FAQs
Terminal Blocks for connecting Field Instrumentation in Process applications

Why use terminal blocks to connect instrumentation devices to the control unit?
Instrumentation is used throughout a process plant. Long distances and high signal volume make it impractical to connect signal channels directly to control units or I/O modules. Using terminal blocks, signals can be collected into junction boxes or marshalling cabinets throughout the plant, then wired to the DCS in the control room.

What connection functions are needed?
The most common function is feed-through: signals are connected from one wire to another. Fast-blow fuses or other current limiting devices can be integrated into the terminal block to protect the control system I/O modules from field wiring faults. Disconnect terminal blocks with integral test plugs are used for test and measurement purposes during commissioning and ongoing maintenance.

Why provide fusing with terminal blocks?
Fusing protects the control unit and instrumentation from damage caused by short circuits or wiring faults in the field. Signal channels on control I/O modules have fuse protection as a standard feature. Fused terminal blocks provide additional protection, and are preferred because access and handling for maintenance and fuse changing is more convenient, and limits unnecessary contact with the control unit.

Why is a disconnect function included on a terminal block?
The disconnect function is often required to open individual signal circuits for digital I/Os. For analog signals, disconnect terminal blocks are used for test and measurement during field commissioning and maintenance.

What typical connection configurations are used?
Connection configuration is dependent on the type of signal and the field instrumentation. The positive (+) signal is wired to a fuse or disconnect block, and the neutral wire is connected to a feed-through terminal block. There is one terminal block per wire, resulting in two terminal blocks per signal loop. Three terminal blocks may be needed if the shield wire is also connected to a separate PE ground block. Other configurations use two or more circuits in one multi-level terminal block, and provide options that include a pluggable interface to the I/O modules.
W-Series screw type connections offer:

- Galvanic isolation through a steel screw clamp
- Copper current bar for low resistance and electrical function
- Vibration-proof connection, maintenance free and gas-tight connection
- Highest contact force available.

Z-Series tension clamp connections offer:

- High quality stainless steel for optimum contact force
- Copper current bar guarantees minimum electrical resistance
- Gas-tight contact zone and 100% vibration-resistant clamping technology
- Timesaving fast wire connections.

**Option 1: Fused**

<table>
<thead>
<tr>
<th>Description</th>
<th>Width</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZSI 2.5</td>
<td>7.9mm</td>
<td>1616400000</td>
</tr>
<tr>
<td>ZDU 2.5 (x 2)</td>
<td>10.2mm</td>
<td>1608510000</td>
</tr>
<tr>
<td>ZPE 2.5</td>
<td>5.1mm</td>
<td>1608640000</td>
</tr>
</tbody>
</table>

Total Width: 23.2mm

**Option 2: Disconnect (non-fused)**

<table>
<thead>
<tr>
<th>Description</th>
<th>Width</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZTR 2.5</td>
<td>5.1mm</td>
<td>1831280000</td>
</tr>
<tr>
<td>ZDU 2.5 (x 2)</td>
<td>10.2mm</td>
<td>1608510000</td>
</tr>
<tr>
<td>ZPE 2.5</td>
<td>5.1mm</td>
<td>1608640000</td>
</tr>
</tbody>
</table>

Total Width: 20.4mm

**Accessories**

<table>
<thead>
<tr>
<th>Description</th>
<th>Width</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>End plate: ZAP TW1 2.0mm</td>
<td>1608740000</td>
<td></td>
</tr>
<tr>
<td>Jumper: ZQV 2.5/10</td>
<td>1608940000</td>
<td></td>
</tr>
<tr>
<td>End bracket: ZEW 35 6.0mm</td>
<td>9540000000</td>
<td></td>
</tr>
<tr>
<td>Marker: WS 12/5</td>
<td>1609860000</td>
<td></td>
</tr>
</tbody>
</table>

**Selection Criteria:**

- 4 terminal blocks per channel
- Width/channel: 23.2mm
- 3 wire/channel + shield

**Features:**

- Screwless and fast connection technology
- Hinged fuse holder
- Top wire entry

**3-Wire Inputs**

<table>
<thead>
<tr>
<th>Description</th>
<th>Width</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>KDKS 1/35 DB (x 2) 16mm</td>
<td>9532440000</td>
<td></td>
</tr>
</tbody>
</table>

Total Width: 16mm

**Option 2: Disconnect (non-fused)**

<table>
<thead>
<tr>
<th>Description</th>
<th>Width</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>WDK 2.5/TR-DU (x 2) 10.2mm</td>
<td>1247290000</td>
<td></td>
</tr>
</tbody>
</table>

Total Width: 10.2mm

**Accessories**

<table>
<thead>
<tr>
<th>Description</th>
<th>Width</th>
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</tr>
</thead>
<tbody>
<tr>
<td>End plate: AP KDKS 1.5mm</td>
<td>9532470000</td>
<td></td>
</tr>
<tr>
<td>End plate: 2.5/TR-DU 1.5mm</td>
<td>1839850000</td>
<td></td>
</tr>
<tr>
<td>End bracket: WEW 35/2 8.0mm</td>
<td>1061200000</td>
<td></td>
</tr>
<tr>
<td>Marker: WS 12/5</td>
<td>1609860000</td>
<td></td>
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</tbody>
</table>

**Feedthrough**

<table>
<thead>
<tr>
<th>Description</th>
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<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>WDU 2.5/TC TYP K 10.2mm</td>
<td>1024100000</td>
<td></td>
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<tr>
<td>WDU 2.5/TC TYP J 10.2mm</td>
<td>1024300000</td>
<td></td>
</tr>
<tr>
<td>WDU 2.5/TC TYP B 10.2mm</td>
<td>1033700000</td>
<td></td>
</tr>
<tr>
<td>WDU 2.5/TC TYP E 10.2mm</td>
<td>1033300000</td>
<td></td>
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<tr>
<td>WDU 2.5/TC TYP N 10.2mm</td>
<td>1041500000</td>
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<tr>
<td>End plate: WAP 2.5-10 1.5mm</td>
<td>1050000000</td>
<td></td>
</tr>
<tr>
<td>End bracket: WEW 35/2 8.0mm</td>
<td>1061200000</td>
<td></td>
</tr>
<tr>
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<td>1609860000</td>
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</table>

**Selection Criteria:**

- 1 terminal block pair per channel/busbar for shield
- Width/channel: 10.2mm
- 2 wire/channel

**Features:**

- Good cable visibility
- Thermocouple materials
- WDU design

**WDU 2.5/TC TYP K**

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<tr>
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<tbody>
<tr>
<td>WTL 4/2 STB 6mm</td>
<td>1881650000</td>
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</tr>
<tr>
<td>WDU 4 6.1mm</td>
<td>1020100000</td>
<td></td>
</tr>
</tbody>
</table>

Total Width: 12.1mm

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<tr>
<td>Test adapter/disconnector: WTA8 Green</td>
<td>1915480000</td>
<td></td>
</tr>
<tr>
<td>End plate: AP WTL 4/2 2.0mm</td>
<td>1881640000</td>
<td></td>
</tr>
<tr>
<td>End plate: WAP 2.5-10 1.5mm</td>
<td>1050000000</td>
<td></td>
</tr>
</tbody>
</table>

**Selection Criteria:**

- 2 terminal blocks per channel/busbar for shield
- Width/channel: 10.1mm
- 2 wire/channel

**Features:**

- Good cable visibility
- Enforced short-circuit function [WTL 4/2]
- Busbar shield connection

**disconnect (non-fused)**

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<td></td>
</tr>
<tr>
<td>Marker: WS 12/6</td>
<td>1609900000</td>
<td></td>
</tr>
</tbody>
</table>
### 2-Wire Inputs

**Selection Criteria:**
- 2-wire inputs per channel
- One design for many functions
- Good cable visibility
- One housing design for all functions

**Features:**
- Highest wiring density
- Hinged fuse holder
- Integrated PE

**Description**
- Width: 10.2mm
- Part No.: WTR 2.5 (x 2)

### 2-Wire Input with Pluggable Interface

**Selection Criteria:**
- 2-wire inputs per channel
- Low channel: 10.2mm

**Features:**
- Pluggable cable interface
- Good cable visibility
- Hinged fuse holder

**Description**
- Width: 5.1mm
- Part No.: WTR 2.5 BLZ

### 2-Wire Inputs/Outputs

**Selection Criteria:**
- 2-wire inputs and outputs per channel
- Low channel: 5.1mm

**Features:**
- Best cable visibility
- Pluggable fuse holder
- Robust design

**Description**
- Width: 5.1mm
- Part No.: WTR 2.5 (x 2)-TNHE

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**Features:**
- Quality inspections through a steel screw clamp
- Copper current block for low resistance and electrical function
- Vibration proof connections, maintenance free and end right connections
- Highest contact force available.

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**Features:**
- High quality stainless steel for optimum contact force
- Copper current bar guarantees minimum electrical resistance
- Gas tight contact zone and 100% vibration resistant clamping technology
- Tinning free wire connections

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**Description**
- Width: 5.1mm
- Part No.: WTR 2.5 o TNHE
Weidmüller is the leading manufacturer of components for electrical connection technology to transmit energy, signals and data. The Weidmüller product portfolio ranges from terminal blocks, PCB connectors and terminals, protected components, Industrial Ethernet components, I/O components and relay sockets to power supplies and overvoltage protection modules suitable for all applications. Assemble Services, marking solutions with a variety of tools and software systems, round off the range. As an OEM supplier, the company sets global standards in the field of electrical connection technology.

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