

Power amplifier for thermic valve actuators

UA1T

For controllers with an AC 24 V output signal

The UA1T power amplifier is used to allow the connection of additional valve actuators to controllers with an AC 24 V output signal.

- 2 parallel AC 24 V outputs, 5 VA per output
- AC 24 V operating voltage

Use

The UA1T power amplifier is used in cases where the controller output power is not sufficient for the parallel operation of several thermic valve actuators (e.g. in a room with several radiators or fan-coil systems).

Functions

The UA1T power amplifier converts the controller output signal (AC 24 V) into two identical signals each with an output power of 5 VA. The output of the controller is increased by 0.5 VA in this process.

Ordering

When ordering, please specify the quantity, product name and type code.

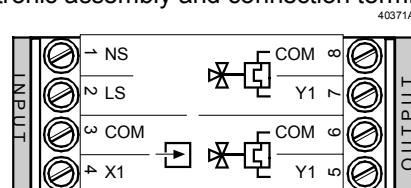
Example: **5 power amplifiers UA1T**

Equipment combinations

Typically, the UA1T power amplifier is used in conjunction with type PRR... radiator/chilled-ceiling controllers or with the PRFA... and PRFB... fan-coil controllers. It may also be used in conjunction with the TEC and DESIGO RX controllers to amplify an ON/OFF output.

Mechanical design

The plastic housing of the UA1T accommodates the printed circuit board with the electronic assembly and connection terminals.



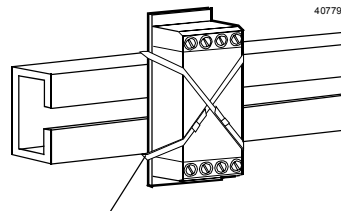
- 1, 2 AC 24 V supply voltage
- 3, 4 Input terminals
- 5 ... 8 Output terminals

Mounting

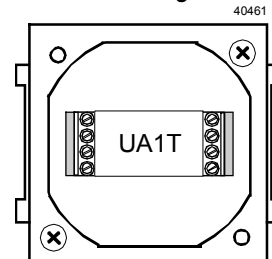
The UA1T amplifier can be fitted into a flush or surface mounting box or installed in a control panel. With its compact size it can be installed virtually anywhere, e.g.

- in flush or surface mounting boxes
- in the control panel on DIN rails or in cable ducts
- directly on terminal units
- in ceiling voids

Rail mounting



Flush-mounting



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.

Technical data

| | | |
|--------------------|------------------------------|---|
| Power supply | Supply voltage | Extra-low voltage (SELV) AC 24 V, 50/60 Hz |
| | Admissible voltage tolerance | +15 / -10 % |
| | Power consumption | |
| | – From controller | 0.5 VA |
| | – From external transformer | Max. 15 VA |
| | Fuse | 0.9 A, self-resetting |
| Signal input | Input X1 | AC 24 V (PDM ¹⁾ or ON/OFF) |
| Signal output | Outputs Y1 | AC 24 V (PDM ¹⁾ or ON/OFF), max. 5 VA per output |
| Connections | Connection terminals | Screw terminals, 4 mm ² |
| Weight | including packaging | 0.03 kg |
| Dimensions | (W x H x D) | 22 x 18 x 56 mm |
| Mounting | | – in flush or surface mounting box – on DIN rails |
| Product safety | Electrical safety | EN 61010-1, SELV |
| | Contamination level | 2 (normal, non-conductive contamination) |
| Ambient conditions | Conditions of use | For indoor use (control panel, surface or flush-mounting box) |
| | Temperature range | Operation: 5 ... 45 °C Storage: -25 ... 70 °C |
| | Ambient humidity | 10 ... 90 % rh, non-condensing |
| | EU conformity (CE) | CA2T3830xx *) |

1) PDM = Pulse / duration modulated

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

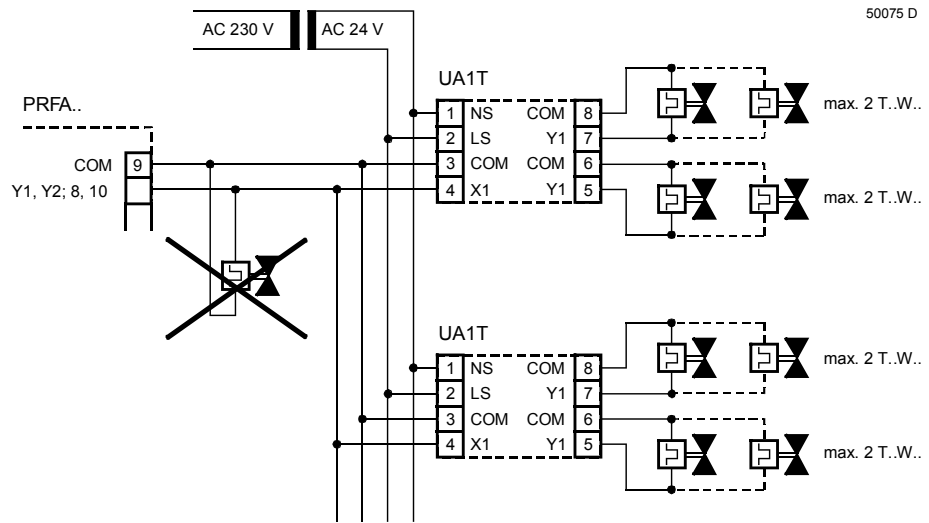
Connection terminals

| 50247B | | | |
|--------|---|---|---------------------------------------|
| NS | 1 | ← | Neutral conductor |
| LS | 2 | ← | Phase conductor AC 24 V |
| COM | 3 | ← | Signal ground |
| X1 | 4 | ← | Input signal AC 24 V (PWM or ON/OFF) |
| Y1 | 5 | → | Output signal AC 24 V (PWM or ON/OFF) |
| COM | 6 | → | Signal ground |
| Y1 | 7 | → | Output signal AC 24 V (PWM or ON/OFF) |
| COM | 8 | → | Signal ground |

Examples of application

1. PRFA... controllers

Eight T...W... thermic valves per output are to be connected in parallel to the PRFA.../A fan-coil controller.



Note The power rating of the controller must not be exceeded. One PRFA.../A controller, for example, can accommodate 1 T...W... valve OR a maximum of 10 UA1T controllers (max. 5 VA).

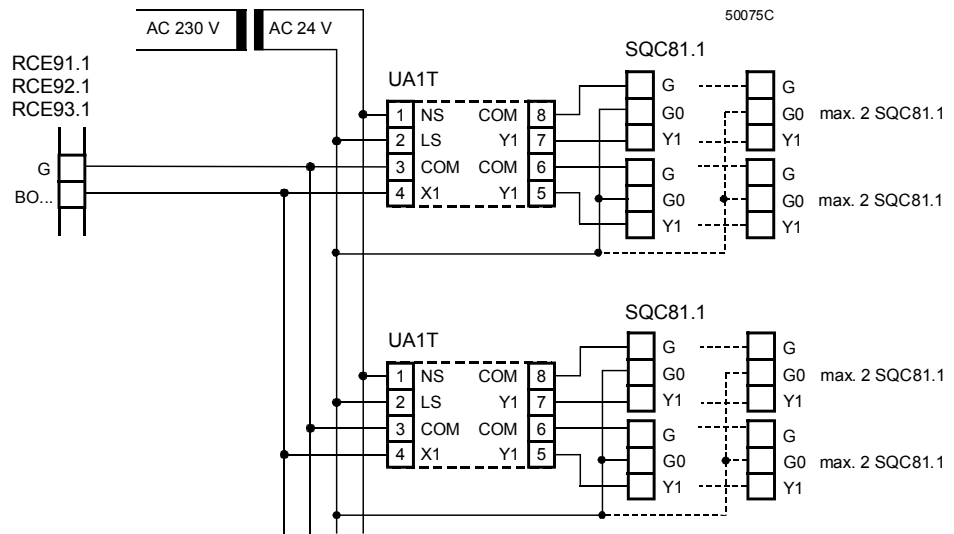


Caution!

Mixed operation: **Connecting thermic actuators to the controller as well as to the power amplifier is NOT allowed.** Differing voltage of the internal transformer of the controller and the supply of the power amplifier may cause big differences in the position of the valves.

2. TEC controllers

Eight SQC81.1 ON/OFF motorized actuators per output are to be connected in parallel to a TEC type RCE9... controller.

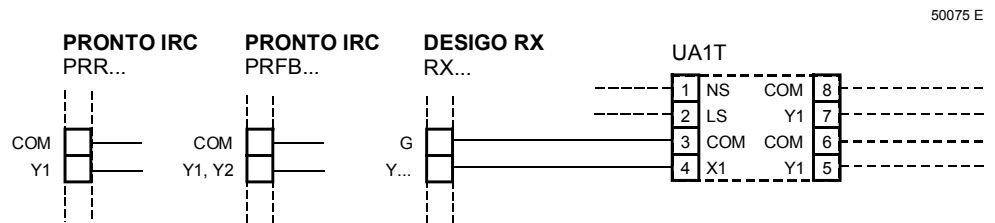


Notes

- Thermic valve actuators can be connected as shown in the example for the PRFA... controller.
- The UA1T power amplifier cannot be used to amplify 3-position outputs.
- The maximum number of UA1T power amplifiers per TEC controller may vary according to the application, but in all cases, at least two UA1T amplifiers per output can be used.

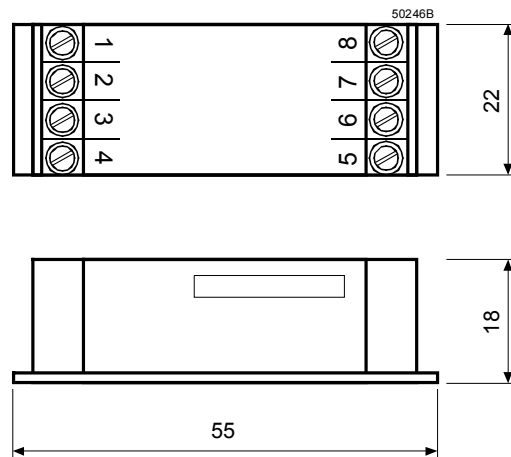
3. Other controllers

The principles shown above for the PRFA... can be applied to the PRONTO IRC controller types PRFB... and PRR... and the DESIGO RX controllers:



Dimensions

All dimensions in mm



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