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Functional description No

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### 1. General

The system consists of

- the housing, with one JUMO eTron M "microstat" (i.e. digital electronic thermostat, hereafter referred as "Heating Control");
- one heating cartridge with 0.6-metre connection cables and 4-pole connectors;
- one Pt100 temperature sensor with 0.6m connection cable;
- one 1/8-inch bayonet adapters (for the mechanical securing of the Pt100 temperature sensor)
- one 25A/30mA (-1F2 ) earth leakage switch.

### 2. Earth leakage switch

Inside the device, there is a earth leakage switch (25A/30mA) to protect the system from fault currents.

The device may be opened by authorized specialist personnel only.

Before being opened, it must be unplugged from the mains power supply!

### 3. Function

There is no ON/OFF mains power switch on the device, so it is ready for operation as soon as it is supplied with a 230VAC voltage. A preliminary fuse function is provided inside the device in the form of a micro fuse (-1F1, M3,15A, 5x20) and a earth leakage switch (-1F2, 25A/30mA).

Heating Regulator HZR 10.3 was specially designed as a means of heating up a gluing machine.

It has one heating control "Heating Control", which has its own heating cartridge "Heating Circuit" and its own Pt 100 temperature sensor "Temperature Sensor".

The Pt100 temperature sensor is secured in position in holders on the gluing machine by means of bayonet adapters. The heating process is enabled/disabled by means of the "Heating Circuit Off/On" toggle switch on the HZR 10.3 Heating Regulator.

Before heating is enabled, a check should be performed to ensure that the "Heating Circuit" cartridge with its Pt100 temperature sensor "Temperature Sensor" is correctly inserted in the corresponding holders on the gluing machine.

If a heating cartridge is connected up without its temperature sensor having been inserted in the corresponding holder on the gluing machine, this will result in damage to the material being glued.

The temperature prevailing at any given moment is shown on the display of the corresponding Heating Control. In the "Heating Circuit On" switch setting, the heating cartridges heat up the gluing device to whatever temperature has been preset in the corresponding JUMO eTron M heating control. Relay K1 on the Heating Control switch until the desired temperature is reached. LED "K1" on the Heating Control remains illuminated for as long as heating is in progress.

When the temperature preset in the Heating Control is reached, the heating process is interrupted by contact K1, and LED "K1" on the JUMO eTron M Heating Control is extinguished.

Heating resumes when the actually prevailing temperature falls to 1 degree below the desired temperature. (This is the default value difference – i.e. the default hysteresis value - that retriggers heating, but other value differences can be input into the Heating Control.)

#### **4. Altering the desired heating temperature**

The desired temperature value can be set as follows:

- Press key "P" on the digital electronic thermostat for 3 seconds.
- Now set "Code 82" with the arrow keys.
- Confirm with key "P".
- "SP" and "rd" will now flash alternately in the display.
- Select "Edi" by pressing the arrow keys.
- "SP" and "Edi" will now flash alternately in the display.
- Confirm "Edi" mode with key "P".
- Do not press any key for the next 60 seconds.
- The heating control will now have returned to "normal" mode.
- Press key "P" and enter the desired temperature value.
- Press key "P" once again to store the new desired temperature value.

#### **5. Disabling of alteration of the heating temperature**

Alteration of the preset desired temperature value can be disabled as follows:

- Press key "P" on the digital electronic thermostat for 3 seconds.
- Now set "Code 82" with the arrow keys.
- Confirm with key "P".
- "SP" and "Edi" will now flash alternately in the display.
- Select "rd" by pressing the arrow keys.
- "SP" and "rd" will now flash alternately in the display.
- Confirm "rd" mode with key "P".
- Do not press any key for the next 60 seconds.
- The heating control will now have returned to "normal" mode.
- The possibility of altering the preset desired temperature value is now disabled.

Further information about the Heating Controls is set out in the description of the JUMO eTron M digital electronic thermostats provided by the manufacturer.