Indication modules

LED-indication modules

- Compact module in a 96 x 96 mm housing for panel mounting
- 8 or 16 channels with exchangeable LED’s
- Several alarm voltages in a range from 24 V up to 230 V
- Integrated lamp test push button
- Collective report optional
- Front panel marking: transparent window for slide-in labels
- Low built-in depth
LED-INDICATION MODULES

Technical description

The LAB-indicators are compact modules for panel mounting, with 8 or 16 channels and integrated lamp test push buttons. In the basic version (without collective report) the connection of an additional external test button, is possible.

The devices are equipped with LED’s in red or green colour, mounted on plug base, which are interchangeable and different LED colours can be installed after removing the front panel. Other colours are available in a set of 10 LED’s per colour. **Note:** Always use “high efficiency “LED types!

**Attention:** Disconnect supply voltage!

<table>
<thead>
<tr>
<th>Bezeichnung</th>
<th>Ausrüstung</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAB 08-1</td>
<td>8 channels in NO design</td>
</tr>
<tr>
<td>LAB 08-1M</td>
<td>8 channels in NO design</td>
</tr>
<tr>
<td>LAB 08-1MR</td>
<td>8 channels in NC design **</td>
</tr>
<tr>
<td>LAB 08-1lMR</td>
<td>8 channels in NC design **</td>
</tr>
<tr>
<td>LAB 16-1</td>
<td>16 channels in NO design</td>
</tr>
<tr>
<td>LAB 16-1M</td>
<td>16 channels in NO design</td>
</tr>
<tr>
<td>LAB 16-1MR</td>
<td>16 channels in NC design **</td>
</tr>
<tr>
<td>LAB 16-1lMR</td>
<td>16 channels in NC design **</td>
</tr>
</tbody>
</table>

* Each discrete alarm can be selected by programming jumpers to assign on collective report. In standard the collective report is a NO contact on request it can be realized as a NC contact. An inverting function is also available.

** When the collective report contact is wired as NC, then not used inputs have to be connected on L1 or +.
<table>
<thead>
<tr>
<th>Type*</th>
<th>Article No.*</th>
<th>Collective report</th>
<th>Design of collective report</th>
<th>Level of signal input</th>
<th>LED</th>
<th>Contact of collective report if $U_B$ present</th>
<th>$U_B$ break down</th>
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<tbody>
<tr>
<td>LAB ..-1/24</td>
<td>21LAB..1011</td>
<td>not available</td>
<td>-</td>
<td>Low</td>
<td>off</td>
<td>not available</td>
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<td>LAB ..-1/48</td>
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<td>LAB ..-1/60</td>
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<td>LAB ..-1/110</td>
<td>21LAB..10F5</td>
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<td>LAB ..-1/125</td>
<td>21LAB..10H5</td>
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<tr>
<td>LAB ..-1/220</td>
<td>21LAB..10J7</td>
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<td>LAB ..-1/230</td>
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<td>LAB ..-1M/24</td>
<td>21LAB..1M11</td>
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<td>Low</td>
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<tr>
<td>LAB ..-1M/48</td>
<td>21LAB..1MD2</td>
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<td>LAB ..-1M/60</td>
<td>21LAB..1ME3</td>
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</tr>
<tr>
<td>LAB ..-1M/110</td>
<td>21LAB..1MF5</td>
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<tr>
<td>LAB ..-1M/125</td>
<td>21LAB..1MH5</td>
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<td>21LAB..1MJ7</td>
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<td>21LAB..1MR1</td>
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<td>Low</td>
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<td>open</td>
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<td>LAB ..-1MR/220</td>
<td>21LAB..1MRJ</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>LAB ..-1MR/230</td>
<td>21LAB..1MRU</td>
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<td>LAB ..-1IMR/24</td>
<td>21LAB..1IMR1</td>
<td>inverted</td>
<td>Normally open</td>
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<td>LAB ..-1IMR/60</td>
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<td>LAB ..-1IMR/110</td>
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<tr>
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* .. is used as a wildcard for 08 or 16
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<tr>
<th>Type</th>
<th>LAB 08-1/24</th>
<th>LAB 08-1/48</th>
<th>LAB 08-1/60</th>
<th>LAB 08-1/110</th>
<th>LAB 08-1/125</th>
<th>LAB 08-1/220</th>
<th>LAB 08-1/230</th>
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<tbody>
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<td><strong>Article No.</strong></td>
<td>21LAB081011</td>
<td>21LAB0810D2</td>
<td>21LAB0810E3</td>
<td>21LAB0810F5</td>
<td>21LAB0810H5</td>
<td>21LAB0810J7</td>
<td>21LAB0810U7</td>
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<tr>
<td><strong>Supply voltage</strong></td>
<td>24 V AC/DC</td>
<td>48 V DC</td>
<td>60 V DC</td>
<td>110 V DC</td>
<td>125 V DC</td>
<td>220 V DC</td>
<td>230 V AC</td>
</tr>
<tr>
<td></td>
<td>± 20 %</td>
<td>± 20 %</td>
<td>± 20 %</td>
<td>± 20 %</td>
<td>± 20 %</td>
<td>± 20 %</td>
<td>± 20 %</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>max. 1.5 W</td>
<td>max. 3 W</td>
<td>max. 3.5 W</td>
<td>max. 3.5 W</td>
<td>max. 3.5 W</td>
<td>max. 5.5 W</td>
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<td><strong>Signal voltage</strong></td>
<td>24 V AC/DC</td>
<td>48 V AC/DC</td>
<td>60 V AC/DC</td>
<td>110 V DC</td>
<td>125 V DC</td>
<td>220 V DC</td>
<td>230 V AC/DC</td>
</tr>
<tr>
<td></td>
<td>± 20 %</td>
<td>± 20 %</td>
<td>± 20 %</td>
<td>± 20 %</td>
<td>± 20 %</td>
<td>± 20 %</td>
<td>± 20 %</td>
</tr>
<tr>
<td><strong>max. input current per signal input</strong></td>
<td>approx. 6 mA</td>
<td>approx. 4 mA</td>
<td>approx. 4 mA</td>
<td>approx. 4 mA</td>
<td>approx. 4 mA</td>
<td>approx. 4 mA</td>
<td>approx. 4 mA</td>
</tr>
<tr>
<td><strong>Operating and ambient temperature without condensation</strong></td>
<td>-20°C...+60°C</td>
<td>-20°C...+50°C</td>
<td>-20°C...+50°C</td>
<td>-20°C...+50°C</td>
<td>-20°C...+50°C</td>
<td>-20°C...+50°C</td>
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<table>
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<tr>
<th>Type</th>
<th>LAB 16-1/24</th>
<th>LAB 16-1/48</th>
<th>LAB 16-1/60</th>
<th>LAB 16-1/110</th>
<th>LAB 16-1/125</th>
<th>LAB 16-1/220</th>
<th>LAB 16-1/230</th>
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<tbody>
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<td><strong>Article No.</strong></td>
<td>21LAB161011</td>
<td>21LAB1610D2</td>
<td>21LAB1610E3</td>
<td>21LAB1610F5</td>
<td>21LAB1610H5</td>
<td>21LAB1610J7</td>
<td>21LAB1610U7</td>
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<tr>
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<td>24 V AC/DC</td>
<td>48 V DC</td>
<td>60 V DC</td>
<td>110 V DC</td>
<td>125 V DC</td>
<td>220 V DC</td>
<td>230 V AC</td>
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<td></td>
<td>± 20 %</td>
<td>± 20 %</td>
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<td>± 20 %</td>
<td>± 20 %</td>
<td>± 20 %</td>
<td>± 20 %</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>max. 2.5 W</td>
<td>max. 5 W</td>
<td>max. 6 W</td>
<td>max. 6 W</td>
<td>max. 6 W</td>
<td>max. 10 W</td>
<td>max. 10 W</td>
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<tr>
<td><strong>Signal voltage</strong></td>
<td>24 V AC/DC</td>
<td>48 V AC/DC</td>
<td>60 V AC/DC</td>
<td>110 V DC</td>
<td>125 V DC</td>
<td>220 V DC</td>
<td>230 V AC/DC</td>
</tr>
<tr>
<td></td>
<td>± 20 %</td>
<td>± 20 %</td>
<td>± 20 %</td>
<td>± 20 %</td>
<td>± 20 %</td>
<td>± 20 %</td>
<td>± 20 %</td>
</tr>
<tr>
<td><strong>max. input current per signal input</strong></td>
<td>approx. 6 mA</td>
<td>approx. 4 mA</td>
<td>approx. 4 mA</td>
<td>approx. 4 mA</td>
<td>approx. 4 mA</td>
<td>approx. 4 mA</td>
<td>approx. 4 mA</td>
</tr>
<tr>
<td><strong>Operating and ambient temperature without condensation</strong></td>
<td>-20°C...+60°C</td>
<td>-20°C...+50°C</td>
<td>-20°C...+50°C</td>
<td>-20°C...+50°C</td>
<td>-20°C...+50°C</td>
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<td>LAB 08-1M/60</td>
<td>LAB 08-1M/60</td>
<td>LAB 08-1M/110</td>
<td>LAB 08-1M/110</td>
<td>LAB 08-1M/125</td>
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<td>--------------</td>
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<td>--------------</td>
<td>--------------</td>
<td>--------------</td>
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<tr>
<td>Article No.</td>
<td>21LAB081M11</td>
<td>21LAB081MR1</td>
<td>21LAB081IMR1</td>
<td>21LAB081MD2</td>
<td>21LAB081ME3</td>
<td>21LAB081IMRE</td>
<td>21LAB081MF5</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>24 V AC/DC</td>
<td>± 20 %</td>
<td>48 V DC</td>
<td>± 20 %</td>
<td>60 V DC</td>
<td>± 20 %</td>
<td>110 V DC</td>
</tr>
<tr>
<td>Power consumption</td>
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<td>max. 4.0 W</td>
<td>max. 4.0 W</td>
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<td>max. 4.0 W</td>
<td>max. 6.5 W</td>
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<tr>
<td>Signal voltage</td>
<td>24 V AC/DC</td>
<td>± 20 %</td>
<td>48 V AC/DC</td>
<td>± 20 %</td>
<td>60 V AC/DC</td>
<td>± 20 %</td>
<td>110 V AC/DC</td>
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<tr>
<td>max. input current per signal input</td>
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<td>approx. 4 mA</td>
<td>approx. 4 mA</td>
<td>approx. 4 mA</td>
<td>approx. 4 mA</td>
<td>approx. 4 mA</td>
<td>approx. 4 mA</td>
</tr>
<tr>
<td>Operating and ambient temperature without condensation</td>
<td>-20°C ... +60°C</td>
<td>-20°C ... +50°C</td>
<td>-20°C ... +50°C</td>
<td>-20°C ... +50°C</td>
<td>-20°C ... +50°C</td>
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<th>LAB 16-1M/60</th>
<th>LAB 16-1M/110</th>
<th>LAB 16-1M/110</th>
<th>LAB 16-1M/125</th>
<th>LAB 16-1M/125</th>
<th>LAB 16-1M/220</th>
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<td>21LAB161MR1</td>
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<td>21LAB161ME3</td>
<td>21LAB161IMRE</td>
<td>21LAB161MF5</td>
<td>21LAB161IMRF</td>
<td>21LAB161MH5</td>
<td>21LAB161MRJ</td>
<td>21LAB161MJ7</td>
<td>21LAB161MU7</td>
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<tr>
<td>Supply voltage</td>
<td>24 V AC/DC</td>
<td>± 20 %</td>
<td>48 V DC</td>
<td>± 20 %</td>
<td>60 V DC</td>
<td>± 20 %</td>
<td>110 V DC</td>
<td>± 20 %</td>
<td>125 V DC</td>
<td>± 20 %</td>
<td>220 V DC</td>
<td>± 20 %</td>
</tr>
<tr>
<td>Power consumption</td>
<td>max. 3.5 W</td>
<td>max. 6 W</td>
<td>max. 7 W</td>
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<td>max. 7 W</td>
<td>max. 11 W</td>
<td>max. 11 W</td>
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<td>max. 11 W</td>
<td>max. 11 W</td>
<td>max. 11 W</td>
<td>max. 11 W</td>
</tr>
<tr>
<td>Signal voltage</td>
<td>24 V AC/DC</td>
<td>± 20 %</td>
<td>48 V AC/DC</td>
<td>± 20 %</td>
<td>60 V AC/DC</td>
<td>± 20 %</td>
<td>110 V AC/DC</td>
<td>± 20 %</td>
<td>125 V DC</td>
<td>± 20 %</td>
<td>220 V DC</td>
<td>± 20 %</td>
</tr>
<tr>
<td>max. input current per signal input</td>
<td>approx. 6 mA</td>
<td>approx. 4 mA</td>
<td>approx. 4 mA</td>
<td>approx. 4 mA</td>
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<td>approx. 4 mA</td>
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</tr>
<tr>
<td>Operating and ambient temperature without condensation</td>
<td>-20°C ... +60°C</td>
<td>-20°C ... +50°C</td>
<td>-20°C ... +50°C</td>
<td>-20°C ... +50°C</td>
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LED-INDICATION MODULES

Technical data

Mechanical data

<table>
<thead>
<tr>
<th>Assembly</th>
<th>Panel mounting</th>
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<tbody>
<tr>
<td>Mounting position</td>
<td>arbitrary</td>
</tr>
<tr>
<td>Panel frame</td>
<td>96 x 96 mm</td>
</tr>
<tr>
<td>Required installation depth</td>
<td>80 mm</td>
</tr>
<tr>
<td>Panel cut out</td>
<td>91 x 91 +0.5 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>0.5 kg</td>
</tr>
<tr>
<td>Connection terminals</td>
<td>cross section 1.5 mm²</td>
</tr>
</tbody>
</table>

Ambient environment

<table>
<thead>
<tr>
<th>Storage temperature</th>
<th>-20 °C...+70 °C without condensation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allowed relative humidity</td>
<td>max. 75% (group F DIN 40040)</td>
</tr>
<tr>
<td>Type of protection front side</td>
<td>IP 40; IP 42 with window door; IP 65 with protection cover</td>
</tr>
<tr>
<td>Type of protection rear side</td>
<td>IP 20</td>
</tr>
<tr>
<td>Noise immunity</td>
<td>EMC-tested acc. to EN 61000-4-2,4,5</td>
</tr>
</tbody>
</table>

The information given for alternating voltages are referring to a sinusoidal alternating voltage with a frequency of 50/60 Hz and all information on an ambient temperature of 25°C, otherwise noted.

Terminal assignment
DIP-Switches in devices with collective report

After loosening the four screws and detaching the front plate DIP switches become visible. Each single report can be assigned to the integrated collective report by these DIP-switches.

With the switchgroup S1 the channels 1 ... 8 and with the switchgroup S2 the channels 9 ... 16 can be configured. If the switch is set to „ON“, the collective report will be triggered through the assigned input. At the LAB 08 variants only the DIP switch group S1 is existend.

LAB 08-1M, LAB 16-1M

LAB 08-1MR, LAB 16-1MR,
LAB 08-1IMR, LAB 16-1IMR

Dimensional drawing

Dimension in mm
Subject to changes without prior notice
Accessories

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>21KST1</td>
<td>Clear window door (IP 42)</td>
</tr>
<tr>
<td>21KSH1</td>
<td>Protection cover (IP 65)</td>
</tr>
<tr>
<td>21BSV1</td>
<td>Labelling patterns (set of 10 patterns)</td>
</tr>
<tr>
<td>21BSV-Soft</td>
<td>Disc of labelling patterns for WinWord from Version 6.0 onwards</td>
</tr>
<tr>
<td>21LEDGELB</td>
<td>LED 5 mm yellow high efficiency</td>
</tr>
<tr>
<td>21LEDGRÜN</td>
<td>LED 5 mm green high efficiency</td>
</tr>
<tr>
<td>21LEDROT</td>
<td>LED 5 mm red high efficiency</td>
</tr>
<tr>
<td>21LEDWEISS</td>
<td>LED 5 mm white high efficiency</td>
</tr>
</tbody>
</table>

Do you need fault annunciators with fault storage?

BSM - Panel mounting basic fault annunciators

- Devices with 8, 16, 32 and 48 Signal inputs
- Sealed front, protection class IP 54
- Integrated buttons, functional inputs and relay outputs
- Self monitoring
- Optional DIN rail modules for PCS contacts
- Optional Software-Parameterisation via PC
- Realisation of all common alarm sequences
- Extremely bright LED with great reading angle and in many colours

FSM - Drop flaps fault annunciators

- Parameterisable compact fault annunciator for 10 alarms
- Signaling of stored reports also with voltage break down
- 10 neon yellow drop flaps and additionally green LEDs for permanent and dynamic status display
- Integrated buttons, functional inputs and relay outputs
- Live contact and nonvolatile eventmemory
- Supply and alarm signal voltage 12 V...250 V AC/DC
- 2 parameterisable collective reports and internal horn
- Parameterisation via DIP switches or PC programm
- Marker strips pocketable into transparent window