



TX-I/O™

## Relay module bistable

**TXM1.6RL**

- Use for
- Light control
  - Control of subsystems with uninterruptible operation

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- 6 volt-free relay outputs, bistable
  - Configurable behavior in case of power failure and bus failure
  - Individual I/O point signaling with green I/O status LED
  - Compact DIN format, small footprint
  - Separate terminal base and plug-in I/O module for convenient handling
    - Self-establishing bus connection for maximum ease of installation
    - Terminal isolation function for fast commissioning
    - I/O module replaceable in seconds, without rewiring and without affecting the full functioning of the remaining I/O modules
  - Terminal strips are required to connect N and PE of the field devices
  - Simple strategy for display
    - I/O status LED for each I/O point
    - LEDs for fast diagnostics
  - Double-sided labels for identification of all I/O points

## Functions

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The module supports the following I/O functions:

Signal type (TRA)	Signal type	Description
BO Bistable NO BO Bistable NC	Q250B	Maintained contact, single-pole, bistable N/O, N/C contact

For a detailed description of the function, please refer to document CM110561, "TX-I/O functions and operation".

## Compatibility

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Support of signal types and functions in different building automation and control systems: see TX-I/O Engineering and installation manual, CM110562

## Type summary

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### ASN, SSN

Product no.	Stock no.	Designation
TXM1.6RL	S55661-J103	Relay module bistable

### Delivery

The terminal base and the plug-in I/O module are interconnected and delivered in the same box.

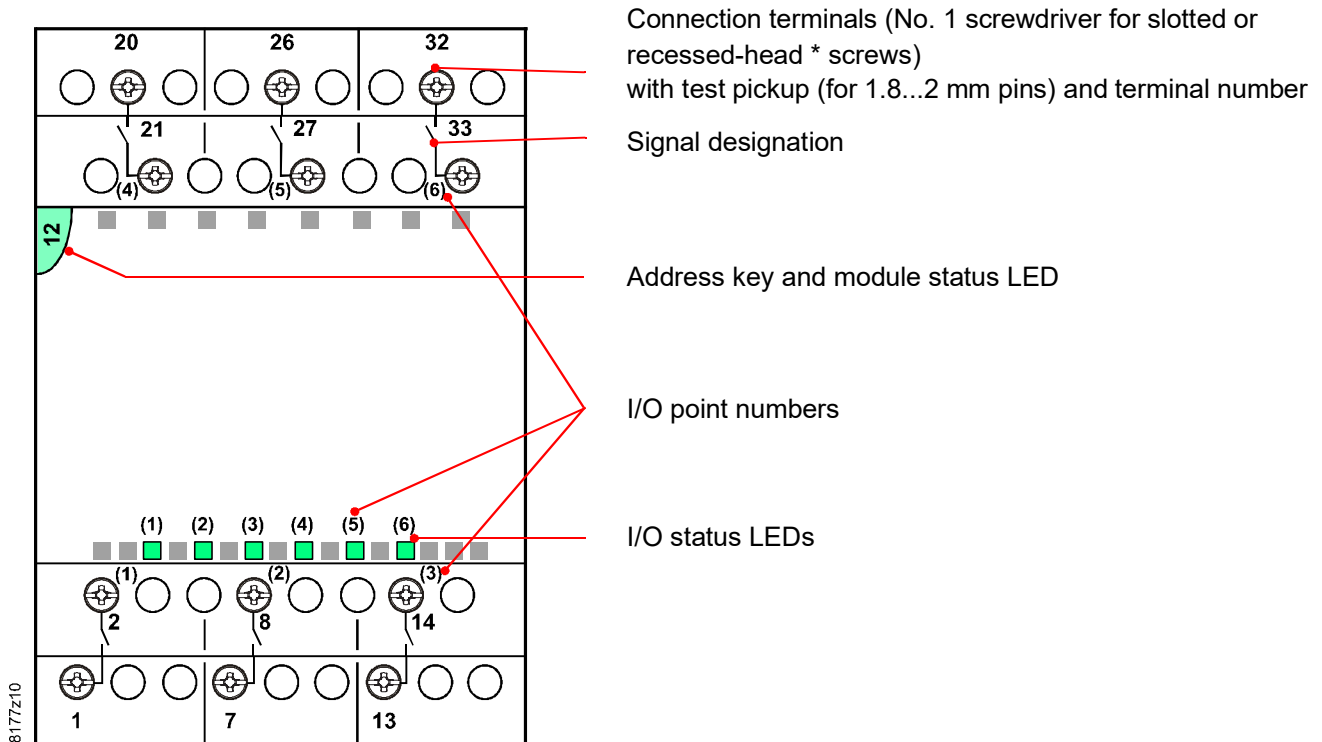
### Accessories

The available accessories include address keys, label sheets, and spare transparent label holders. Refer to data sheet CM2N8170.

## Technical and mechanical design

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For a description of the features common to all TX-I/O™ modules, please refer to the TX-I/O™ Engineering and installation manual, document CM110562.



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

### I/O status LEDs

- The green I/O status LEDs indicate the status of the relays
- The LEDs are also used for diagnostics

### Module status LEDs

- The module status LED illuminates the transparent address key
- The (green) LED shows the module status as a whole (as opposed to the I/O points)
- It is also used for diagnostics

### Address key

- The module operates only with the address key inserted
- The module address is mechanically encoded in the address key
- When replacing the plug-in I/O module, the address key must be swiveled outward. It remains plugged into in the terminal base.

### Terminals

- The relay contacts of the individual I/O points are volt-free, and are not interconnected. The switched voltage must be provided separately for each I/O point.
- Mixed phases are permitted on adjacent I/O points of the module.

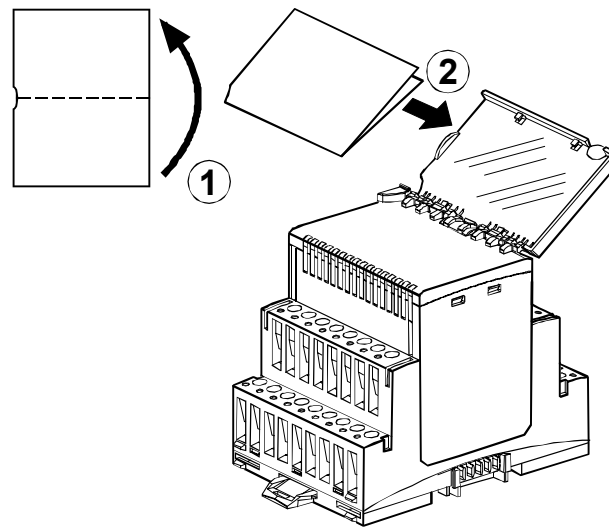
Note: UL916

*Restriction for UL916: I/O points 1...3 and 4...6 must have the same phase.*

## Module labeling

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The plug-in I/O module has a removable transparent cover (the label holder) for insertion of a label.



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## Disposal

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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 and commissioning

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Please refer to the following documents

Document	Number
TX-I/O™ functions and operation	CM110561
TX-I/O™ Engineering and installation manual	CM110562

## Mounting

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### Permitted orientation

The TX-I/O™ devices can be installed in any orientation:

It is important to provide adequate ventilation so that the admissible ambient temperature (max. 50°C) is not exceeded.

## Technical data

Supply (bus connector on side)	Operating voltage range	DC 21.5...26 V (SELV / PELV) or DC 24 V class 2 (US)	
	Max. power consumption <i>(for the sizing of power supplies, see CM110562)</i>	2.3 W	
Protection	Bus connector on side	No protection against shortcut and incorrect wiring with AC / DC 24 V	
Switching outputs	Number of switching outputs	6 (one pole bistable contact)	
	Contact data		
	Type	W pre-make + AgSnO <sub>2</sub>	
	Switching voltage	Max. AC 277 V Min. AC 24 V	
	Current rating	AC1 (cosφ=0.8) EN 60947-4-1	Max. AC 10 A (resistive)
		Life cycles (277V 50/60 Hz)	> 30,000 switching operations
		AC3 (cosφ=0.45) EN 60947-4-1	Not recommended for AC3
		Inrush current (20 μs)	Max. 800 A
		Inrush current (20 ms)	Max. 165 A
	Fluorescent lamps	Minimum current	Min. 100 mA at AC 24 V
		EN 60669-1	Max. 10 A (140 μF)
	Number of ballasts	Life cycles (277V 50/60 Hz)	> 30,000 switching operations
		OSRAM QTI 1x28 / 54W	Max. 27
		OSRAM QTP5 1x24 / 39W	Max. 33
OSRAM QTP5 2x24 / 39W		Max. 20	
OSRAM QTP5 1x54W		Max. 20	
OSRAM QTP5 2x54W		Max. 15	
OSRAM QT-FIT8 1x58 / 70W		Max. 42 / 36	
OSRAM QT-FIT8 2x58 / 70W	Max. 21 / 18		
<i>Other types / other manufacturers: check if inrush currents are admissible!</i>			
Filament lamps	Life cycles (230V, 1'500W)	> 40,000 switching operations	
External fuse protection for incoming cable			
• Slow blow fuse		Max. 16 A	
• Circuit breaker		Max. 16 A	
Tripping characteristic to EN 60898		Type B, C or D	
Insulation resistance	Reinforced insulation between relay outputs and system electronics	AC 3280 V, to EN 60 730-1	
Mixed phases are permitted on adjacent I/O points of the module.			
<i>Restriction for UL916: I/O points 1...3 and 4...6 must have the same phase.</i>			
Connection terminals	Mechanical design	Cage clamp terminals	
	Solid conductors	1 x 0.5 mm <sup>2</sup> to 4mm <sup>2</sup> or 2 x 0,6 mmØ to 1.5 mm <sup>2</sup>	
	Stranded conductors without connector sleeves	1 x 0.5 mm <sup>2</sup> to 2.5 mm <sup>2</sup> or 2 x 0,6 mmØ to 1.5 mm <sup>2</sup>	
	Stranded conductors with connector sleeves (DIN 46228/1)	1 x 0.25 mm <sup>2</sup> to 2.5 mm <sup>2</sup> or 2 x 0,6 mmØ to 1.5 mm <sup>2</sup>	
Screwdriver		No. 1 Screwdriver for slotted or recessed-head * screws <i>with shaft diameter ≤ 4.5 mm</i> * Combined slotted / recessed-head screws from mid-2012	
Max. tightening torque		0.6 Nm	
Test pickups (terminals)	For pin diameter	1 x 1.8 ... 2.0 mm	

Classification to EN 60730	Mode of operation of automatic electrical controls	Type 1
	Contamination level	2
	Mechanical design	The device is suitable for use in equipment with protective class I and II
Housing protection standard	Protection standard to EN 65029	
	Front-plate components in DIN cut-out	IP30
	Terminal base	IP20
Ambient conditions	Operation	To IEC 60721-3-3
	Climatic conditions	Class 3K5
	Temperature	-5...50 °C
	Humidity	5...95 % rh
	Mechanical conditions	Class 3M2
	Transport / storage	To IEC 60721-3-2
	Climatic conditions	Class 2K3
	Temperature	-25...70 °C
	Humidity	5...95 % rh
Standards, directives and approvals	Product standard	EN 60730-1
	Electromagnetic compatibility (Applications)	Automatic electrical controls for household and similar use For use in residential, commercial, light-industrial and industrial environments
	EU conformity (CE)	CM1T10870xx *)
	UL certification (US)	UL 916, <a href="http://ul.com/database">http://ul.com/database</a>
	RCM-conformity (EMC)	CM1T10870en_C1 *)
	EAC conformity	Eurasia conformity
Environmental compatibility	Product environmental declaration (contains data on RoHS compliance, materials composition, packaging, environmental benefit, disposal)	CM2E8177 *)
Color	Terminal base and plug-in I/O module	RAL 7035 (light gray)
Dimensions	Housing to DIN 43 880, see "Dimensions"	
Weight	Without / with packaging	246 / 268g

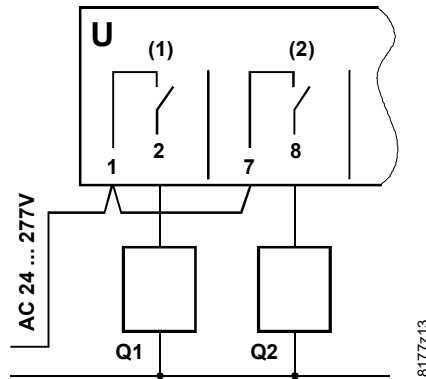
\*) The documents can be downloaded from <http://siemens.com/bt/download>.

## Connection diagrams (examples)

### Terminal layout

I/O point	TXM1.6RL					
	(1)	(2)	(3)	(4)	(5)	(6)
Supply	1	7	13	20	26	32
N/O contact, bistable (fail-safe behavior can be parameterized)	2	8	14	21	27	33

### Maintained contact



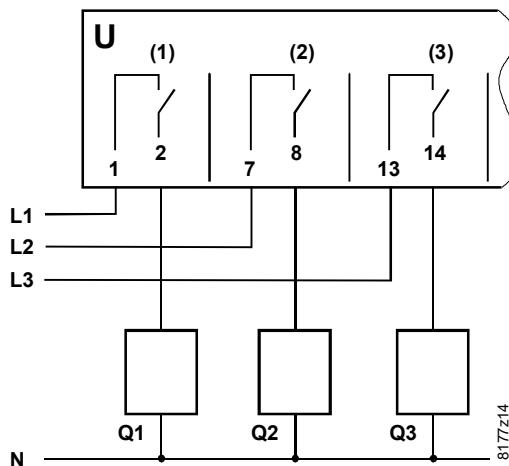
U Relay module bistable

Q1, Q2 Switched load

### Mixed phases

permitted on adjacent I/O points of the module.

*Restriction for UL916: I/O points 1...3 and 4...6 must have the same phase.*



U Relay module bistable

Q1, Q2, Q3  
Switched loads on 3 phases



### Note!

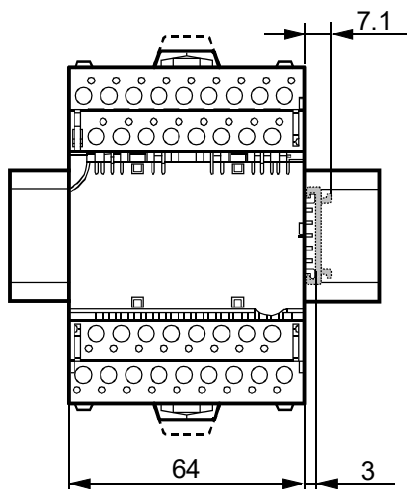
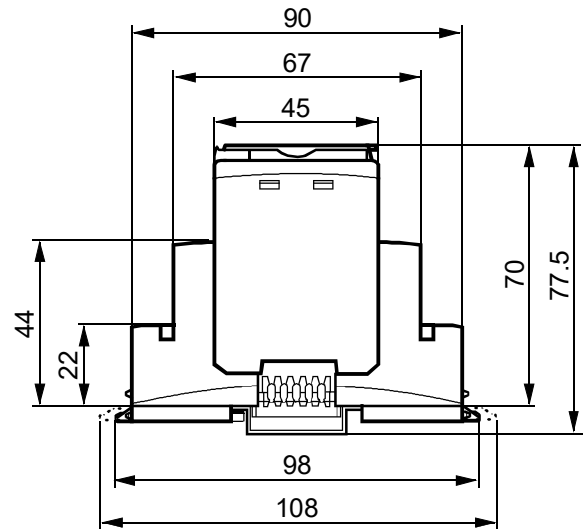
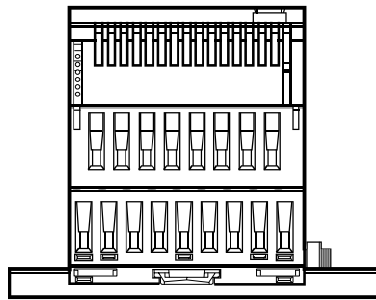
With modules from Series D it is compulsory to feed AC 24 V to bus terminal "V~" (field supply) if there is a bus connection module. TXM1.6RL always monitors this supply.

**Simatic:** it is also admissible to connect DC 24 V.

When AC / DC 24 V returns after a failure, the module reports the state of every configured output to the bus master. This guarantees that BACnet clients and light switches correctly display the state of the outputs.

## Dimensions

Dimensions in mm



8172M01

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Building Technologies Division  
International Headquarters  
Gubelstrasse 22  
6301 Zug  
Switzerland  
Tel. +41 41-724 24 24  
[www.siemens.com/buildingtechnologies](http://www.siemens.com/buildingtechnologies)

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