**Features:**
- on/off algorithm
- Password protection
- PID algorithm
- Auto-tuning

**Input:**
- Galvanic isolation:
  - Supply

**Output:**
- SSR output
- Relay (control)
  - 1 output
  - switch-over contact, 2 A/ 230 V
- Transistor voltage (control)
  - 1 output 5 V
  - resistance limiting the current 10 Ω, without isolation from input side
- Relay (alarm)
  - 1 output
  - NO contact, 1 A/ 230 V

**Examples of Application**
- Temperature control in a baking oven.

**Example of application**

- **RE55 temperature controller**
- **Pt100 sensor**
- **Heaters**
- **Contactor 1**
- **Contactor 2**
- **3-phase supply**

**Input**

<table>
<thead>
<tr>
<th>Input type</th>
<th>Range</th>
<th>Error</th>
<th>Basic error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pt100</td>
<td>-50 .. 100°C</td>
<td>0.8°C</td>
<td>Compensation of thermocouple cold junction temperature changes: ≤ 2°C</td>
</tr>
<tr>
<td>Pt100</td>
<td>0 .. 100°C</td>
<td>0.5°C</td>
<td>Ambient temperature change: ≤ 100% of basic error/ 10 K</td>
</tr>
<tr>
<td>Pt100</td>
<td>0 .. 150°C</td>
<td>0.8°C</td>
<td>Resistance thermometer line resistance change: ≤ 50% of basic error</td>
</tr>
<tr>
<td>Pt100</td>
<td>0 .. 250°C</td>
<td>1.3°C</td>
<td></td>
</tr>
<tr>
<td>Pt100</td>
<td>0 .. 400°C</td>
<td>2.0°C</td>
<td></td>
</tr>
<tr>
<td>Pt100</td>
<td>0 .. 600°C</td>
<td>3.0°C</td>
<td></td>
</tr>
<tr>
<td>Fe-CuNi (J)</td>
<td>0 .. 250°C</td>
<td>2.0°C</td>
<td></td>
</tr>
<tr>
<td>Fe-CuNi (J)</td>
<td>0 .. 400°C</td>
<td>2.0°C</td>
<td></td>
</tr>
<tr>
<td>Fe-CuNi (J)</td>
<td>0 .. 600°C</td>
<td>3.0°C</td>
<td></td>
</tr>
<tr>
<td>Fe-CuNi (J)</td>
<td>0 .. 900°C</td>
<td>4.0°C</td>
<td></td>
</tr>
<tr>
<td>NiCr-NiAl (K)</td>
<td>0 .. 600°C</td>
<td>3.0°C</td>
<td></td>
</tr>
<tr>
<td>NiCr-NiAl (K)</td>
<td>0 .. 900°C</td>
<td>4.0°C</td>
<td></td>
</tr>
<tr>
<td>NiCr-NiAl (K)</td>
<td>0 .. 1300°C</td>
<td>6.0°C</td>
<td></td>
</tr>
<tr>
<td>PtRh10-Pt (S)</td>
<td>0 .. 1600°C</td>
<td>8.0°C</td>
<td></td>
</tr>
</tbody>
</table>

**Output**

- Temperature input (thermocouple or resistance thermometer).
- Control output: relay or transistor.
- Alarm output: relay (option).
- Control: on/off of PID with auto-tuning (option).
- Setting of the set point value by means of the knob.
- Programming push-buttons (option).
## RE55 CONTROLLER

### EXTERNAL FEATURES

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readout field</td>
<td>LED 10 mm, 4 digits</td>
</tr>
<tr>
<td>Overall dimensions</td>
<td>96 × 96 × 65 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>&lt; 0.3 kg</td>
</tr>
<tr>
<td>Protection grade</td>
<td>from frontal side: IP40 from terminal side: IP20</td>
</tr>
</tbody>
</table>

### RATED OPERATING CONDITIONS

<table>
<thead>
<tr>
<th>Condition</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage</td>
<td>85 ... 253 V d.c./a.c.</td>
</tr>
<tr>
<td>Temperature</td>
<td>ambient: 0 ... 23°C .. 50°C</td>
</tr>
<tr>
<td>Humidity</td>
<td>&lt; 85% without condensation</td>
</tr>
<tr>
<td>Operating position</td>
<td>any</td>
</tr>
<tr>
<td>External magnetic field</td>
<td>&lt; 400 A/m</td>
</tr>
<tr>
<td>Power input</td>
<td>&lt; 4 VA</td>
</tr>
</tbody>
</table>

### SAFETY AND COMPATIBILITY REQUIREMENTS

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electromagnetic compatibility</td>
<td>noise immunity</td>
</tr>
<tr>
<td></td>
<td>acc. to EN 61000-6-2</td>
</tr>
<tr>
<td></td>
<td>noise emissions</td>
</tr>
<tr>
<td></td>
<td>acc. to EN 61000-6-4</td>
</tr>
<tr>
<td>Pollution level</td>
<td>2</td>
</tr>
<tr>
<td>Installation category</td>
<td>III</td>
</tr>
<tr>
<td>Maximum phase-to-earth operating voltage</td>
<td>for supply circuit, output: 300 V for input circuits: 50 V</td>
</tr>
<tr>
<td>Altitude above sea level</td>
<td>up to 2000 m</td>
</tr>
</tbody>
</table>

### CONNECTION DIAGRAMS

![Connection Diagram](image)

### ORDERING

<table>
<thead>
<tr>
<th>Code</th>
<th>Input</th>
<th>Option</th>
<th>Control output</th>
<th>Version</th>
<th>Additional quality requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>RE55</td>
<td>-XX</td>
<td>X</td>
<td>relay</td>
<td>00</td>
<td>without additional quality requirements</td>
</tr>
<tr>
<td></td>
<td>01</td>
<td>1</td>
<td>voltage 0/5 V</td>
<td>2</td>
<td>with an extra inspection quality certificate 8</td>
</tr>
<tr>
<td></td>
<td>02</td>
<td>2</td>
<td></td>
<td></td>
<td>acc. to customer’s request** 7</td>
</tr>
<tr>
<td></td>
<td>03</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>05</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>06</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>07</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>08</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>01</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>02</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>03</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>05</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>06</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>07</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>08</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Order example:**

The code: **RE55 - 02 1 1 00 8** means:

- **RE55** - controller of RE55 type
- **02** - input Pt100: -50 ... 100°C
- **1** - on/off control
- **1** - control output: relay
- **00** - standard version
- **8** - without additional quality requirements.