Technical data regarding minimum contact load with Elesta safety relays.

With the data concerning the minimum load voltage and current on the relay contacts, specified in the data sheet, it concerns approximate values.

Starting with normal operating conditions:

Normal operating conditions are called:
- ambient temperature –10C.....+55C
- clean air without pollutant concentration
- no dust formation
- regular manipulation (min. 2 times per day)
- over voltage at coil max. Rated voltage x 1,2
- contact capacity no pulsbetrieb
- no large shock or vibration effect in resting position (NC contact opens)

Data concerning the minimum load

<table>
<thead>
<tr>
<th>Model</th>
<th>Contact Material</th>
<th>Contact Type</th>
<th>Voltage</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGR282Z</td>
<td>AgCuNi</td>
<td>Standard</td>
<td>6V/20mA</td>
<td>5V/25mA</td>
</tr>
<tr>
<td>SGR282Z</td>
<td>AgCuNi+4-6um</td>
<td>Standard</td>
<td>6V/10mA</td>
<td>5V/12mA</td>
</tr>
<tr>
<td>SIR282</td>
<td>AgSnO2+0,2-0,4um Au</td>
<td>Standard</td>
<td>12V/10mA</td>
<td>5V/25mA</td>
</tr>
<tr>
<td>SIS</td>
<td>AgCuNi+0,2-0,4um Au</td>
<td>Standard</td>
<td>6V/5mA</td>
<td>5V/6mA</td>
</tr>
<tr>
<td>SIR</td>
<td>AgSnO2+0,2-0,4um Au</td>
<td>Crown</td>
<td>6V/10mA</td>
<td>5V/12mA</td>
</tr>
<tr>
<td>SIM</td>
<td>AgSnO2+0,2-0,4um Au</td>
<td>Crown</td>
<td>6V/10mA</td>
<td>5V/12mA</td>
</tr>
</tbody>
</table>

The SGR282Z, SIR282 and SIS have all normal standard contacts. In the switched condition the contacts usually touch each other only at one point. The insulate used in the SIS consists of a high-quality plastic with the designation LCP Vectra. This plastic material has low degassing properties. For reliability of electrical contacts this is a large advantage.

In the older generation relays of the type series SGR282Z and SIR282 plastic materials are used that have stronger degassing properties and as a result contact reliability is not quite as good. The difference is evident also in the minimum load.

The SIR and SIM relay use crown contacts. The advantage of a crown contact is justified with the fact that in the switched condition the contacts always meet one another at two points. That affects itself like a parallel connection. Thus contacting is generally safer with a crown contact than with a standard single contact.

Other factors, like contact material, pressure, as well as relative contact movement, contact wiping etc, should also be considered very important points for the switching reliability of a relay. Constructional conditions are different depending upon the type of relay. With the data of minimum contact load specified in the catalog we performed well over the years since 1952. The user must be conscious that using smaller loads than recommended by Elesta, switching reliability is not guaranteed for longer periods.

For reliable switching do not use the Elesta relays below the approximate minimum values specified in the catalog.

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