**GALVANIC ISOLATION:**

**EXAMPLE OF APPLICATION:**

Temperature control in a hardening furnace.

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### EXAMPLE OF APPLICATION

**INPUT**

<table>
<thead>
<tr>
<th>Input type</th>
<th>Designation</th>
<th>Range</th>
<th>Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pt100</td>
<td>Pt100</td>
<td>-200 .. 850°C</td>
<td>-328 .. 1563°F</td>
</tr>
<tr>
<td>Pt1000</td>
<td>Pt1000</td>
<td>-200 .. 850°C</td>
<td>-328 .. 1563°F</td>
</tr>
<tr>
<td>Fe-CuNi</td>
<td>J</td>
<td>-50 .. 1200°C</td>
<td>-58 .. 2192°F</td>
</tr>
<tr>
<td>Cu-CuNi</td>
<td>T</td>
<td>-50 .. 400°C</td>
<td>-58 .. 752°F</td>
</tr>
<tr>
<td>NiCr-NiAl</td>
<td>K</td>
<td>-50 .. 1372°C</td>
<td>-58 .. 2501,6°F</td>
</tr>
<tr>
<td>PtRh10-Pt</td>
<td>S</td>
<td>0 .. 1767°C</td>
<td>32 .. 3212,6°F</td>
</tr>
<tr>
<td>PtRh13-Pt</td>
<td>R</td>
<td>0 .. 1767°C</td>
<td>32 .. 3212,6°F</td>
</tr>
<tr>
<td>PtRh30-PtRh6</td>
<td>B</td>
<td>0 .. 1767°C</td>
<td>32 .. 3212,6°F</td>
</tr>
<tr>
<td>NiCrSi-NiSi</td>
<td>N</td>
<td>-50 .. 1300°C</td>
<td>-58 .. 2372°F</td>
</tr>
</tbody>
</table>

### OUTPUT

<table>
<thead>
<tr>
<th>Output type</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relay output</td>
<td>type SPDT (form C), max load: 5 A/230 V AC, max. 200,000 cycles for 5 A/230 V AC (resistive)</td>
</tr>
</tbody>
</table>
**RE70**

**TEMPERATURE CONTROLLER**

### External Features
- **Readout field**: LED
- **Overall dimensions**: 48 × 48 × 93 mm
- **Weight**: 0.25 kg
- **Protection grade**: from frontal side: IP65 from terminal side: IP20

### Rated Operating Conditions
- **Supply voltage**: 230 V a.c. +/- 10%
- **Temperature**: ambient: 0...23...50°C
- **Humidity**: < 85% without condensation
- **Operating position**: any
- **Frequency**: 50...60 Hz
- **Storage temperature**: -20...70°C
- **Maximal phase-to-earth operating voltage**: for supply circuit, outputs: 300 V
- **Altitude above sea level**: < 2000 m

### Safety and Compatibility Requirements
- **Electromagnetic compatibility**
  - Noise immunity: acc. to EN 61000-6-2
  - Noise emissions: acc. to EN 61000-6-4
- **Pollution level**: 2
- **Installation category**: III
- **Maximal phase-to-earth operating voltage**:
  - for supply circuit, outputs: 300 V
  - for input circuits: 50 V
- **Altitude above sea level**: < 2000 m

### Connection Diagrams

**Fig.1** Connection of input signals.

**Fig.2** Connection of supply and load circuit.

**Fig.3** Interface RS-485 (for controller configuration).

### Ordering

**Order example:**

The code: **RE70 - 00 E 0** means:

- **RE70** - temperature controller of RE70 type
- **00** - standard version
- **E** - user’s manual in English
- **0** - without additional quality requirements.

**Version:**
- standard: 00
- custom-made*: XX

**Language:**
- Polish: P
- English: E
- other*: X

**Additional quality requirements:**
- without additional quality requirements: 0
- with an extra inspection quality certificate: 1
- acc. to customer’s request*: X

* - only after agreeing with the manufacturer

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For more information about LUMEL's products please visit our website: [www.lumel.com.pl](http://www.lumel.com.pl)

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