

Communication Software for Stepper Motor Control Units OMC and TMC



MC-COMM

Communication Software for Stepper Motor Control Units OMC and TMC

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Every possible care has been taken to ensure the accuracy of this technical manual. All information contained in this manual is correct to the best of our knowledge and belief but cannot be guaranteed. Furthermore we reserve the right to make improvements and enhancements to the manual and / or the devices described herein without prior notification.

We appreciate suggestions and criticisms for further improvement. Please send your comments to the following

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1 What is MC–COMM ?

MC-COMM is a WINDOWS program to operate PHYTRON stepper motor controllers OMC and TMC by means of PC. Even without programming experience you can easily handle the communication with PHYTRON controller systems after only a short learning period.

You only have to connect the PHYTRON controller to the RS232 connector of your PC, and you have to install the MC-COMM software according to the instructions in this manual - that's all.

MC-COMM supports the edition of MINILOG-programs for the PHYTRON controllers OMC and TMC. In addition, MC-COMM handles and stores MINILOG-programs, parameter and register sets of the controllers.

1.1 First steps with MC-COMM

Remark: For most of the users Microsoft® Windows® is a familiar operating system. Therefore, we take for granted the application of windows specific inputs for the MC-COMM operation, switches, mouse clicks. You will find helpful information about your Windows operating system in your Windows user's guide.

- Please check whether your PC fulfills the hardware and software requirements as shown on page 6 (chap. 2).
- Please install MC-COMM following the instructions starting on page 7 (chap. 3.1).
- To connect the PC and the stepper motor controller you have to purchase an adapter cable (see chap. 8).
- Start the program by clicking the button **Start** on the taskbar. In the menu **Start** select **Programs/MC-CommV3_X/MC-CommV3_X** by clicking the left mouse key. Or start the program by double-clicking on the selected MC-COMM-Icon.

Important:

- Now it is the time simply to play with the program and to test some of its functions. You will see that the handling is very simple and self-explaining.
- For further instructions please refer to the appropriate items in this manual. You will find a summary, many cross references and an index at the end of the manual. This will help you to get an overview about all functions of the program.
- For programming commands and other information about your control units, please refer to the special programming manuals and hardware manuals of your devices.

MINILOG programs stored in your control unit and new MINILOG programs created with MC-COMM can be printed.

- **Example:** Printout of a test program
 - Select the menu item **File/New/Program**: The program editor window is shown on the desktop.
 - Enter some MINILOG program lines or simply some lines of text (line numbers will be added automatically) in the left column. In the right column you may enter some comment lines.
 - Select the menu **File/Print** : Printer selection, print properties, print range and number of prints can be set.
- **Example:** Printing a program listing directly out of the control unit's memory
 - In the menu **Options/Interface parameters/Setting** ... you have to define some parameters of the interface driver you use (Chap.5.5.3).
 - Select the menu item **Transmission/Receive/Program**, start the program transfer from the controller and save the program with a new .apr-filename.
 - Select **File/Open** and open the saved file once more
 - Select **File/Print**: Printer selection, print qualities, print range and number of prints can be set.

1.2 The Main Features of MC-COMM on ONE View

- Desktop with pull-down menus and mouse support
- Hotkeys for frequently used commands
- Menu dialog in 3 languages (German, English, French)
- Dynamic allocation of PC resources, that means, MC-COMM will only occupy the memory space needed in each moment.
- Program editor for a unlimited number of program lines
- Register editor for 1000 numbers of register
- Parameter editor for up to 8 stepper motor axes
- To each MINILOG program line and each MINILOG register you can edit and store up to 7 comment lines. The comment lines can be moved individually.
- Operating facility in program test mode: Single step mode, program operating with break point setting and error acknowledge message
- Simple and fast parameter settings of the OMC/TMC controllers
- Several programs can be transmitted in single mode by MC-COMM to the controller or from the controller to MC-COMM.
- Controller's telemaintenance via modem
- OMC and TMC controllers are programmable in stand-alone mode or master-slave mode

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2 System Requirements

MC-COMM can be used on PCs with at least the following features:

- Operating system Windows[®] 95, 98, 2000 or also NT[®]
- At least 32 MB RAM free memory
- Mouse
- CD-ROM drive, in case of CD program installation
- Free interface RS232 for controller connection

3 Program Installation

The following folders are saved on the CD:

English	Includes the files for a setup in English
French	Includes the files for a setup in French
German	Includes the files for a setup in German

In every folder are stored the following files:

Setup.exe	Installation file
Setup.lst	List file
MC_Com1.CAB	Packed program file 1
MC_Com2.CAB	Packed program file 2
MC_Com3.CAB	Packed program file 3

3.1 How to Install the Program

1. Put the program CD into the CD-ROM drive.
2. Select **Start/Explore**. Start the installation program
[CD-ROM address]\[English]or\[French]or\[German]\SETUP.EXE by clicking *OK*.
3. The installation program copies the files into the RAM after program start.
4. The screen shows the following information:

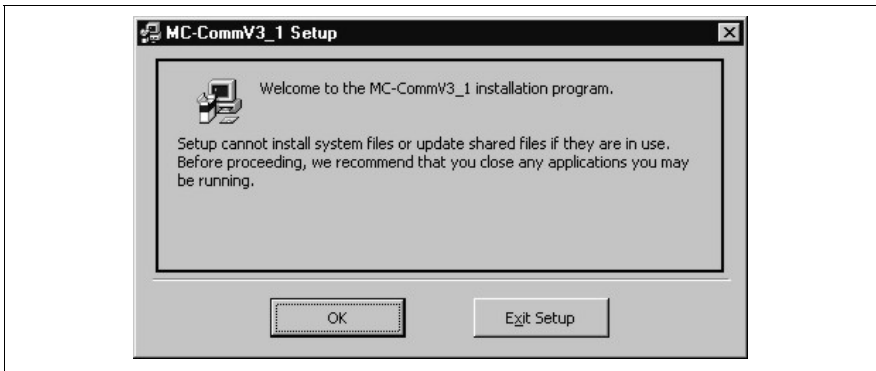


Fig. 1: Setup program for MC-COMM

5. Please click on **OK** and the following information is on the screen:

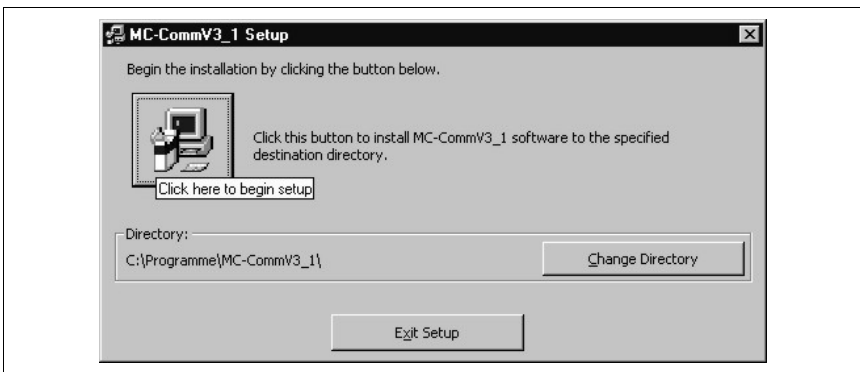


Fig. 2: Setup start for MC-COMM

6. **c:\Programs\MC-CommV3_X** is the standard directory of MC-COMM. With *Change directory* another directory can be selected. Click on the 'PC' Button to start the installation.
7. Then, please select a program group (f. ex. MCommv3.5).
8. The files will be stored into the defined directory, some files will be stored into the Windows directory.
9. When the message *MC-Comm successfully finished* is on desktop, the installation is successfully finished.
10. Remove the CD from the CD-ROM drive.
11. For better working we recommend to save the MC-Comm-Icon on desktop.
Therefore, a fast program start is possible.

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Remark:

If you have got the MC-COMM files on another way (f. ex. email), the program installation can be done like in chapter 3.1 (beginning at item 2). Instead of CD-ROM drive select the corresponding directory, on which the file SETUP.exe is stored.

3.2 File Names

After installation the following files are stored in the directory:

MC_CommV3_X.exe	Programm MC-COMM
D_OMC_UP120.par E_OMC_UP120.par F_OMC_UP120.par	Parameter file with default parameter settings in German, English and French for the controllers OMC and TMC
St6unst.log	Protocol file of the program installation

3.3 Update of MC-COMM

If you want to install an update in case of an existing MC-COMM copy, the installation program automatically deletes the old version before installing the new.

4 The Working Environment Used by MC-COMM

After the successful program start of MC-COMM the desktop will show up like in Fig. 3:.

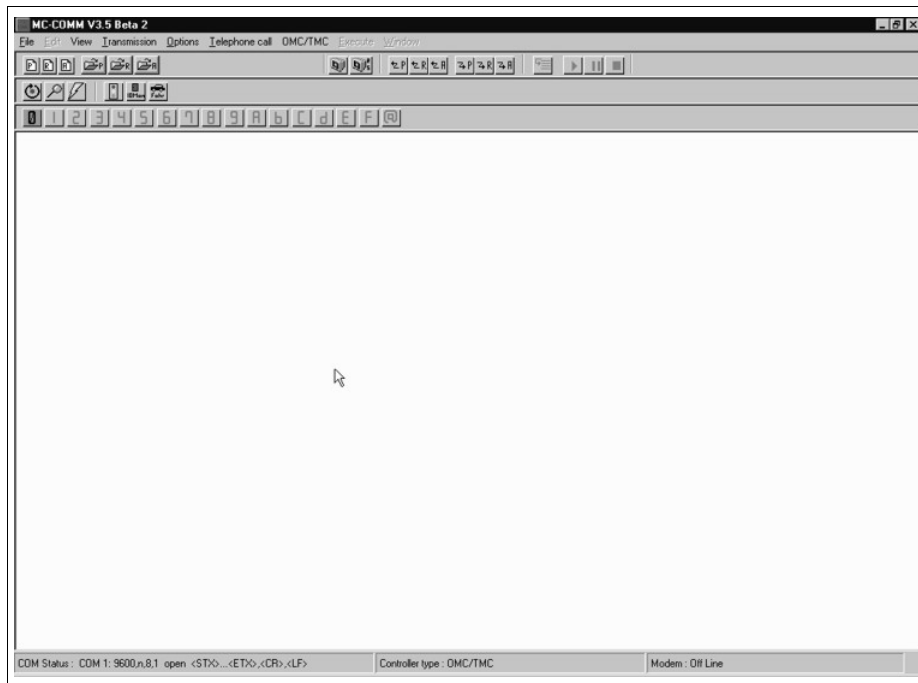


Fig. 3: Desktop after program start

The working environment of MC-COMM consists of five main components:

1. The selection menu in the top line on the desktop:
File, Edit, View, Transmission, Options, Telephone call, OMC/TMC, Execute, Window
2. The selection menu of some commands with icons (see table)
3. The device address selection with icons: address 0 to 9 and A to F or all addresses 
4. The working area
5. The state line at the bottom of the desktop: Interface parameters, Controller type, Modem Status

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Icon	Signification	Remark	Toolbar
	Write new program	X	standard
	Write new register	X	standard
	Write new parameters	X	standard
	Open program file	X	standard
	Open register file	X	standard
	Open parameter file	X	standard
	Save file	O	standard
	Print file	O	standard
	Cut	O	standard
	Copy	O	standard
	Insert	O	standard
	Search	O	standard
	Open menu Direct mode	X	standard
	Open menu RS Monitor	X	standard
	Open operation mode	X	standard
	Open menu IO Monitor	X	standard
	Receive program	X	standard
	Receive register	X	standard
	Receive parameter	X	standard
	Send program	X	standard
	Send register	X	standard
	Send parameter	X	standard
	Start single step mode of controller program	O	standard
	Start controller program	O	standard
	Interrupt controller program	O	standard
	Stop controller program	O	standard
	Controller Reset	X	controller option

	Search controller	X	controller option
	Open menu Download	X	controller option
	Open menu Status UP 120/220	X	controller option

X = This icon is always shown in the selection menu

O = This icon is conditionally shown in the selection menu

5 The MC-COMM Menus

To work with MC-COMM is as easy as efficiently. The new WINDOWS desktop of MC-COMM is delivered with new features to allow a comfortable use.

In this chapter you will find all you need for starting and leaving MC-COMM as well as a detailed description of each menu command, dialog box, switch etc.

5.1 Starting and Leaving MC-COMM

Select **Start / Programs / MC-CommV3_X / MC-CommV3_X** by clicking to program start with the left mouse key. Or click on the MC-COMM-Icon, if it exists on your desktop.

Use the menu command **File / End** to leave MC-COMM. MC-COMM will display a warning message if there is unsaved data in one of its editor windows.

5.2 The Menu *File*

In the menu **File** you will find commands to open files, to create new files, to save changed files, to print files and to leave MC-COMM.

5.2.1 New

In the submenu **File / New** you select the editor type, for which you want to create a new window on the desktop.

These new windows have default names like NONAMExx.yyy until you save the contents and assign a new file name. These NONAME-files are only temporary. You are asked for a new file name during the save process.

Note: We recommend not to use NONAMExx as a new file name.

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The extension of the filename yyy depends on the data MC-COMM stored in the file.
The 3 possible values are:

- .APR for a program editor,
- .APA for a parameter editor and
- .ARE for a register editor.

Remark:

If you create a new parameter editor window the parameters in it are preset to default values for one axis. These default values are stored in a default parameter file (see chap. 5.6.1). You can easily change the default parameter values of this file.

5.2.2 Open

In the sub menu **File / Open** you are first asked to select a file type (program, parameter or register), then a dialog box is opened to select one file of this type.

The dialog box contains an edit box, a file list and action buttons **OK** and **Cancel**.

- The file will be opened and loaded into a new editor window.
- Select a new file name in the file list. The file will be opened and loaded into a new editor window.

5.2.3 Compare

In the sub menu **File / Compare** you can compare 2 files of the same type (program, parameter or register). Then the dialog box is opened twice to select the two comparable files.

After the comparison of both files, the following message is on display

FILES ARE NOT EQUAL with details of the line number and contents

or FILES ARE EQUAL

5.2.4 Save

File / Save stores the data from the active editor window into a file.

5.2.5 Save as

With **File / Save as** you can define a new file name for the data you are editing in the current editor window, or you can store the data with the same file name, but into another directory or drive.

5.2.6 Close

With **File / Close** the file in the active editor is closed. The MC-COMM remains opened.

5.2.7 Print

File / Print opens the Windows specific print sub menu where you can select the printer type and the print properties.

5.2.8 Exit Program

With **File / Exit** you finish MC-COMM. If files are open which are not yet saved, MC-COMM will ask you to save them.

5.3 The Menu Edit

The menu **Edit** is a program editor to change the opened file. The edit functions of this file depend on the file type. For program or register files the editor modus **Cut, Delete, Copy or Insert** can be selected, for parameter files **Add Parameter Set** or **Delete**.

The menu **Search** starts from the first position and searches for the input text in program lines or comment lines.

The menu **Continue Search** repeats the search of the input text continuously in program lines or comment lines.

Important:

You can insert program lines in the program editor by pressing STRG [↵]. For inserting comment lines (up to 7) please press SHFT [↵].

5.4 The Menu View

In the **View** menu you can define the icons which should be shown on the display. You can select between the standard icons and/or the controller options, which are marked by ✓.

On the table on page 10/11 you'll find the cross-reference list of the icons as standard or controller options.

5.5 The Menu *Transmission*

In the **Transmission** menu you will find all functions to communicate with a Phytron stepper motor controller connected to your PC. You can read out parameters, programs and register sets, or you can send these data to the controller. Also you can delete programs saved in the controller, send commands directly to the controller, operate the system in a manual test mode, and perform tests with your PC's interface.

Remark:

If the connection between PC and controller fails, every command executed in the transmission menu may result in a transmission error. If this happens, the action is aborted and an error message is displayed. Please refer to chapter 7 for debugging.

5.5.1 Receive

Transmission / Receive activates a submenu with the items Program, Parameters and Registers.

MC-COMM will ask you, which program/parameters/register you want to read. You will get a selection list of all programs/registers/parameters on the controller. Select a program/parameter/register by clicking the left mouse key. Then you will be asked for a file name to store the data at your PC (see Fig. 4:).

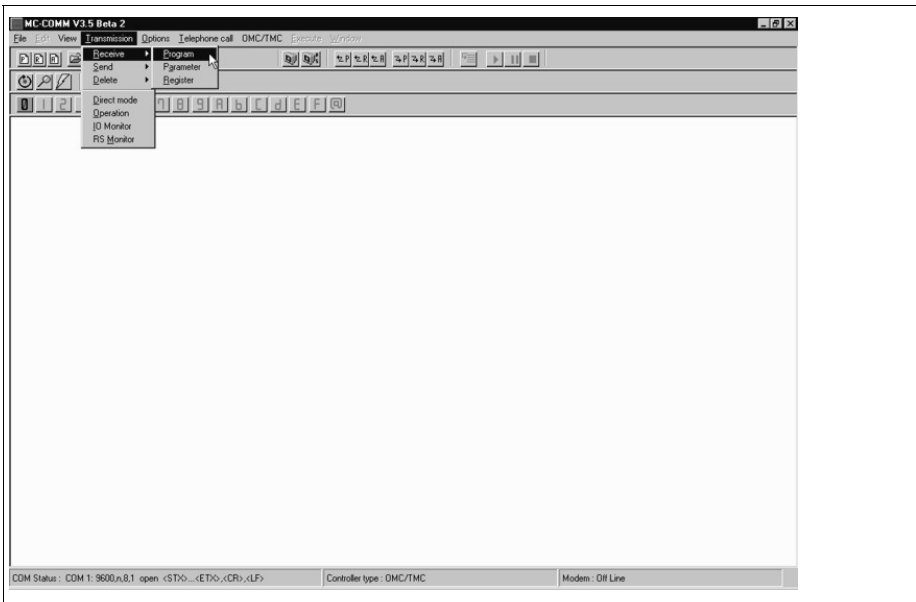


Fig. 4: Menu item receive programs

If you input a new name, the read data will be stored in a new file. If you input an existing name, the file will be overwritten after reading the data.

During transmission a running box will inform you about the actual transmission status.

After successful data reading and saving, the desktop shows the message *all programs/Parameters/Registers successfully received*, which should be confirmed by **OK**.

Receive program

With the menu item **Transmission / Receive / Program** you can read out programs from the controller connected to your PC.

Receive parameter

With **Transmission / Receive / Parameter** you can read the parameter set out of the controller connected. MC-COMM will read for every axis exactly the number of parameters as defined in the default parameter file (see chap. 5.5.1).

Receive register

With **Transmission / Receive / Register** you can read the register set out of the controller connected. By a window, MC-COMM gives you information about the received number of register values.

5.5.2 Send

Transmission / Send opens a submenu with the items Program, Parameters and Registers.

Send program

With the menu entry **Transmission / Send / Program** you can transfer complete programs to the controller connected to the PC.

MC-COMM asks you, which program you want to send. You will receive a selection list of all stored programs. Select the program by double clicking the left mouse key. Then, you will be asked for a program name to save the data on the controller. (see Fig. 5:).

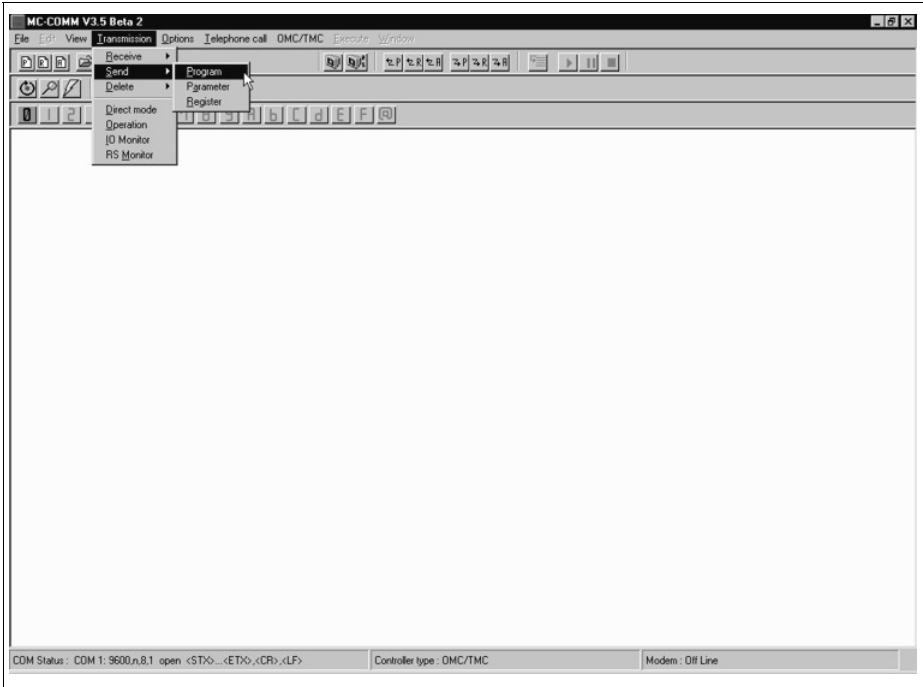


Fig. 5: Menu box send program

During transmission a running box gives actual information to you about the transmission status.

After successful data reading and saving, the message *programs transmitted* is shown on the desktop, which has to be confirmed with **OK** .

Send parameters

With the menu entry **Transmission / Send / Parameters** you can update the parameter list of the controller connected. A selection list shows the parameter files in the current directory.

After parameter file selection by double clicking the left mouse key the parameter transmission starts.

While the transmission is running MC-COMM will show the actual state in a small window.

After successful data reading and saving, the message *parameters transmitted* is shown on the desktop, which has to be confirmed with **OK** .

Send Registers

With the menu item **Transmission / Send / Registers** you can write a register set into the controller connected. A selection list shows all available register files in the current directory.

After register file selection by double clicking the left mouse key the register transmission starts.

While the transmission is running MC-COMM will show the actual state in a small window.

After successful data reading and saving, the message *registers transmitted* is shown on the desktop, which has to be confirmed with **OK**.

5.5.3 Delete

Transmission / Delete opens a submenu with the entries Program, Registers and All.

Delete program

With the menu item **Transmission / Delete / Program** you can delete single programs in the controller connected.

MC-COMM will show a file selection list with all programs in the controller's memory.

Before the program is really deleted, MC-COMM requires the confirmation **OK**. With **Cancel** the program will not be deleted.

Warning:

A program deleted here by accident **cannot** be restored!

Delete registers

With **Transmission / Delete / Registers** all registers in the controller will be reset to 0.

MC-COMM will ask you for confirmation before it starts the process. You will be informed by a small window.

Delete All

With the menu item **Transmission / Delete / All** all programs in the controller will be reset to 0. MC-COMM will ask you for confirmation before it starts the process. You will be informed by a small window.

Remark:

The command **Delete All** will even work for programs in controllers where the command delete programs selectively does not work.

Warning: Deleted programs or registers cannot be recovered!

5.5.4 Direct Mode

With **Transmission / Direct Mode** you open a dialog box which allows to send commands directly to the stepper motor controller. MC-COMM will generate the complete protocol automatically.

To send a command to the controller you first have to select the input box, if it is not already active. Now enter the MINILOG command, e.g. XP5R which means read parameter 5 from axis X, see Fig. 6:

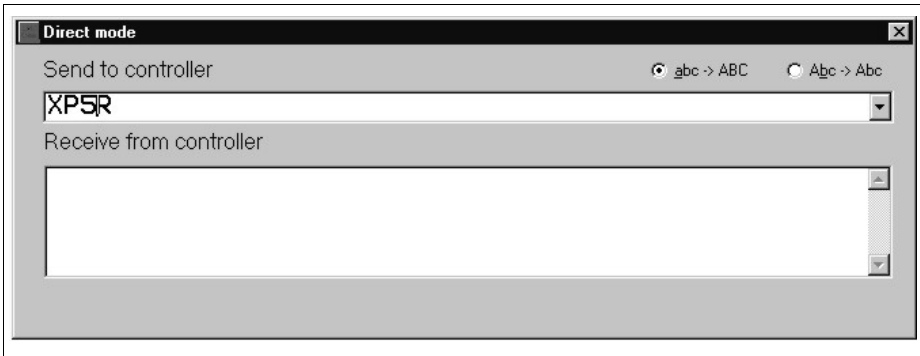


Fig. 6: Direct mode

The command will be sent to the controller by pressing the [↵]-key.

The response box will show any answer from the controller, in the example this could be <ACK> 25000, which means, that parameter 5 of axis X has the value 25000.

With the DropDownkey [↓] a history list with commands used earlier can be activated.

Remark:

Phytron controllers will answer with <NAK> if you use a command which is invalid for the controller connected.

Nearly, all Minilog instructions can be written without consideration of the capital and small letters. If you have clicked on the button abc --> ABC, the instruction is changed to the capital letters.

Important:

Therefore, for instructions with or-logic operation (f. ex. Ev011) and for the display commands d0 or d1 click on the button Abc --> Abc to keep the capital and small letters.

5.5.5 Operation

With **Transmission /Operation** you open the following window, in which you can move the motor directly by mouse click:

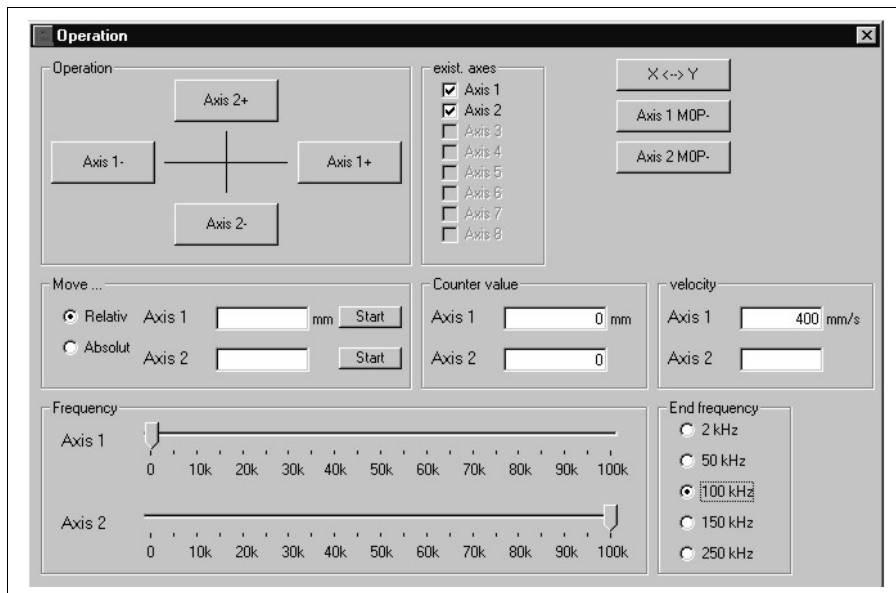


Fig. 7: Operation

Simply click on one of the buttons AXIS 1– (direction), AXIS1+, AXIS2–, AXIS2+. Direction + means clockwise movement, seen onto the motor axis from outside.

If the axis numbers 1 and 2 are coordinated wrong, you can "exchange" the axes by clicking on the button **X <-> Y**.

You can enter drive instructions for both axes into the window **Drive Relative**.

The symbol + or – before the entered number of steps defines the direction.

Drive Relative means moving from the actual position by x-counter values. With **Drive Absolute** the input counter value is referred to the zero point.

When you click on the button **Start** the instruction will be executed. Now the button has the marking **Stop** in order to cancel the movement if required.

In the column **Exist. axes** the program indicates which axes can be operated with. This information only refers to the power stage state. The program does not recognize whether a stepper motor is connected or controlled with a suitable current setting.

With two slider controls at the bottom of the window you can change the drive frequencies of both motors. In **End frequency** (2,50,100,150 or 250 kHz) you can set the maximal frequency. At low frequency values the drive frequency values are more exactly.

You can initialize each axis with click on one of the buttons **Axis1 MOP** or **Axis2 MOP**. After start the button has the marking **Stop** to cancel initializing if required.

In **velocity** you can see the speed with the unit of measure, which is defined in the parameter P02. The units of measure can be: steps, mm/s, inch/s or revolutions per minute (RPM).

5.5.6 IO Monitor

In **Transmission I/O Monitor** you can test the inputs and outputs.

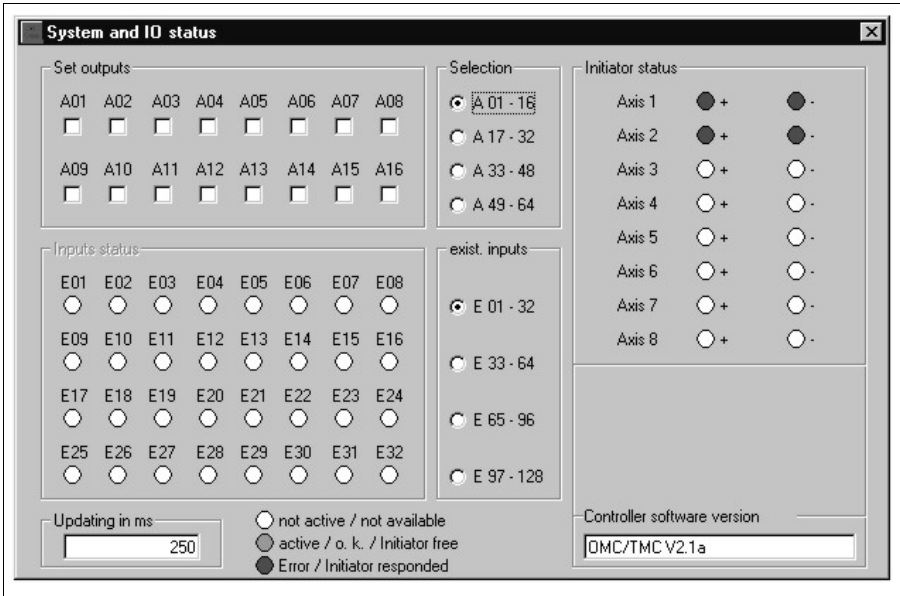


Fig. 8: IO Monitor

In **Set outputs** you can select the outputs, which shall be switched. Therefore, you can select a pre-selection range (**Selection**), which depends on the number of connected axes.

In the column **exist. inputs** you can define input ranges, which should be read. The input status are shown in **Input status** by coloured buttons (see table page 21).

In **Updating in ms** the state read time can be defined.

In **Initiator status** the corresponding axis fields are marked (see table).

In **Controller software version** is shown, which software version is stored in the OMC/TMC controller.

Color	Input status	Initiator status
White	not active or not available	Initiator not available
Green	active or O.K.	Initiator free
Red	-----	Initiator responded

Remark: Only these I/O-groups are identified by MC–COMM, which are supplied by power!

5.5.7 RS Monitor

Important:
RS monitor is a program for the service. If you want to use this program, please call Phytrons’s service in any case.

This is a program for testing the RS Interface. It should be used, if you want to check the RS interface. The data will be saved in a file as a protocol.

For the application the RS monitor should be connected between PC side and controller side with an adapter cable. (Fig. 9):

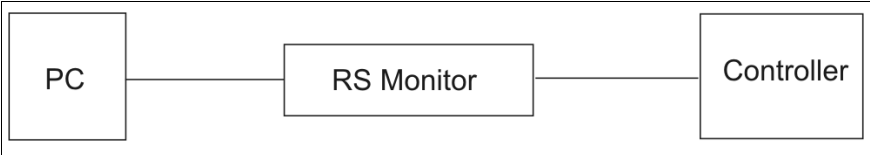


Fig. 9: RS monitor connection

Example: Loop back

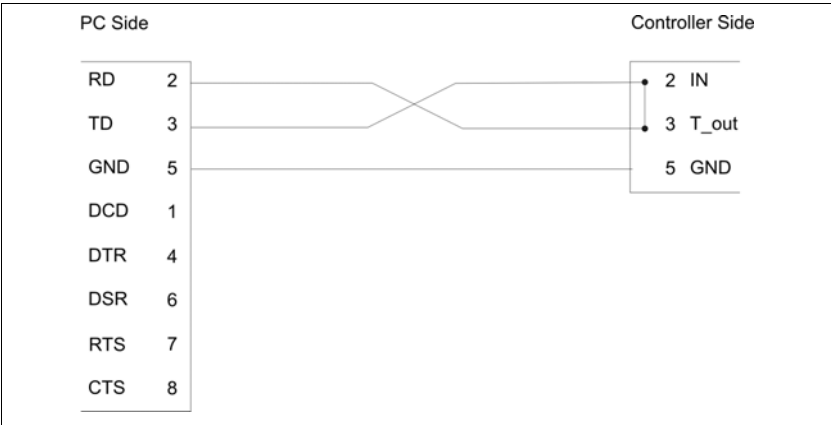


Fig. 10: Example loop back

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For the loop back test the interface cable will be connected to the PC. Pin 2 and Pin 3 (Receiver (IN) and Transmitter (T_out)) are shorted-out by an adequate adapter cable. After program start of **RS Monitor** the input command string is sent to the controller and is received by the bridge at the same time. So you can test, if a cabling is defect.

Remark:

This test gives no information about the correct wiring of the interface!

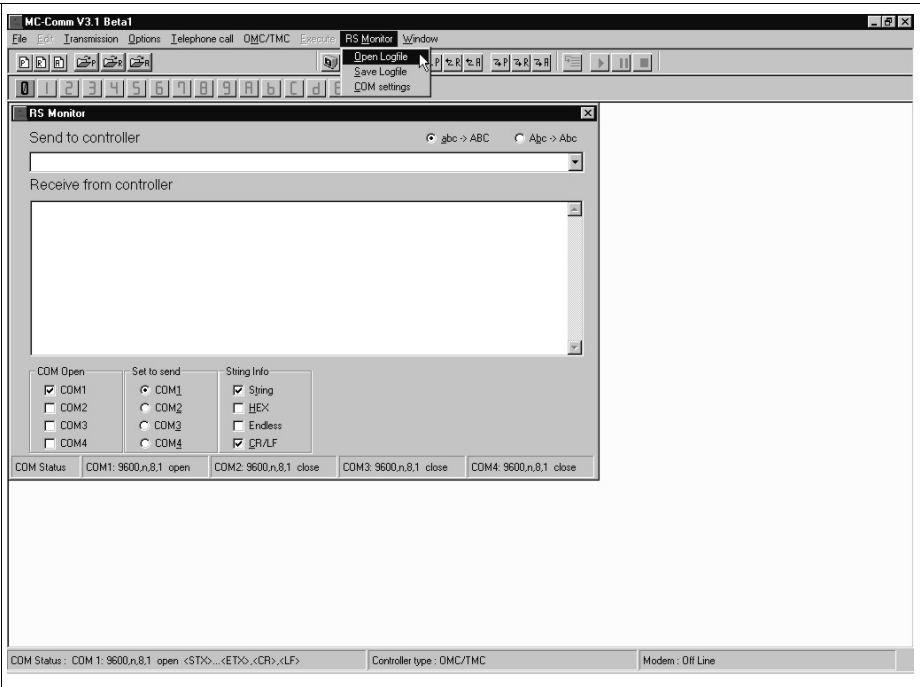


Fig. 11: RS Monitor: Input window

With **RS Monitor / Open Logfile** the filename of the protocol file is created in the defined directory and with **RS Monitor / Save Logfile** the controller command is saved to this file. In **RS Monitor / COM Settings** for the 4 COM interfaces the baudrate (from 110 to 115200) and the transmission format (data bits, stop bits, parity) are set.

5.6 The Menu *Options*

5.6.1 Parameter Text File

With **Options / Parameter Text File** you can select the default Parameter Text File in the root directory of MC-COMM. This file holds the default values used if you create a new parameter file. A new parameter file is created if you use the menu

File / New / Parameter (see chapter 5.2.1), or implicitly if you receive parameter sets from a controller (5.4.1).

The dialog box contains an input box, a file selection list, and the buttons **OK** and **Cancel**. Input a file name, and select **OK**. Then, a file is selected as a new default Parameter Text File.

Remark:

MC-COMM **always** will look for parameter text files in the MC-COMM root directory!

5.6.2 Select Language

With **Options / Select Language** you can select the output of the program dialog in German, English or French.

5.6.3 Interface Parameters

With the menu item **Options / Interface Parameters** MC-COMM is adapted to the type of interface and the correct settings for the controller. In total you can define up to 4 different interface channels.

In the dialog box **COM Interface Setting** the following settings can be done :
Interface parameters settings (Fig. 12:) and Ethernet settings (Fig. 13:)

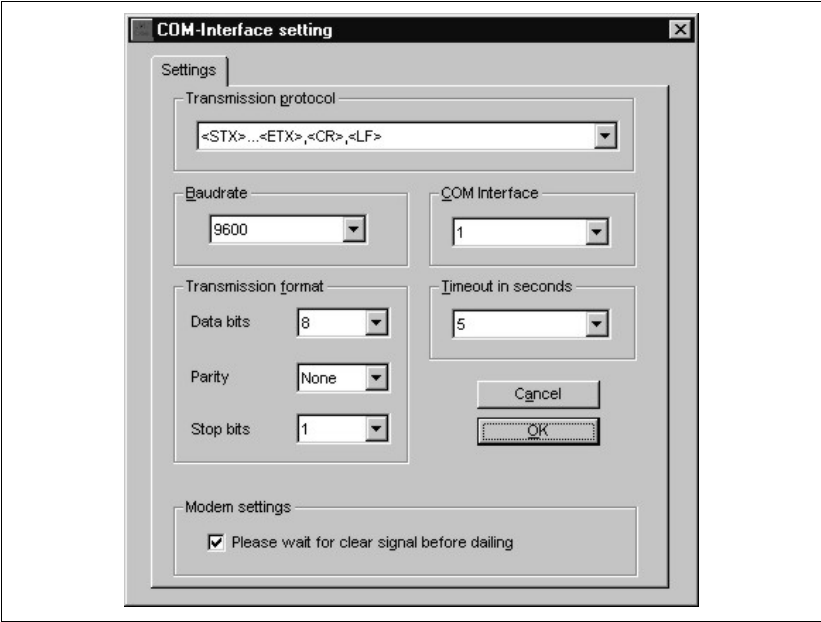


Fig. 12: Interface parameter settings

Remark: On delivery, the TMC and OMC are set to the following standard values:

Baudrate	Data bits	Stop bits	Parity
9600	8	1	none

Transmission protocol

With the menu item Options / Interface Parameters / Transmission Protocol you can choose one of the protocol types used by the controllers. Up to now, 2 types are defined, and the second one should be only used if there is a corresponding note in your controller's hardware manual.

1. Transmission Protocol: <STX> . . . <ETX><CR><LF>

This is the standard Phytron transmission protocol which is implemented in devices type IXE, SAM, PLS , TMC and OMC. If your hardware manual delivered with the controller contains no other information, please use this protocol.

2. Transmission Protocol: <STX> . . . <ETX>

This is a special version of the protocol used only in some customer specific software versions. Use this protocol only if your controller manual recommends so.

Baudrate

The baudrate (multitude of data per second in KBits) can be selected by clicking the drop down arrow of the box **Baudrate** (values from 110 to 115200). The value must be compatible to the controller's baudrate.

Set COM Interface

By clicking the drop down arrow of the box **COM Interface** you select the number of the actual interfaces (1 to 4). MC-COMM uses this interface for communication with the connected controller.

Set timeout delay

In the box **Timeout in seconds** you define a time limit (1 to 60 seconds) for the response of the controller to any command of MC-COMM. A very good value is a delay of 5 seconds, and you should not go below this value.

Transmission format

In the box **Transmission format** 3 variables can be defined: Data bits, parity, stop bits.

With **OK** the new defined data boxes are saved before exiting the dialog box **COM Interface Setting**. If you click on **Cancel** you exit the data of this dialog box without saving.

Modem settings

Here you define, whether the modem on the controller side has to wait for dialing tone.

- ☒ : Modem lifts, waits for dialing tone, selects partner, data transfer
- ☐ : Modem lifts, sends 0, waits for dialing tone, selects partner, data transfer

Ethernet Adapter Settings

The controller can be integrated into the firm's network by the Ethernet adapter (COM-Server) which is connected to the connector X31. For telemaintenance the controller's data can be accessed by coworkers, who logged-on with the correct IP address.

In **Ethernet Settings** you can define the IP-Address, Port COM Server, Port Configuration access and Network timeout.

Important: For a correct data exchange, the baud rate should be 57 600 Baud max.

Remark:

We suppose the W&T COM-Server Number 58611.

You'll find more information in the data sheet, sent with the adapter.

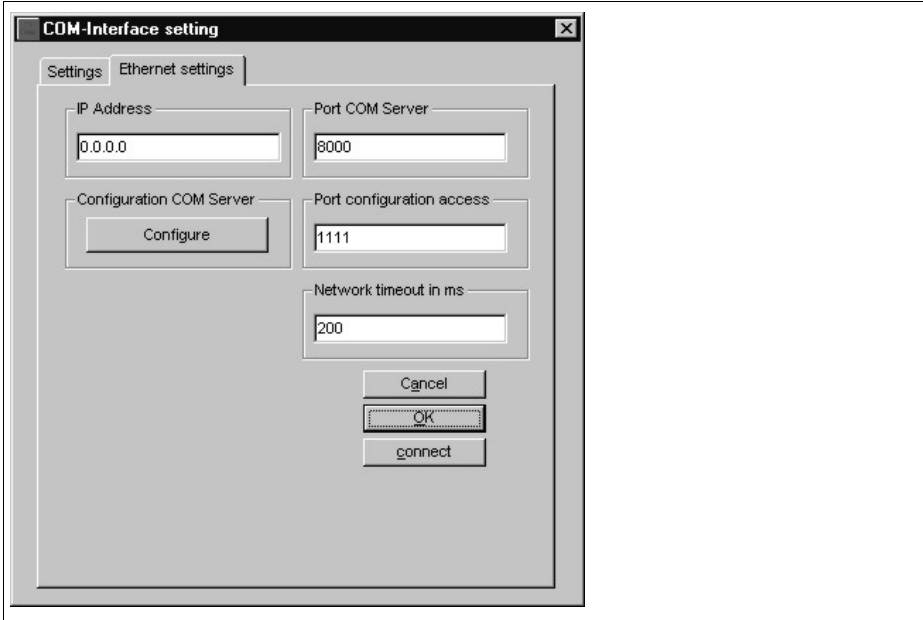


Fig. 13: Ethernet adapter settings

5.6.4 About MC-COMM

The menu **Options / About MC-Comm** gives you important information about the program version of MC-COMM, copyright and Phyttron's firm data (Fig. 14.):

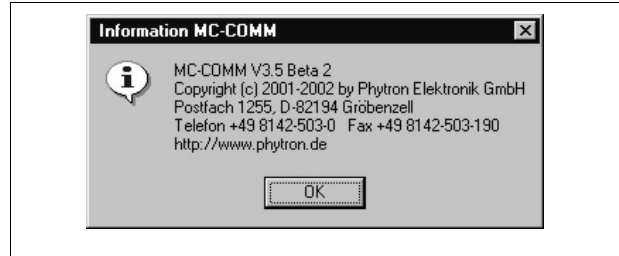


Fig. 14: About MC-COMM

5.7 The Menu Call

The menu **Telephone Call** is used for telemaintenance. PC and Controller can communicate with each other by the modem connection. (Fig. 15:).

In the right box of the taskbar the modem status is displayed, that means whether the modem is in Online- or Offline mode.

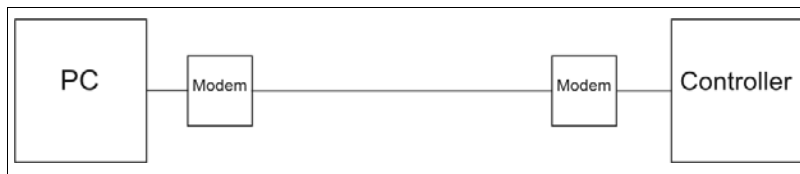


Fig. 15: Connection via modem

Important:

- In case of telemaintenance the transmission rate **9600 Baud** should not be passed over.
- After the modem dial-up the address of the controller is not automatically identified. Therefore, the address should be set with the MC-COMM program.
- The telemaintenance can only be performed with a serial modem (RS232 interface).

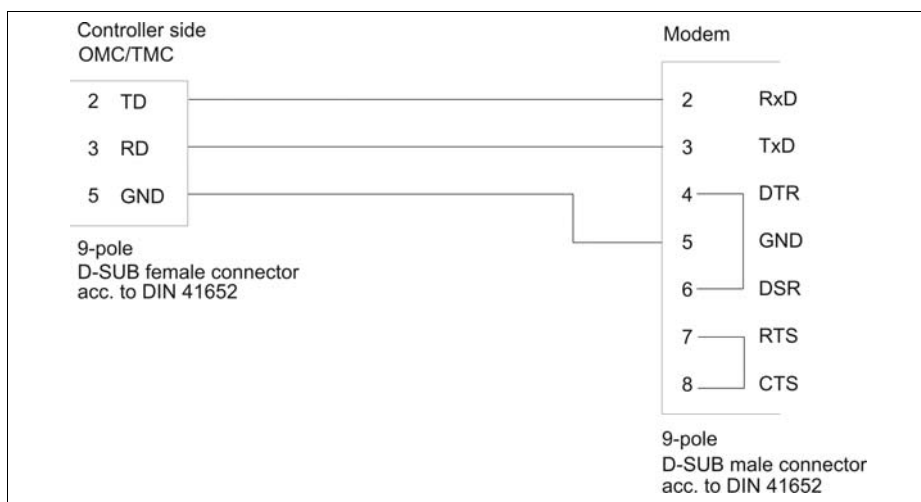


Fig. 16: Pin assignment controller OMC/TMC <-----> modem

Manual MC – COMM

In **Dialing** you input the telephone number for dialing.

In **Configure modem** the receiving modem is set, so that it accepts callings automatically.

In **Reset modem** the receiving modem is reset.

After the file transmission the dialog box **Disconnect the set** the line must be disconnected again.

5.8 The Menu OMC/TMC

5.8.1 Download

In this menu a binary file can be downloaded for the controllers OMC or TMC. So, a new operating system for these controllers can be updated easy and fast. Fig. 17: shows the input window for the binary file, which is saved into the controllers OMC or TMC.

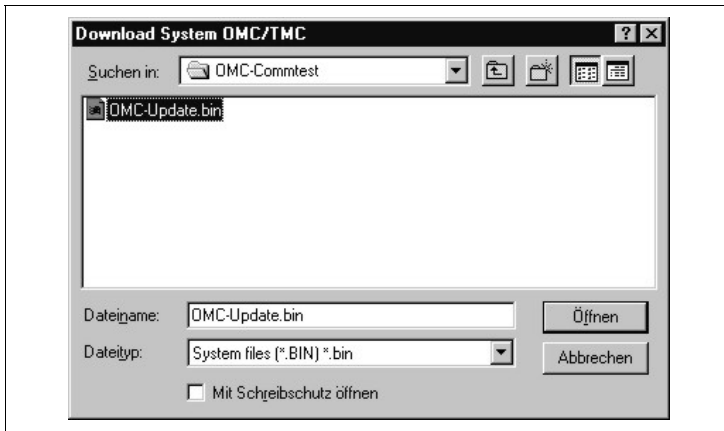


Fig. 17: Input window menu *Download*

You can observe the data transmission on the second opened window **Download system OMC/TMC**, in which the download data blocs are shown during transmission.

When the message **Download successfully finished** is on desktop, the transmission is finished.

5.8.2 Search OMC/TMC

Here MC-COMM is looking for the connected controller with all 5 baudrates in each device address.

If the search is successful, the device address is shining green.

5.8.3 OMC/TMC Status

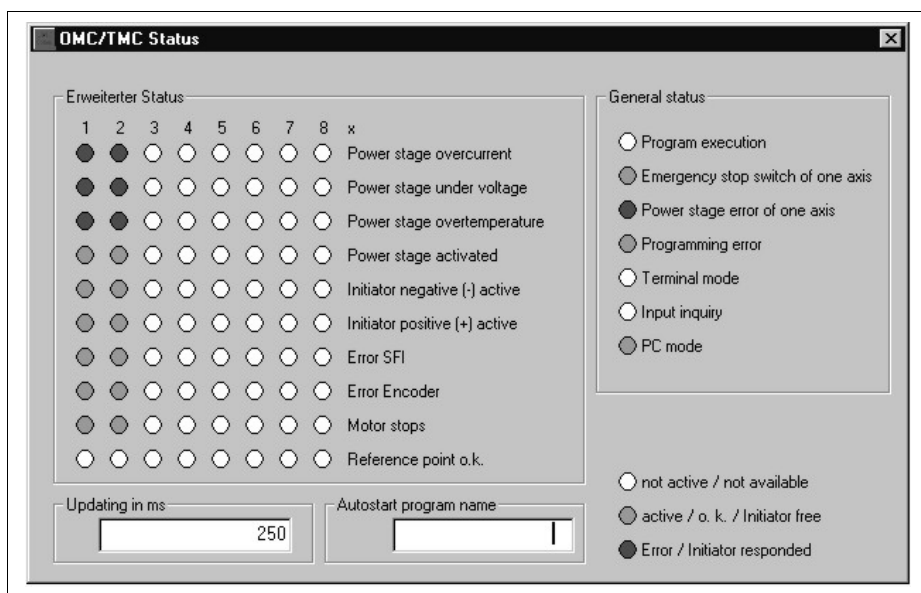


Fig. 18: Controller's status of OMC or TMC

In **General status** general controller's status are described and in **Extended Status** additional input status of the corresponding axis (axis 1 to 8) are displayed.

In **Updating in ms** the read time state is input.

In **Auto start program name** is shown the name of the program, which starts automatically after switching over the Local/Remote switch.

The colors of the status buttons are described in chapter 5.5.6.

5.8.4 OMC/TMC Baudrate Settings

In **Baudrate settings** you can set the transmission speed for the interfaces COM1 and COM2.

On delivery, the value 9600 Bits/s is set.

The following baudrates can be selected: 9600, 19200, 38400, 57600, 115200

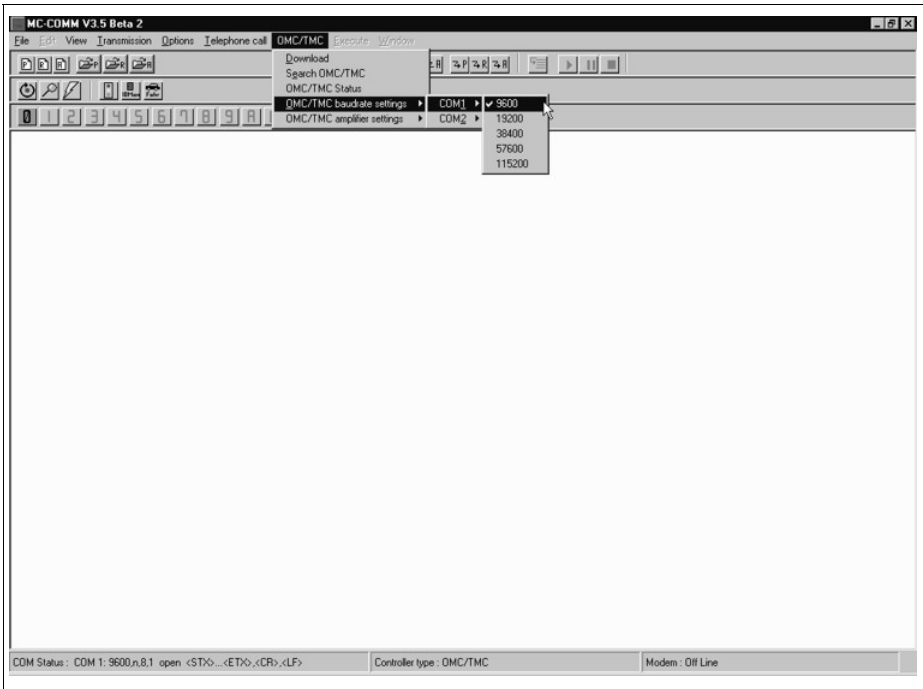


Fig. 19: Input window menu *baudrate settings*

5.8.5 OMC/TMC Power Stage Setting

Here you can set some axis parameter values of the power stage (stop current, run current, boost current, step width, current delay time).

After selection of the axis, the axis parameters are read from the OMC/TMC and are shown in the corresponding menu fields.

After changing the values and clicking on *OK*, the data will be restored into the controller.

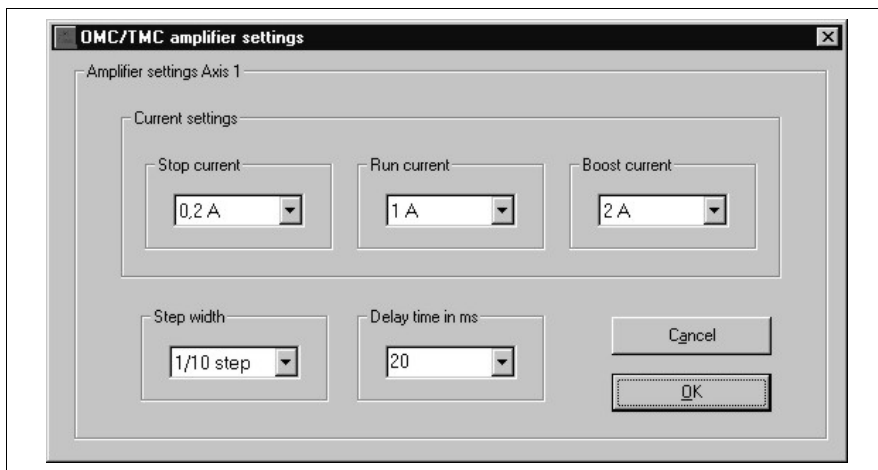


Fig. 20: Input window menu *amplifier settings*

5.8.6 OMC/TMC Checksum

Here you can activate or deactivate the checksum monitoring.

Yes: The transmission telegram is monitored with checksum by OMC/TMC.

No: The transmission telegram is sent without checksum by OMC/TMC.

Also see chap. 1.4 in MINILOG Programming manual for OMC/TMC.

5.9 The Menu *Execute*

The menu ***Execute*** helps for step by step tests of the controller's program flow.

By ***Start [F5]*** the controller's program is started and is running as long as it is stopped by ***Stop*** or ***Interrupt***. A ***Restart*** makes a new program start.

By ***Single step [F8]*** the controller's program runs instruction by instruction. By ***Interrupt*** the program stands still at the position and continues by ***Start*** on the stop position.

By ***Interrupt*** the controller's program can be stopped during run. After ***Start*** the program continues running.

By ***Stop*** the program run is finished.

By ***Restart*** the program starts from the beginning.

	Start the single step mode for controller's program
	Start the controller's program
	Interrupt the controller's program
	Stop the controller's program

Fig. 21: Execute icons

Break point setting

You can set up to 10 break points to interrupt the controller's program in defined lines. The break point is set by clicking on the program line number with the mouse pointer. This number is marked red.

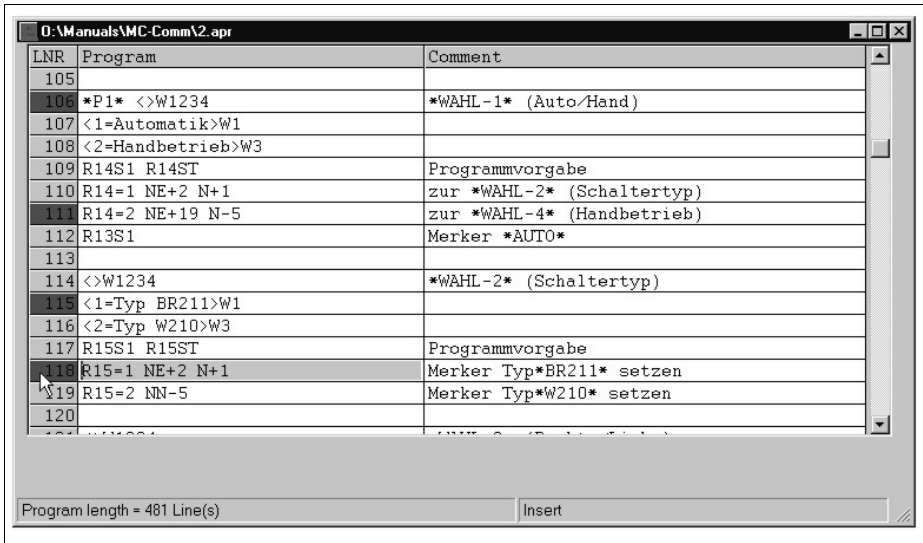


Fig. 22: Break points in the lines 106,111,115,118

5.10 The Menu Window

This menu is helpful when 2 files are opened at least. It makes easier to select the active window when a lot of files are opened. After clicking **Window** a list of all opened files appears. Select the active window on desktop by mouse clicking or input of the corresponding number, which is in front of the file name. The actual active window is marked by a tick.

6 The Configuration File Comm.ini

MC-COMM writes the configuration file Comm.ini into the Windows directory. In Comm.ini are saved the interface parameters and the parameter text file. (See Fig. 23:)

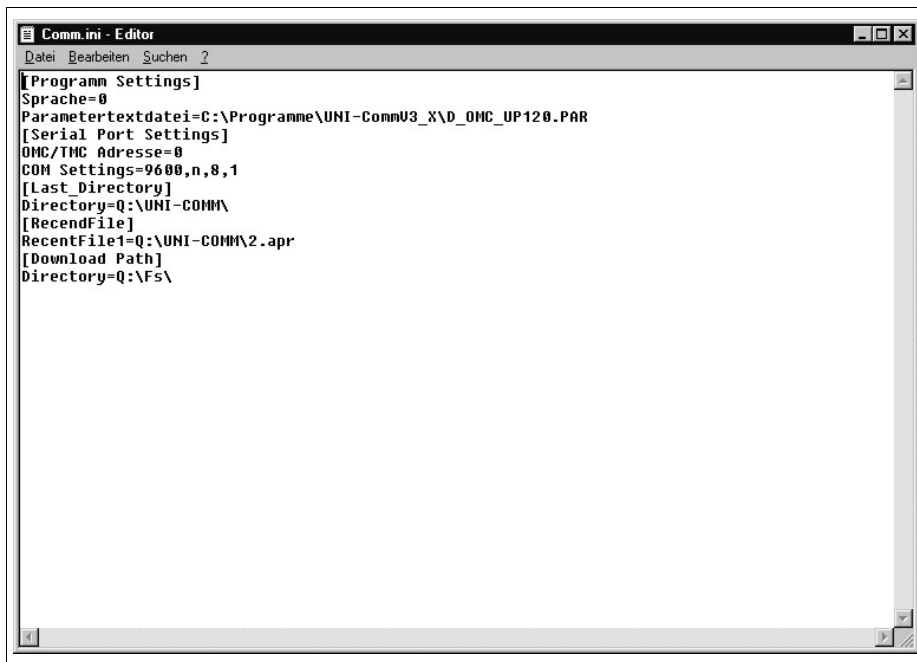


Fig. 23: The Comm.ini file

Remark:

Please, don't change this configuration file with the editor! It is written by MC-COMM.

7 Error Messages

In this appendix you will find hints how to handle error messages of MC–COMM. In the following text these messages are written in bold or underscored italics. Messages which do not need any additional information are not contained in this appendix.

Remark:

Error messages resulting of problems with any peripheral device are very often caused by trivial facts like: device is not switched on, cables are missing, cable is defect and so. Please check these items.

7.1 Interface Problems

An interface timeout has occurred

Possible reasons for this problem may be:

- The cabling is wrong (RD and TD pins interchanged).
- The controller is not in the REMOTE operation mode (Switch Remote/Local).
- The cabling is defect or interrupted.
- The timeout time selected in MC-COMM is too short.
- The interface parameters selected in MC-COMM do not match the controller type used.
- No controller connected

Modem not ready

Possible reasons for this problem may be:

- No feedback from the modem, that it hasn't connected correctly

COM Interface already open

Possible reason for this problem may be:

- The COM interface is already used by another program.

8 Adapter Cables

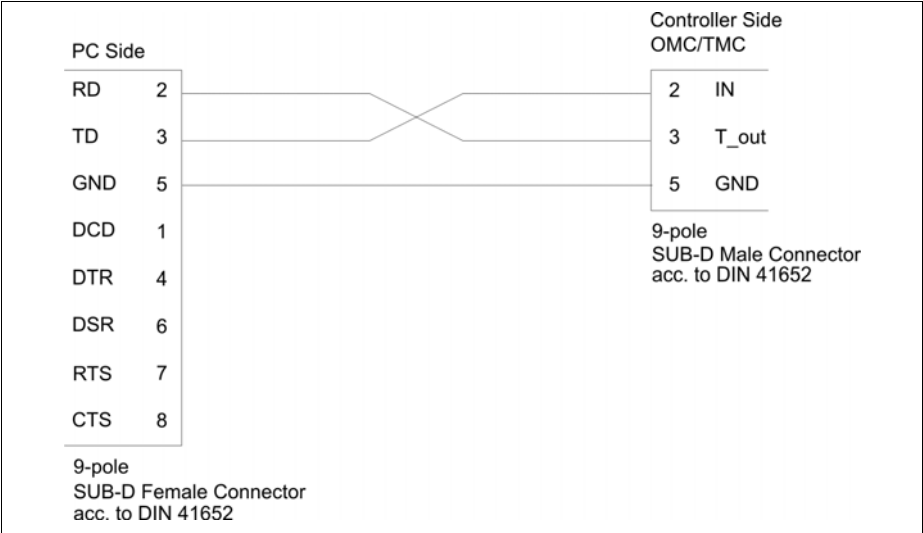


Fig. 24: PC (9-pole female connector) <-----> controller type TMC/OMC

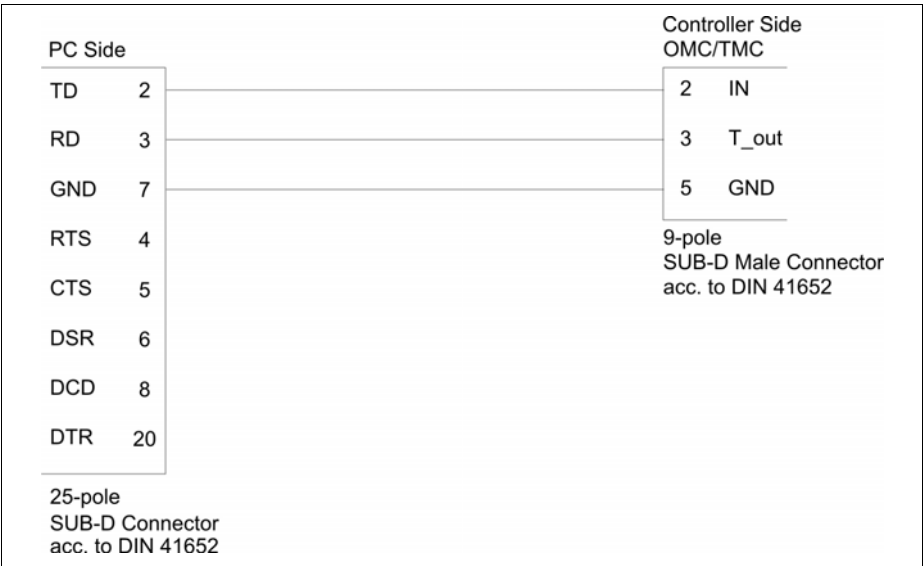


Fig. 25: PC (25-pole female connector) <-----> connector type TMC/OMC

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