H 7020: Terminal Module

- For connection between the I/O modules and the field level
- For DIN-Rail mounting

**Figure 1: Block Diagram**

**Technical Data**

- Permissible voltage: max. 48 VDC, 30 VAC SELV or PELV
- Current per channel:
  - X1...X16: 2 A
  - X21...X22: 4 A
- Total current (X1-X16): max. 16 A
- Cross section:
  - A, B, C: 0.2...1.5 mm² (Combicon Connector)
  - D, F: 0.2...1.5 mm²
- Ambient temperature range: -20°C to +50°C
- Dimension (L x W x H): 90 mm x 91.5 mm x 60 mm
- Mounting: on 35 mm DIN-Rail
- Weight: ca. 130 g
- Installation orientation: horizontally or vertically, installation clearance is not necessary
Wiring on the Terminal Module

<table>
<thead>
<tr>
<th>Designator</th>
<th>Type</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>X1 - X16 double-level</td>
<td>16x 1-pin</td>
</tr>
<tr>
<td></td>
<td>terminal spring-cage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>connection</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>X17 - X20 soldering points</td>
<td>4x</td>
</tr>
<tr>
<td></td>
<td>(for soldering of jumpers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or diodes)</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>X21 - X22 terminal</td>
<td>2x 1-pin</td>
</tr>
<tr>
<td></td>
<td>spring-cage connection</td>
<td></td>
</tr>
<tr>
<td>A, B, C</td>
<td>X23 - X28 Phoenix Headers</td>
<td>6x 8-pin</td>
</tr>
<tr>
<td></td>
<td>Accessories:</td>
<td></td>
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<td>Phoenix Combicon Connector</td>
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<tr>
<td></td>
<td>FK-MCP 1,5/8-ST-3,81</td>
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</tr>
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<td></td>
<td>HIMA Part-No. 52 0000 002</td>
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</tbody>
</table>

Table 1: Wiring on the Terminal Module

Diodes for inverse polarity protection
For wiring with input modules diodes are soldered between X17/X19, X18/X20.

Diode
1N5624 3A / 200 VDC
HIMA Part-No. 26 8200 015

Mechanical Design

The designators (L+,L-) on the labels D and F are project dependent.
Applications for the Terminal Module H 7020
The terminal module is used to interconnect I/O modules single pole or double pole, redundant or mono and connect them with the field level. The terminal module can be mounted on DIN-Rails in control cabinets or in marshalling cabinets. Field cables can be attached directly from the field level to the clamps "F" of the terminal module. The advantage of the H 7020 terminal module is the complete connection of the I/O modules to the terminal module via confectioned Combicon connectors. The Combicon connector is used for a fast connection between the Terminal Module and other modules.

Wiring of H 7020 single pole redundant with F 3236 input modules
Both digital input modules F 3236 are each redundantly connected single pole to the terminal module via a 16-wire system cable. The following figures show redundant wiring of F 3236 input modules in a combined control and marshalling cabinet or in separate cabinets.

![Figure 3: Single pole redundant wiring via H 7020](image)

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**Note**
The voltage supply L+ for the sensors and contact makers must be wired separately to the fuse module (e.g. F 7133). The fuse module is connected to clamp "D".

The wires of the two system cables are color coded and are clamped to Combicon connectors. For inverse polarity protection diodes are soldered between soldering points (X17/X19 and X18/X20) of the terminal module, if input modules are connected to the terminal module. The clamps "D" (headers X23 and X24) are used for test purposes.
Wiring of H 7020 single pole mono with output modules F 3330

Two digital output modules F 3330 are connected to the field level via terminal module H 7020. The two 8-wire system cables are connected single pole to the clamps "A" of the terminal module. The following figures show single pole wiring of two F 3330 output modules in a combined control and marshalling cabinet or in separate cabinets.

Figure 4: Single pole mono wiring via H 7020

Note

The reference potential L- should be wired separately to a central distribution (e.g. K 7214). The distribution is connected to clamp "D".

The wires of the two system cables are color coded and are clamped to Combicon connectors. For output modules the soldering points are only jumpered, different than for input modules.
Wiring of H 7020 redundant with analog output modules F 6217
Analog modules can be connected to the field level by the terminal module H 7020 the same way as digital modules. In the following example, the analog input modules F 6217 are connected redundantly to each other by the cable plug Z 7127 and the system cable. It is also possible to connect the I/O modules redundantly via voltage divider or transmitter. For information about redundant current and voltage connection of the analog output module F 6217 and the cable plugs, refer to the respective documentation.

Figure 5: Redundant wiring of analog output modules F 6217
The soldering points are jumpered in case of connecting analog I/O modules.