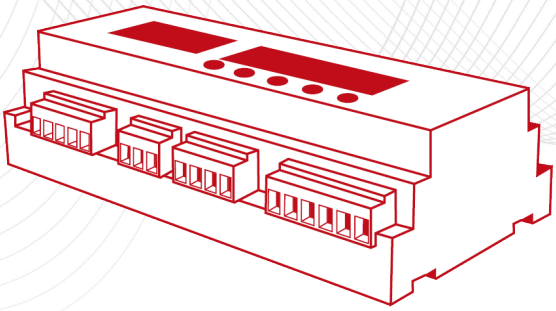
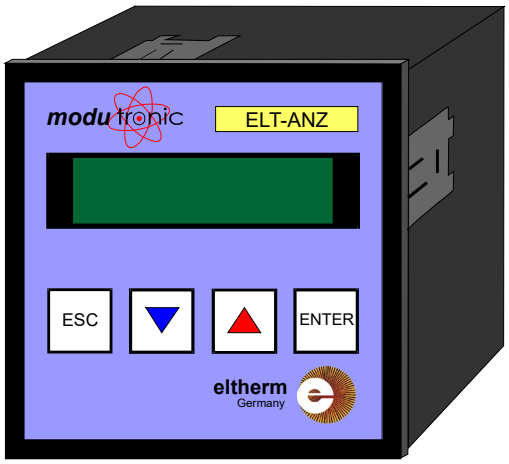


# Operating Instructions




**for the**
**Display and Control Unit**
**ELT-ANZ**
**(Part No. 0611042 – English Display)**

| | | |
|---|---|---|
| eltherm GmbH<br>Ernst-Heinkel-Str. 6-10<br>57299 Burbach<br>T.: +49 2736 4413-0<br>F.: +49 2736 4413-50<br>info@eltherm.com | BU-068<br>008Q568 | **Operating Instructions for**<br>Display and Control Unit ELT-ANZ |
| | Author | Peter Schmidt |
| | Revision 4 | 18.10.2019 (Software Revision V0F-05) |

# Contents


**1. Product Description ..... 3**
1.1 Function ..... 3
1.2 Control and Display ..... 3
1.3 Layout Of The Display (basic setting): ..... 3

**2. Technical Data ..... 4**
2.1 Terminal Connection Plan ..... 4

**3. General Safety Instructions ..... 5**
3.1 Proper use ..... 5
3.2 Hazards of electrical power ..... 5
3.3 Modifications to the display and control unit ..... 5

**4. Installation and Connection ..... 5**
4.1 Installation ..... 5
4.2 Connection ..... 5

**5. Settings and Operation ..... 6**
5.1 Recognition Of The Controller Addresses ..... 6
5.2 Setting Parameters ..... 6
5.3 Changing Functional Settings: ..... 6
5.4 Changing Numerical Settings: activate a menu item (see Fig. 4) ..... 7
5.5 ”Copy“ Function ..... 8
5.6 “Standard Settings“ (RESET) Function ..... 8
5.7 “Address“ Function (Setting Transport Address) ..... 8
5.1 “Ramp” Function (from software version V1.4) ..... 8
5.2 Other Functions ..... 8




Please read this manual carefully before using this product. Warranty claims cannot be considered in case of damage caused by failure to comply with these operating instructions! This documentation was compiled with utmost care, however, we cannot guarantee for its correctness in every respect.



Instructions for use and useful or important information.



Immediate hazard which can lead to death, serious injury or considerable material damage.

This User's Manual is intended to familiarize you with the product, the safety instructions, mounting and installation, operation and setting, and any optional features.


Contents subject to change.eltherm GmbH accepts no liability for any errors in this documentation.. No liability whatsoever will be accepted for damage incurred in direct connection with the supply or use of this documentation, unless there is a legal obligation.
Disclosure and copying of this document and the use and divulgence of its contents are not permitted , unless expressly authorized.
Failure to comply will result in liability for damages. All rights in respect of a patent or registered trademark being granted reserved.

# 1. Product Description

## 1.1 Function

The display and control unit are used for remote monitoring and control of up to 24 connected controllers of the type ELT-GP1/2.

## 1.2 Control and Display

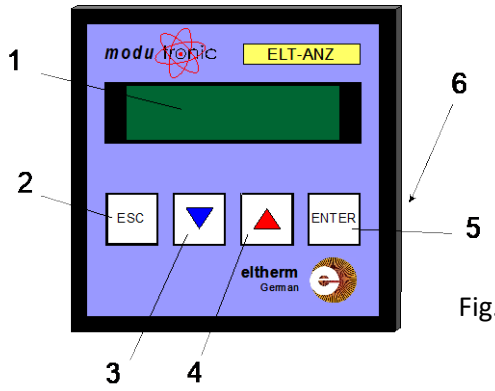



Fig. 1: Controls and Displays

Pos. 1: Illuminated LCD display, 2 lines, each with 16 characters.
Pos. 2: 'ESC'-key: Used to leave a menu or menu item without saving or editing.
Pos. 3: Arrow keys 'DOWN' and 'UP',
Pos. 4: to select a function or a numerical setting.
Pos. 5: 'ENTER'-key: Used to activate a menu item or to save a setting.
Pos. 6: Electrical connections (see chapter 2.4 'Terminal Connection Plan')

## 1.3 Layout Of The Display (basic setting):

R00: TAR.= 049° C
ACT. = 026° C

Fig. 2: Display basic setting

| Display | Meaning |
|---|---|
| R00 | Address of the activated temperature controller (R00 - R63). |
| TAR.=049°C | Required temperature set-point which the activated control loop is to produce. |
| ACT.=026°C | Present actual temperature in the activated contol loop. If this does not lie within the preset permissible temperature range, this is indicated with a preceding '#' . |

| Fault Indications In The Display (2nd Line) | Meaning |
|---|---|
| *Probe short* | Temperature probe has short-circuited. |
| *Probe break* | Temperature probe lines have been interrupted. |
| *unknown fault* | Indication of an unknown fault |
| *Bus error!* | Incorrect connection at the Bus interface |
| *Fxx* | Indication of a fault in a temperature controller other than the activated one. |

# 2. Technical Data

| | |
|---|---|
| Mains voltage: | 230 V, 50 cps |
| Power consumption: | max. 5 VA |
| Display: | LCD module, 2 lines, each with 16 characters, illuminated |
| Operation: | Menu-driven by 4 keys |
| Housing: | Plastic housing designed for installation in a control panel |
| Ambient conditions | 0°C to 40°C,<br>max. 90% rel. humidity (non-condensing) |
| Dimensions: | 96 x 96 x 119 mm (W x H x D) |
| Connections: | Wago-connectors with spring terminals,<br>SubD 9-pole. For RS-232 |
| Interfaces: | Bus interface for max. 24 slave controllers (max. cable length 100m, transposed if possible)<br>RS-232, electrically isolated<br>Relay change-over contact 250V, 8A (centralized alarm) |

## 2.1 Terminal Connection Plan

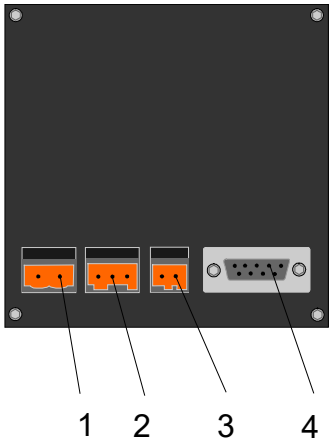



Fig. 3: Sockets at the back of the unit

**Pos. 1:** Mains connection socket

**Pos. 2:** Internal, potential-free centralized alarm relay (change-over contact releases when fault message is given).

**Pos. 3:** Bus connection (two-wire lead). Communication interface with the connected ELT-GP1/2-controllers (max. of 24). The controllers are connected to each other parallel by 2-wire leads.

**Pos. 4:** 9 pole, SubD plug (RS 232 - connection). Connection to a PC with standard interface cable for simpler parameterizing and visual control of the connected controllers. The monitoring operation is deactivated whilst the PC is accessed.

# 3. General Safety Instructions

## 3.1 Proper use

Up to 24 connected temperature controllers of the type ELT-GP1/2 can be remote controlled (e.g. from a central control room) and monitored with the display and control unit ELT-ANZ. Any other use above and beyond that is deemed improper use. Your display and control unit is state of the art and has been built in compliance with recognized safety regulations. Its assembly and use can nevertheless constitute a hazard to persons or cause impairment of the unit and other material damage. The display and control unit must only be used when it is in technically perfect working order, for the purpose for which it is intended, in awareness of all safety and hazard aspects and in compliance with the information given in the User's Manual.

## 3.2 Hazards of electrical power

Work on electrical equipment must only be done by a qualified electrician or by duly trained personnel under the instruction and supervision of a qualified electrician, in accordance with all applicable electrical standards and regulations.

## 3.3 Modifications to the display and control unit

Do not modify the equipment or the software without the manufacturer's prior authorization. Failure to comply will render all warranty claims null and void and we cannot give any guarantees for trouble-free operation of the controller.

# 4. Installation and Connection

## 4.1 Installation

The ELT-ANZ- unit has a sturdy plastic housing and is designed for installation in control panels.

## 4.2 Connection



MORTAL DANGER!
Before connecting the mains lead, you must switch off all power to the complete control cabinet!



Read chapter 3 **'General Safety Instructions'** carefully prior to installation.

Connect up the electrical leads (Wago-connectors with spring terminals).



Die Wago-sockets are safeguarded to prevent them from being interchanged!

For meanings of the connections, refer to chapter 2.4 **'Terminal Connection Plan'**.

# 5. Settings and Operation

All position numbers given here refer to Fig. 1 in chapter 2.2 **'Controls And Displays'**

## 5.1 Recognition Of The Controller Addresses

After the ELT-ANZ is put into operation for the first time, the addresses are automatically interrogated to determine the number and names of the connected controllers.

After automatic recognition of the controllers, the unit is in ground status. The display shows the values for the first controller found, as shown in Fig. 2.

If, in contravention of the rules, more than 24 controllers are connected, only the 24 controllers with the lowest addresses (e.g. R00 - R24) will be recognized. If the unit cannot find any connected controllers, the message '**CONT. NOT FOUND**!' will be given and the address interrogation '**SEEK. CONTR...**' will be repeated a few seconds later.

If there are two or more controllers with the same address, unavoidable communication errors will result.

You can start an address interrogation again by pressing and holding down (>3s) the 'ESC' key.

## 5.2 Setting Parameters

The various parameters for the individual controllers are set using the 'ESC' (**Pos. 2**), 'DOWN' and 'UP' (**Pos. 3 and 4**) and 'ENTER' (**Pos. 5**) keys. Select the controller for which the parameters are to be reset by pressing the 'DOWN' and 'UP' (**Pos. 3 and 4**) keys. Configuration of the activated controller is done in three menu levels. Figure 4 shows a general view.

## 5.3 Changing Functional Settings:

| **Function** | **Action** |
|---|---|
| Activate menu level 1 from ground status. | Press 'ENTER' |
| Activate menu level 2 from level 1. | Press the keys 'UP' and 'DOWN' simultaneously for longer than 3 s |
| Activate menu level 3 from level 2. | see above |
| Select a menu item. | Press the 'UP' or 'DOWN' key |
| Activate a menu item, to edit a value. | Press 'ENTER' |
| Change settings (see Tab.1). | Press the 'UP' or 'DOWN' key |
| Save a new setting in a menu item. | Press 'ENTER' |
| Leave a menu and return to ground status. | Press the 'ESC' key (see Fig. 4) |

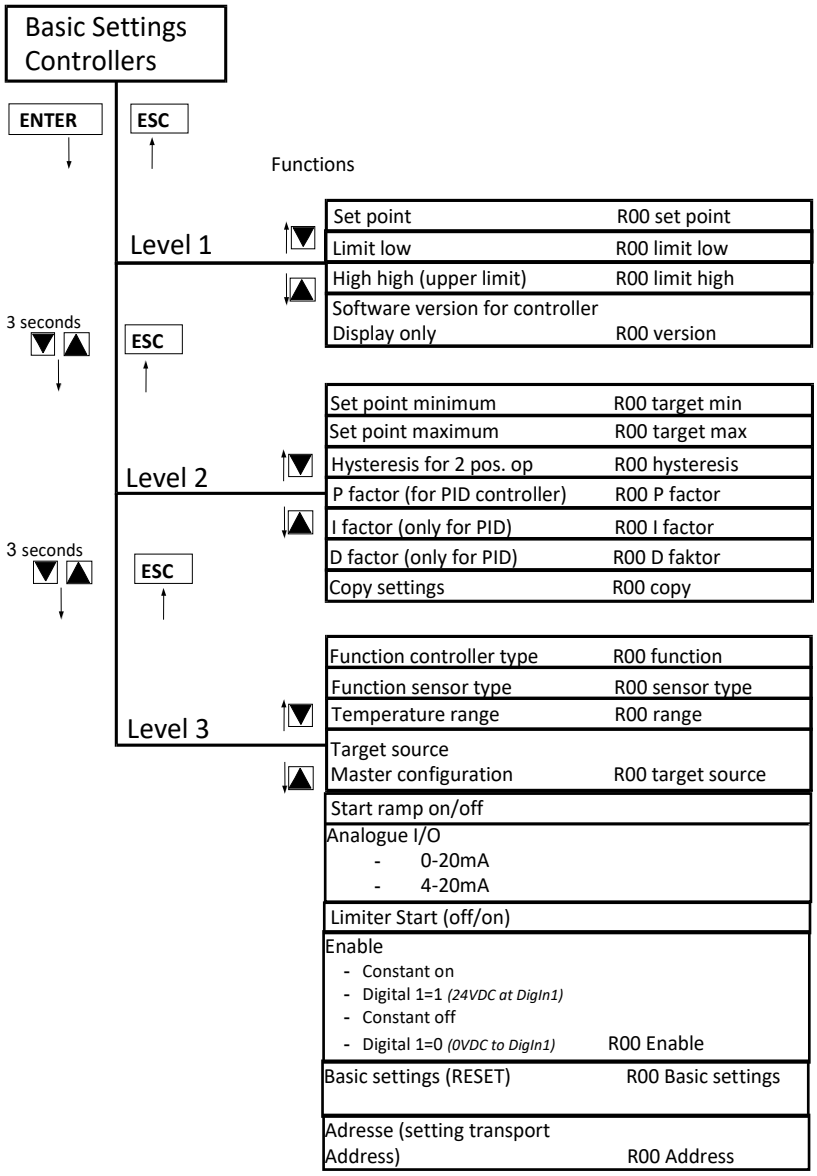



Fig. 4: Menu levels

## 5.4 Changing Numerical Settings: activate a menu item (see Fig. 4)

| **Function** | **Action** |
|---|---|
| The setting to be changed normally consists of a 3-digit number. The digit which is to be changed must be activated. | Press the 'DOWN' key repeatedly (the respective digit appears underlined) |
| Change the digit. | Press the 'UP' key |
| Save the new setting. | Press 'ENTER' |
| Leave this menu level. | Press the 'ESC' key |

When a setting is changed, the present value is displayed in the second line of the display, framed-in by two arrows.

For settings which have to be changed with a Yes/No inquiry, press **'ESC' for No** and **'ENTER' for Yes**.

### 5.5 ”Copy“ Function

With the „copy“ function, you can copy the parameters which have been set for the present controller address to other controller addresses. This is done as follows:

- After the „copy“ function has been activated in the second menu level, the question ‘REALLY [Y/N]?’ appears. After confirmation (by pressing ‘ENTER’), all connected controllers are offered as the destination, one after the other (‘to Rxx [Y/N]?’).
- Press ‘ENTER’ to confirm the copy command to copy the parameters to the controller shown in the display.
- Press ‘ESC’ to skip the controller shown in the display without copying the parameters.



During the copying operation, only the settings in menu levels 1 and 2 (see Fig. 4) are tranferred. The settings in menu level 3 remain unchanged.

### 5.6 “Standard Settings“ (RESET) Function

This sets all parameters in menu levels 1,2 and 3 (see Fig. 4) to the standard factory settings.

### 5.7 “Address“ Function (Setting Transport Address)

Allocation of the addresses to all connected temperature controllers (see chapter **‘Recognition Of The Controller Addresses’**). This is done as follows:

- First connect a temperature controller to the BUS interface of the ELT-ANZ (Fig. 3, Pos. 3).
- Allocate an address to this controller (see chapter 5.2 **‘Setting Parameters’, Menu Level 3**).
- Connect another controller. Observe polarity, or else a communication error will occur!
- Allocate another address to this controller.
- Repeat the above procedure until all controllers have been connected.

### 5.1 “Ramp” Function (from software version V1.4)

To activate the ramp function on the temperature controller, switch the start ramp option in menu 3 to “ON“. In menu 2 the “ramp“ function allows paramaters to be set in a range from 1 to 256. This parameter describes the time for increasing the set point by 1°C as a multiple of 6 seconds. *Example*: Parameter value 3 results in 18s/°C respecitvely 200°C/h.

### 5.2 Other Functions

A description of the functions can be found in the User's Manual for the temperature controllers ELT-GP1 or ELT-GP2 :

- “Limit High“
- “Limit Low“
- “Set-Point“
- “Temperature Range“
- Ramp function