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Supplementary Instruction Manual

ALMEMO® 500

Enable transparent mode
For multi point adjustment and enabling of options, sensor programming, and controlling relays and analog outputs via serial ports

V7 Technology
English
V2.4
22.11.2021

1 Table of Contents

2 What is the Transparent Mode?

In the Transparent Mode you can - via the ALMEMO® Control program or via another terminal program - directly communicate with the measuring circuit boards to run a multi point adjustment, to program a sensor, or to enable options.

Port commands can only be sent to the measuring circuit boards of the data logger ALMEMO® 500 when using the Transparent Mode.

When using the Transparent Mode, no data logging via the web service and the app takes place. In the app, no measured values will be displayed while using the Transparent Mode. Measured values can however be transmitted to the port commands and can then be used for online measurements (without the web service).

3 How to Activate or Deactivate the Transparent Mode

3.1 How to Control the Transparent Mode via the Status Display

☞ In the Transparent Mode you can directly communicate with the measuring circuit boards via the ALMEMO® Control program.

☞ In the Transparent Mode there will be no data logging performed via the web service and the app. In the Transparent Mode there will be no measured values displayed in the app.

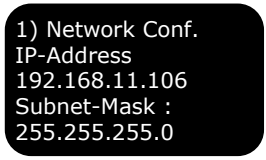
Activate the Transparent Mode

! The data logger needs to be switched on.

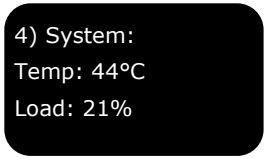
! The data logger needs to be connected to the power supply (see Instruction Manual chapter 7.1.1 How to connect and check the Power Supply).

☞ In battery operation (no mains adapter connected) the Transparent Mode must not be activated, otherwise the data logger will switch off after a short time. In case a battery pack is used in your system for the time of activated Transparent Mode the datalogger must be connected to the power supply.

☞ The data logger is ready for use as soon as the menu “1) Network Conf.” in the status display shows an IP address (see example on the right).

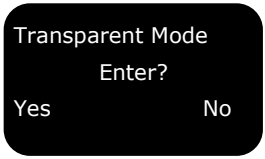


1. Keep pressing the right one of the navigation keys (directly underneath the status display) until the status display shows the menu “4) System”.



2. Press and hold both navigation keys at once.

➢ The menu “Transparent Mode” will be displayed.



3. Press the left one of the Navigation keys one time.

➢ The Transparent Mode will be activated.

➢ The Transparent Mode is active as soon as the status display shows “ACTIVATED”.

➢ The ALMEMO® 500 app will display the message Transparentmode on!

➢ When the Transparent Mode is activated, the measuring circuit boards can be directly addressed via the ALMEMO® Control program to perform a multi-point adjustment, to program a sensor or to enable options.

Deactivate the Transparent Mode

→ Press and hold both navigation keys at once.

☞ If the software version of the CPU card is less than 1.2.9 (to query the software version of the CPU card in the home screen, tap on Settings > About the device), the Transparent Mode is deactivated already by pressing one of the navigation keys briefly.

Alternatively

→ Turn the data logger off and then on again.

Alternatively

→ Deactivate the Transparent Mode via the app as described in chapter 2.

➢ The ALMEMO® 500 app will display the message Transparentmode off!

3.2 How to Control the Transparent Mode via the ALMEMO® 500 App

Activate the Transparent Mode

! The data logger needs to be switched on.

! The data logger needs to be connected to the power supply (see Instruction Manual chapter 7.1.1 How to connect and check the Power Supply).

☞ In battery operation (no mains adapter connected) the Transparent Mode must not be activated, otherwise the data logger will switch off

after a short time. In case a battery pack is used in your system for the time of activated Transparent Mode the datalogger must be connected to the power supply.

! The tablet must be connected to the data logger (see Instruction Manual chapter 6 Initial Operation, step 6 to 20).

1. In the home screen of the app, tap on the button  .
2. Tap on the arrow **>** next to Settings.
3. Tick the checkbox next to Transparent-Mode by tapping on the checkbox.

➢ The Transparent-Mode will be activated.

➢ The Transparent Mode is ready for use as soon as the message “ACTIVATED” pops up in the status display.

➢ The ALMEMO® 500 app will display the message Transparentmode on!

➢ When the Transparent Mode is activated, the measuring circuit boards can be directly addressed via the ALMEMO® Control program to perform a multi-point adjustment, to program a sensor or to enable options.

➢ As long as the checkbox next to Transparent-Mode is ticked, the Transparent Mode is automatically activated each time the data logger is restarted.

Deactivate the Transparent Mode

→ Follow the steps 1. and 2. of the section “Activate the Transparent Mode”.

→ Untick the checkbox next to Transparent-Mode by tapping on the checkbox.

➢ The Transparent Mode will be deactivated.

➢ The ALMEMO® 500 app will display the message Transparentmode off!

4 How to Connect the Data Logger to Almemo® Control or AMR WinControl when Transparent Mode is activated

4.1 How to use Almemo® Control via WLAN or Ethernet

1. Connect the data logger via Ethernet or WiFi to a PC (see Instruction Manual chapter 7.4.1 Connect PC to the data logger).
2. Open the ALMEMO® Control program.
3. Click on Interface.
4. Click on the tab IP Network
5. Enter the IP address in the field next to IP address or host.

☞ The IP address is displayed in the status display.

6. In the field next to Port enter 10001.
7. Click on Ok.
8. Click on Search for connected devices.

➢ Every measuring circuit board will be listed individually in the device list.

4.2 How to use Almemo® Control via USB

1. Connect the data logger via USB to a PC (see Instruction Manual chapter 7.4.1 Connect PC to the data logger).
2. Open the ALMEMO® Control program.
3. Click on Interface.
4. Click on the tab Serial Interface.
5. Click on Auto-detect the baud rate.
6. In the drop-down menu Interface select the COM-Port.
7. Click on Ok.

8. Click on Search for connected devices.

➢ Every measuring circuit board will be listed individually in the device list.

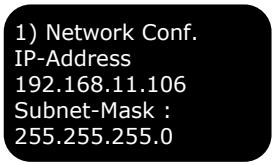
4.3 How to connect AMR WinControl

! The data logger needs to be connected to the PC. The connection can be via Ethernet, USB, WiFi, or the company network.

1. Install the AMR WinControl software.
2. Open the AMR WinControl software.
3. Enter the activation code.
4. Click on Start Program.
5. Click on Settings.
6. Click on Add Connection.
7. Depending on the connection type, click on Network (for WiFi or Ethernet) or COM Port (for USB).

Connection via Ethernet/WLAN

8. Note down the IP address displayed in the status display in the menu “1) Network Conf.” .



9. Enter the IP address in the field next to IP Address or Host.
10. For TCP Port select 10001.
11. Click on OK.

Connection via USB

8. For the connection type COM Port, click on the appropriate COM Port designation.
9. For the device number, enter the device address of the data (see Instruction Manual, chapter 8.1.4 Change the device address).
10. Click on OK.

5 How to send Port Commands from the Terminal of the ALMEMO® Control Software to an ALMEMO® 500

5.1 General instructions on how to enter port commands

! The Transparent Mode of the data logger needs to be enabled.

! The data logger needs to be connected to the ALMEMO® Control software as described in chapter 4 How to connect the Data Logger to Almemo® Control or AMR WinControl when Transparent Mode is activated.

☞ The menu Terminal cannot be entered in case the connection via ALMEMO500 has been selected in the menu Connection Selection in the port settings of the ALMEMO® Control.

Open terminal

1. In the main menu of the ALMEMO® Control software, click on File.
2. Click on Terminal.

Address the measuring circuit board

→ At first, address the measuring circuit board by entering the measuring circuit board address (e.g. G00).

☞ In the terminal, the measuring circuit board is treated like a device.

Enter port commands

→ Enter the port commands according to your task. You can find a summary of all port commands in the command list (see Instruction Manual 2020, chapter 8.3 Command Overview V7 Protocol). The individual commands are explained in the respective chapters throughout the Instruction Manual.

☞ For ALMEMO® measuring devices of the V7 generation, please note that all monitoring stations shall be entered with the 4 digit measuring channel number (e.g. 000.0).

6 Port Commands for Controlling and Setting the RTA6 Slide-in Module

→ At first, address the measuring circuit board by entering the address of the measuring circuit board (e.g. 000).

☞ The RTA6 slide-in module is treated like an output module and must therefore be addressed via a measuring circuit board.

☞ The port address pp is compound by the RTA slide-in module address and the port number. Example: RTA slide-in module address 01 and port number 8 will result in the port address P18.

Function	Port command
Address measuring circuit board:	G00
Enable Relay Port pp:	f1 Rpp
Disable Relay Port pp:	f1 R-pp
Program Relay Port (pp) to the option group alarm (k0):	ipp f9 k0
Relay Port (pp) assigned to option, program reference channel (k2):	ipp f9 k2
Program Relay Port (pp) to the option group alarm Max (k3):	ipp f9 k3
Program Relay Port (pp) to option group alarm Min (k4):	ipp f9 k4
Set relay option of Port pp to controlled (k8):	ipp f9 k8
Set relay option of Port pp to controlled (k8), inverted:	ipp f9 k-8
Close relay featuring relay port (Ryy) as limit value action max of a monitoring station (Exxx.x).	Exxx.x f2 Ryy
Close relay featuring relay port (yy) as limit value action min of a monitoring station (xxx.x).	Exxx.x f3 Ryy
Select an analog type (Ax) of an analog output (Port pp), A1= 0…10V, A2=0-20mA	ipp f9 Ax
Assign an output to the measuring channel, to which it was assigned before.	ipp f9 E-00
Assign an analog output (Port pp) to a supply channel (xxx.x).	ipp f9 Exxx.x
Transmit an analog value (value yyyyy) via port to an analog output (Port pp).	ipp f9 ayyyyy
Enable element flag 4-20mA instead of 0-20mA in the measuring channel (Exxx.x).	Exxx.x f2 k8
Disable element flag 4-20mA instead of 0-20mA in the analog output (Exxx.x).	Exxx.x f2 k-8

Set an analog start (xxxxx) in the measuring channel (Exxx.x).	Exxx.x axxxxx
Set an analog end (xxxxx) in the measuring channel (Exxx.x).	Exxx.x exxxxx
Enable the watchdog of a slide-in module (pp=port on the slide-in module, watchdog is then activated for the complete slide-in module):	ipp o19
Disable the watchdog of a slide-in module (pp=Port on the slide-in module, watchdog is then de-activated for the complete slide-in module):	ipp o-19
Set option (kx) of a trigger port (pp) k0 = start-stop, k4 = start-stop level triggered	ipp f9 kx

Display programming and condition of all RTA6 slide-in modules: Sample response:					f3 P19
Output module (plug-in location (Bx), designation (ES500RTA6)):					B0.ES500RTA6
Pxx	**Interface element**	**Option**	**Condition**	**Contact**	
00	NO contact 0.5A	controlled	inactive	open	00:NO0 8 0 O
01	NO contact 0.5A	controlled inverse	inactive	closed	01:NO0-8 0 C
02	NC contact 0.5A	controlled	inactive	closed	02:NC0 8 0 C
03	CO contact 0.5A	controlled inverse	active	open	02:CO0-8 1 O
06	Analog output 10V	controlled	by	value	06:AO5 COM +08.345 V
07	Analog output 20mA	controlled	by	value	07:AO6 COM +12.345mA
08	Trigger key	start - stop			08:TR1 0
09	Trigger optocoupler	manually			09:TR2 1

NO=**N**ormally **O**pen
NC=**N**ormally **C**losed
CO=**C**hange **O**ver

Besides greatest diligence, the possibility of incorrect information cannot be excluded!

Subject to technical modifications without prior notice!

You will find the present and further Operating Instructions,
as well as the ALMEMO® Manual
on **www.ahlborn.com** under the tab
SERVICE on DOWNLOADS

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