RAT-TPA1B
astronomical digital clocks



NEW

- 52 memory banks available for weekly, daily and pulse programs
- Automatic summer/winter digital clockover
- Automatic transfer of weekdays
- Sealable cover of the front panel, easy setting by 4 buttons
- Backlighted LCD display (can be turned off)
- 10 year power reserve (internal lithium battery which can protect real time clock and all the settings when the electric power supply is off)
- One channel
- AC/DC input voltages • Cover - modular, width 36 mm
- Direct mounting on 35 mm rail mount acc. to EN 60715
- Compliance with standards EN 60730-1, EN 60730-2-7
- Recognitions, certifications, directives: RoHS

• **Astronomical digital clocks** - for realization of time functions in the control and automation systems; they calculate the sunrise and sunset time automatically according to the set geographic position and time zone; night break program can be used to turn off the output at night

Output circuit - contact data

Number and type of contacts		1 CO	
Rated load	AC1	16 A / 250 V AC	
Rated current		16 A	
Max. breaking capacity	AC1	4 000 VA	
	DC1	384 W	

Input circuit - control

Rated voltage	AC: 50/60 Hz AC/DC	24...264 V	terminals (+)A1, (-)A2
Operating range of supply voltage		0,9...1,1 U_n	
Rated power consumption		1 W	
Range of supply frequency	AC	48...63 Hz	
Power reserve		10 years	(internal lithium battery)

General data

Electrical life	• resistive AC1	10^5	16 A, 250 V AC
Mechanical life (cycles)		10^6	
Dimensions (L x W x H)		90 x 36 x 65 mm	
Ambient temperature	• storage	-20...+55 °C	
(non-condensation and/or icing)	• operating	-30...+70 °C	
Cover protection category		IP 20	EN 60529
Insulation pollution degree		3	
Relative humidity		up to 50%	40 °C (non-condensation)
Operating altitude		0...2 000 m	

Programming circuit data

Programs	52 memory banks	
Operating modes	manual, automatic, holiday	
Summer/winter time	off, automatic switchover	
Setting accuracy	≤ 1 s/day	25 °C
Data readout	LCD display with backlight	

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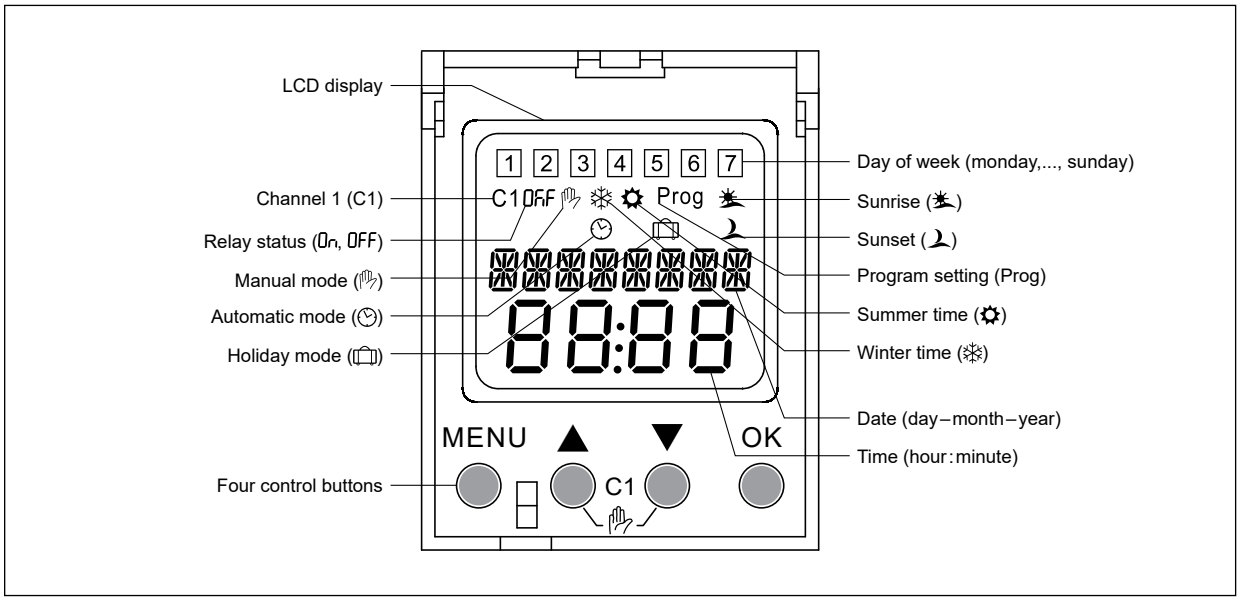
Description

Astronomical digital clocks **RAT-TPA1B** are applied for switching on and off the lightning or other electrical receivers in accordance to sunset and sunrise with an option to program a night break, which means a temporary switching off of the receivers for savings purposes.

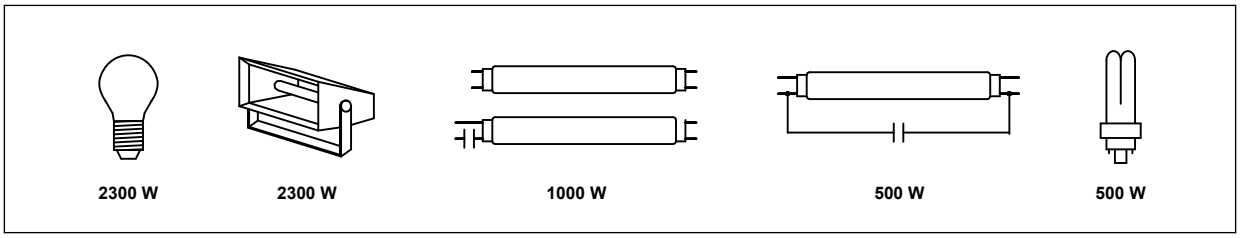
Physical and program resources:
- initial operation: selecting desired language, selecting adequate year, month, day, hour and minute,
- selecting desired main menu,
- astronomical time setting and display: checking the astronomical time (sunrise/sunset), offset time setting, geographical position setting,
- time and date setting: time setting, date setting, summer/winter time setting,
- holiday mode setting,
- programming: night break setting,
- language setting,
- control: automatically reset of the device, buttons for manual control.

Front panel description

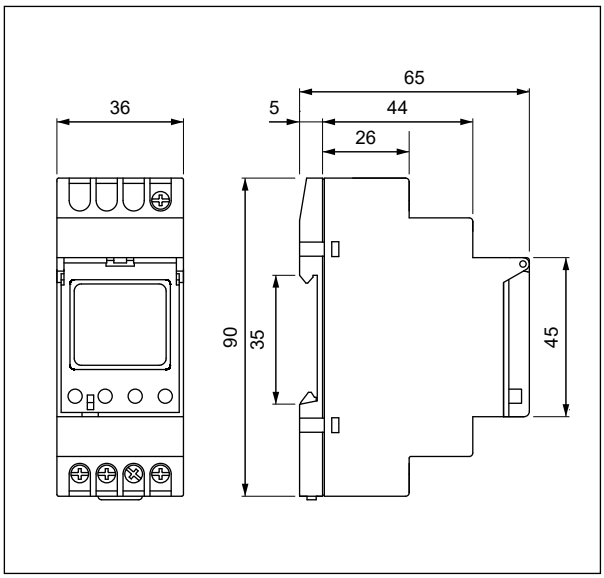
LCD display with backlight: after the external power supply is applied and then press of four buttons, the LCD display will be illuminated. Otherwise, only symbols are displayed on the screen.



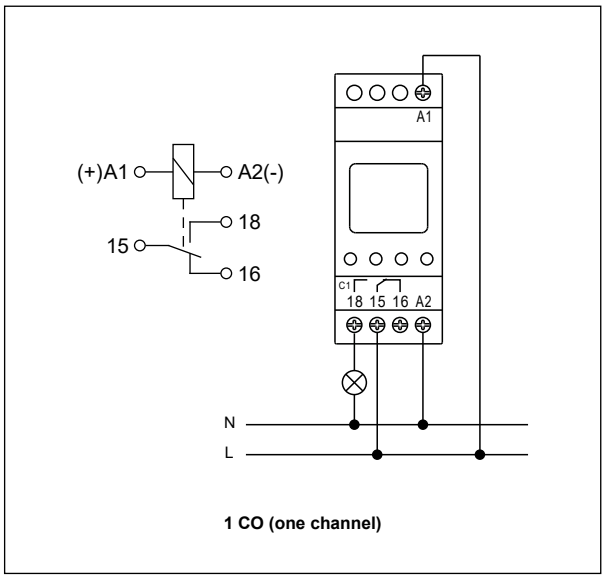
Maximum control power



Dimensions



Connection diagrams

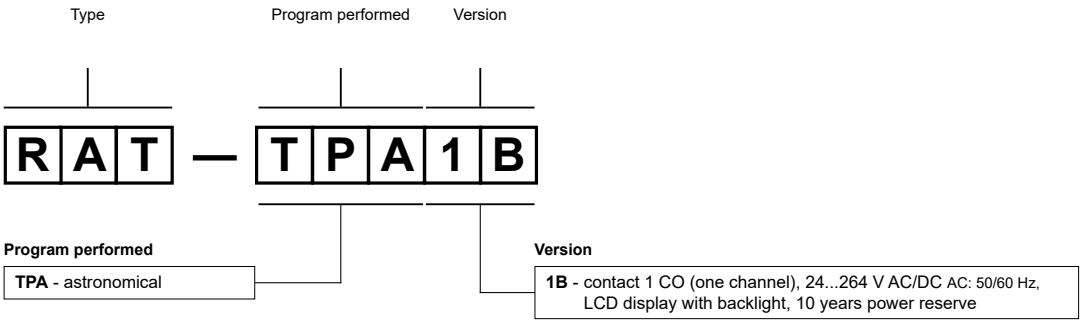


1 CO (one channel)

Mounting

Clocks **RAT-TPA1B** are designed for direct mounting on 35 mm rail mount acc. to EN 60715. Operational position - vertical. **Connections:** max. cross section of the cables: 1...4 mm^2 (17...12 AWG), stripping length: 6,5 mm, max. tightening moment for the terminal: 0,5 Nm.

Ordering codes



Example of ordering codes:

RAT-TPA1B digital clock **RAT-TPA1B**, astronomical (clock perform 52 programs + holiday mode), cover - modular, width 36 mm, LCD display with backlight, 10 years power reserve, one change-over contact (one channel), rated input voltage 24...264 V AC/DC AC: 50/60 Hz

PRECAUTIONS:
1. Ensure that the parameters of the product described in its specification provide a safety margin for the appropriate operation of the device or system and never use the product in circumstances which exceed the parameters of the product. **2.** Never touch any live parts of the device. **3.** Ensure that the product has been connected correctly. An incorrect connection may cause malfunction, excessive heating or risk of fire. **4.** In case of any risk of any serious material loss or death or injuries of humans or animals, the devices or systems shall be designed so to equip them with double safety system to guarantee their reliable operation.