MEMO

SERVICE PROGRAMMER

user manual v1.1

MEMO MANAGER

MEMO PROGRAMMER SOFTWARE

user manual v1.1

automation systems

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I. MEMO - SERVICE PROGRAMMER

1. GENERAL INFORMATION

MEMO is a service programmer designed to work with selected DTM System receivers. Using the programmer allows you to save remote controllers memory or telephone numbers memory from the receiver to a file, enter remote controllers or telephone numbers to the receiver memory from a file, and update the receiver firmware.

2. TECHNICAL DATA

power supply	3,3 - 5V, via USB or receiver
storage capacity	2 MB
external dimensions of the housing	75x45x15 mm

3. ELEMENTS OF THE PROGRAMMER

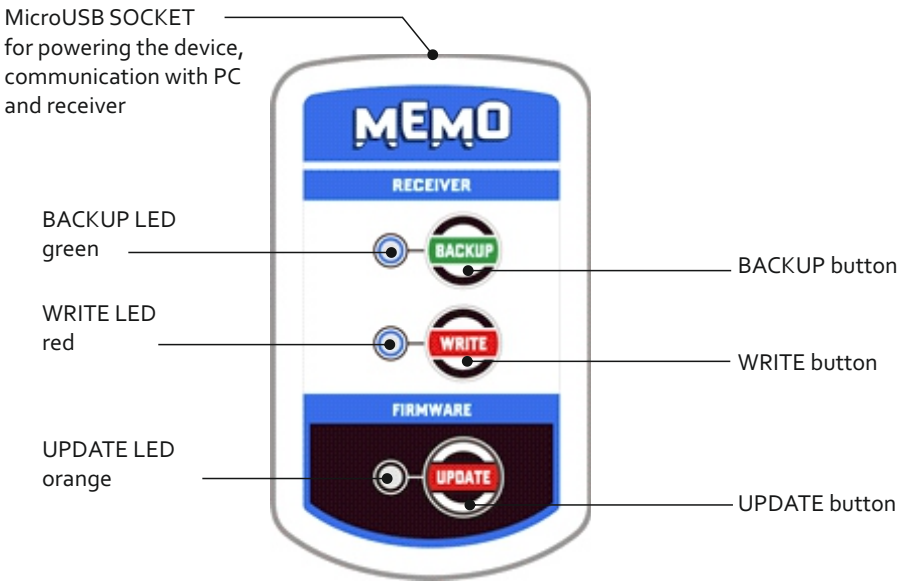


Fig.1. View of the MEMO service programmer with description of the elements.

4. RECEIVER MANAGEMENT THROUGH MEMO PROGRAMMER

4.1. MEMO CONNECTION TO THE RECEIVER

The programmer should be connected to the receiver using the USB cable included in the set. The programmer's readiness for operation is signaled by blinking of the BACKUP, WRITE and UPDATE LEDs. During connection with the receiver the programmer buttons are active.

4.2. REMOTES / NUMBERS BACKUP TO MEMO

In order to create keyfob / numbers memory file:

- connect the MEMO programmer to the receiver. The BACKUP, WRITE and UPDATE LEDs will begin to flash to indicate that the programmer is ready for operation.
- press the BACKUP button. Ongoing recording is signaled by a flashing green BACKUP LED. The end of the recording is signaled by the blinking of the BACKUP, WRITE and UPDATE LEDs.

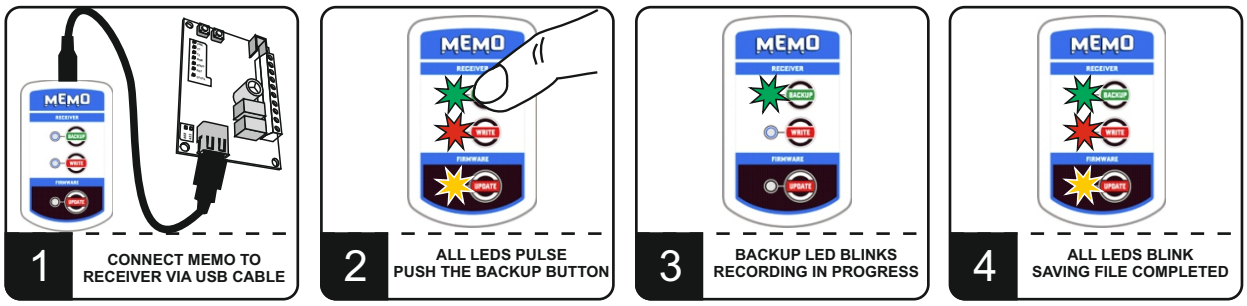


fIG. 2. Remotes / numbers backup to MEMO.

When saving the remote / number memory do not disconnect the MEMO programmer from the receiver.

If errors occurred during recording, the green BACKUP LED will flash cyclically to indicate the error code (see section 6).

The backup file with memory of remote controls / receiver numbers is saved in the MEMO programmer. It gets the name RD_xxxxx.RRF, where "xxxxx" is the file's serial number. Each subsequent saved remote controls / number memory file will receive a name with the next number. The files can be edited after connecting the MEMO programmer to the computer in the MEMO MANAGER program (see the MEMO MANAGER manual).
Deleting a file from the programmer's memory does not affect the order of numbering. The device searches for the highest busy number and assigns the new file a sequential number.

When the highest number 99999 is busy, MEMO will report an error and the remotes / numbers will fail to register. In this case, you must organize the files in memory using the MEMO MANAGER program - rename or delete files.

4.3. REMOTES / NUMBER WRITE TO RECEIVER

To write remotes / numbers:

- connect the MEMO programmer to the receiver. The BACKUP, WRITE and UPDATE LEDs will begin to flash to indicate that the programmer is ready for operation.
- press the WRITE button. MEMO will first create an emergency backup of the receiver's memory. It is signaled by a fast pulsing of the green BACKUP diode and lighting of the red WRITE diode. Then, the process of saving remote controls / numbers to the receiver's memory will start. This is indicated by the green BACKUP diode going off and the red WRITE diode pulsing. The end of the recording is signaled by the blinking of the BACKUP, WRITE and UPDATE LEDs.

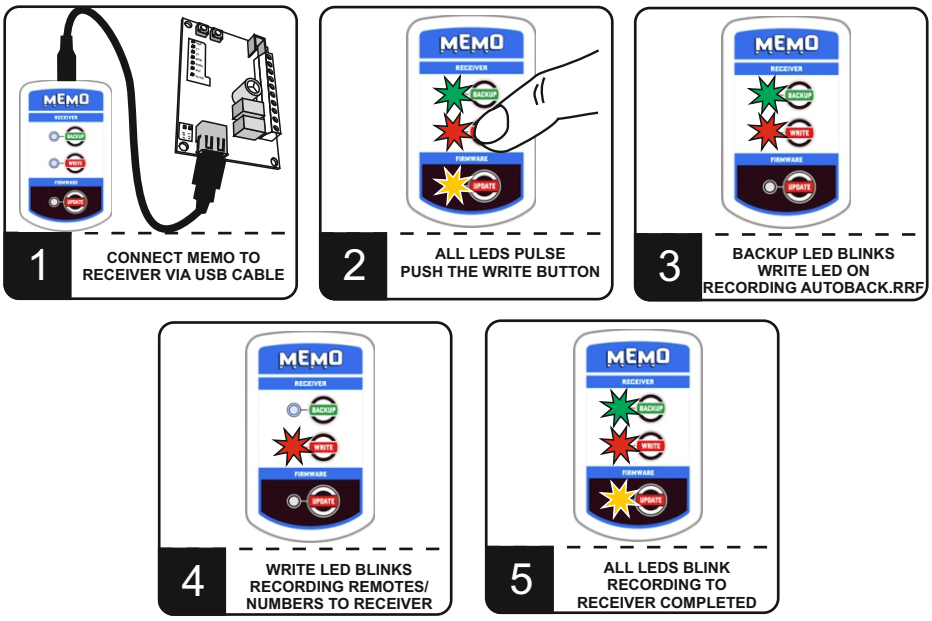


Fig. 3. Remotes / numbers write to the receiver.

When writing remote controls / numbers from a file, do not disconnect the MEMO programmer from the receiver.

Only the remote memory is copied from radio receivers. The GSM number memory and receiver settings are copied from GSM receivers.

If errors occurred during the recording, the red WRITE diode will flash cyclically to indicate the error code (see item 6).

The remotes / numbers from the receiver's memory will be replaced with remotes / numbers entered from the file.

The process of writing remote controls / numbers to the receiver is preceded by creating an emergency backup called AUTOBACK.RRF. Creating an emergency backup does not affect the remote memory storage process.

If errors appear during backup, the process will be interrupted and the green BACKUP LED will flash periodically to indicate an error code (see section 6).

After saving the remote controls to the receiver's memory, it is necessary to synchronize the rolling counters of the remote controls with the receiver. When using the remote control with the receiver for the first time, press the remote control button twice.

In the receiver's memory, remotes / numbers from the file set in the MEMO MANAGER program as the main one are first entered (see the MEMO MANAGER instruction).
If no file is set as the main one, the MEMO programmer will use the remotes / numbers file with the highest number for saving, i.e. the file of recently remembered remotes / numbers.

It is possible to skip the main file and select the most recent remotes / numbers to save the file. The procedure can be used for simple transfer of remote control memory / numbers between receivers.

In order to enter to the receiver the last saved remotes / numbers and configuration of the GSM receiver, bypassing the main file, you should:

- connect the MEMO programmer to the receiver. The BACKUP, WRITE and UPDATE indicator LEDs will begin to flash to indicate that the programmer is ready for operation.
- press and hold the WRITE button for more than 3 seconds.
- release the WRITE button when the red WRITE LED goes off. MEMO will first create an emergency backup of the receiver's memory. It is signaled by a fast pulsing of the green BACKUP diode and lighting of the red WRITE diode. Then the process of saving the remote controls to the receiver's memory will start. This is indicated by the green BACKUP diode going off and the red WRITE diode pulsing. The end of the recording is signaled by the blinking of the BACKUP, WRITE and UPDATE LEDs.

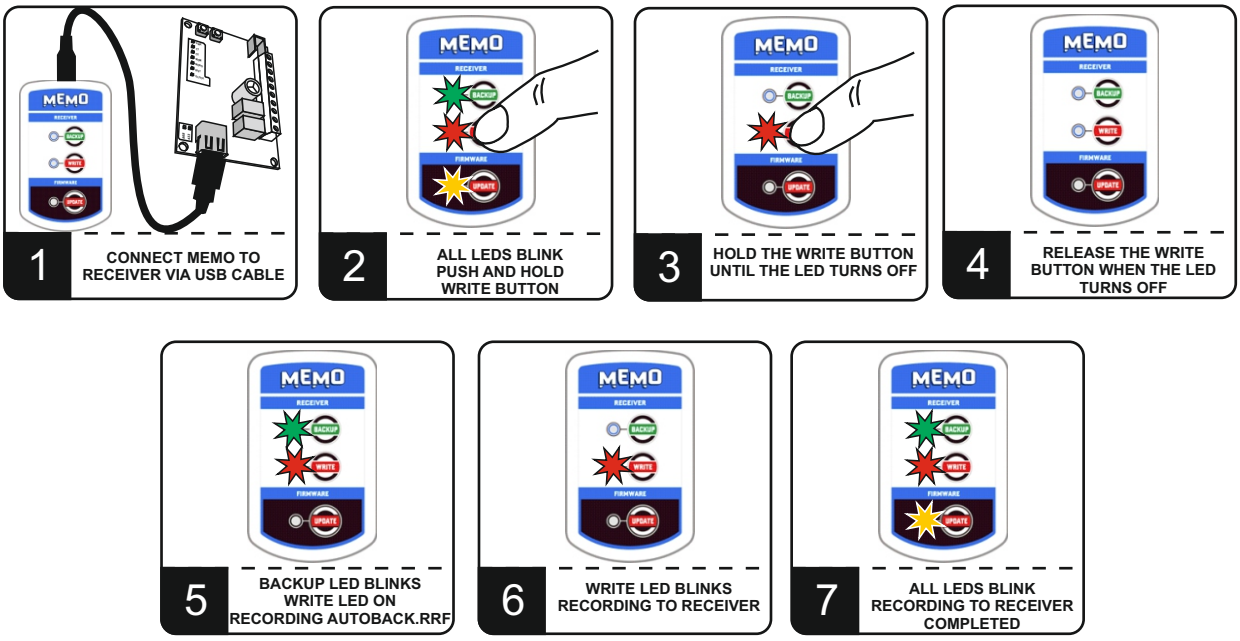


fIG. 4. Recording of remotes / numbers and configuration of the GSM receiver using the last created file.

When entering remote controls / numbers from a file, do not disconnect the MEMO programmer from the receiver.

If errors occurred during the recording, the red WRITE diode will flash cyclically to indicate the error code (see item 6).

4.4. RECEIVER SOFTWARE UPDATE

To update the receiver firmware it is necessary to have a firmware file. The files should be downloaded using the MEMO MANAGER program (see the MEMO MANAGER manual).

MEMO can contain many firmware files for different receivers. The MEMO programmer recognizes the model and software version of the receiver to which it is connected. On this basis, the programmer selects which of the available files to use for updating.

To update the receiver software:

- connect the MEMO programmer to the receiver. The BACKUP, WRITE and UPDATE indicator LEDs will begin to flash to indicate that the programmer is ready for operation.
- press the UPDATE button. The orange UPDATE LED will flash to indicate that the software has been updated. The end of the update is signaled by the blinking of the BACKUP, WRITE and UPDATE LEDs.
- The receiver resets and restarts.

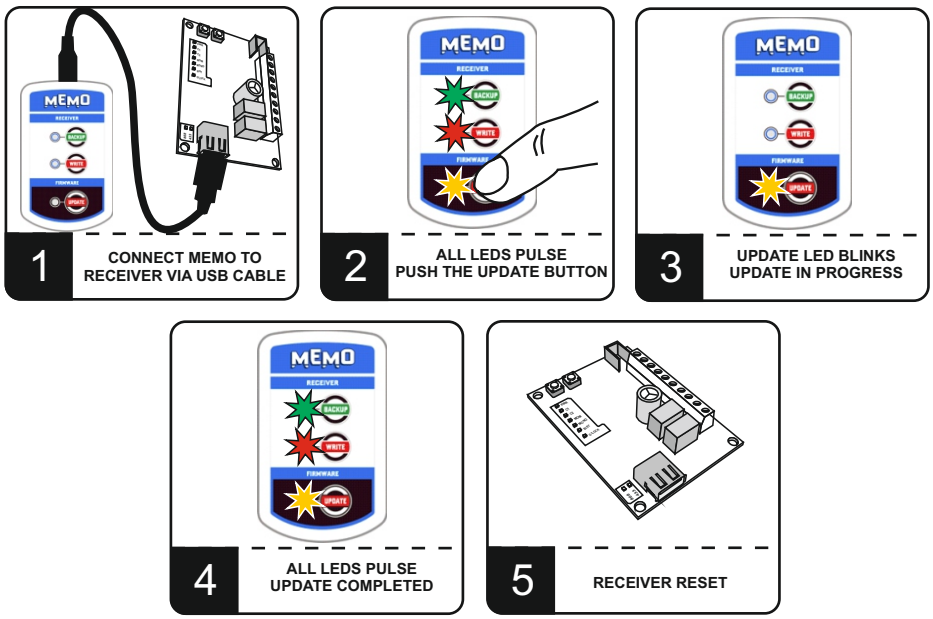


Fig. 5. Receiver firmware update.

During the software update, do not disconnect the MEMO programmer from the receiver.

If errors occurred during the update, the orange UPDATE diode will flash periodically to indicate the error code (see section 6). Depending on what error the receiver has, it can reset and run with the old version of the software or remain in the software update mode. In this case, repeat the software update process.

In the software update procedure, the MEMO programmer always selects the latest firmware version available on the device. If the receiver firmware version is newer than available in the MEMO programmer memory, the programmer expects confirmation of the operation of uploading the older version of the software. The waiting state is signaled by the steady cyclic blinking of the orange UPDATE diode. Confirmation is made by pressing the UPDATE button again. The operation is canceled by pressing one of the other two BACKUP or WRITE buttons.

5. REGISTRATION OF OPERATIONS

Each operation performed by the MEMO programmer is recorded in the log.txt file, available after connecting MEMO to the computer.

The file contains basic information about the course of operations, such as: receiver type, firmware version, file name, operation status, type and error code.

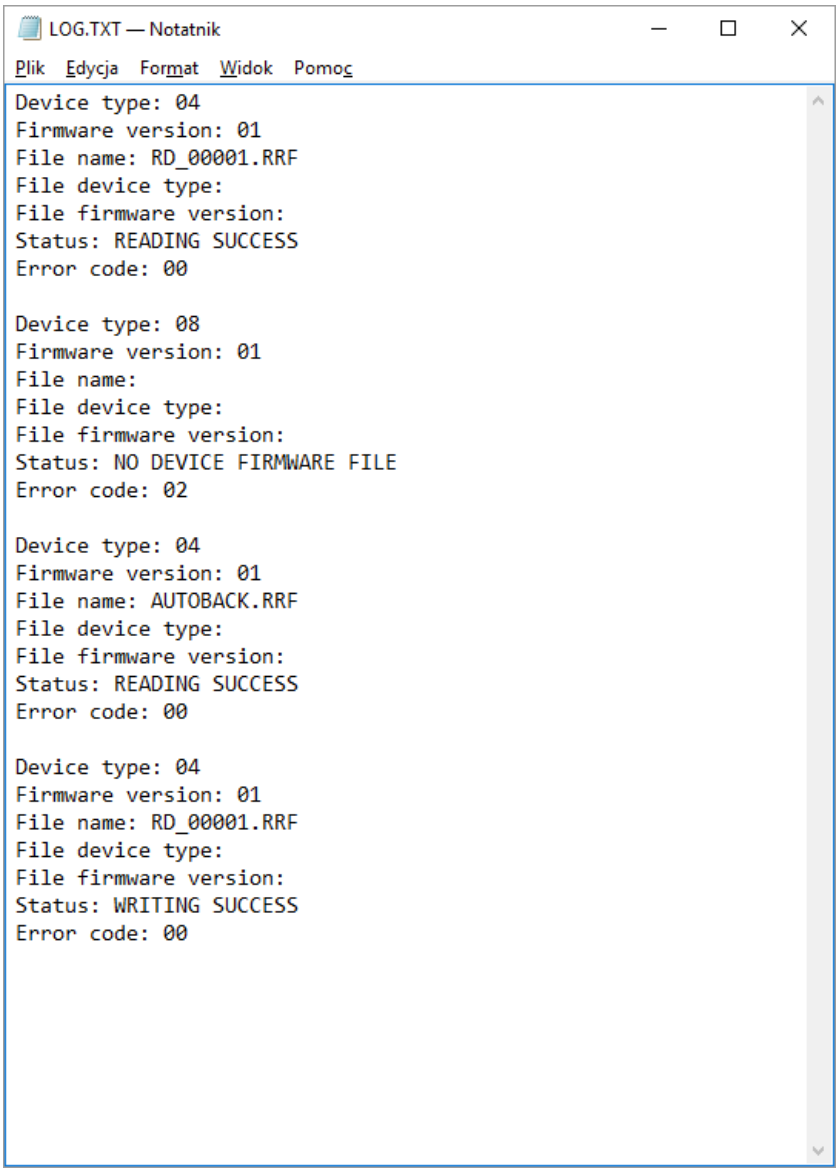


Fig. 6. Sample of log.txt file.

The report on operations is as follows:
Device type: specifies the device type
Firmware version: receiver firmware version
File name: name of the file in the MEMO memory used during the operation
File device type: the type of device the file is for (only for firmware)
File firmware version: file firmware version (for firmware files)
Status: additional information about the result of the operation
Error code: error code (00 means no error)

6. MEMO PROGRAMMER CODE TABLE

In the case of errors during the backup operation to the MEMO, write to the receiver, firmware updates, one of the LEDs BACKUP, WRITE, or UPDATE (depending on the operation being performed) will periodically blink, the blink indicates the amount of the type of error (Table 1). The error code is recorded in the log.txt file (see item 5).

ERROR NAME	NUMBER OF BLINKS	CODE	ISSUE
COMMUNICATION ERROR		01	the communication line has not been released by the receiver
		02	the receiver could not be identified (no readable communication was established)
		03	the receiver is not ready for programming (did not accept the data package)
		04	timeout during transmission (communication interrupted)
		05	frame retry limit exceeded (illegible transmission)
FILE SYSTEM ERROR		01	internal file system error unable to read / write file
		02	corrupt firmware file checksum error
		03	internal file system error unable to create directory
		04	unable to write data to file full memory
NO FIRMWARE FILE		01	brak pliku firmware dla podłączonego odbiornika
		02	no firmware files
READ WRITE FILE ERROR		01	error creating automatic backup autobackup
		02	no file for write operation (WRITE)
		03	unable to create name for new file (operation BACKUP)
		04	error while reading remotes / numbers, incorrect checksum, repetition limit exceeded
		05	error while saving to receiver memory no confirmation of receipt of data
PROGRAM SUCCESS	—	00	aktualizacja oprogramowania zakończona sukcesem
READING SUCCESS	—	00	saving memory to file successful
WRITING SUCCESS	—	00	successfully entering the remotes / numbers into the receiver's memory

Tab. 1. MEMO service programmer code table.

II. MEMO MANAGER - MEMO SOFTWARE

1. USAGE

MEMO MANAGER is a computer program designed to support the MEMO service programmer. The program allows you to manage files used in working with the MEMO service programmer and edit the contents of remote memory / number files. MEMO MANAGER software ensures full compatibility between systems thanks to the support of remote controls files from various receiver models.

2. HARDWARE REQUIREMENTS

- a PC with MS Windows® version NT / XP / Vista / 7/8/10
- .net framework version 4.0 or higher required to be installed

3. INSTALLATION AND START-UP

Run the installation file Memo_setup.exe. The file is available for download on the manufacturer's website www.dtm.pl. During installation, follow the program installer's guidelines. After installing the software, start the MEMO MANAGER program and connect the MEMO programmer.

4. CONNECTING THE MEMO PROGRAMMER TO A COMPUTER

The programmer should be connected to the computer using the USB cable included in the set. The programmer's readiness for operation is signaled by blinking of the BACKUP, WRITE and UPDATE LEDs. During the connection with the computer the programmer buttons are inactive.

The MEMO programmer is recognized by the Windows® operating system as a mass memory with a capacity of approx. 2 MB, from which you can read or write files. No driver installation required.

To operate the MEMO service programmer, it is recommended to use dedicated software - MEMO MANAGER.

The power supply and readiness for operation is indicated by the pulsing of the BACKUP, WRITE and UPDATE LEDs on the MEMO service programmer panel.

5. MAIN WINDOW OF THE PROGRAM

The main window consists of three tabs:
- CONTROL GSM - designed for managing telephone memory files and configuring the Control GSM receiver
- RADIO RECEIVERS - designed for managing memory files of radio receivers
- FIRMWARE - designed for managing receivers firmware update files

The window of each of the tabs is divided into two parts.
Files located in the local directory on the user's computer are displayed on the left. The local directory is a strictly defined location where the program stores remote control memory files and firmware files.
On the right, files stored in the MEMO programmer's memory are displayed.

Connection of the MEMO programmer and proper communication of the program with a computer is indicated by the icon, the lack of connection is indicated by the icon.

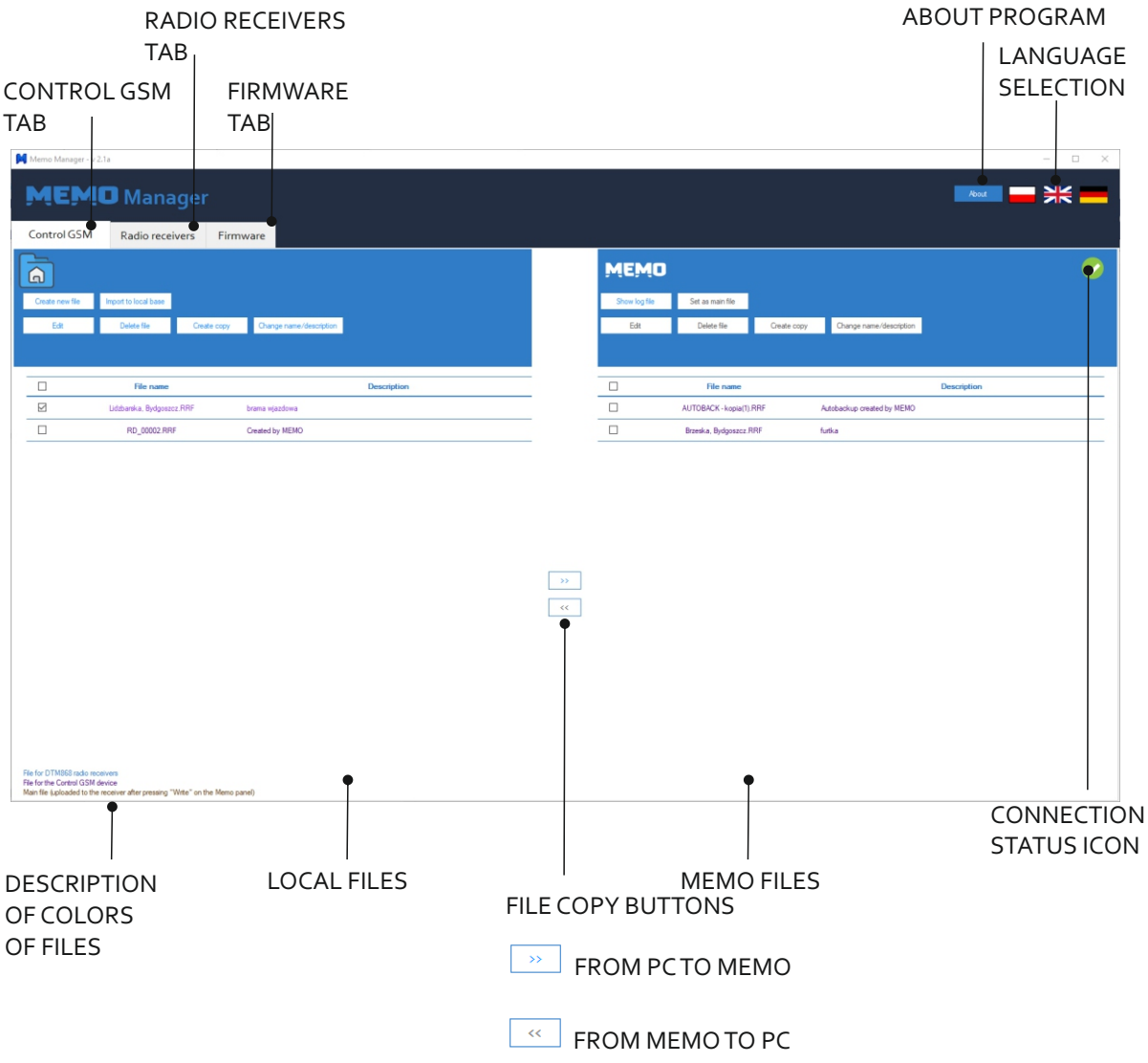


Fig. 1. View of the MEMO MANAGER main window.

5.1. CONTROL GSM TAB

The CONTROL GSM tab allows you to manage phone numbers memory files and configure the receiver.

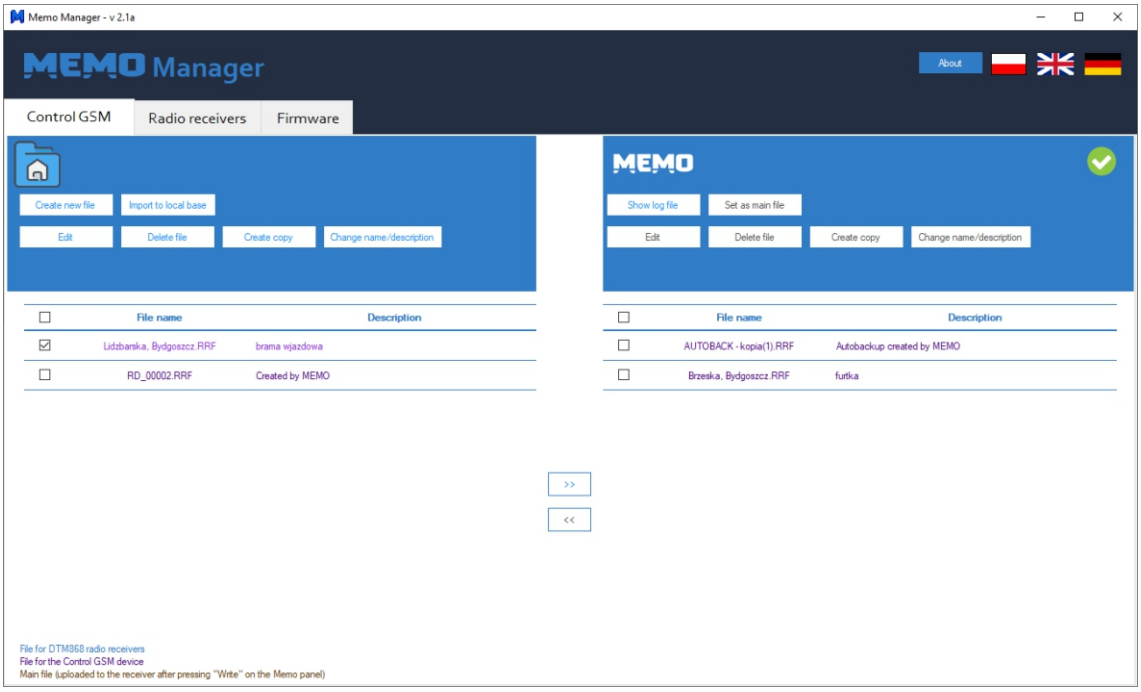
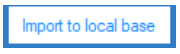


Fig. 2. Main window view - CONTROL GSM tab.

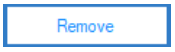
Description of buttons and functions of the CONTROL GSM tab

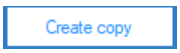
 opens a folder with local files

 creates a new empty number and receiver configuration file

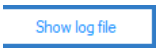
 saves the file to a location on your computer

 launches the file editing window

 deletes selected files

 creates a quick copy of the selected file

 allows you to change the file name and description

 displays information about the operations from the log.txt file

 allows to set the default file used by MEMO to write to the receiver when the WRITE function is used

5.1.1. EDITING NUMBER FILES AND CONFIGURATION OF THE RECEIVER

The MEMO MANAGER program allows you to modify the contents of the subscriber numbers memory and receiver configuration in a file. After pressing the EDIT button, the file editing window appears with two tabs:

- **SUBSCRIBERS TAB** - from the tab level you can add, edit or delete subscribers.

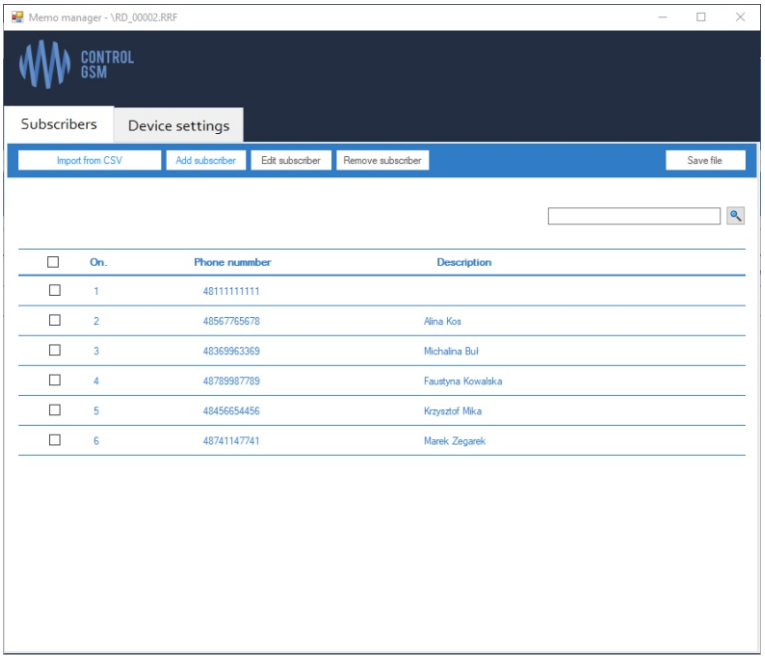


Fig. 3. View of the subscribers edition window from the CONTROL GSM receiver file.

You can import a CSV file with phone numbers, which will save you the time by entering each number manually. To import a CSV file, create a new file and enter edit options, or edit an existing file. In the Subscribers tab, press "Import subscribers from CSV file". A window will open in which you should select in turn: separator character, column with description, column with phone number and prefix number and then press the "Import" button. The numbers will be imported into the file.

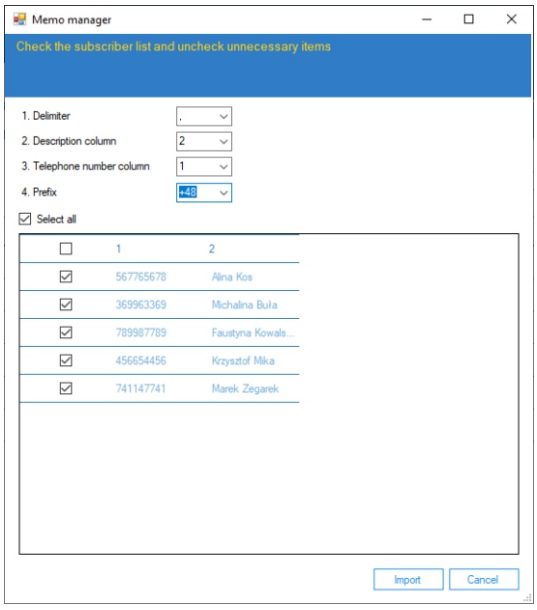


Fig.4. View of the import window from a CSV file.

- **DEVICE SETTINGS TAB** - from the tab you can configure the settings of the receiver.

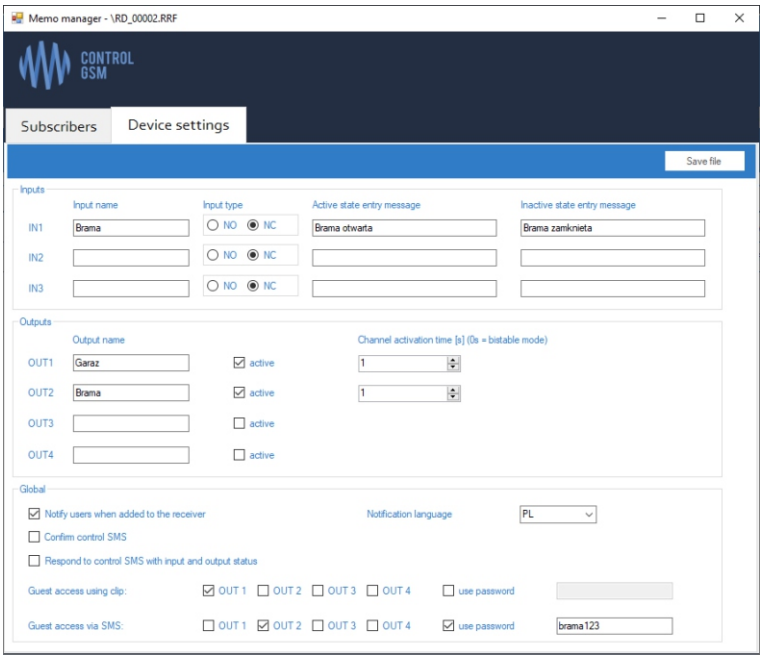


Fig. 5. View of the CONTROL GSM receiver settings edition window.

When creating and editing a file for a Control GSM receiver, make sure that both the Subscribers and Device settings tabs contain the correct values. The receiver stores the data of number memory and receiver configuration.

5.2. RADIO RECEIVERS TAB

The RADIO RECEIVERS tab allows you to manage remote control memory files.

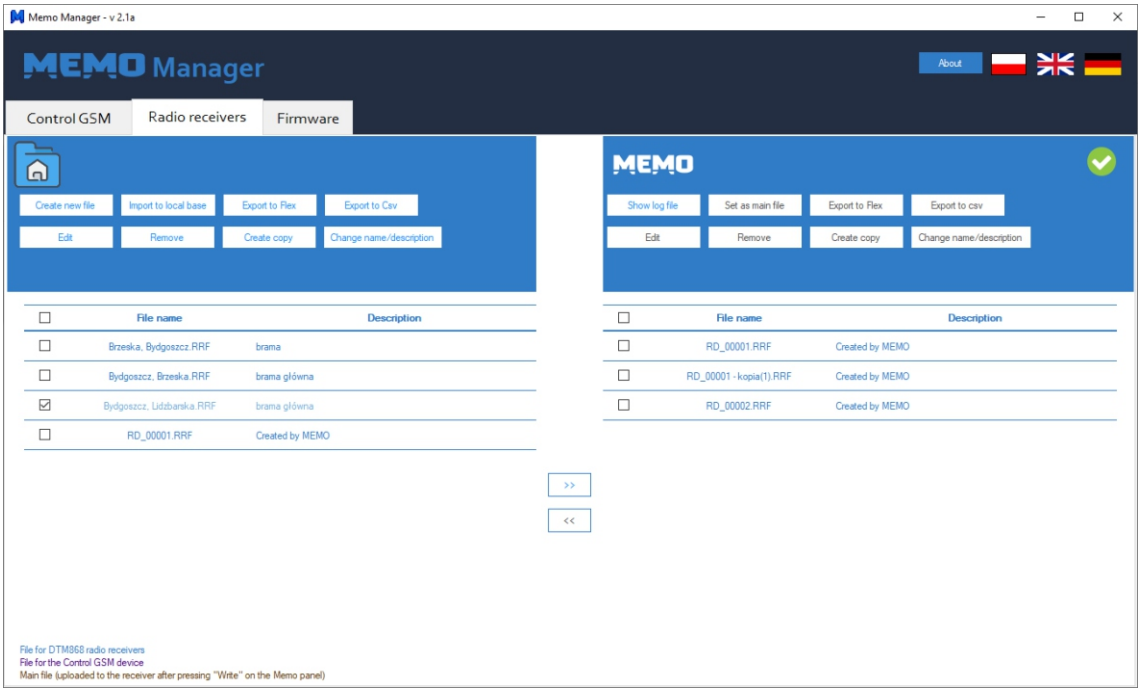


Fig. 6. Main window view - RADIO RECEIVERS tab.

Description of buttons and functions of the RADIO RECEIVERS tab

 opens a folder with local files

Create new file creates a new empty remote controls memory file

Import to local base saves the file to a given location on your computer

Export to Flex allows you to save the file in FLEX .cfbi file format

Export to Csv allows you to save the file in .csv format

Edit launches the file editing window

Remove deletes selected files

Create copy creates a quick copy of the selected file

Change name/description allows you to change the file name and description

Show log file displays information about the operations from the log.txt file

Set as main file allows to set the default file used by MEMO to write to the receiver when the WRITE function is used

5.2.1. EDITING REMOTE FILES

The MEMO MANAGER program allows you to modify the contents of remotes memory contained in the file. After pressing the EDIT button, the remote controls file editing window appears, from which you can:
- delete remote controls
- add remote controls from other files
- change the configuration of button connections with channels
- change the position of remote controls in the memory

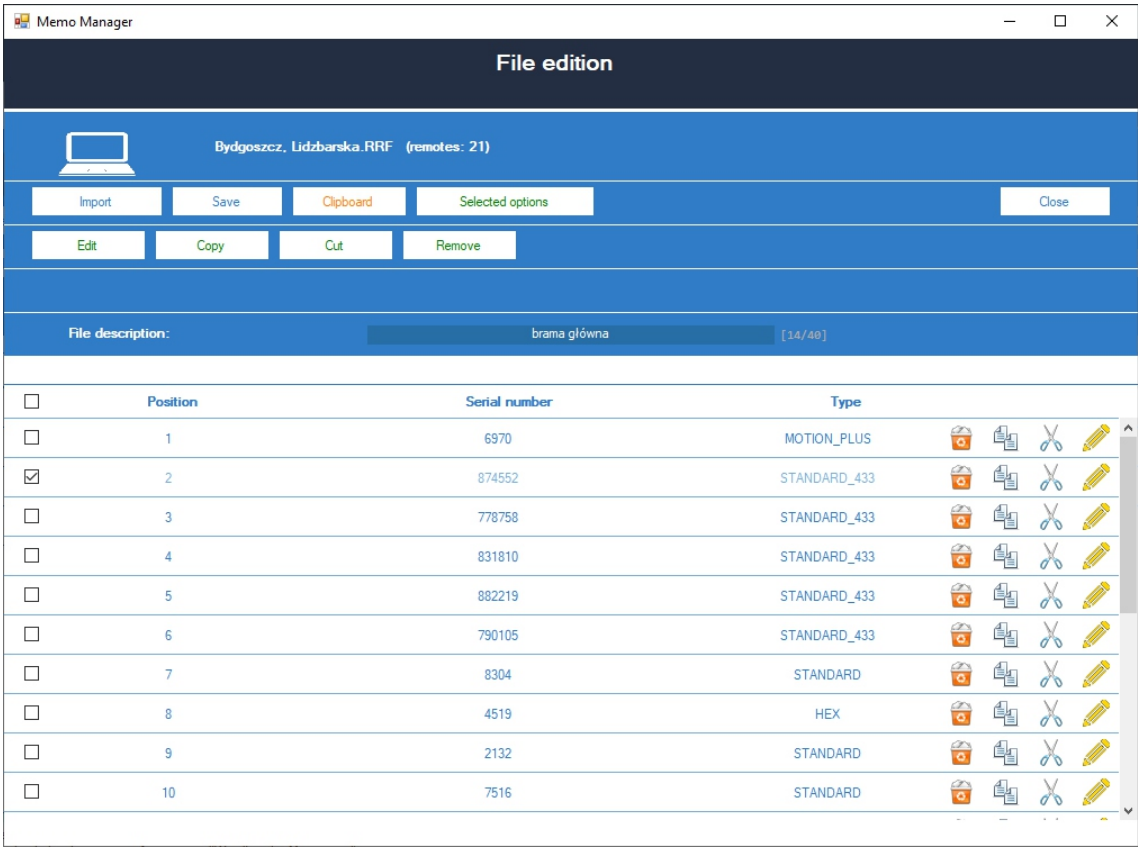


Fig. 7. Window for editing the contents of remote control files.

Description of the remote editing buttons:

 removes the remote control from the list

 copies the remote control to the program clipboard

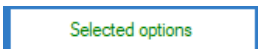
 copies the remote control to the clipboard and removes it from the list

 displays the remote control editing window in which you can change the position of the remote control in the memory and configure links between remote control buttons and the receiver channels

Description of buttons and functions of the „File edition”:

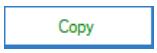
adds remotes from another file to the list

saves the current file

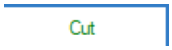


activates the remote edit buttons

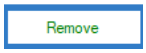
displays the remote control editing window in which you can change the position of the remote control in the memory and configure links between remote control buttons and the receiver channels



copies the remote control to the program clipboard



copies the remote control to the clipboard and removes it from the list

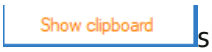


removes the remote control from the list

button visible when there are remote controls in the clipboard, clicking activates the clipboard options

adds remotes from the clipboard to the list

removes remotes from the clipboard



shows the contents of the clipboard and allows you to delete selected remotes

closes the editor window

5.3.FIRMWARE TAB

From the FIRMWARE tab you can download the latest receiver firmware available on DTM System servers and manage these files.
The downloaded firmware can be downloaded to the appropriate radio receiver.

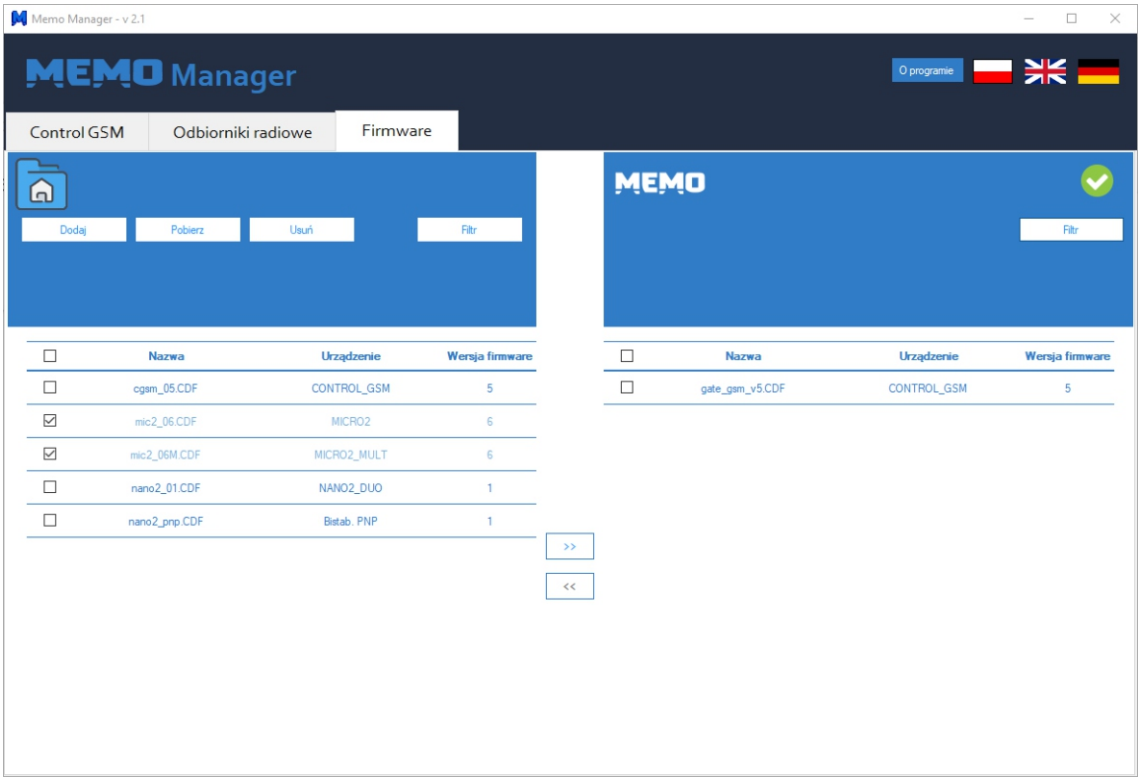


Fig. 8. Main window view - FIRMWARE tab.

Description of buttons and functions of the FIRMWARE tab

 opens a folder with local files

Add file allows you to add a firmware file to the directory from any location specified by the user

Download firmware opens a window from which you can download the selected firmware available on the DTM System servers (internet connection required)

Remove deletes selected files

Filter opens a window that allows filtering by: file name, receiver to which the firmware is dedicated, firmware version

DISPOSAL

Electrical or electronic devices cannot be removed with everyday waste. The correct recycling of devices gives the possibility of keeping natural resources of the Earth for a longer time and prevents the degradation of natural environment.

WARRANTY CONDITIONS

DTM System provides operational and ready to use devices. The producer gives 24 months warranty from the selling date to the end customer. This time is counted according to the producer warranty labels or serial numbers placed on every product. Producer obliges himself to repair the device for free if during the warranty period there are problems which come because of his fault. Broken device should be supplied on customer's expense to the place of purchase and enclose clear and brief description of the breakage. The cost of mount/dismount is covered by the user. The warranty does not cover: batteries in the remote controls, faults caused by improper usage, user self repairs and adaptations, lightning strikes, voltages or short circuits in the electrical grid. Appropriate legal acts regulate details of the warranty.

CE

DTM System hereby declares that the device complies with Directive 2014/30 / EU. The full text of the EU declaration of conformity is available at the Internet address.

www.dtm.pl

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