TC.LAE.5.400 / TC.LAE.5.230
Liquid to air heat exchanger

Function
The TC.LAE is a liquid cooling device that transfers the generated heat energy from the attached device to the surrounding air. An internal pump circulates the cooling liquid between the device to be cooled and the TC.LAE.
The heated liquid flows through the radiators to be cooled down by the surrounding air, which is forced through the radiators by six powerful temperature controlled fans.
The temperature reduced coolant returns via tube outlet to the attached device.

Features
- For systems with significant cooling demands and without liquid cooling system in the lab.
- With modular concept for easy installation in a switch cabinet.
- In a compact design with 2 integrated liquid to air heat exchangers and temperature controlled fans for noise reduced operation.
- For a closed cooling circuit with minimal maintenance work.
- With optional connection variants of the cooling interfaces G1/2” to complete the product line.
  E.g. Quick release non-drip coupling.
- CE conformity declaration
- Swiss made: Development, manufacturing and testing
- Graduated product line:
  - 230 VAC
  - 400 VAC

Application Example
Closed cooling circuit
## Technical Data

### AC Lineside Ratings

<table>
<thead>
<tr>
<th>400 VAC</th>
<th>400 VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line voltage</td>
<td>380 ... 480 VAC ±10 %</td>
</tr>
<tr>
<td>Line frequency</td>
<td>48 ... 62 Hz</td>
</tr>
<tr>
<td>Mains connection type</td>
<td>L + PE (no neutral)</td>
</tr>
<tr>
<td>Input current (at 400 VAC)</td>
<td>0.5 A</td>
</tr>
<tr>
<td>Leakage current L to PE</td>
<td>&lt; 10 mA</td>
</tr>
<tr>
<td>Input power</td>
<td>200 VA</td>
</tr>
<tr>
<td>Powerfactor</td>
<td>≥ 0.98</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>230 VAC</th>
<th>230 VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line voltage</td>
<td>100 ... 240 VAC ±10 %</td>
</tr>
<tr>
<td>Line frequency</td>
<td>48 ... 62 Hz</td>
</tr>
<tr>
<td>Mains connection type</td>
<td>L + N + PE</td>
</tr>
<tr>
<td>Input current (at 230 VAC)</td>
<td>0.87 A</td>
</tr>
<tr>
<td>Leakage current L to PE</td>
<td>&lt; 10 mA</td>
</tr>
<tr>
<td>Input power</td>
<td>200 VA</td>
</tr>
<tr>
<td>Powerfactor</td>
<td>≥ 0.98</td>
</tr>
</tbody>
</table>

### Cooling

Internal liquid to air heat-exchange system using temperature-controlled fans

**Heat Exchanger**

- **Material**: Brass
- **Cooling Power**: 5 kW at 40 °C ambient temperature

**Recommended coolant characteristics**

- **Substance**: Antifrogen N Clariant® (30%)

For further information see manufacturer’s datasheet

### Connection

The TC.LAE device is delivered with a hose fitting.

![Image of connection diagram]

- **Thread diameter d1**: G1/2
- **Hose connector diameter d2**: 13 mm
- **Hose connector diameter d3**: 14.2 mm
- **Hose connector length l1**: 30 mm
- **Total length l2**: 47 mm

### Protection

**Type of protection (according EN 60529)**

- **Basic construction**: IP 20
- **Mounted in cabinet**: up to IP 53

**Conformity CE-Marking**

- **EMC Directive**: EMC emission EN 61000-6-4
- **EMC immunity**: EN 61000-6-2

**Low Voltage Directive**

- **Electronic equipment for use in power installations**: EN 50178

**RoHS Directive 2011/65/EU**

Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

- **EN IEC 63000**

### Ambient

- **Operating temperature**: 5 ... 40 °C
- **Storage temperature (with orig. coolant)**: -18 ... 70 °C
- **Relative air humidity (non-condensing)**: 0 ... 95 %
- **Operating orientation**: upside
- **Storage, transport orientation**: upside

### Weight & Dimension

- **Weight**: approx. 25 kg
- **Width front panel**: 483 mm
- **Width housing (19")**: 443 mm
- **Height front panel**: 176.1 mm
- **Height housing (4 U)**: 173.2 mm
- **Depth with output terminals**: 649 mm
- **Depth housing**: 601 mm
- **Connections: Inlet / Outlet**: G1/2"

### Ordering code

- **Line Voltage 380 ... 490 VAC**: TC.LAEE.5.400
- **Line Voltage 100 ... 240 VAC**: TC.LAEE.5.230

1) Cooling power depends on ambient temperature inside cabinet

For detailed technical information, contact your local sales partner or REGATRON.

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