

**MICROPROCESSOR-BASED  
ARCHIVING SYSTEM**

**MS DataLogger Network 3.02**  
version 2.03

TECHNICAL DESCRIPTION AND INSTRUCTION FOR USAGE

PLOVDIV 2005

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## I. DESCRIPTION OF THE SYSTEM

**MS DataLogger Network 3.02** is a modern informational system for collection, processing and archiving of data for different parameters, supervised in real time clock determining the status of complex technological processes.

The system is organized as a net structure of the type joint rail, with main device, realized by personal computer and subordinate devices of the type MS01C, with buffer memories for intermediate data archiving. The availability of memory in the archiving devices allows the functioning of the system without necessity of uninterrupted operation of the personal computer, which is used for data collection from the subordinate devices and their saving organized by devices and days.

The net structure and the maintenance of a large number of devices, connected on the rail, located in joint distance up to 1 kilometer, allows change of the system at any time according to the increasing necessities of the user.

**MS DataLogger Network 3.02** gives a possibility for table and graphic data supervision, creation of files by selected part of the data, creation of files with calculation of effect of pasteurization of cans and conversion of the data in text format for additional processing by another program.

## II. INSTALLATION OF THE PROGRAM ASSURANCE

The installation of the program assurance can be realized from the installation disc, which you will get in a set with the devices, this way:

- 2.1. Put the disc in the respective device of your computer.
- 2.2. Select the respective device from Windows Explorer and start the file "setup.exe".
- 2.3. Follow the instructions of the installation program.
- 2.4. After the complete termination of the installation copy from the installation disc the file „Msdlnet.ini“ in the operating directory of the program (the operating directory is C:\Program Files\MicroSyst DL Network 3.02, if you didn't select another directory during the installation).

## III. CONNECTION OF THE NET AND PREPARING FOR OPERATION

Do the next stages:

- Place the devices at the preliminarily selected places, and the device with terminator on the rail must be the farthest from the compute (at the end of the line).
- The devices, together with Rs232/Rs485 converter, must be connected in a joint rail according to the technical scheme of the net.
- The power supplying lines must be connected according to the technical scheme of the net.
- If the program assurance is not tuned by the producer according to your configuration, it is necessary to realize the tunings, described in the item „CONFIGURATION OF SYSTEM PARAMETERS“.

## IV. STARTING OF THE PROGRAM

The program serving MS DL Network 3.02 is in program group and its name is MicroSyst DL Network 3.02. The starting of the program is realized by double pressing of the left button of the mouse on the icon of the program. After hiding of the title window you are ready for work.

If you are starting the program for the first time, in the directory of the program a directory "DEVICES" is created, in which the downloaded from the devices data are saved. For every device you have to create a separate subdirectory with name "DEVxxxx", where xxxxx is the number of the device according to its order of description in the configuration file. When you are adding a new device in the configuration file, the program automatically creates subdirectory for it.

## V. OPERATION WITH THE PROGRAM

After loading of the configuration, the program shows the basic window. The main menu consisting of the menus of the program and the band with buttons for fast access are in the higher part of the window.

### 5.1. Description of the main menu of the program:

#### a) Menu “**FILE**” – access to archived data.

- “**OPEN ARCHIVE**” – shows window for selection of the data file. You can select files from all devices, available in the archive directory of the computer.
- “**OPEN OUTER**” – shows window for selection of data file, which has been copied or removed somewhere else (for example floppy-disk).
- “**CONVERT IN TXT**” - conversion of data file into a text file. Two new windows appear consecutively – for selection of a data file and name of the new text file. Conversion in text file can be used at next data analysis by another program.
- “**EXIT**” – exit from the program.

#### b) Menu “**COMMUNICATION**” – access to the devices.

- “**OPEN COM PORT**” - open/close the port of the computer for communication with the devices. When you open the port, in front of the name a marker appears which disappears at second selection (the port closes). When the communication port is open the access to the rest commands of the menu is permitted.
- “**DOWNLOAD ARCHIVES**” – data downloading from the devices. A window appears, in which you can select the device, from which you will download the data (see “Window downloading of archives”).
- “**01C MOMENT INDICATIONS**” – direct supervision of the values of the separate channels of the devices of the type MS 01C. A window appears, in which you have to select the device which will be supervised (see “Window 01C moment indication”).
- “**TUNINGS OF DEVICES**” – configuration of the devices. A window appears, in which you have to set-point the operating mode of the devices of the net (see “Window tunings of device”).



#### c) Menu “**WINDOWS**”













- “**CASCADE WINDOWS**” – put the active windows in order which makes easier the work of the user for fast access
- “**PUT THE WINDOWS IN ORDER**” – puts the active windows in order so all open and non-minimized windows can be seen simultaneously without covering each other.
- “**ARRANGE THE ICONS**” – arranges the minimized icons in the lower part of the main window.

#### d) Menu “**HELP**”

- “**FOR DL Network 3.02**” – a window with useful information about the program appears.
- “**REGISTRATION**” – registration of the program. It must be done one time at installation of the program on the computer. A window appears, in which you have to enter your name, the name of your company and the registration code. (see “Registration of the program”).

### 5.2. Buttons for fast access:

-  Open the window for selection of data file.
-  Open the outer archive.

-  Conversion to text – conversion of data file into text file.
-  Open/close COM port. Single click on the button, to activate it (when opening the COM port the other two additional buttons of the band appear) or deactivate it.
-  Archive downloading – opening of the window for data downloading from the devices. It is not available at closed port for communication.
-  Moment indications – opening of the window for direct supervision of devices of the type MS 01. It is not available at closed port for communication.
-  Change of table and graphic appearance of the data
-  Indication/hiding of the alarm levels
-  Printing of the table data or the graphic
-  Record of the table data in a text file
-  Removing of the increase of the graphic, if it has been used before.
-  Switching on/switching off of the mode of increase of a part of the graphic. When the mode is switched on, you can increase the graphic by pressing the left button of the mouse on a desired value of the graphic, holding of the button and “pulling” of the mouse. When you reach the desired value, release the button. So the selected part is increased.
-  Appearing/disappearing of the cursor from the graphic. The cursor allows the coordinates of the point of the graphic, on which it is positioned, to appear in the lower left corner. It can be moved on points of a selected curve by the buttons left/right, and the selection of a curve can be realized by the buttons up/down.
-  Switching on/switching off of the mode for selection of a part of the graphic. When the mode is switched on, the selection can be realized by pressing of the left button of the mouse on a desired value of graphic, holding of the button and “pulling” of the mouse. When you reach the desired end value, release the button. So the selected part can be used for creating of a file by user selection or at calculation of F effect.

### 5.3. The status band.

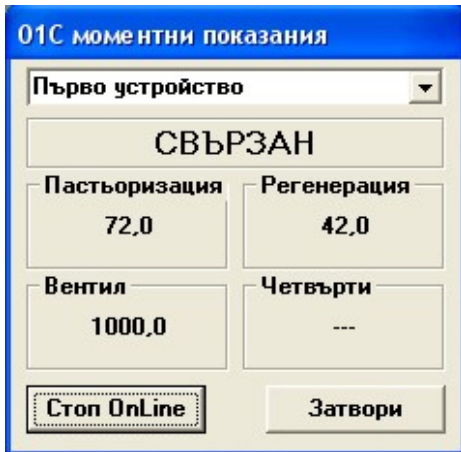
-  Indication about data sending and accepting from the computer.

## 5.4. Window “Tunings of device”

- List “**DEVICE**” - select the device which must be tuned.
- Field “**FAST PERIOD**” – enter the value for the fast period of the device (0...32000 seconds).
- Field “**SLOW PERIOD**” – enter the value for the slow period of the device (0...32000 seconds).
- List “**START VALUE**” – select the value of the parameter, measured by the first channel, when reaching of which the archiving starts. It is used at permitted option for Automatic Start/Stop.
- List “**STOP VALUE**” – select the value of the parameter measured by the first channel, at decreasing of which, the archiving stops. The selected value must be smaller than the value for starting of archiving. It can be used at permitted option for Automatic Start/Stop.
- Field “**CHANNELS**” – select the channels for archiving and the alarm values of the channels.
  - Field “**CONTROL**” - additional tunings of the device
- “**ARCHIVES BY EXPERIMENTS**” – when this option is selected, the data downloaded from the device are recorded in separate files for each report. The data of one day are recorded in a file for the day or if the days are more than one, in separate files by days.
- “**WITHOUT AUTOMATIC START/STOP**” – when this option is selected the device starts archiving at Start to Stop. After feeding of Start, the device starts archiving at passing of the value of Channel 1 over the set-pointed Start value and continues to the passing under the value for Stop, and this cycle is realized until you feed Stop.
- “**PERMITTED OUTER KEY**” – when this option is selected, every change of the position of the outer key causes a new archive with period according to the status of the key. The change of the position of the key does not have influence on it.
- Button “**READ THE KEY**” – reading of the current position of the outer key.

- Button **“INITIALIZE”** – record of the configuration in the device and on the disc of the computer. After realization of the record the device is stopped with initial slow period.
- **“START WITH FAST PERIOD”** – has influence at start of the device by the button **“START”**. If this option is selected, when you start by the button, the device will archive with the fast period. Opposite, the archiving will start with the slow period.
- Button **“START”** starting of the device with period set by the option **“START WITH FAST PERIOD”**.
- Button **“STOP”** – stopping of the device.

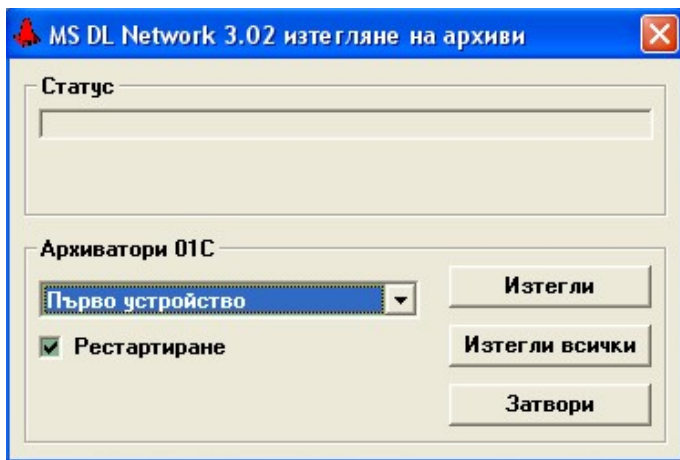
### 5.5. Window **“01C moment indications”**



From the list in the upper part of the window you can select the device, which you will supervise. By the button **“START ONLINE”** you can realize the connection with the device, and the current values of the channels appear on the 4 panels. The button **“START ONLINE”** is renamed in **“STOP ONLINE”** and pressing it the supervision of the device can be stopped. The change of the supervised device can be realized at stopped connection with the previous device.

The status of the connection with the device appears on the panel under the list for selection of device - **“NO CONNECTION”** at not realized connection and **“CONNECTED”** at connection with the device.

### 5.6. Window **“downloading of archives”**

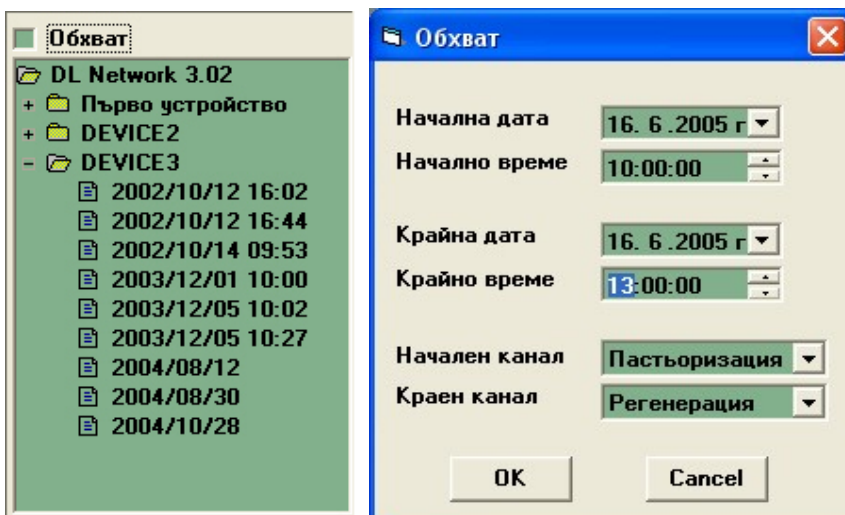


List **“ARCHIVERS 01C”** – select the particular device, from which you will collect data.

**“DOWNLOAD”** – start the data collection събирането from the selected device. When option **“RESTART”** is selected, after data collection, the device is switched on again.


**“DOWNLOAD ALL”** - start data collection from all devices.

### 5.7. Open the archive



In the window, using tree seeming structure, all data, archived on the disc of the computer, appear separated by devices. The particular devices are designated by the symbol . If for a certain device there are archived data, on its left the symbol appears. When you click with the mouse on this symbol, it changes to and the archived data for this device (designated by the symbol ). The selection of a



file can be realized by double click with the mouse on the name of the file. The opposite hiding of the data of this device can be realized by click on the symbol .

If the option “RANGE” is selected, before the opening of the selected file a window appears, in which the time interval and the channels of the device are shown, for indication of the data.

## 5.8. Window “Data representation”

*Table:*



	Пастьоризация	Регенерация	Вентил
15.04.05 11:43:57	63,0	33,1	0,0
15.04.05 11:44:07	71,9	33,9	1,0
15.04.05 11:44:17	73,6	33,9	1,0
15.04.05 11:44:27	73,2	33,5	1,0
15.04.05 11:44:37	73,2	26,3	1,0
15.04.05 11:44:47	73,2	19,5	1,0
15.04.05 11:44:57	73,6	18,2	1,0
15.04.05 11:45:07	73,2	18,2	1,0
15.04.05 11:45:17	73,2	18,2	1,0
15.04.05 11:45:27	73,2	18,2	1,0
15.04.05 11:45:37	67,7	18,2	0,0
15.04.05 11:45:47	68,1	18,2	0,0
15.04.05 11:45:57	68,1	20,8	0,0
15.04.05 11:46:07	72,3	20,8	1,0
15.04.05 11:46:17	73,2	20,8	1,0
15.04.05 11:46:27	73,2	20,8	1,0

This is the type of data representation, by understanding. The time of the reading appears in the left column, according to the regional tunings of the system, and the data of the channels appear in the right columns.

The data in table are associated with the following context menu (it appears when you click on the table with right button):

Покажи графика
Алармени нива
Разпечатай таблицата
Запиши като текст
Запиши селекцията...
Създай F-ефект файл...

“**Show graphics**” – show the selected data in graphics, and if data are not selected, it shows all of them. You can select data from the table in two ways. Selection of all data from one channel – it can be realized by single click with the mouse left button on the name of the channel (the field in the most upper part over the data). Selection of a part of the data from one channel – it is realized by pressing of the mouse left button on the first desired value, holding of the button and “pulling” of the mouse below. When you reach the end desired value, release the button. The selected data differs from the others by their appearance with light letters on dark background.

“**Alarm levels**” – indication/hiding of the alarm levels. This option is not available for archives downloaded with previous version of the program.

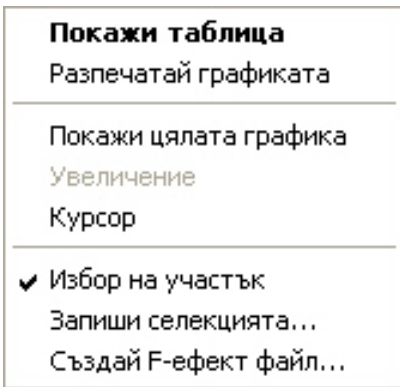
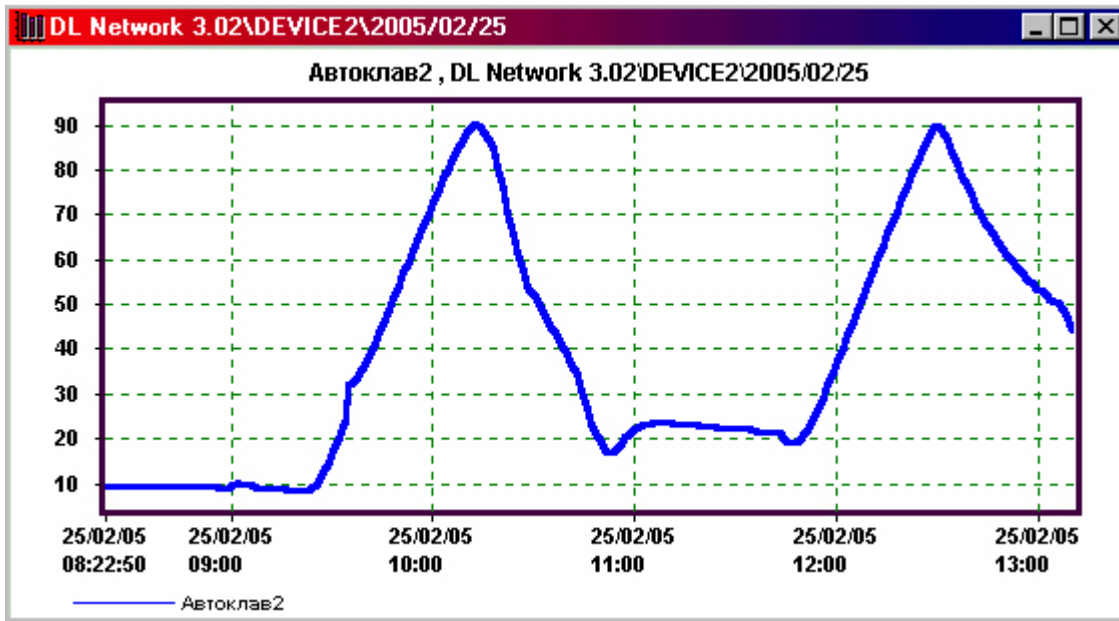
“**Print the table**” – printing of table data.

“**Record as a text**” – record of the table data in a text file

“**Record the selection...**” – record of the selected data as a new file at saving of the data form. It is necessary data to be selected in advance, to be accessible this option.

“**Create F-effect file...**” – Calculating of the effect of sterilization of the cans and record of the results in a new file. It is necessary data from only one channel to be selected in advance, to be accessible this option.

## Graphics:



All data or only the selected table data can be represented in graphics. The program gives a possibility for increasing of a selected part of the graphics and for direct reading of the values of the graphics by a cursor.

The data in graphics are associated with the following context menu (it appears when you click on the graphics with the right button):

“**Show table**” – shows data in a table.

“**Print graphics**” – printing of the graphics.

“**Show the whole graphics**” – removing of the increase of the graphics, if such has been used before.

“**Increasing**” – switching on/switching off of the mode of increasing of a part of the graphics. At switched on mode, you can increase a part of the graphics by pressing of the mouse left button on the desired value of the graphics, holding of the button and “pulling” of the mouse. When you reach the end desired value, release the button. So the selected part is increased.

“**Cursor**” – appearing/disappearing of the cursor from the graphics. The cursor allows the appearing of the coordinates of the point from the graphics, on which it is positioned, in the left low corner of the window. It moves on points from selected curve by the buttons left/right, and the selection of curve is realized by the buttons up/down.

“**Selection of a part**” – switching on/switching off of the mode for selection of a part from the graphics. When the mode is on, you can realize selection by pressing of the left mouse button on the desired value from the graphics, holding of the button and “pulling” of the mouse, left or right, till you reach the end desired value, where you have to release the button.

“**Record the selection...**” – record of the selected data as a new file at saving of the data. It is necessary a part from the graphics to be selected in advance, to be accessible this option from the menu. The name of the file is created automatically of the time of the first record of the selected data, the name of the device, the name of the channel and the number of the selected channels. The extension of the files is „dnu“. The visualization of the so created files is possible at its opening, as an outer archive or by double clicks on it from the Windows Explorer.

“**Create F-effect file...**” – Calculating of the effect of sterilization of the cans and record of the results in a new file. It is necessary data from only one channel to be selected in advance, to be accessible this option.



## 5.9. Menu “DATA”

The representing of the data of every archive is associated with the main menu of the program with the menu “DATA”, containing the following options:

- “SHOW TABLE” and “SHOW GRAPHICS” – change of table and graphics of the data. By analogy with options from the context menus.
- “GRAPHICS APPEARANCE” – the following options are here:

“SHOW THE WHOLE GRAPHICS” – Removing of the increase of the graphics, if such has been used before.

“INCREASE” – switching on/switching off of the mode for increase of a part from the graphics.

“CURSOR” – at selection of this option a cursor appears on the graphics, and the coordinates of the point from the graphics, on which it is positioned, appear in the left low corner of the window. It moves on points from a selected curve by the buttons left/right, and the selection of a curve can be realized by the buttons up/down.

“SELECTION OF A PART” – switching on/switching off of the mode for selection of a part from the graphics. When the mode is on, you can realize selection by pressing of the left mouse button on the desired value from the graphics, holding of the button and “pulling” of the mouse, left or right, till reaching of end desired value, where you have to release the button.

“COPY IN THE CLIPBOARD” - copies the graphics in the clipboard.

- “ALARM LEVELS” – indication/hiding of the alarm levels.
- “RECORD AS A TEXT” – record the table in a text file. It is used when analyzing the data by another program. By analogy to text conversion.
- “PRINT THE TABLE” – printing of the table by printer.
- “PRINT THE GRAPHICS” - printing of the graphics by printer.
- “INFO” – information about the data file appears.

## 5.10. Creation of F-effect file

Особенности

Коментар:  
Годен за консумация

Особености на продукта

Име: Консерва икра

Опаковка: 330мл

Нето: 450г

Режим: (25-50-25)/120

рН: 3.5

Z: 8.2

Т начална: 60

F необходим: 10.005

Отказ Запис

*Calculation of F-effect of sterilization is possible only if the software is bought with this option!*

After the selection of the data, for which the F-effect has to be calculated and the selection of an option for creation of F-effect file it is necessary to enter some data. The entering is realized in some windows.

Window “Special features”. Enter describing characteristics of the product and the process of sterilization (comment name, packing, weight, mode, Fnecessary) and parameters included in the calculation of the F-effect (pH, Z, Tinitial – temperature, upon which the F-effect is calculated).

After confirmation of record a window appears for selection of folder, in which you can record the new created file. The name of the file is created automatically of the time of the first record of the selected data, the name of the device and the name of the channel. The extension of the files is „dnf“.

The visualization of F-effect file is possible at its opening, as an outer archive or by double clicks on it from the Windows Explorer.

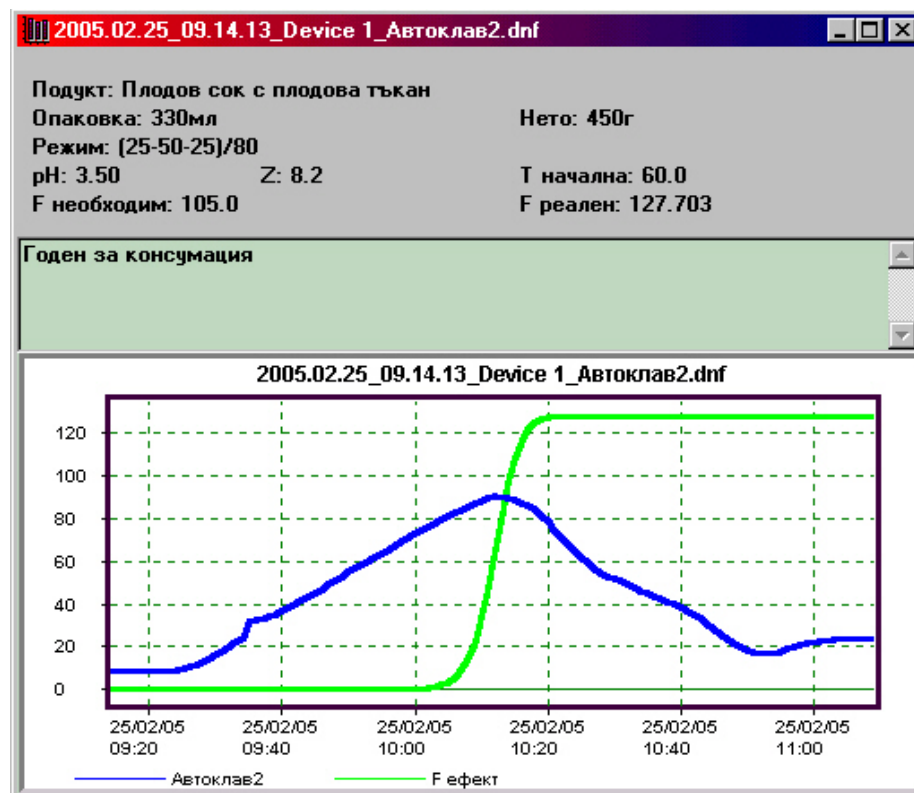
2005.02.25\_09.14.13\_Device 1\_Автоклав2.dnf

Подукт: Плодов сок с плодова тъкан  
 Опаковка: 330мл  
 Режим: (25-50-25)/80  
 рН: 3.50      Z: 8.2  
 F необходим: 105.0

Нето: 450г  
 Т начална: 60.0  
 F реален: 127.703

Годен за консумация

	Автоклав2	F ефект
25.02.05 10:18:58	81.7	126.637
25.02.05 10:19:58	78.5	127.294
25.02.05 10:20:58	75.1	127.546
25.02.05 10:21:58	71.6	127.641
25.02.05 10:22:58	68.4	127.679
25.02.05 10:23:58	65.3	127.695
25.02.05 10:24:58	62.5	127.703
25.02.05 10:25:58	59.9	127.703
25.02.05 10:26:58	57.3	127.703
25.02.05 10:27:58	54.7	127.703
25.02.05 10:28:58	53.3	127.703
25.02.05 10:29:58	52.2	127.703
25.02.05 10:30:58	50.9	127.703
25.02.05 10:31:58	49.5	127.703



## VI. DESCRIPTION OF DEVICES OF THE TYPE MS 01C

### 6.1. Basic characteristics

- Up to 4 analog inputs, free selectable for archiving.
- Archiving memory 8, 16K type EEPROM with 10 000 000 cycles of Delete/Save.
- Inner clock for real time, synchronized with the personal computer clock.
- Two periods of archiving, provisionally called Fast and Slow period, with dimensions from 0 to 32 000 seconds.
- Two operating modes - with hard Start/Stop or automatic Start/Stop according to programmable limits of parameter of Channel 1.
- Up to 20 separate archived blocks, separated according to the initial time of archiving.
- Outer key for starting of process of archiving and change of the periods.
- Program tuning of the ranges and the parameters of the channels.
- Connection with personal computer by protocol, based on RS485 standard.
- Possibility for direct (OnLine) supervision of the values of the archived channels.

### 6.2. Operating modes.

1) **Standard mode** – switched off Automatic Start/Stop (AC/C) function, forbidden outer key.

In this mode the device starts archiving at feeding Start from the computer, till feeding of Stop. The selection of Fast or Slow period of archiving is realized before the feeding of Start. After stopping of the device by Stop, a new Start is possible with the same or the other period, and the device creates a new block. The device supports up to 20 blocks of archived data with total size, not bigger than the memory size. At data collection by the computer, the memory is reset and the device is ready for next archiving.

2) **Extended Standard mode** – switched off AC/C function, allowed outer key.

In this mode all characteristics of the Standard mode are valid, with the following additions:

- At change of the position of the key, if the device is not started, an inner start is generated with period, determined by the new key position. At period 0 the device does not archive.
- At change of the key position at started device the current period of archiving and the period, determined by the new key position, are checked. If they do not match, the current archiving is stopped and an inner start with period, determined by the new key position, is generated (a new data block is created).

3) **Automatic Start/Stop mode** - allowed function AC/C, forbidden outer key.

In this mode the feeding of Start from the computer is accepted only as an application for Start. The actual Start and the beginning of archiving are determined by the set-pointed Start and Stop values of Channel 1. At passing of the parameter of Channel 1 over the value, set-pointed for Start, inner start is generated and data archiving starts till passing of the parameter of Channel 1 under the set-pointed Stop value. At next passing of the parameter of Channel 1 over the value for Start, the process is repeated by analogy (a new block is created). The feeding Stop from the computer is accepted absolutely and the process of archiving stops.

4) **Extended Automatic Start/Stop mode** – allowed function AC/C, allowed outer key.

In this mode all characteristics for the Automatic Start/Stop mode are valid with the following additions:

- At change of the key position, at non-archiving device and not presented application for Start from the computer, an inner start is generated and archiving starts with period, determined by the new key position. The process continues till passing of the parameter of Channel 1 over the value set-pointed for Start and its next reduction under the value set-pointed for Stop. After stopping of archiving new blocks are not created. At feeding of Stop from the computer, the archiving stops absolutely.
- At change of the key position, at non-archiving device but presented application for Start from the computer, inner start is generated and archiving starts with period, determined by the new key position. The archiving continues till passing of the parameter of Channel 1 over the value set-pointed for Start and its next reduction under the value, set-pointed for Stop. At next passing of the parameter of the Channel 1 over the value for Start, a new inner start is generated with period equal to the period of the previous archive (the device operates as in Automatic Start/Stop mode). At feeding of Stop from the computer, the archiving is stopped absolutely.
- At change of the key position, at archiving device, the current period of archiving is compared with the period, determined by the new key position. If they do not match, the current archiving is stopped and a new block is generated with period determined by the new key position. The archiving continues till passing of the parameter of Channel 1 over the value set-pointed for Start and its next reduction under the value, set-pointed for Stop. After stopping of archiving new blocks are created only if there was presented application for Start from the computer.

For all modes the following rule is valid – if the period of archiving is equal to 0 sec., block is not created, the device is not started and absolute inner Stop is generated. New archiving is possible at Start (or application for Start) from the computer with the other period or change of the key position (the period is changed too).

You have to consider that at data collection from the computer; the device is stopped and started again, i.e. all situations about feeding of Start (application for Start) from the computer, mentioned above, are valid.

## VII. CONFIGURATION OF SYSTEM PARAMETERS.

The system parameters of the program and the net are in the configuration file **MSDLNET.INI** located in the same directory, where the program is installed. The configuration file is divided in some blocks.

### 7.1. Section [GENERAL]

The version of the configuration file is recorded. **Do not change it!**

### 7.2. Section [SYSTEM]

NAME	DESCRIPTION	VALUES
<b>devices</b>	Total number of the devices in the net	According to the number of devices
<b>commport</b>	Number of the communication port of the computer	According to the configuration of the computer
<b>norxtled</b>	Banning for showing of the indicators for communication (with slower computers)	0 – the indicators show. 1 – the indicators hide.
<b>onlineperiod</b>	Period of refreshing of OnLine in seconds.	Minimum 1.5 seconds.
<b>bulgarian</b>	Permission for messages in Bulgarian.	0 – messages in English. 1 – messages in Bulgarian.
<b>rsretrydelay</b>	TimeOut of the rail at error.	300 for PC 386 500 for P 200MHz.

### 7.3. Section [DEVICE]

Number of device = name of device are described consecutively this way:

devXXXXXX=NAME\_OF\_DEVICE

where XXXXXX is number of device (i.e. up to 99999 devices in the net with numbers from 00001 to 99999), and NAME\_OF\_DEVICE is an unspecified name of up to 20 symbols.

### 7.4. Section [DEVxxxxx]

They must be described for each one of the devices in the net, and xxxxxx in the title of the section determines the number of the device, according the set-pointed in section [DEVICE].

NAME	DESCRIPTION	VALUES
<b>type</b>	Type of the device	01C
<b>netaddress</b>	Net address of the device	According to the producer
<b>hiperiod</b>	High (fast) period of archiving	It can be tuned in the program
<b>loperiod</b>	Low (slow) period of archiving	It can be tuned by the program
<b>chenable</b>	Permitted channels	It can be tuned by the program
<b>switch</b>	Permitted or forbidden key	It can be tuned by the program
<b>hardwarech</b>	Hardware switched on channels	1 ÷ 4 , according to the producer
<b>poly11</b>	Polynomial coefficients for linearization of Channel1	Coefficient before X <sup>5</sup>
<b>poly12</b>		Coefficient before X <sup>4</sup>
<b>poly13</b>		Coefficient before X <sup>3</sup>
<b>poly14</b>		Coefficient before X <sup>2</sup>
<b>poly15</b>		Coefficient before X <sup>1</sup>
<b>poly16</b>		Coefficient before X <sup>0</sup>
<b>poly21</b>	Polynomial coefficients for linearization of Channel2	Coefficient before X <sup>5</sup>
<b>poly22</b>		Coefficient before X <sup>4</sup>
<b>poly23</b>		Coefficient before X <sup>3</sup>
<b>poly24</b>		Coefficient before X <sup>2</sup>
<b>poly25</b>		Coefficient before X <sup>1</sup>
<b>poly26</b>		Coefficient before X <sup>0</sup>
<b>poly31</b>	Polynomial coefficients for linearization of Channel3	Coefficient before X <sup>5</sup>
<b>poly32</b>		Coefficient before X <sup>4</sup>
<b>poly33</b>		Coefficient before X <sup>3</sup>
<b>poly34</b>		Coefficient before X <sup>2</sup>
<b>poly35</b>		Coefficient before X <sup>1</sup>
<b>poly36</b>		Coefficient before X <sup>0</sup>
<b>poly51</b>	Polynomial coefficients for linearization of Channel4	Coefficient before X <sup>5</sup>
<b>poly52</b>		Coefficient before X <sup>4</sup>

NAME	DESCRIPTION	VALUES
<b>poly53</b>		Coefficient before X <sup>3</sup>
<b>poly54</b>		Coefficient before X <sup>2</sup>
<b>poly55</b>		Coefficient before X <sup>1</sup>
<b>poly56</b>		Coefficient before X <sup>0</sup>
<b>chname1</b>	Name of Channel 1	Unspecified name up to 10 symbols.
<b>chname2</b>	Name of Channel 2	Unspecified name up to 10 symbols.
<b>chname3</b>	Name of Channel 3	Unspecified name up to 10 symbols.
<b>chname5</b>	Name of Channel 4	Unspecified name up to 10 symbols.
<b>numsnapsnap</b>	Maximum number of switchings of the outer key.	1 ÷ 20 times.
<b>minch1</b>	Minimum value for Channel 1 shown on the display	According to the parameter
<b>maxch1</b>	Maximum value for Channel 1 shown on the display	According to the parameter
<b>minch2</b>	Minimum value for Channel 2 shown on the display	According to the parameter
<b>maxch2</b>	Maximum value for Channel 2 shown on the display	According to the parameter
<b>minch3</b>	Minimum value for Channel 3 shown on the display	According to the parameter
<b>maxch3</b>	Maximum value for Channel 3 shown on the display	According to the parameter
<b>minch4</b>	Minimum value for Channel 4 shown on the display	According to the parameter equal to minch5
<b>maxch4</b>	Maximum value for Channel 4 shown on the display	According to the parameter equal to maxch5
<b>minch5</b>	Minimum value for Channel 4 shown on the display	According to the parameter equal to minch4
<b>maxch5</b>	Maximum value for Channel 4 shown on the display	According to the parameter equal to maxch4
<b>expcoeff1</b>	Exponential coefficient of the filter of Channel 1	0.20 ÷ 1.00
<b>expcoeff2</b>	Exponential coefficient of the filter of Channel 2	0.20 ÷ 1.00
<b>expcoeff3</b>	Exponential coefficient of the filter of Channel 3	0.20 ÷ 1.00
<b>expcoeff4</b>	Exponential coefficient of the filter of Channel 4	0.20 ÷ 1.00, equal to expcoeff5
<b>expcoeff5</b>	Exponential coefficient of the filter of Channel 4	0.20 ÷ 1, equal to expcoeff4
<b>dpoint1</b>	Rounding of the parameter of Channel 1	Formats 0, 0.0, 0.00
<b>dpoint2</b>	Rounding of the parameter of Channel 2	Formats 0, 0.0, 0.00
<b>dpoint3</b>	Rounding of the parameter of Channel 3	Formats 0, 0.0, 0.00



NAME	DESCRIPTION	VALUES
<b>dpoint4</b>	Rounding of the parameter of Channel 4	Formats 0, 0.0, 0.00, equal to dpoint5
<b>dpoint5</b>	Rounding of the parameter of Channel 4	Formats 0, 0.0, 0.00, equal to dpoint4
<b>adcstartvalue</b>	Start value of Channel 1 for the AC/C function	They can be tuned by the program
<b>adcstopvalue</b>	Stop value of Channel 1 for the AC/C function	They can be tuned by the program
<b>experimentssave</b>	Data saving by experiments or by days	They can be tuned by the program
<b>disableautostart</b>	Disable or permit the AC/C function.	They can be tuned by the program
<b>minalarmch1</b>	Minimum alarm value of Channel 1	It can be tuned by the program
<b>maxalarmch1</b>	Maximum alarm value of Channel 1	It can be tuned by the program.
<b>minalarmch2</b>	Minimum alarm value of Channel 2	It can be tuned by the program
<b>maxalarmch2</b>	Maximum alarm value of Channel 2	It can be tuned by the program
<b>minalarmch3</b>	Minimum alarm value of Channel 3	It can be tuned by the program
<b>maxalarmch3</b>	Maximum alarm value of Channel 3	It can be tuned by the program
<b>minalarmch5</b>	Minimum alarm value of Channel 4	It can be tuned by the program
<b>maxalarmch5</b>	Maximum alarm value of Channel 4	It can be tuned by the program

## VIII. REGISTRATION OF THE PROGRAM

After the installation of the program in the computer, till its registration in the company producer, you cannot realize connection with the devices in the network, and you have access only to the menu for work with files.

To work adequately with the program, it must be registered in the company producer. It can be done as it follows:

- From the menu “HELP” select “REGISTRATION”
- A dialog window appears, in which the identifying number of your computer and fields for entering of your name and the name of your company appear.
- Call the company producer and say the identifying number of your system.
- You will receive a code, which you have to enter in the field for registration number, enter your name and the name of your company (if you haven't done this before) and press the button “REGISTRATION”.

You can register the program in so many computers as for which you have received the right when buying the system. Additional installation is admitted with the permission of the company producer.

**FOR MORE INFORMATION ABOUT THE OPERATION WITH MS DL NETWORK 3.02 YOU CAN ASK YOUR SUPPLIER.**

Bulgaria, 4000 Plovdiv, 4, Murgash, str.  
 Tel.: (+359 32) 642 519 , 640 446 Fax: (+359 32) 640 446  
[www.microsyst.net](http://www.microsyst.net) e-mail: [info@microsyst.net](mailto:info@microsyst.net)