### GENERAL

**Standard**
- EN61010-1
- EN61010-2-201
- EN61131-2

**Dimensions (W × H × D)**
72x90x62mm

**Weight**
250g

**Mounting**
Top hat rail EN50022, 35mm

### ENVIRONMENTAL CONDITIONS

**Operating ambient temperature**
0°C – 55°C

**Relative humidity – non-condensing**
80 % for temp. up to 31 °C, decreasing linearly to 50 % relative humidity at 55 °C

**Pollution Degree**
PD2

**Altitude**
up to 2000m AMSL

**Vibration (5 ≤ f ≤ 9 Hz)**
1,75 mm amplitude sinus

3,5 mm amplitude random

**Vibration (9 ≤ f ≤ 150 Hz)**
0,5 g acceleration sinus

1,0 g acceleration random

**Transport and Storage**
-20°C – +70°C

10 to 90% no condensation

Altitude 3000m AMSL

**Shock response**
15g, 11ms half sinus all 3 axes

### I/O

**Supply voltage**
12V or 24V

**USB (Power for programming only)**
USB-B, 2.0

**Ethernet**
RJ45, 10/100Mbps

**RS485 (no termination inside)**
250kb

**Inputs, no galvanic insulation**
12

- **Common analog/digital**
  10

- **Fixed digital, ext. Interrupt usable**
  2

**Digital Outputs, no galvanic insulation**
12

**Relay Outputs, galvanic insulation**
10

**PIN Header, no galvanic insulation**
42, partially parallel to terminal I/Os

**Logic level I/Os**
14

**Analog 0-5V Inputs**
14

**Communication**
SPI, 2xUART, I2C, Reset

**Internal Power**
+3,3V, +5V, ARef, GND

### TERMINAL CAPACITIES

**Relay Output, Power Input**
2,5mm² (24-12AWG)

**Strip length**
6-7mm

**Max. tightening torque**
0,5Nm

**Digital, Analog Input Output**
1,5mm² (30-16AWG)

**Strip length**
5-6mm

**Max. tightening torque**
0,2Nm

**Pin header connector**
2x 26 Pin, Dual row, 2.54 pitch

### PROTECTION

**ESD HBM Class 0**
Contact discharge: ±4kV

Air discharge: ±8kV

**Supply input over current protection**
Internal Fuse 20A

**Relay Output**
External Fuse required

**Digital Output**
Overload, short circuit, ESD

**Signal Input**
Overvoltage, ESD

**Pin header connector**
ESD
Current +5V, +3,3V total 200mA, resettable fuse

## ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
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<tbody>
<tr>
<td>Supply voltage</td>
<td>12V range</td>
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<td>24V range</td>
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<td>Signal input high level</td>
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<td></td>
<td>24V range</td>
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<tr>
<td>Analog signal input</td>
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<td></td>
<td>24V range</td>
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<tr>
<td>Signal input current</td>
<td>max. current</td>
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<tr>
<td>Logic &quot;0&quot; level</td>
<td>@ pin header</td>
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<td>Logic “1” level</td>
<td>@ pin header</td>
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<tr>
<td>Signal output low level</td>
<td>12V range</td>
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<tr>
<td></td>
<td>24V range</td>
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<tr>
<td>Signal output high level</td>
<td>Vin – 10%</td>
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<tr>
<td>Signal output – PWM functionality</td>
<td>Duty cycle</td>
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<tr>
<td>Relay output, Contact rating</td>
<td>Resistive</td>
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<td></td>
<td>Load</td>
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<td>Common Relay terminal</td>
<td>max. current</td>
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<tr>
<td>Galvanic insulation</td>
<td>coil to contact</td>
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<tr>
<td>Relay ON in case of PWM functionality</td>
<td>Duty cycle</td>
</tr>
</tbody>
</table>

### LED SIGNALIZATION

- **Power LEDs coding**
  - only USB powered: 12V green, 24V green
  - input voltage out of range: 12V green, 24V orange
  - input voltage 10.2V – 15,0V: 12V green, 24V orange
  - input voltage 20.4V – 30,0V: 12V orange, 24V green
  - input voltage < 7V: both LEDs off

- **Device in reset state**
  - Reset LED yellow

- **Device in run state**
  - Reset LED off

- **Signal input at high (logic 1) level**
  - Corresponding LED green

- **Signal input at low (logic 0) level**
  - Corresponding LED off

- **Signal input in use as analog input**
  - Corresponding LED green on when input level reach high (logic 1) state

- **Signal/Relay output set to active**
  - Corresponding LED green

- **Signal/Relay output set to inactive**
  - Corresponding LED off

## PHYSICAL DIMENSIONS

![Diagram](image1.png)

![Diagram](image2.png)