptive algorithm is never used for long dynamics

Examples

To save all data

all readings=1

Note: All readings (measurements) will be saved (according to measurment length). Beware that this option can fill the hard drive very quickly.

To save data only in defined intervals

all readings=0
adaptive=0
statics interval save=60
short dynamics interval save=180
long dynamics interval save=3600

Note: Adaptive algorithm is disabled. Static readings (measurements) will be saved every minute, short dynamics every 3 minutes and long dynamics every hour.

Use adaptive algorithm

all readings=0
adaptive =1
statics interval save=21600
short dynamics interval save=21600
long dynamics interval save=21600

Note: Adaptive algorihm is enabled. Static values, short dynamics and long dynamics are saved every 6 hours if there is no change according to adaptive algorithm.

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Time synchronization of A3716 (A3800)

It is important to keep internal time of all A3716 units up to date. In the beginning set the correct time zone in A3716. The **Data_Manager** synchronizes time in all A3716 units with the time on Adash server. The interval of synchronization is in **DDS/ Online tab/ Time synchronization**.

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A3716 (A3800) Update

This chapter is appointed for advanced users only.

1) Connect a keyboard, a mouse and a monitor to your A3716 device (or you can use remote desktop connection).
2) Login as user remote (password remote).
3) Copy A3716_ver02##.exe file anywhere to A3716 (eg. folder C:). Use usb flash drive or network to copy it.
4) Run it.
5) A3716 Setup Wizard will open.
6) Choose the language of instalation and follow the Wizzard's instructions.