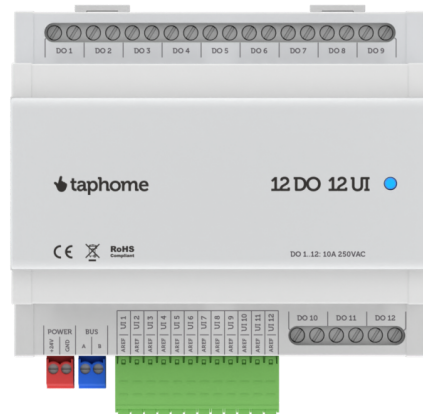


12 DO 12 UI

TapHome 12 DO 12 UI – the most compact module with 12 relay outputs (16 A) and 12 universal inputs. Thermal protection, 6M DIN rail.



Quick Facts

Dimensions	107 × 59 × 58 mm
Operating temperature	-20 ... 40 °C
IP rating	IP20
Power consumption	1.5 W

The most compact module on the market. A combination of 12 universal relay outputs and 12 universal inputs makes it a true space saver and offers exceptional value for money. It also features industrial-grade protection against overheating.

Product Variants

Order Code	Revízia	EAN
TH-12DO-12UI-DIN-1.1	1.1	 8586022930027
TH-12DO-12UI-DIN-2.0	2.0	 8586022930423

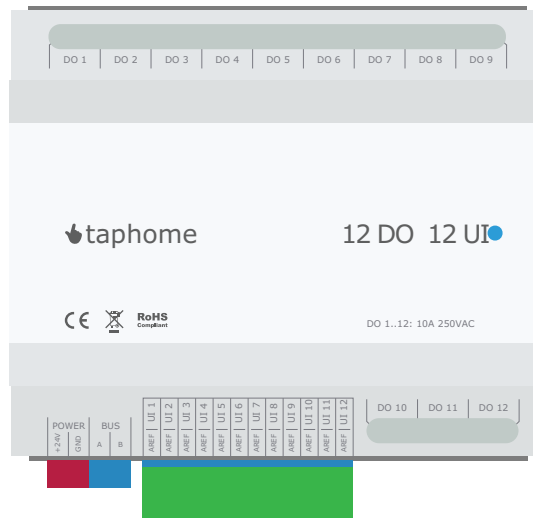
Technical Specifications

ELECTRICAL	
Power supply	24 VDC ±10%
Power consumption (idle)	1 W (standby)
Bus	TapHome Bus
OUTPUTS	
Relay outputs	12× potential-free
Max. switching load	16 A
Max. continuous load	10 A
Max. total load	50 A
Relay lifetime	100,000 (max) / 2,000,000 (avg) cycles
Power per active relay	0.8 W
INPUTS	
Universal inputs	12
Input types	NTC, button, reed, pulse counter, analog 0–10 V
Analog input	0–26 VDC, 12-bit, 0.1% FS
Pulse counter	200 Hz/ch, pulse > 2.5 ms

Terminal Connectors

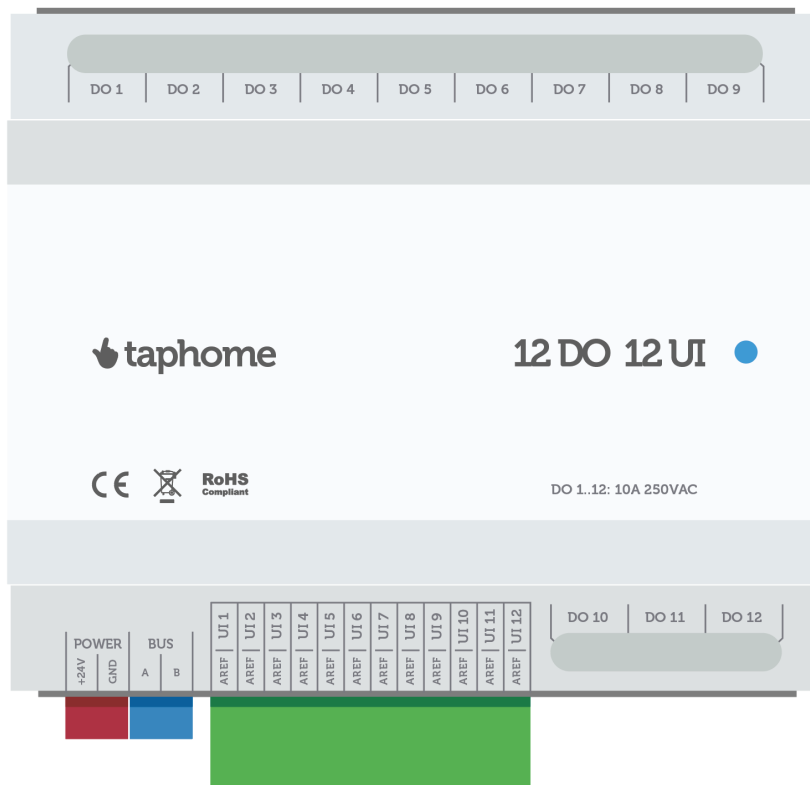
Connector	Pins	Wire range	Strip length
● Relay Outputs	DO1, DO2, DO3, DO4, DO5, DO6, DO7, DO8, DO9, DO10, DO11, DO12	0.2–2.5 mm ² (24–14 AWG)	6.5–7.5 mm
● Universal Inputs	UI1, UI2, UI3, UI4, UI5, UI6, UI7, UI8, UI9, UI10, UI11, UI12, AREF	0.14–1.5 mm ² (30–14 AWG)	6.5–7.5 mm
● Power	+24V, GND	0.2–2.5 mm ² (24–12 AWG)	6 mm
● Bus	Bus A, Bus B	0.2–2.5 mm ² (24–12 AWG)	6 mm

Wiring Diagram



Improvements in Revision 2.0

- Reduced power consumption of relay outputs when ON
- Double-row connector for UI inputs – 2 holes per each UI input



Features

- 12x potential-free relay outputs
- Maximum switching load 16 A
- Maximum continuous load 10 A
- Relay lifetime: 100,000 cycles at max load, 2,000,000 cycles at average load
- Maximum total load 50 A
- Sensors near relays monitor their temperature and shut them down if the temperature exceeds safe levels. Error is shown in the TapHome app.
- Output configurations:
 - Independent switched output
 - AC blinds with internal blocking of both outputs
 - PWM output
- 12 universal inputs configurable for:
 - NTC temperature inputs with resistance range 100 Ohm – 100 kOhm \pm 50 Ohm. Deviation over 1 km Cat6 cable: -0.3 °C at 25 °C. AREF terminal ensures noise-free temperature measurement.
 - Button inputs
 - Reed / status inputs
 - Pulse counter inputs, 200 Hz per channel, 400 Hz sampling rate per channel, pulse width > 2.5 ms
 - Analog inputs 0–10 V, voltage range 0–26 VDC, single-ended, 12-bit resolution, 0.1% full-scale accuracy, input impedance > 100 kOhm, 50 dB common-mode rejection at 60 Hz, conversion time 1250 ms
 - For 4–20 mA analog input, connect 500 Ohm resistor and set minimum voltage to 2V in Service settings (see gallery screenshot)
- Standby power consumption: 1 W
- Power consumption per active relay: 0.8 W
- Power dissipation per 1 A load: 0.16 W
- Maximum power dissipation at full 20 A load with all relays active: $1 + 0.8 \times 12 + 0.16 \times 20 = 13.8$ W
- Power supply 24 VDC \pm 10 %
- Enclosure: IP20, operating temperature: -20 °C to 40 °C
- DIN rail, 6 modules. Width 107 mm, height 59 mm

Wiring information

Relay Outputs (DO1–DO12)

Each relay is potential-free. Maximum wire cross-section for screw terminals: **2.5 mm²**.

Wire the outputs as follows:

1. Bring the **phase (Lx)** from the distribution board to the **first screw terminal** of the first output.
2. Prepare short wire segments (“bridges”) and connect them from that same terminal to the **common screw of the next output**, and continue this for all outputs that share the same phase.
3. Connect each **second screw** of the relay output to its respective load (light, socket, motor, etc.).
4. Connect the **neutral (N)** of each load directly to the neutral busbar, not through the module.

Multiple phases may be used on different groups of outputs if required.

Universal inputs (UI1–UI12)

All inputs are wired **UI ↔ AREF**



Product page

[https://hardware.taphome.com/
12do-12ui/](https://hardware.taphome.com/12do-12ui/)

