**Application:**
The INT69 VS, INT69 V and INT69 TM motor protection modules have been especially developed for motors with high starting load or drives with high switching frequency.

**INT69 V Motor Protection Module:**
The INT69 V switching points and hysteresis are similar to those of the INT69 motor protection module. In addition it is equipped with an electronic lock-out function. By inserting a jumper between terminal B1 and B2, lock-out after thermal shut-down is activated. After the motor windings cool down, the lock-out function can be reset by interrupting the supply voltage, removing the jumper B1-B2 or by depressing the reset button (option).

**INT69 VS Motor Protection Module:**
Standard PTC control modules are reset after terminal trip when the motor windings have cooled down by approx. 1...3K. For some applications, however, e.g. for motors with high switching frequency (cranes, lifts, winches, etc.) this temperature difference may be too small. The INT69 VS motor protection module has been developed for these special drive applications. Firstly the switching hysteresis spread, so that a reset temperature difference of approx. 10K is achieved and secondly lock-out can be selected by inserting a jumper (B1-B2). After cooling down, the motor can be restarted if the lock-out function is reset by interrupting the supply voltage, removing the jumper B1-B2 or by depressing the reset button (option).

**INT69 TM Motor Protection Module:**
The INT69 TM motor protection module has also been designed for motors with high starting load and/or high switching frequency. The extended cooldown period of the INT69 VS protection module is achieved increasing the switching hysteresis, whereas the INT69 TM is equipped with an additional time function for extended cooldown period. As with to the standard control modules, the trip point is 4.5kΩ and thus corresponds to the nominal response temperature of the PTC thermistors. As soon as the PTC resistance deeps to 2.5kΩ, the internal timer of the INT69 TM is activated and after approx. 5min the output relay pulls in again.

**Note:**
Due to the displacement of the trip-point to approx. 12.5kΩ the trip temperature is approx. 10K above the nominal response temperature of the PTC. When the INT69 VS is used, the NAT (nominal response temperature) of the PTC sensors must, therefore be 10K below the required trip temperature.

**Example:**
NAT=150°C (insulation class F)
NAT=150°C minus 10K=140°C
# INT69 V®, INT69 VS®, INT69 TM®

for heavy start or high switching frequency

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### Technical data general

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage</td>
<td>AC 50Hz 230V ±10% 3VA</td>
</tr>
<tr>
<td>Ambient temperature range</td>
<td>-20...+60°C</td>
</tr>
<tr>
<td>Relay</td>
<td>AC 250V, max. 5A, 300VA ind.</td>
</tr>
<tr>
<td>Mechanical service life</td>
<td>approx. 1 mio. switching cycles</td>
</tr>
<tr>
<td>Protection class acc. to</td>
<td>EN 60529</td>
</tr>
<tr>
<td>with terminal cover</td>
<td>IP20</td>
</tr>
<tr>
<td>without terminal cover</td>
<td>IP00</td>
</tr>
<tr>
<td>Housing</td>
<td>PA6 GF30</td>
</tr>
<tr>
<td>Mounting</td>
<td>on 35mm standard rail acc. to EN 50022 or base mounted</td>
</tr>
</tbody>
</table>

### Technical data INT69 V

**Measuring circuit**

- type: PTC, acc. to DIN 44081/082
- number of sensors: 1...9 in series
- $R_{25\text{ total}}$: < 1.8kΩ
- Switching hysteresis: 1...3K

**Weight** approx. 200g

### Technical data INT69 VS

**Measuring circuit**

- type: PTC, acc. to DIN 44081/082
- number of sensors: 1...9 in series
- $R_{25\text{ total}}$: < 1.8kΩ
- Switching hysteresis: approx. 10K

**Weight** approx. 200g

### Technical data INT69 TM

**Measuring circuit**

- type: PTC, acc. to DIN 44081/082
- number of sensors: 1...9 in series
- $R_{25\text{ total}}$: < 1.8kΩ
- Switching hysteresis: 1...3K, with additional time factor of 5min ± 15% for cooling down

**Weight** approx. 190g

### Ordering information

- **INT69 VS, standard version**: 52 A 125
- **INT69 VS, with mains and fault control**: 52 A 125 S25
- **INT69 VS, with mains and fault control and reset button**: 52 A 125 S22
- **INT69 V, standard version**: 52 A 125 S25
- **INT69 V, with mains and fault control**: 52 A 127 S21
- **INT69 V, with reset button**: 52 A 127 S24
- **INT69 V, with mains and fault control and reset button**: 52 A 127 S22
- **INT69 TM with terminal cover**: 52 A 240 S10

Subject to technical modification