



User's guide



Connection of the A3600 system to the DDS2000 application

Application:

- ✎ Transmission and archiving of data measured by the A3600 system from the CF card
- ✎ Data formatting or erasing from the COMPACT FLASH card
- ✎ Creation of a database connection project for the A3600 system

Characteristics:

- ✎ Included in the DDS2000 application
- ✎ For the creation of a database connection project interaction with the A3600Setup program is necessary
- ✎ Possible administration eight independent projects

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Connection of the A3600 system to the DDS2000 application

Methods of Data Transmission from the Adash3600 to the DDS Program

There are two methods of data transmission to DDS program:

- 1) **on-line transmission** of data via a serial port, necessarily requiring the collaboration with a special on-line data collection program - **ON-LINE DATA MANAGER**. In the processing, algorithms are used for data reduction. It eliminates data representing a small or no change in respect of the previously stored data. The data transmission process is automatic with pre-set time intervals.
- 2) **data transmission on the FLASH card**, where measured data are stored. The possibility of this data collection is conditioned by the presence of the MEM module in the A3600 system and a so-called „FLASH card reader“. The storage of data on the FLASH card enables to set conditions for data reduction in respect of the previously stored measurement. The data transmission itself does not therefore need any specialised program and is done in the DDS environment in dialogue box **Database interconnection to A3600**.

Files related to the Adash3600 System

Interconnection project: <project name.>.36C

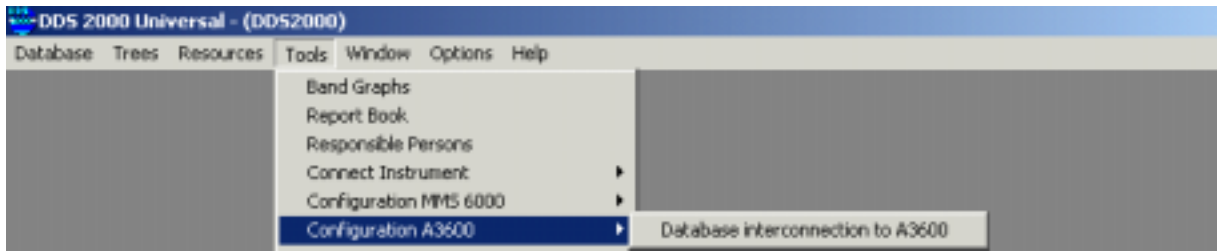
It includes information on the configuration of measurement by the Adash3600 system: the connected modules and quantities measured at individual modules, information on the interconnected database, configuration of the serial port and information on measurement cycle.

DDS configuration file: DDS2000.INI

In the group [Online_A3600] it contains information on all the interconnection projects, active project index (indexed from zero). The maximum number of current projects is eight.

Configuration of Interconnection to the Adash3600 System

The configuration of interconnection to the Adash3600 system is accessible from the main menu via item **Tools / Configuration A3600 / Database interconnection to A3600**.

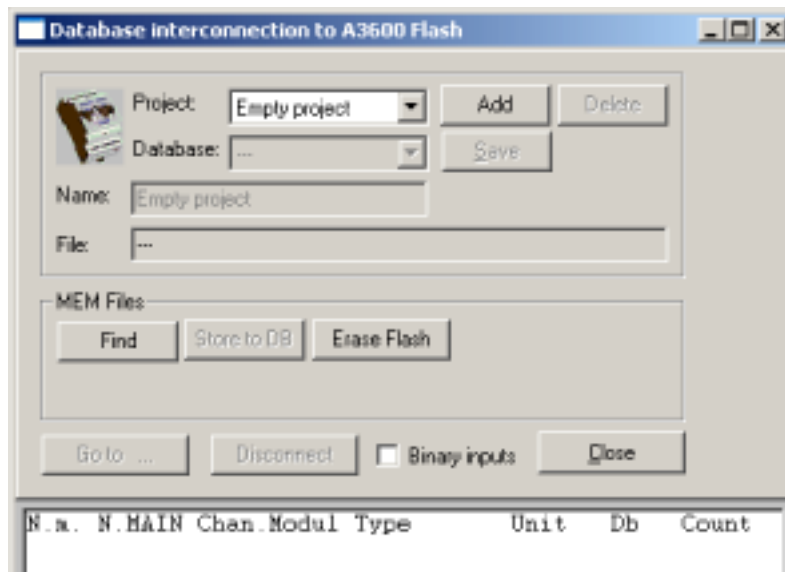


Database Interconnection to Adash3600

By selecting the **Database interconnection to A3600** menu item, the **Database interconnection to A3600** dialogue box is displayed. This dialogue box serves as the interconnection project editor for on-line measurement; however, it can also serve to transmit data from the FLASH card to the database (for the version with project and for a simple data transmission without project).

The first opening of the Database interconnection to Adash3600

Upon the first opening of the database interconnection to A3600, the following dialogue box appears (version 2.77 and newer):



This dialogue box is divided into two parts. The upper part contains information on the project, functional project management keys and keys enabling operations with the FLASH card. The lower part of the box contains List Box, where information on individual measurements and their parameters are displayed. The information in the lower part of the box appears only for the current project with the assigned *.36C file or they can be read from the FLASH card.

Description of individual keys and items of the dialogue box

Project: this item serves to select interconnection project, it always contains at least one item entitled **Empty project**.

Database: Here you can select a database (from the list of databases registered in ODBC) in which data from the selected station are to be stored (this item is not accessible if Project: Empty Project is selected)

Name: In this item you can change the project name; implicitly the new project is named after the *.36C file name (this item is not accessible if Project: Empty Project is selected).


File: Only an informative item (its content cannot be changed by the **DDS** program); it displays the interconnection project file.

Add	- It enables to add an interconnection project by defining the *.36C file
Delete	- It deletes the current interconnection project
Save	- It saves changes in the current project
Find	- It finds the FLASH card.
Store to DB	- It transfers data from the FLASH card to the database
Erase Flash	- It erases data from the FLASH card
Go to ...	- It shows the data cell connected to the current record in the listbox
Disconnect	- It disconnects the current record from the data cell
Close	- It closes the dialogue box of the database interconnection

Creation of an interconnection project for on-line measurement

The creation of an interconnection project for on-line measurement of the A3600 system is necessary to assure a clear connection between individual measurements and particular data cells. In other words – without creating an interconnection project, the on-line data collection program would not know where to store the received data.

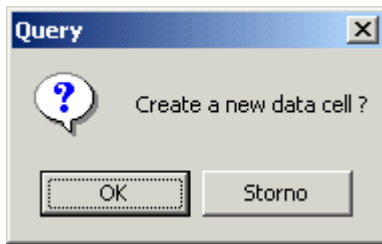
The creation of an interconnection project can be summarised to the following steps.

- 1) Create a configuration file of the A3600 system using A3600 Setup (see User's manual 3600 Setup - chapter Creation of a configuration file for DDS2000).
- 2) In the dialogue box of the A3600 database interconnection click on  and after prompt enter the path to the configuration file you created (format *.36C)
- 3) After selecting the configuration file, information is displayed in the lower part of the dialogue box on individual measurements on the A3600 system. Another step is then the database selection in the item entitled **Database:**.
- 4) The project name can be changed in item **Name:** (if it is not changed, the project name and the configuration file name remain identical)
- 5) Now individual measurements must be linked to particular data cells.

Two windows must be opened in DDS – window of database interconnection to A3600 and window of the tree where we want to store the data.

Click with the left mouse button on the item corresponding to any measurement in the lower part of the dialogue box and drag to the requested tree item in the other window; then release the mouse.

The following query will appear:



After confirming by means of the **OK** key, a relative data cell is created. The name of thus created data cell consists of the serial number of the A3600 system MAIN module (module that measures), measurement channel number and measurement type.

As an alternative it is possible to connect the measurement also to an existing data cell: when dragging the measurement, release the left mouse button not on the tree item but on the requested data cell. A corresponding data type of the data cell must be set, the device must be of A3600 type and a corresponding physical unit must be set.

The possibility of creating an interconnection is indicated during the „drag and release“ operation by the cursor:



Interconnection possible



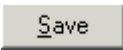
Interconnection impossible

If the **Interconnection impossible** is indicated at the level of tree unit it means that the tree belongs to a different database than the one set for the selected station or that no database was selected. At the level of data cell it can also mean that the data cell is not suitable for the set measurement output (device type, data type or physical unit do not correspond).

NOTE: It is possible to select more items together and drag them all from interconnection window to the tree. To do this, click on the first item you wish to select. Then hold the **shift key** and select as many items as you wish by pressing the **arrow down key**. Stop pressing the arrow key **before** last item you want to select. Then hold the **ctrl key**, click and hold left mouse button on the last item you wish to select, release **ctrl** key while still holding mouse button and drag & drop the set of items.

The project of interconnection of the measurements (down left) to the newly created data cell (right).

N. MAIN	Chan	Modul	Type	Unit	Db	Count	
1.	621299	1.	MPX	LF-RMS	[mm/s]	161	0
2.	621299	1.	MPX	HF-RMS	[g]	162	0
3.	621299	1.	MPX	LIN-RMS	[g]	163	0
4.	621299	1.	MPX	ENV-RMS	[g]	164	0
5.	621299	1.	MPX	LF-TIME	[mm/s]	165	0
6.	621299	1.	MPX	HF-TIME	[g]	166	0
7.	621299	1.	MPX	LIN-TIME	[g]	167	0
8.	621299	1.	MPX	ENV-TIME	[g]	168	0
9.	621299	2.	MPX	LF-RMS	[mm/s]	169	0
10.	621299	2.	MPX	HF-RMS	[g]	170	0
11.	621299	2.	MPX	LIN-RMS	[g]	171	0

6) Now the changes made in the project must be stored using the  key.

Working with the FLASH card

To work with the FLASH card, a device called „FLASH card reader“ must be present and correctly connected to the computer. In the event of any uncertainty concerning this device, contact your supplier of the A3600 system.

There exist two versions of A3600 Compact Flash card data format. A3600 memory module of version 3.00 and newer store data in standard FAT16 files while older versions of memory modules use proprietary format of data file.

Memory module version is displayed in the A3600 Setup MEM configuration section as MEM xyz, which means version of "x.yz" (see User's manual 3600 Setup for more). In addition to that, the A3600 memory module 3.00 displays "FAT" on its LED display when the card is inserted. The older modules display sequence of C1, C2, ..., etc., depending on the card remaining free space.

Another way how to distinguish the data format is to look at the CF card content. In the case of newer (FAT) format, the CF contains folder A3600 in which reside one or more "daily data" MEM files. Their names are in yyyyymmdd format, the extension is MEM. In the other case (older data format), CF card contains single Data3600.mem file, which occupies all the card space.

DSS 2000 of version 2.55 and newer is able to work with both CF card data format.

The A3600 system uses the MEM module due to following reasons (that can be combined):

1. data storage in the event of on-line communication failure
2. continuous collection and storage of measured data without on-line communication

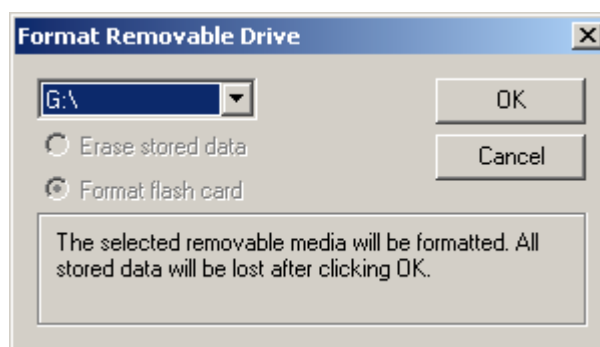
DDS 2000 v 2.77 and newer

New FLASH card formatting

In order to be able to use a new FLASH card in the A3600 system, it must be previously formatted and initialised. This can be done by inserting the FLASH card to the „FLASH card reader“, clicking on

Erase Flash

The **Format Removable Drive** dialog appears. In the listbox, select the drive you wish to format. Be careful when selecting drive. All available removable drives (except the floppy drives) are included (e.g., you can have more flash card readers connected). It is possible only to format the card when it uses newer (FAT) format of data. To do this, click the OK button.



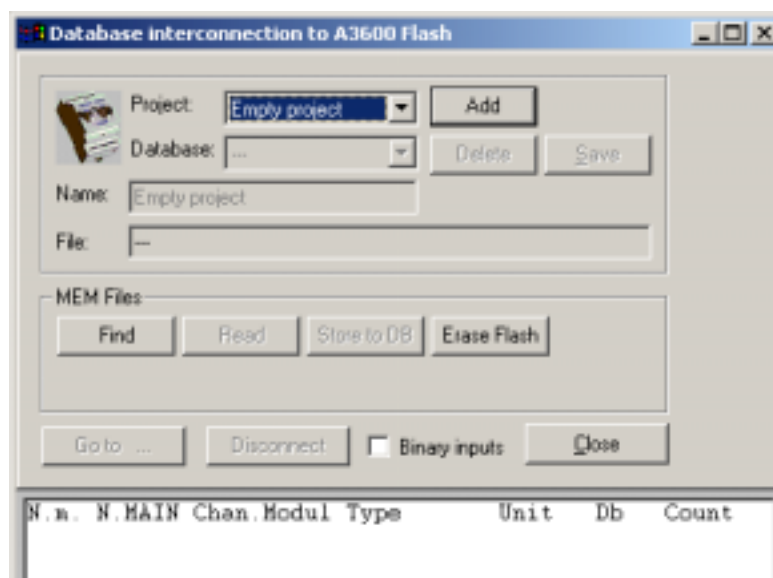
When you inserted CF with older proprietary data, you can choose between the Erase stored data and Format flash card radiobuttons. Then click OK to perform the selected action. CF card will continue using the same format as before. The bottom text box informs about next process depending on selected drive and action.

Use of the FLASH card

Use of the FLASH card is described in two following paragraphs. The described procedures are valid except one small difference. The buttons **Find** and **Read** were joint into one. In newer versions after choosing of data files the information from the FLASH card about the records are read automatically.

NOTE: We strongly recommend to re-initialise (format) CF card when the A3600 system was restarted while collecting the data.

DDS 2000 v 2.55 to v 2.76



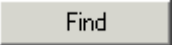

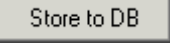
Look of "Database interonnection to A3600 Flash" in versions on DDS older than 2.77

Use of the FLASH card as a backup medium in the event of on-line communication failure

In this case all the measured data will be stored, for the entire period of on-line communication failure, to the FLASH card. As soon as the on-line communication is restored, new data will be automatically stored to the database; however, measurements from the time of communication failure will be missing. It is therefore necessary to complete the database with the data from the FLASH card.

The procedure of completing the database with the data from the FLASH card with the on-line communication can be summarised in several steps.



- 1) Prior to data transmission from the FLASH card to the database it is necessary to close the data collection program ON-LINE DATA MANAGER in order to verify data consistence in the database.
- 2) Remove the FLASH card from the A3600 system MEM module (it is not necessary to exit the system or signal such action) and insert it in the „FLASH card reader“ connected to the PC.
- 3) Launch the DDS program and open the window of the database interconnection to A3600. In this window select the project that was used for on-line data transmission (highly important – otherwise data will not be stored to the correct data cells).

- 4) Click on . The standard file open dialog appears. Find the data file you wish to import. In the case of new data (FAT) format it has a name yyyyymmdd.MEM and you can select one or more file. In the case of old format, you can select only single Data3600.mem file.
- 5) Then use the  key to obtain information from the FLASH card on the number of stored records with individual types of measurement at the relative channels.
- 6) If the FLASH card includes at least one record and interconnection to a particular data cell is known, you can use the  key. Using this key, you store data from the FLASH card to the database, data will be stored by individual data cells. After terminating the data transmission to the database, it is advisable, however not necessary, to erase the data from FLASH card. Read the section above (DDS 2000 v 2.77 and newer - New FLASH card formatting) how to do it.
- 7) Make sure that the „FLASH card reader“ terminated its activity (the red LED is off, does not flash etc.), remove the FLASH card and insert it to the MEM module, launch the data collection program ON-LINE DATA MANAGER.

NOTE: We strongly recommend to re-initialise (format) CF card when the A3600 system was restarted while collecting the data.

Use of the FLASH card as a data collection medium without on-line communication

To use the FLASH card without on-line communication it is also possible to create an interconnection project and to use the above procedures for data transmission to the database. However, it can also be suitable to use another procedure. This procedure does not require any project to be created, data are transferred by simple dragging. The procedure is as follows.

- 1) Remove the FLASH card from the A3600 system MEM module (it is not necessary to exit the system or signal such action) and insert it to the „FLASH card reader“ connected to the PC.
- 2) Launch the DDS program and open the window of the database interconnection to A3600. In this window select the project entitled **Empty project**, (this selection is very important, otherwise the action of simple data transfer to the database will not be possible). Open the window with the tree where you want to store the data.
- 3) Click on . The standard file open dialog appears. Find the data file you wish to import. In the case of new data (FAT) format it has a name yyyyymmdd.MEM and you can select one or more file. In the case of old format, you can select only single Data3600.mem file.
- 4) Then use the  key to obtain information from the FLASH card. In the lower part of the dialogue box of the database interconnection all the measurements stored on the FLASH card will be displayed as a summary according to the type of measurement and relative measurement channel.
- 5) Now it is sufficient for data transfer to drag any record to any tree item (as in the event of creating database interconnection) and the relative data will be immediately transferred from the FLASH card to the new cell in the database.

NOTE: We strongly recommend to re-initialise (format) CF card when the A3600 system was restarted while collecting the data.

DDS 2000 v 2.54 and older

New FLASH card formatting

In order to be able to use a new FLASH card in the A3600 system, it must be previously formatted and

initialised. This can be done by inserting the FLASH card to the „FLASH card reader“, clicking on **Find** and then on **Erase Flash**. In the dialogue select **Format the FLASH card** and confirm with the **OK** key.



Then follow the FLASH card instructions (these instructions can differ according to the system version – W95,98,NT,2000). This operation may last up to several minutes.

Use of the FLASH card as a backup medium in the event of on-line communication failure

In this case all the measured data will be stored, for the entire period of on-line communication failure, to the FLASH card. As soon as the on-line communication is restored, new data will be automatically stored to the database; however, measurements from the time of communication failure will be missing. It is therefore necessary to complete the database with the data from the FLASH card.

The procedure of completing the database with the data from the FLASH card with the on-line communication can be summarised in several steps.

- 1) Prior to data transmission from the FLASH card to the database it is necessary to close the data collection program ON-LINE DATA MANAGER in order to verify data consistence in the database.
- 2) Remove the FLASH card from the A3600 system MEM module (it is not necessary to exit the system or signal such action) and insert it in the „FLASH card reader“ connected to the PC.
- 3) Launch the DDS program and open the window of the database interconnection to A3600. In this window select the project that was used for on-line data transmission (highly important – otherwise data will not be stored to the correct data cells)
- 4) Click on **Find** and in the following dialogue box select **Find FLASH card**.




- 5) The program automatically finds the FLASH card reader and tests the inserted FLASH card.
- 6) Then use the **Read** key to obtain information from the FLASH card on the number of stored records with individual types of measurement at the relative channels.
- 7) If the FLASH card includes at least one record and interconnection to a particular data cell is known, you can use the **Store to DB** key. Using this key, you store data from the FLASH card to the database, data will be stored by individual data cells.
- 8) After terminating the data transmission to the database, it is advisable, however not necessary, (the oldest data on the FLASH card are cyclically overwritten) to erase the data from FLASH card. This operation can be performed by means of the **Erase Flash** key, then selecting **Erase stored data**.




- 9) Make sure that the „FLASH card reader“ terminated its activity (the red LED is off, does not flash etc.), remove the FLASH card and insert it to the MEM module, launch the data collection program ON-LINE DATA MANAGER.

Use of the FLASH card as a data collection medium without on-line communication

To use the FLASH card without on-line communication it is also possible to create an interconnection project and to use the above procedures for data transmission to the database. However, it can also be suitable to use another procedure. This procedure does not require any project to be created, data are transferred by simple dragging. The procedure is as follows.

- 1) Remove the FLASH card from the A3600 system MEM module (it is not necessary to exit the system or signal such action) and insert it to the „FLASH card reader“ connected to the PC.
- 2) Launch the DDS program and open the window of the database interconnection to A3600. In this window select the project entitled **Empty project**, (this selection is very important, otherwise the action of simple data transfer to the database will not be possible). Open the window with the tree where you want to store the data.
- 3) Click on  and in the following dialogue box select **Find FLASH card**.



- 4) The program automatically finds the FLASH card reader and tests the inserted FLASH card.
- 5) Then use the  key to obtain information from the FLASH card. In the lower part of the dialogue box of the database interconnection all the measurements stored on the FLASH card will be displayed as a summary according to the type of measurement and relative measurement channel.
- 6) Now it is sufficient for data transfer to drag any record to any tree item (as in the event of creating database interconnection) and the relative data will be immediately transferred from the FLASH card to the new cell in the database.