



User's guide



Memory Module Adash 3600-MEM

Application:

- ✎ Memory module of measured data storing of the Adash 3600 on-line monitoring system
- ✎ Measured static and dynamic data storing to an exchangeable Compact Flash Card
- ✎ Measured data archiving module of off-line systems
- ✎ Backup medium of on-line systems in the case of an on-line data transferring interrupt

Characteristics:

- ✎ Measured data storing according to an intelligent algorithm
- ✎ Archived data are dated and timed
- ✎ Export of stored data in a text format via the Adash 3600 Download program
- ✎ Export of stored data to a database via the Adash DDS 2000 expert system
- ✎ Capability to use a Compact Flash Card with a capacity up to 4GB



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Terminal Board of the Adash 3600-MEM Module

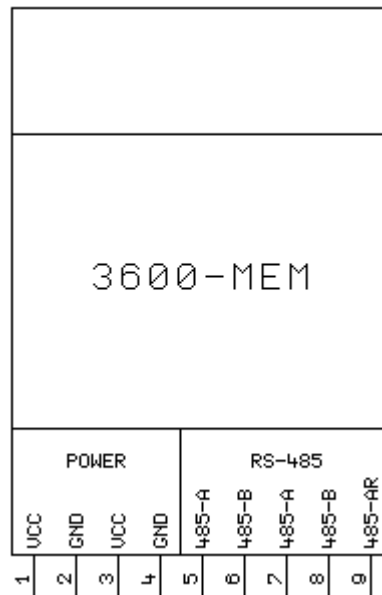


Fig. Terminal board of the Adash 3600-MEM module

The display of the terminal board corresponds to the front view of the module.

Description of Terminal Connectors

POWER supply voltage (terminal connectors with the same marking are interconnected inside):
 VCC +5 V / 250 mA,
 GND 0 V.

RS-485 communication connection for the Adash 3600 system (terminal connectors with the same marking are interconnected inside):
 485-A signal A of RS-485,
 485-B signal B of RS-485,
 485-AR termination resistance 120R, for the termination of the interface to connect to terminal connector 485-B.

Description of Adash 3600-MEM

The Adash 3600-MEM module serves to archive measured data. **The module is able to archive data to a Compact Flash Card with a capacity up to 4GB.** The flash card can be removed from the module any time and via user PC the archived data can be imported to the database of the **DDS 2000** user software.

The module is completed with a real time circuit and each archived record is dated and timed.

Archived data

Two types of data can be stored on the flash card simultaneously:

- 1) Just measured data that the main 3600-MAIN system unit sent for archiving.
- 2) Previous on-line data that have not been submitted by the 3600-NET or 3600-COMD module for further processing yet but that would be overwritten with the new measurement data from the 3600-MAIN unit.

After import, both the types of data can be mutually distinguished in the DDS database.

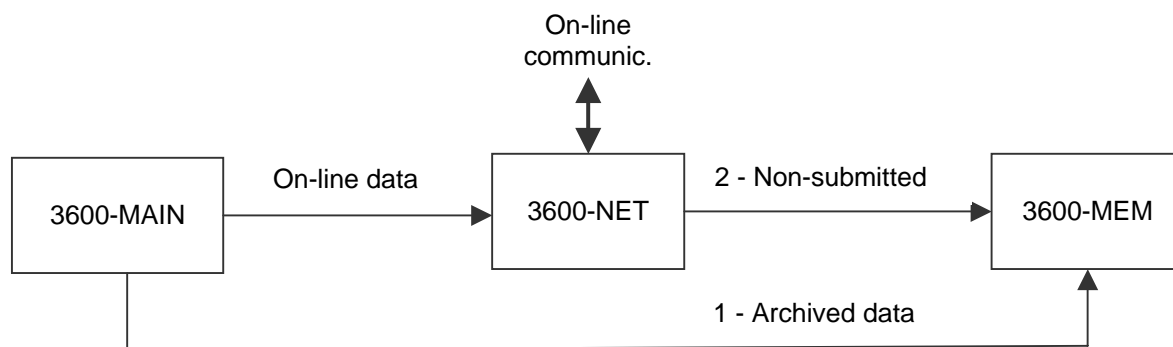


Fig. Two types of stored data

The evaluation whether the just measured data are archived at the flash card of the 3600-MEM module is performed by the main Adash 3600-MAIN system unit. **Description of requirement selection and method of data archiving - see Adash 3600 Setup, User's manual.**

The non-submitted on-line data are archived whenever the main 3600-MAIN unit, upon its start, found the 3600-MEM memory module and the module of on-line communication 3600-NET or 3600-COMD.

Display of Module State

The 3600-MEM module is equipped with three-digit seven-segment display, which presents from time to time the module state.

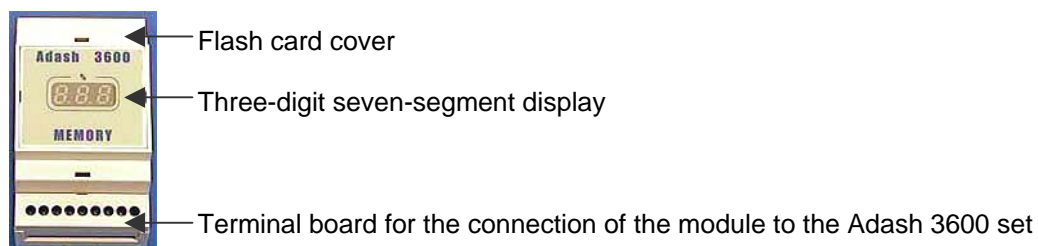


Fig. Module 3600-MEM

- **If** all three decimal points **are continuously on**, then **date and time** are **set** in the module **erroneously**. The user should correct the defect as soon as possible since the time is included by the 3600-MEM module to the archived data header. Data and time setting - see **Adash 3600 Setup**.
- **The flashing of** the decimal points signals **data recording** on the flash card.

Displayed	Module state
---	---. There is no flash card in the module, data are not archived.
C O N	C.O.N. The module registered insertion of the flash card, wait.
P	.P. The flash card connector supply is being switched on, wait (only modules without the button up to version 103 inclusive).
S t P	S.t.P. After pressing the button on the front panel of the module, the flash card is deactivated and you have 10 seconds to remove it from the module – see chapter Flash Card Exchange.
E r 0	E.r.0. An unknown type of flash card or flash card identification failed, try another card.
C 0	C. .0. A data file is searched on the flash card, the displayed digit gradually increases, wait.
E r 1	E.r.1. No archived data file header was found on the card, initialize the card.
E r 2	E.r.2. Data in the archived data file header are not correct, initialize the card.
9 9	.9.9. The module functions correctly and displays % of flash card fill from 0% to 99%.
9 9 9	9.9.9. The module functions correctly, the flashing display displays % of flash card fill from 100% to 999%. Import data to DDS. The whole card has already been filled with archived data, the old data are gradually overwritten with new. For instance, displayed information 234 determines that the flash card was 100% full already twice and now in the third filling 34% are new data and 66% are non overwritten old data.
E r 3	E.r.3. Unused - reserve.
E r 4	E.r.4. In the last operation of reading / recording an error occurred. If the error remains, try another flash card. It is a defect in the flash card or in the 3600-MEM module.

Manipulation with the Flash Card

Prior to the first use of the flash card in the Adash 3600-MEM memory module, this must be initialized in a special way.

After the import of the archived data to the DDS database, the flash card is deleted and **automatically initialized** for further use in the Adash 3600 system.

Procedure of the first initiation of the flash card for the use in the Adash 3600 system and description of the import of data to the DDS database - see **DDS 2000, User's manual, section Adash 3600 Monitoring System**.

Flash Card Exchange

The flash card is inserted in the 3600-MEM module in the connector and covered. When exchanging the flash card the Adash 3600 set **does not have to be** disconnected from supply. Proceed as follows:

1) Release and remove the flash card cover using a suitable tool. If the module is equipped with the button (see below for the description of its function), hold it pressed until the StP message appears on the display. Then release the button.

2) By simple pulling, take out the card from the connector; the display will signal the removal of the card from the module by showing - - - or -.-.-.

3) Insert the new **initialized** card to the connector. The card connector will not allow its complete insertion if polarity is wrong. The display will gradually show the following messages:

C O N	or	C.O.N.	registration of card insertion
P	or	.P. .	card connector supply switched ON (only modules without the button up to version 103 inclusive)
C 0	or	C. .0.	search of the archived data file
0	or	. . 0.	% fill of the card, for a newly initialized card 0%.

4) Put on and close the module cover.

If all the three decimal points on the display are continuously ON, do not forget to set the correct date and time of the 3600-MEM module by means of the **Adash 3600 Setup** program when coming back to the computer.

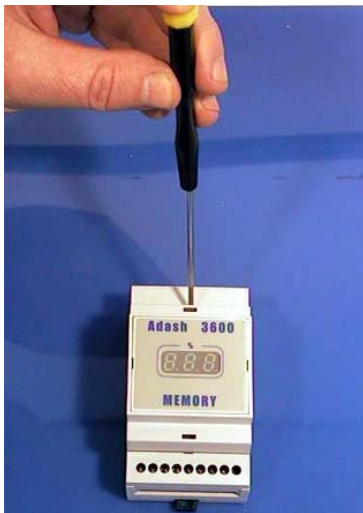


Fig. Removal of the flash card cover



Fig. View of the inserted flash card

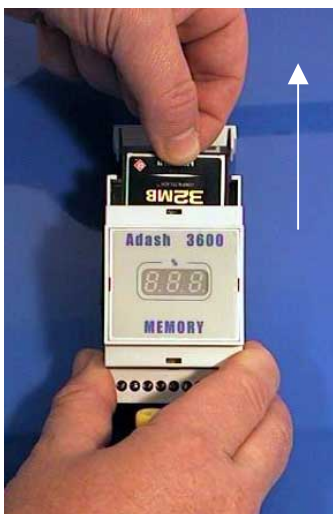


Fig. Removal of the flash card

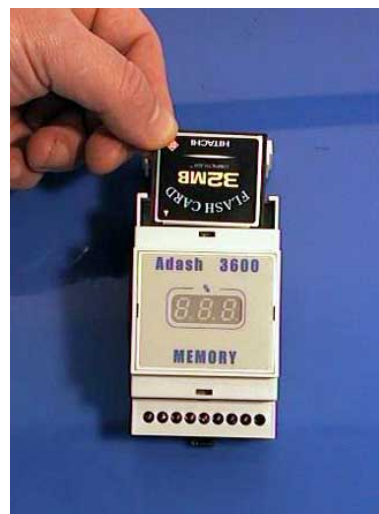


Fig. Card completely released

Attention! In the Adash 3600 system a flash card cannot be used where defective sectors are present after formatting. Although this card may be used on a PC operating in Windows, it cannot be used for the measured data archiving in the Adash 3600 system any more!

Function of the Button on the Front Panel of the Module

The Adash 3600-MEM modules are equipped, from version **210** on, with a button on the front panel that serves to deactivate the inserted flash card. The button is functional only if the flash card is inserted in the module and the percentage of its fill appears on the display. The button is not scanned if the flash card is not inserted in the module or during identification after its inserting in the module.

The button has two functions:

- **A short press** with no response on the display activates a **new identification** of the inserted card.
- **A longer press** deactivates the inserted card, the StP (STOP) message appears on the display and you have 10 seconds **to remove it** from the module. If the card is not removed from the module during this period, it is reactivated and the module continues with data storage. During the waiting, restart is possible any time by new pressing the button and the module starts to count down another 10 seconds.

Prior to **removing** the flash card from the module, **hold the button pressed until the StP message appears on the display**, which signals the card de-activation. **Then release the button and remove the card from the module within 10 seconds**. By repeated pressing, the period of waiting may be extended since after each new pressing another 10 seconds of waiting for the card to be removed are counted down.

Prior to inserting the card in the module, do not press the button, it is not functional. The card connector is deactivated and it is reactivated automatically after inserting the card.

Extending the Set with the Adash 3600-MEM Module

The connection of the Adash 3600-MEM module to the Adash 3600 set is done according to the following schematic:

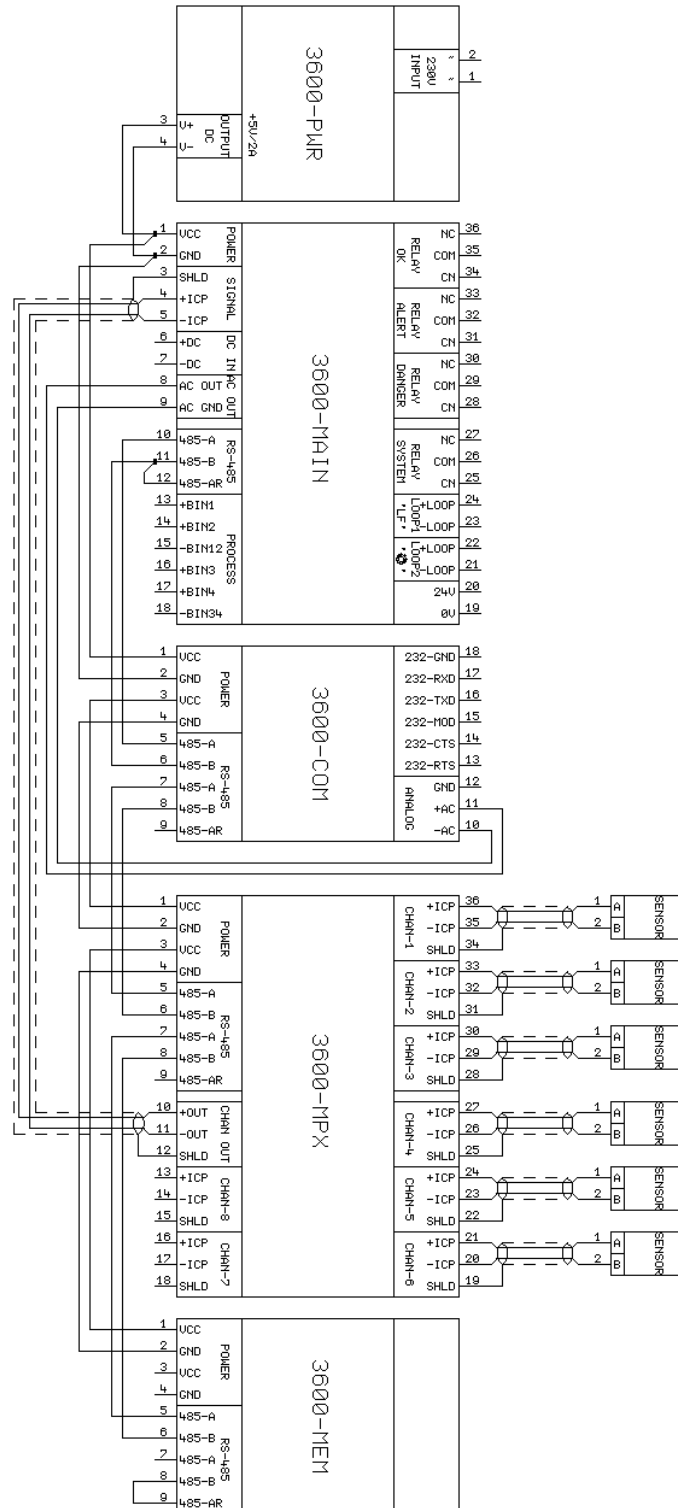


Fig. Schematic of connection of the 3600-MPX and 3600-MEM modules to the Adash 3600 system

Recommended Procedure of Module Connection

1. Disassembly of the terminal connector covers.

Remove the terminal connector covers of the modules by means of a suitable tool.



Fig. Removal of the terminal connector covers

2. Break the interconnection of terminal connectors 485-B and 485-AR at the set end module (3600-MPX).

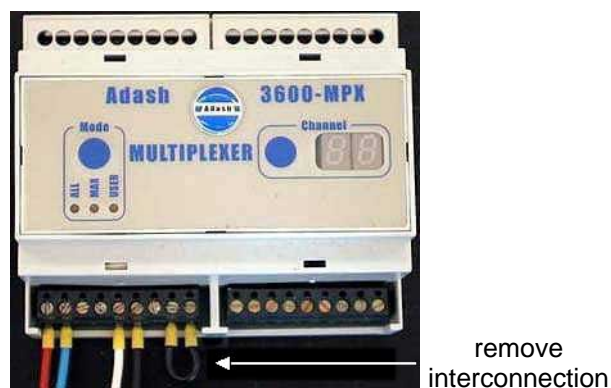


Fig. Interconnection at the end module 3600-MPX

At the set end module (in this case 3600-MPX) there is a resistance termination of RS-485 via an interconnection of terminal connectors 485-B and 485-AR. This interconnection must be removed and installed at the end module of the extended set (in this case 3600-MEM).

3. Interconnection of supply terminal connectors (VCC and GND).

The supply conductors are identified by the following colours in the supplied set:

- red conductor, positive pole of the supply (+5 V, VCC)
- blue conductor, negative pole of the supply (GND).

Pay attention to the correct polarity of the supply voltage! The positive voltage is always at the first terminal connector on the left.



Fig. Interconnection of supply conductors

4. Connection of communication terminal connectors (485-A, 485-B) and interconnection (485-B, 485-AR) of the 3600-MEM module.

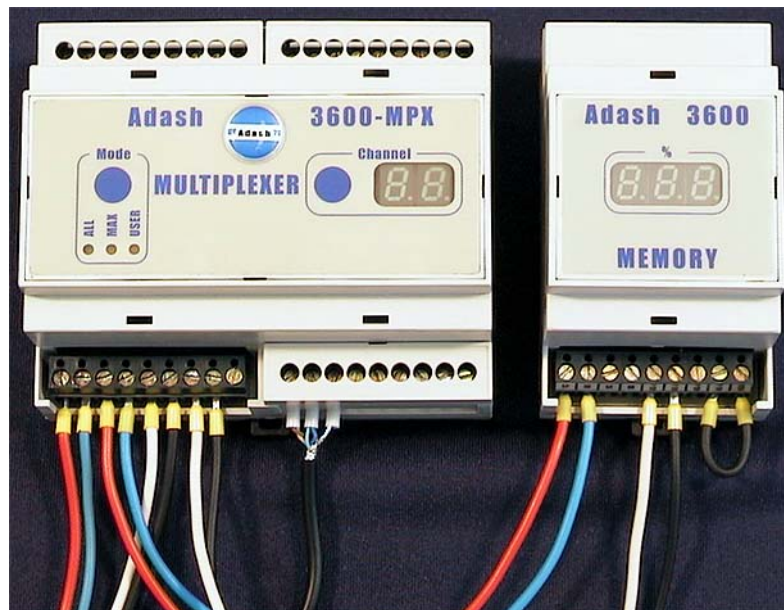


Fig. Interconnection of communication conductors

The communication conductors are identified by the following colours in the supplied set:

- white conductor, signal A of RS-485
- black conductor, signal B of RS-485.

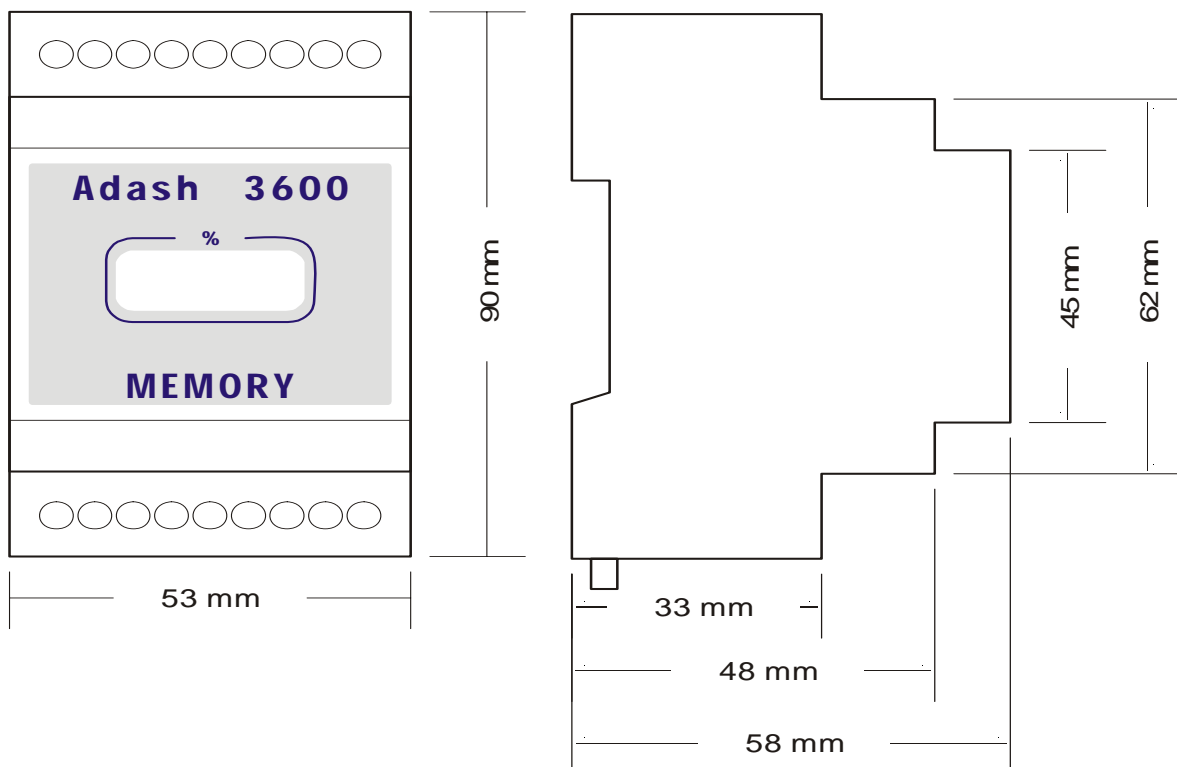
5. Replace the terminal connector covers.

The extension of the Adash 3600 set with the 3600-MEM module is completed and the system is ready for measurement.

Technical Specification of Adash 3600-MEM

Memory medium:	- flash card with a capacity up to 4GB
State signalling:	- three-digit seven-segment display for the display of % fill of the card, module state and error conditions
Interface:	- RS-485 for the communication between the Adash 3600 set modules
Control:	- by the main Adash 3600-MAIN unit
Unit setting:	- using the 3600 Setup program via communication unit Adash 3600-COM, Adash 3600-COMD or Adash 3600-NET
Protection:	- IP20
Temperature range:	- -10 °C to +50 °C
Supply:	- +5 V / 250 mA
Dimensions:	- 53 x 90 x 58 mm
Weight:	- 150 g
Installation:	- DIN rail

Dimensioned Sketch of Adash 3600-MEM



User Notes

- To version 103 inclusive,** the module is not equipped on the front panel with a button for deactivation of the inserted flash card. These modules store measured static data only.
- From version 210 inclusive,** the module is equipped on the front panel with a button for deactivation of the inserted flash card. These modules store measured static and dynamic data.