ZS50-PE Screw Clamp Terminal Blocks
Ground

- Reliable electrical and mechanical contact with the rail that exceeds the requirements of the IEC 60947-7-2 terminal block standard.

Ordering Details

<table>
<thead>
<tr>
<th>Color</th>
<th>Type</th>
<th>Order Code</th>
<th>EAN Code</th>
<th>Pack (pcs)</th>
<th>Weight (1 pcs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green-Yellow</td>
<td>ZS50-PE</td>
<td>1SNK516151R0000</td>
<td>3472595161515</td>
<td>20</td>
<td>83</td>
</tr>
</tbody>
</table>

3D CAD outline drawings available on "Control Product 3D" portal

Declarations and Certificates

- CE
- IEC
- RoHS
- UL
- CSR
- EAC Ex
- ATEX
- IECEx
- BR
- H07 Loc
- BV
- DIN
- ATEX Declaration

Power and productivity for a better world™  ABB
Declarations and Certificates

<table>
<thead>
<tr>
<th>Declaration</th>
<th>Code</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE</td>
<td></td>
<td>1SND225101U10*</td>
</tr>
<tr>
<td>CB</td>
<td></td>
<td>1SND161104A02*</td>
</tr>
<tr>
<td>RoHS</td>
<td></td>
<td>1SND230491F02*</td>
</tr>
<tr>
<td>USR</td>
<td></td>
<td>1SND161041A02*</td>
</tr>
<tr>
<td>CSA</td>
<td></td>
<td>1SND161070A02*</td>
</tr>
<tr>
<td>EAC Ex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATEX</td>
<td></td>
<td>1SND62004A17*</td>
</tr>
<tr>
<td>IECEx</td>
<td></td>
<td>1SND62005A17*</td>
</tr>
<tr>
<td>BR-Ex e II</td>
<td></td>
<td>1SND161042A02*</td>
</tr>
<tr>
<td>USR Haz Loc</td>
<td></td>
<td>1SND161047A02*</td>
</tr>
<tr>
<td>BV</td>
<td></td>
<td>1SND161073A02*</td>
</tr>
<tr>
<td>DNV</td>
<td></td>
<td>1SND161087A02*</td>
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</table>

ATEX Declaration
1SND225085C10*

Explosive Atmosphere: ATEX Classification

<table>
<thead>
<tr>
<th>Group Category</th>
<th>Protection Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>IM2 II 2 GD Ex eb I/II/IIIIC</td>
<td>Ex e: increased security</td>
</tr>
</tbody>
</table>

In the presence of explosive dust atmosphere, terminal blocks are to be installed in certified enclosure II 2D

General Information

The following information must be strictly adhered to in order to guarantee the terminal block electrical, mechanical and environmental performance.

<table>
<thead>
<tr>
<th>Protection</th>
<th>IEC 60947-1</th>
<th>IP10</th>
<th>NEMA f</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rail</td>
<td>TH 35-7.5, TH 35-15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wire stripping length</td>
<td>17 mm</td>
<td>0.669 in</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operating tool</th>
<th>Screw clamp</th>
<th>Screw rail contact (Maximum value)</th>
<th>Disconnect device</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flat screwdriver</td>
<td>6.5 mm</td>
<td>0.256 in</td>
<td>6.5 mm</td>
</tr>
<tr>
<td>Torque</td>
<td>3 N.m</td>
<td>26.6 N.m</td>
<td>3 N.m</td>
</tr>
<tr>
<td>± 0.50 N.m</td>
<td>± 4.43 N.m</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Material Specifications

<table>
<thead>
<tr>
<th>Insulating material</th>
<th>Polyamide</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTI</td>
<td>1000 V</td>
</tr>
<tr>
<td>Flammability</td>
<td>UL94 V0</td>
</tr>
<tr>
<td>Needle flame test</td>
<td>NF F 16101 IEC2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Connecting capacity per clamp</th>
<th>Screw clamp</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Rigid - Solid / Stranded conductor</td>
<td>Norm IEC60947-7-2</td>
</tr>
<tr>
<td>1 Flexible conductor</td>
<td>Norm IEC60947-7-2</td>
</tr>
<tr>
<td>1 Flexible conductor with non insulated ferrule</td>
<td>Norm Manufacturer data</td>
</tr>
<tr>
<td>1 Flexible conductor with insulated ferrule</td>
<td>Value 1 … 50 mm²</td>
</tr>
<tr>
<td>Value 1 … 50 mm²</td>
<td>18 … 0 AWG</td>
</tr>
<tr>
<td>Gauge</td>
<td>Manufacturer data</td>
</tr>
<tr>
<td>Dis.11</td>
<td></td>
</tr>
<tr>
<td>Ferrule maximum outer diameter or conductor insulation maximum outer diameter</td>
<td>Manufacturer data</td>
</tr>
<tr>
<td>15.7 mm</td>
<td></td>
</tr>
</tbody>
</table>

The “Connecting capacity with ferrule” data is guaranteed with ABB crimping tool PS-3 (crimping capacity up to 10 mm²).

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### Multi Connecting capacity per clamp

<table>
<thead>
<tr>
<th>Type of Conductor</th>
<th>Norme</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Rigid - Solid / Stranded conductors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Flexible conductors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Flexible conductors with twin ferrule</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Don’t mix **solid and flexible** conductors in the same clamp

Don’t mix **solid or flexible** conductors of different sizes in the same clamp

The "Connecting capacity with ferrule" data is guaranteed with ABB crimping tool PS-3 (crimping capacity up to 10 mm²)

### Cross section

<table>
<thead>
<tr>
<th>Rated cross section</th>
<th>IEC60947-7-2 50 mm²</th>
<th>UL1059 0 AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Cross section</td>
<td>Manufacturer data 50 mm²</td>
<td>Manufacturer data 0 AWG</td>
</tr>
</tbody>
</table>

### Electrical characteristics

#### Current

<table>
<thead>
<tr>
<th>Rated current</th>
<th>IEC60947-7-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field and factory wiring Cat.2</td>
<td>UL 1059</td>
</tr>
<tr>
<td>Factory wiring Cat.1</td>
<td>UL 1059</td>
</tr>
<tr>
<td>CSA-C-22.2 n°158</td>
<td></td>
</tr>
<tr>
<td>Maximum Exe current</td>
<td>IEC/EN 60079-7</td>
</tr>
<tr>
<td>Rated short-time withstand current 1 s (Icw)</td>
<td>IEC60947-7-2 6000 A</td>
</tr>
<tr>
<td>Short-time withstand current</td>
<td>Manufacturer data</td>
</tr>
<tr>
<td>0.5 s</td>
<td></td>
</tr>
<tr>
<td>5 s</td>
<td></td>
</tr>
<tr>
<td>10 s</td>
<td></td>
</tr>
<tr>
<td>30 s</td>
<td></td>
</tr>
<tr>
<td>1 min</td>
<td>Manufacturer data</td>
</tr>
</tbody>
</table>

| Rated short-circuit withstand current | UL 1059 6420 A |
| Maximum current (45° temperature increase) / Max. cross section (mm²) | Manufacturer data 50 mm² |
| Maximum short circuit current (1s) | Manufacturer data 6000 A |

### Short Circuit Current Rating (SCCR) SA UL 1059 supplement

<table>
<thead>
<tr>
<th>SCCR</th>
<th>UL 1059 100 kA</th>
</tr>
</thead>
</table>

With the following configurations:

| Suitable conductor wire range | |
| Maximum voltage | J |
| Fuse class / Max. amp. Rating | T |
| | RK1 |
| | RK5 |
| | G |
| | CC |

### Voltage

| Rated voltage | IEC 60947-1 |
| Rated voltage | UL 1059 |
| Use Group | UL 1059 E |
| Rated voltage | CSA-C-22.2 n°158 |
| Rated voltage Ex e | IEC/ EN 60079-7 |
| Rated impulse withstand voltage | IEC 60947-1 8000 V |
| Dielectric test voltage | IEC 60947-1 2200 V |
| Pollution degree | IEC 60947-1 3 |
| Overvoltage category | IEC 60947-1 III |

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## Temperature range

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Temperature</th>
<th>Duration of test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage</td>
<td>-55 ... +110 °C</td>
<td>-67 ... +230 °F</td>
</tr>
<tr>
<td>Installing</td>
<td>-5 ... +40 °C</td>
<td>+23 ... +104 °F</td>
</tr>
<tr>
<td>Service</td>
<td>-55 ... +110 °C</td>
<td>-67 ... +230 °F</td>
</tr>
</tbody>
</table>

## Dissipated power

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Maximum dissipated power at rated current</th>
<th>Compliant</th>
<th>IEC 60947-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum dissipated power at maximum Exe current</td>
<td>IEC 60947-7-3</td>
<td>Compliant</td>
<td>IEC 60079-7</td>
</tr>
</tbody>
</table>

## Rated power dissipation at an ambient temperature of 23 °C - IEC 60947-7-3

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Maximum dissipated power</th>
<th>Compliant</th>
<th>IEC 60947-7-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Separate arrangement / Overload and short-circuit protection</td>
<td>96 h</td>
<td>Compliant</td>
<td>IEC 60068-2 1</td>
</tr>
<tr>
<td>Separate arrangement / Exclusive short-circuit protection</td>
<td>96 h</td>
<td>Compliant</td>
<td>IEC 60068-2 2</td>
</tr>
<tr>
<td>Compound arrangement / Overload and short-circuit protection</td>
<td>96 h</td>
<td>Compliant</td>
<td>IEC 60068-2 3</td>
</tr>
<tr>
<td>Compound arrangement / Exclusive short-circuit protection</td>
<td>96 h</td>
<td>Compliant</td>
<td>IEC 60068-2 4</td>
</tr>
</tbody>
</table>

## Environmental Characteristics

### Additional climatic tests

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Compliant</th>
<th>IEC 60068-2 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry heat</td>
<td>Compliant</td>
<td>IEC 60068-2 2</td>
</tr>
<tr>
<td>Cyclic damp heat</td>
<td>Compliant</td>
<td>IEC 60068-2 3</td>
</tr>
<tr>
<td>Cold</td>
<td>Compliant</td>
<td>IEC 60068-2 4</td>
</tr>
<tr>
<td>Damp heat steady state</td>
<td>Compliant</td>
<td>IEC 60068-2 5</td>
</tr>
</tbody>
</table>

### Corrosion

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Compliant</th>
<th>IEC 60068-2 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salt mist</td>
<td>Compliant</td>
<td>IEC 60068-2 7</td>
</tr>
<tr>
<td>SO2</td>
<td>Compliant</td>
<td>IEC 60068-2 8</td>
</tr>
<tr>
<td>Flowing mixed gas corrosion test</td>
<td>Compliant</td>
<td>IEC 60068-2 9</td>
</tr>
</tbody>
</table>

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Vibrations and shocks

Sinusoidal vibrations

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Frequency range</th>
<th>Number of cycles</th>
<th>Acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5 ... 100 Hz</td>
<td>1</td>
<td>7 m/s²</td>
</tr>
</tbody>
</table>

Functional random vibrations

Category 1 Class B 3 axes

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Duration of test</th>
<th>Frequency range</th>
<th>Acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Long life testing at increased random vibrations

Category 1 Class B 3 axes

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Duration of test</th>
<th>Frequency range</th>
<th>Acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shock

Category 1 Class B 3 axes

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Duration of test</th>
<th>Frequency range</th>
<th>Acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ZS50-PE Terminal Block Accessories Compatibility

Some accessories may modify the terminal block's rating. See complete information in the accessories catalog page.

<table>
<thead>
<tr>
<th>Description</th>
<th>Type</th>
<th>Order Code</th>
<th>Pack (ing)</th>
<th>Weight (1 pce)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Terminal Block Markers</td>
<td>MG-CPM 13</td>
<td>1SNB041791R0612</td>
<td>1080</td>
<td>0.273</td>
</tr>
<tr>
<td>MC512</td>
<td>1SNK140000R0000</td>
<td>22</td>
<td>9.00</td>
<td></td>
</tr>
<tr>
<td>MC512-YL</td>
<td>1SNK140004R0000</td>
<td>22</td>
<td>9.00</td>
<td></td>
</tr>
<tr>
<td>MC512PA</td>
<td>1SNK149999R0000</td>
<td>20</td>
<td>10.00</td>
<td></td>
</tr>
<tr>
<td>MC612</td>
<td>1SNK150000R0000</td>
<td>22</td>
<td>10.00</td>
<td></td>
</tr>
<tr>
<td>MC612-YL</td>
<td>1SNK150004R0000</td>
<td>22</td>
<td>10.00</td>
<td></td>
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<tr>
<td>MC612PA</td>
<td>1SNK159999R0000</td>
<td>20</td>
<td>11.00</td>
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<tr>
<td>MC812</td>
<td>1SNK160000R0000</td>
<td>22</td>
<td>10.00</td>
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<tr>
<td>MC812-YL</td>
<td>1SNK160004R0000</td>
<td>22</td>
<td>10.00</td>
<td></td>
</tr>
<tr>
<td>MC812PA</td>
<td>1SNK169999R0000</td>
<td>20</td>
<td>14.00</td>
<td></td>
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<tr>
<td>UMH</td>
<td>1SNK900611R0000</td>
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<td>0.20</td>
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<tr>
<td>PROCAP8</td>
<td>1SNK900613R0000</td>
<td>20</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>SAT8</td>
<td>1SNK900616R0000</td>
<td>5</td>
<td>6.00</td>
<td></td>
</tr>
<tr>
<td>SAT</td>
<td>1SNK900623R0000</td>
<td>5</td>
<td>6.00</td>
<td></td>
</tr>
<tr>
<td>2 Mounting Rails</td>
<td>PR4</td>
<td>1SNA168500R1200</td>
<td>2</td>
<td>915.00</td>
</tr>
<tr>
<td>PR5</td>
<td>1SNA168700R2200</td>
<td>2</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>PR50</td>
<td>1SNA178529R0400</td>
<td>2</td>
<td>1288.00</td>
<td></td>
</tr>
<tr>
<td>3 End Stops</td>
<td>BAZH1</td>
<td>1SNK900102R0000</td>
<td>20</td>
<td>24.00</td>
</tr>
<tr>
<td>4 Tools</td>
<td>PS-3</td>
<td>1SNK900650R0000</td>
<td>1</td>
<td>380.00</td>
</tr>
<tr>
<td>5 Jumper Bars</td>
<td>JB16-2</td>
<td>1SNK916302R0000</td>
<td>10</td>
<td>10.00</td>
</tr>
<tr>
<td>JB16-3</td>
<td>1SNK916303R0000</td>
<td>10</td>
<td>16.00</td>
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<td>JB16-4</td>
<td>1SNK916304R0000</td>
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<td>22.00</td>
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<td>JB16-5</td>
<td>1SNK916305R0000</td>
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<td>28.00</td>
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</tr>
<tr>
<td>JB16-10</td>
<td>1SNK916310R0000</td>
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<td>56.60</td>
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</tr>
</tbody>
</table>

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