

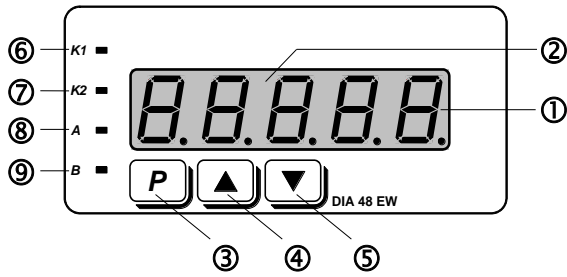
# DIA 48 EW - Z

from program version: 117K0

with configurable input  
**Z:** Sensor Pt 100,  
 Thermocouple,  
 Standard signal

as Digital remote indicator

as Limit value transmitter



Installation and operation of the unit

### Operating and display elements

- ① Display digit 0: short-symbol of unit: displays the unit at dependent unit of parameters, the master limit value and the actual value
- ② Displays digit 1 - 4: in operating mode: actual value display / master limit value display (in dependence of configuration)  
in input mode: alternating parameter value / parameter display
- ③ Jump to input level and operating level, confirmation key, keying through the parameters on one level
- ④ Increasing code value, parameter value
- ⑤ Reducing code value, parameter value
- ⑥ LED is lit if output K 1 is active, LED flashes if output K 1 is locked
- ⑦ LED is lit if output K 2 is active, LED flashes if output K 2 is locked
- ⑧ LED is lit if logic output is active, LED flashes if logic output is locked
- ⑨ LED is lit if logic input is activated

### The display elements K 1, K 2 and A in locked condition

Limit contact with locking, break contact LED flashing (tact ratio approx. 1/5 LED on / LED OFF)  
 Limit contact with locking, make contact LED flashing (tact ratio approx. 5/1 LED on / LED OFF)

### Functions of the unit

- Digital remote indicator
- Limit value transmitter
- Minimum- / maximum- or follow up pointer display

### Safety notes

Please read these notes on safety attentively and note the listed points! They concern the safety of persons and of the equipment!

The unit is conceived mainly as a temperature controller. However, it can also be used for other, slow changing physical dimensions, where two measurements per second are sufficient for accurate function. The logical cohesion of the temperature controller must then be transferred to the appropriate dimensions. Substantial damage to persons and property can be caused through improper use, application, installation, configuration or operation within a plant! Important! The unit must not be used as a safety device, it serves as process controller, process control as well as process monitoring!

The unit must not be installed in the EX-area! If everything with process dimensions from the EX-area and the unit is installed outside the EX-area, all supply lines of the unit, which lead into the EX-area, must be directed over safety barriers!

The satisfactory and safe operation of the unit presupposes, that the unit is transported, stored and installed with due care and that it is properly fitted.

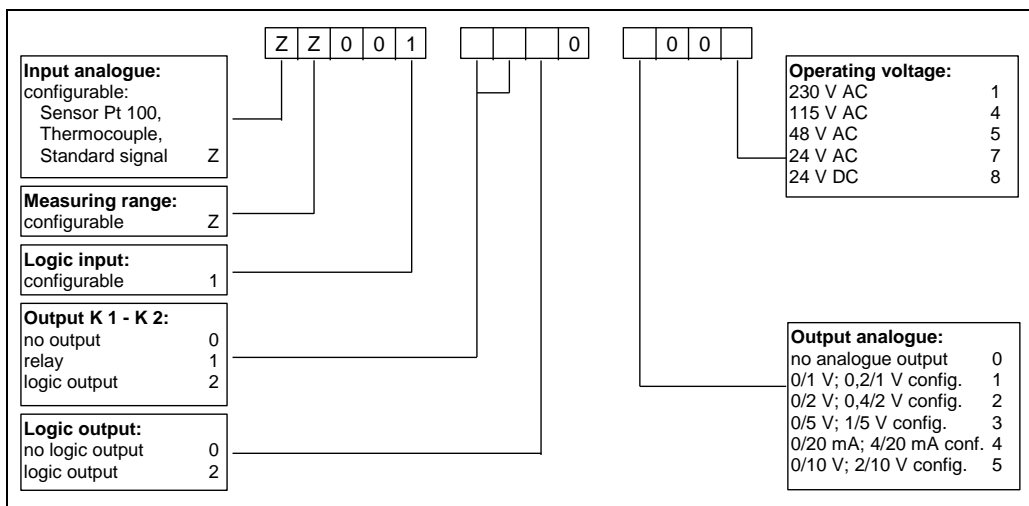
This unit must be installed, configured, commissioned and parameters have been setting by qualified persons only, who are familiar with the installation, commissioning and servicing or comparative units, as well as with the installation, for which the unit is used and must have knowledge of measuring control and regulating methods.

The operating personnel of the plant, in which the unit is to be used, must be instructed in its operation by qualified persons.

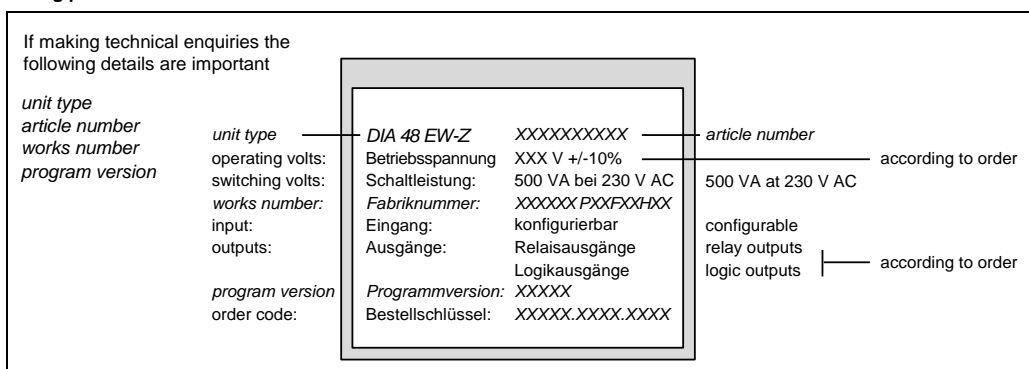
### Please note

- the contents of these manual, especially the notes of installation, commissioning and adaptation of the unit to the controlling system,
  - the safety regulations affixed to the unit,
  - the respective safety regulations for the installation and the operation of electric plant,
  - keep these manual for later applications.
- The regulations mentioned in these manual are valid for all EC countries. For application in a country outside the EC, the appropriate national regulations must be observed.  
 This unit has been manufactured and tested according to DIN EN 61010 part 1 "protection measures for electronic measuring units", and has left our factory in a safety and operational technical satisfactory condition.

### Order code (identification of the unit)



### Rating plate



### Mounting location and fitting of the unit

#### Mounting location

The mounting location must be free from vibrations. The unit must not be mounted in the proximity of motors, transformers, valves and other inductive loads. The ambient temperature at the mounting location can be 0...50°C with a relative humidity of ≤ 75% (without dewing). Aggressive gases and vapours can quickly destroy the unit.

#### Fitting of the unit

- Insert the unit from the front side into the control panel cutout
- Suspending the fastener in the lateral nipple of the grip by the back of the control panel
- Thereby the flat sides of the fastener must border of the housing
- The fastener must be tighten against the back of the control panel symmetrical with a screwdriver
- Any fitting position is suitable.

Please note: Don't resort to force!

#### Installation notes

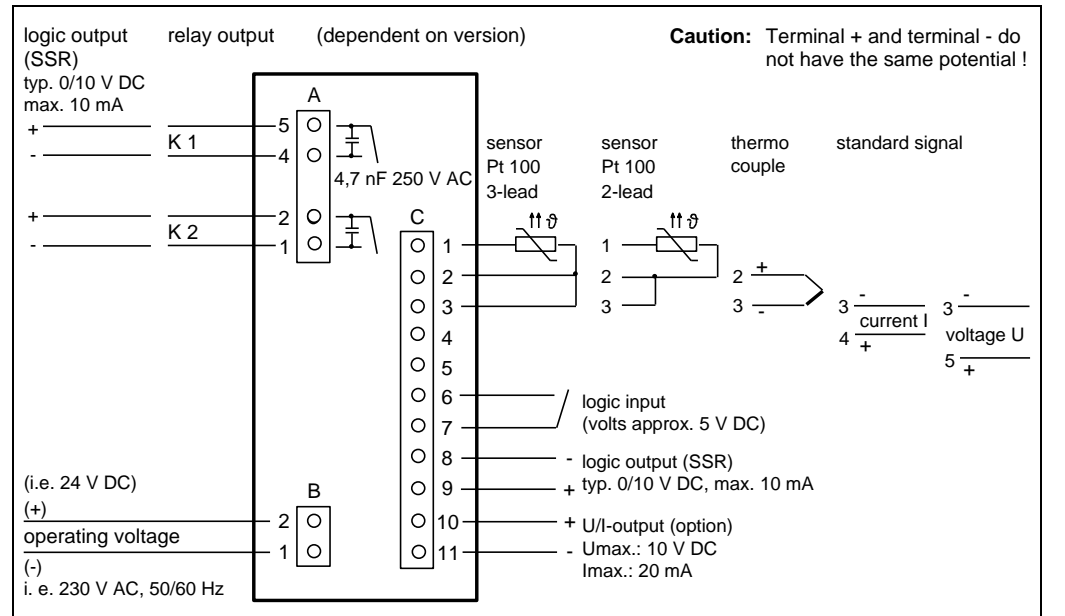
Please read the installation notes attentively and observe all listed points when installing the unit. If these notes are ignored, function interferences can occur, the required EMV guide lines are not complied with, and CE-conformity is no longer fulfilled. Ensure before connecting and commissioning of the unit, that the operating voltage and the required operating voltage ratio of the unit comply with those at the location (see rating plate and technical data). If necessary, carry out the appropriate measures.



Ensure that the control voltage and load voltage at the location is switched off, and secured against switch on for the period of installing the unit. The electrical connections are to be carried out in accordance with the connection diagram and the appropriate national regulations. Use multi core cable end at wiring with flexible jumper wire. Arrange the supply lines to the unit in such a way, that they are free from tensile load under all conditions and that they are not in any possible danger of being cut-off or crushed.

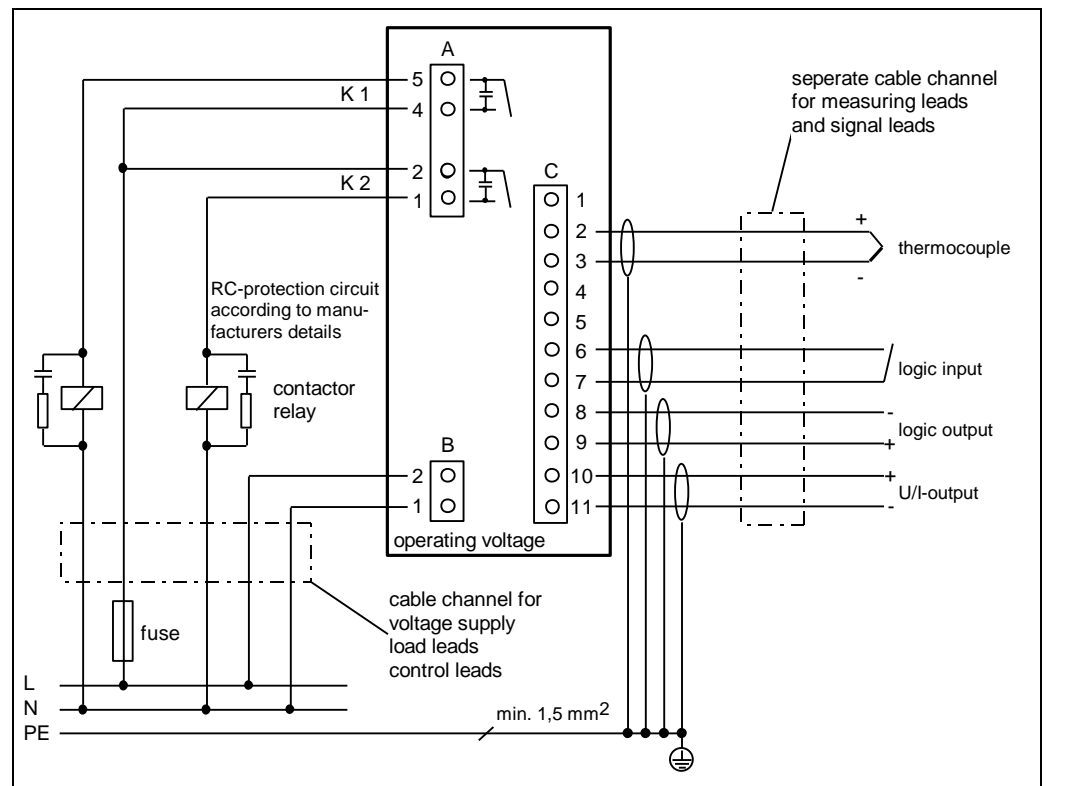
Shielded cables must be used for sensor leads, for thermocouples shielded compensator leads. The sensor leads must be arranged spatially separated from the load leads and control leads (power lines). Compensator leads for thermocouples must not be intermediately clamped with normal clamps, as otherwise additional thermocouples are created, which could falsify the measuring result! Connect the shield of the sensor lead with the unit as close as possible to the fitting board and lay the lead with a minimum of 1.5 mm<sup>2</sup> cross-section from this point to the earthed collecting bar. Inductive loads, such as contactors, valves, motors, transformers etc., switched from the unit, as well as inductive loads installed in the same control cabinet or in the same plant, must be suppressed with unit-specific interference suppressers!! The load circuits and control circuits of the unit relays must be fused against overload. These manual do not contain all notes on the regulations, standards etc., which must be observed and followed when working with the unit in connection with plants. These regulations, standards etc. must be compiled and observed by the operator of the unit, application-specific.

### Terminal connection diagram (in dependence on version)



### Wiring diagram (Wiring example)

To enable effective discharge of interferences the shielding of the sensor leads and signal leads must be connected to earth at the side of the unit.



### Commissioning and adaptation of the unit

The unit is supplied pre-configured to an application, so by switching on some function is present. This pre-configuration is suitable for the given requirements in only a few cases, it means, the unit must be adapted to the controller system of the plant, in which it is to be used.

#### Switch on



Check the wiring again carefully! Incorrect wiring of the unit can lead to serious damage to the unit and the plant! Ensure that the load voltage of the plant is switched off at the initial switch on of the unit, because the unit is not yet adapted to the plant and can therefore possibly cause error functions.

Now switch on the operating voltage of the unit.

#### Lead balancing or zero point correction

When operating the unit with a resistance thermometer with the two wire method, the lead resistance, as well as a safety barrier, is noticeable through a constant temperature measuring error. This temperature measuring error can be corrected on the range limit setting level (code 955) with the parameter "Corr". Furthermore, the temperature difference between the temperature of the measuring point, the temperature sensors, the unit and the temperature of the process can be equalised with this parameter.

#### Setting the master limit value ("SEt.X")

Depending on configuration of the unit at the range limit setting level (code 955) you can set your master limit value K 1 ("SEt.X") at the operating level or at the nominal value input level (code 925).

