**TX-I/O™**

**Triac module**

**TXM1.8T**

Used for
- Thermic and motor-driven actuators (AC 24 V)
- AC 24 V-controlled devices

- 8 triac outputs (AC 24 V), configured individually for:
  - Permanent contact
  - Three-point positioning output with internal stroke model
  - Pulsewidth-modulated output (PWM)
- Noise-free switching of outputs
- Compact design as per DIN, requiring little space
- Separation into terminal base and electronics unit for optimal handling.
  - Self-connecting bus for the easiest possible installation.
  - Isolating terminal function for fast commissioning.
  - Exchange of electronics unit within seconds without a need of rewiring, at full functionality of the remaining I/O modules
- All terminals are connected directly to the modules, no additional terminal strip for direct connection of field devices.
- Simple display concept
  - Green LED per output, control action as per I/O function
  - LEDs for fast fault diagnosis
- Double-sided labeling of all I/O points with label
Functions

The module supports the following output functions:

<table>
<thead>
<tr>
<th>Signal type TRA</th>
<th>Signal type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BO Triac NO</td>
<td>Q250_T</td>
<td>Maintained contact</td>
</tr>
<tr>
<td>BO Triac NC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BO 3-Pos Triac</td>
<td>Y250_T</td>
<td>Pulse, actuating signal, 3-point output, internal stroke model</td>
</tr>
<tr>
<td>BO PWM</td>
<td>PWM</td>
<td>Pulse width-modulated output</td>
</tr>
</tbody>
</table>

See document "TX-I/O™ Functions and operation", CM110561, for a detailed description of this function.

Compatibility

For signal type support and functionality in the various building automation and control systems, see TX-I/O™ engineering and installation manual, CM110562.

Ordering

<table>
<thead>
<tr>
<th>Type</th>
<th>Stock number</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>TXM1.8T</td>
<td>S55661-J106</td>
<td>Triac module</td>
</tr>
</tbody>
</table>

Delivery

Terminal base and electronics unit are assembled and delivered in a box.

Accessories

Address keys, printable label sheets and replacement label holders are available as accessories. See data sheet CM2N8170.

Design and technology

See the TX-I/O™ Engineering and installation manual, CM110562, for a description of the properties for all TX-I/O™ modules.
Connection terminals (No. 1 screwdriver for slotted or recessed-head * screws) with test plug socket (pins 1.8 to 2 mm) and terminal number.

Signal designation

Address key and module status LED

I/O point numbers

Output status LEDs (green)

* Combined slotted / recessed-head screws from mid-2012

Output status LEDs
- The status LEDs indicate the status of the outputs.

Module status LED
- The module status LED illuminates the transparent address key.
- The LED (green) indicates the status of the entire module.
- It can also be used for diagnostic purposes.

Address key
- The module only works with the address key.
- The module address is mechanically encoded in the address key.
- Swing out the address key when exchanging the electronics unit. The key remains in the terminal base.

Terminals
- Two terminals per output are available to connect the load.
- The AC 24 V connection is common for all outputs, it comes from the V~ island bus connector.
- The load is balanced to ground.
- Each output is protected individually against overload.

Module labeling

The electronics unit has a removable, transparent lid (label holder) allowing for insertion of the label.
Disposal

The device is considered an electronics device for disposal in terms of European Directive 2012/19/EU and may not be disposed of as domestic garbage.

- Dispose of the device through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

Engineering, mounting, installation

Please consult the following documents:

<table>
<thead>
<tr>
<th>Document</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>TX-I/O™ Functions and operation</td>
<td>CM110561</td>
</tr>
<tr>
<td>TX-I/O™ Engineering and installation manual</td>
<td>CM110562</td>
</tr>
</tbody>
</table>

Mounting

Allowed mounting positions

TX-I/O™ devices can be mounted in any position:

You must ensure, however, that sufficient ventilation is available to maintain the permissible ambient temperature (max. 50 °C).

Technical data

Power supply (side bus connector)

- Operating voltage range: DC 21.5...26 V (SELV / PELV) or DC 24 V class 2 (US)
- Max. power consumption: 1.0 W

Protection

- All module terminals: Against short circuit and faulty wiring using AC/DC 24 V.
- Side bus connector: No protection!

Switching outputs

- Number of switching outputs: 8
- Switching voltage: AC 24 V
- The supply is AC 24 V from island bus; the triac closes the contact to \( \perp \) (system neutral)
- Max. current load:
  - AO 3-Pos triac: 250 mA / 6 VA per output
  - AO PWM: 125 mA / 3 VA per output *
  - BO Triac NO/ NC: 125 mA / 3 VA per output *
  - Total per module: 1 A / 24 VA for all 8 outputs *
- *) 250 mA / 6 VA per output if only 4 outputs per module are used

Max. Switch-on current per output: 500mA / 12 VA for max. 90 s

Signal cables

- Cable material: Solid or stranded copper wire
- Cable cross section: See manual CM110562
- Permitted cable length: max. 300 m

AC output (Terminals 2, 6, 10, 14, 19, 23, 27, 31)

- Voltage: AC 24 V
- Fuse: T 10A, in power supply module / bus connection module

⚠️ Caution! Use cable cross section suited for 10 A according to local regulations.
### Connection terminals
**Mechanical design**

**Rising cage terminals**

- 1 x 0.5 mm² to 4 mm²
- 1 x 0.5 mm² to 2.5 mm²
- 1 x 0.25 mm² to 2.5 mm²
- 1 x 2.5 mm² to 1.5 mm²

**Wire**

- Copper stranded wire without ferrules
- Stranded wire with ferrule (DIN 46228/1)

**Caution!** Use cable cross section suited for 10 A according to local regulations.

**Screwdriver**

No. 1 Screwdriver for slotted or recessed-head * screws with shaft diameter ≤ 4.5 mm

* Combined slotted / recessed-head screws from mid-2012

### Classification per EN 60730

- Operation of automatic controller: Type 1
- Degree of pollution: 2
- Mechanical design: Safety classes III

### Housing protection type

- Degree of protection as per EN 60529:
  - Front parts in DIN excerpt: IP30
  - Terminal part: IP20

### Environmental conditions

- **Operation**:
  - Climatic conditions: Class 3K5
  - Temperature: -5...50 °C
  - Relative humidity: 5...95% r.h.

- **Mechanical conditions**
  - Class 3M2

- **Transport / storage**:
  - Climatic conditions: Class 2K3
  - Temperature: -25...70 °C
  - Relative humidity: 5...95% r.h.

- **Mechanical conditions**
  - Class 2M2

### Standards, directives and approvals

- **Product standard**
  - EN 60730-1

- **Electromagnetic compatibility (Applications)**
  - For use in residential, commercial, light-industrial and industrial environments

- **EU conformity (CE)**
  - CM1T10870xx *

- **UL certification (US)**

- **RCM-conformity (EMC)**
  - CM1T10870en_C1 *

- **EAC conformity**
  - [Eurasia conformity](#)

- **Product environmental declaration (contains data on RoHS compliance, materials composition, packaging, environmental benefit, disposal)**
  - CM2E8179 *

### Color

- Terminal base and electronics unit: RAL 7035 (light-gray)

### Dimensions

- Housing as per DIN 43880, see dimensions

### Weight

- With/without packaging: 178 / 199 g

*) The documents can be downloaded from [http://siemens.com/bt/download](http://siemens.com/bt/download).
Connection diagrams (example)

Terminal assignment

<table>
<thead>
<tr>
<th>Output</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC 24 V supply *)</td>
<td>2</td>
<td>6</td>
<td>10</td>
<td>14</td>
<td>19</td>
<td>23</td>
<td>27</td>
<td>31</td>
</tr>
<tr>
<td>Switching output</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>16</td>
<td>21</td>
<td>25</td>
<td>29</td>
<td>33</td>
</tr>
</tbody>
</table>

The triac closes the contact to \( \bot \) (system neutral)

The load can be connected directly to the corresponding output terminals. No separate AC 24 V supply is required.

Permanent contact

BO Triac NO

BO Triac NC

Positioning signal 3-point output

BO 3-Pos Triac

AO PWM

Caution! *) On terminals 2, 6, 10, 14, 19, 23, 27, 31, use cable cross section suited for 10 A according to local regulations (T 10A fuse in the power supply module / bus connection module).