

# Time switches 16 A



Heating and cooling



Shop displays



Lighting for parks



Streetlights and car park lighting



School bells



12  
SERIES



**Mechanical time switches**

- Daily time setting\*
- Weekly time setting\*\*

**Type 12.01**

- Daily
- 1 CO 16 A
- 35.8 mm wide
- 35 mm rail mount

**Type 12.11**

- Daily
- 1 NO 16 A
- 17.5 mm wide
- 35 mm rail mount

**Type 12.31-0000**

- Daily
- 1 CO 16 A
- 72 x 72 mm
- Front panel mount

**Type 12.31-0007**

- Weekly
- 1 CO 16 A
- 72 x 72 mm
- Front panel mount

- Minimum time interval setting:  
1 h (12.31-0007)  
30 min (12.01)  
15 min (12.11 - 12.31-0000)

\* Same program every day

\*\* Different program possible for each of the 7 days of the week

For outline drawing see page 13

**12.01**



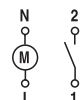
- Mechanical daily time switch
- 1 CO 16 A
- 35 mm rail (EN 60715) mount



**12.11**



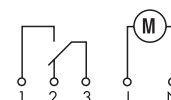
- Mechanical daily time switch
- 1 NO 16 A
- 35 mm rail (EN 60715) mount



**12.31**



- Mechanical daily or weekly
- 1 CO 16 A
- Front panel mounting



**Contact specification**

|   |           |                    |                    |              |
|---|-----------|--------------------|--------------------|--------------|
| Contact configuration                       |           | 1 CO (SPDT)        | 1 NO (SPST-NO)     | 1 CO (SPDT)  |
| Rated current/Maximum peak current          | A         | 16/—               | 16/30              | 16/—         |
| Rated voltage/<br>Maximum switching voltage | V AC      | 250/—              | 250/—              | 250/—        |
| Rated load AC1                              | VA        | 4000               | 4000               | 4000         |
| Rated load AC15 (230 V AC)                  | VA        | 750                | 420                | 420          |
| Nominal lamp rating:                        |           |                    |                    |              |
| incandescent (230 V) W                      |           | 2000 (NO contact)  | 2000               | 2000         |
| compensated fluorescent (230 V) W           |           | 750 (NO contact)   | 750                | 750          |
| uncompensated fluorescent (230 V) W         |           | 1000 (NO contact)  | 1000               | 1000         |
| halogen (230 V) W                           |           | 2000 (NO contact)  | 2000               | 2000         |
| Minimum switching load                      | mW (V/mA) | 1000 (10/10)       | 1000 (10/10)       | 1000 (10/10) |
| Standard contact material                   |           | AgSnO <sub>2</sub> | AgSnO <sub>2</sub> | AgCdO        |

**Supply specification**

|                                   |                 |                            |                            |                            |
|-----------------------------------|-----------------|----------------------------|----------------------------|----------------------------|
| Nominal voltage (U <sub>N</sub> ) | V AC (50/60 Hz) | 230                        | 230                        | 120 - 230                  |
|                                   | V DC            | —                          | —                          | —                          |
| Rated power AC/DC                 | VA (50 Hz)/W    | 2/—                        | 2/—                        | 2/—                        |
| Operating range                   | AC (50 Hz)      | (0.85...1.1)U <sub>N</sub> | (0.85...1.1)U <sub>N</sub> | (0.85...1.1)U <sub>N</sub> |
|                                   | DC              | —                          | —                          | —                          |

**Technical data**

|                                      |        |                      |                      |                      |
|--------------------------------------|--------|----------------------|----------------------|----------------------|
| Electrical life at rated load in AC1 | cycles | 50 · 10 <sup>3</sup> | 50 · 10 <sup>3</sup> | 50 · 10 <sup>3</sup> |
| Type of time switch                  |        | daily                | daily                | daily   weekly       |
| Switching intervals /day             |        | 48                   | 96                   | 96   24 (168/week)   |
| Minimum switching interval           | min    | 30                   | 15                   | 15   60              |
| Accuracy                             | s/day  | 1.5                  | 1.5                  | 1.5                  |
| Ambient temperature range            | °C     | -5...+50             | -5...+50             | -10...+50            |
| Protection category                  |        | IP 20                | IP 20                | IP 20                |

**Approvals** (according to type)



**Type 12.51**

**Digital (analogue-style) time switch, daily/weekly programming**

- Can be programmed in "Classic" mode via the joystick, or "Smart" mode via smartphones with NFC communication
- Minimum time interval setting - 30 minutes
- Easily configurable for daily or weekly programming

**Type 12.81**

**Digital Astro-switch**

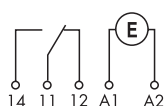
- Can be programmed in "Classic" mode via the joystick, or "Smart" mode via smartphones with NFC communication
- Astro program: calculation of sunrise and sunset times through date, time and location coordinates
- Option for Astro ON period override, by timeswitch
- Location coordinates easily settable for most European countries through post codes
- Offset function: allows programming of switching times offset from the astronomical time (by up to 90 min, in 10 min steps)
- Summer/Winter European, Australian, Brazilian time
- 1 CO 16 A output contact
- LCD status indication, set-up and programming
- Lock with a 4-digit PIN
- Back-light display
- Internal battery for set-up and programming without supply, easily replaceable from the front
- Protective separation between supply and contacts
- 35 mm wide
- 35 mm rail (EN 60715) mount
- Cadmium free contact material

For outline drawing see page 13

**NEW** 12.51



- Digital time switch
- 1 CO 16 A



**NEW** 12.81



- Digital Astro-switch
- 1 CO 16 A

**Contact specification**

| Contact configuration                              |           | 1 CO (SPDT)          | 1 CO (SPDT)          |
|--|-----------|----------------------|----------------------|
| Rated current/Maximum peak current                 | A         | 16/30 (120 A - 5 ms) | 16/30 (120 A - 5 ms) |
| Rated voltage/<br>Maximum switching voltage        | V AC      | 250/400              | 250/400              |
| Rated load AC1                                     | VA        | 4000                 | 4000                 |
| Rated load AC15 (230 V AC)                         | VA        | 750                  | 750                  |
| Nominal lamp rating:                               |           |                      |                      |
| 230 V incandescent/halogen W                       |           | 2000                 | 2000                 |
| fluorescent tubes with electronic ballast W        |           | 1000                 | 1000                 |
| fluorescent tubes with electromechanical ballast W |           | 750                  | 750                  |
| CFL W  |           | 400                  | 400                  |
| 230 V LED W  |           | 400                  | 400                  |
| LV halogen or LED with electronic ballast W        |           | 400                  | 400                  |
| LV halogen or LED with electromechanical ballast W |           | 800                  | 800                  |
| Minimum switching load                             | mW (V/mA) | 1000 (10/10)         | 1000 (10/10)         |
| Standard contact material                          |           | AgSnO <sub>2</sub>   | AgSnO <sub>2</sub>   |

**Supply specification**

|                                   |                 |           |           |
|-----------------------------------|-----------------|-----------|-----------|
| Nominal voltage (U <sub>N</sub> ) | V AC (50/60 Hz) | 110...230 | 110...230 |
|                                   | V DC            | 110...230 | 110...230 |
| Rated power AC/DC                 | VA (50 Hz)/W    | 2.8/0.9   | 2.8/0.9   |
| Operating range                   | V AC (50 Hz)    | 88...264  | 88...264  |
|                                   | V DC            | 88...264  | 88...264  |

**Technical data**

|                                      |        |                                     |                                     |
|--------------------------------------|--------|-------------------------------------|-------------------------------------|
| Electrical life at rated load in AC1 | cycles | 100 · 10 <sup>3</sup>               | 100 · 10 <sup>3</sup>               |
| Switching intervals                  |        | 48                                  | —                                   |
| Minimum switching interval           | min    | 30                                  | —                                   |
| Accuracy                             | s/day  | 1                                   | 1                                   |
| Ambient temperature range            | °C     | -20...+50 (see page 9, diagram L12) | -20...+50 (see page 9, diagram L12) |
| Protection category                  |        | IP 20                               | IP 20                               |

**Approvals** (according to type)



**Digital time switch, weekly programming**  
- Can be programmed in "Classic" mode via the joystick, or "Smart" mode via smartphones with NFC communication

**Type 12.61**

- 1 CO 16 A

**Type 12.62**

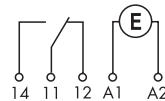
- 2 CO 16 A

- Functions:  
Switch ON, Switch OFF  
Pulse: 1s...59 min
- Minimum time interval setting - 1 minute
- Summer/Winter European, Australian, Brazilian time
- LCD status indication, set-up and programming
- Lock with a 4-digit PIN
- Back-light display
- Internal battery for set-up and programming without supply, easily replaceable from the front
- Protective separation between supply and contacts
- 35 mm wide
- 35 mm rail (EN 60715) mount
- Cadmium free contact material

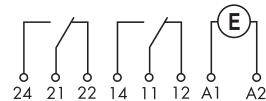
For outline drawing see page 14



- Weekly programming
- 1 CO 16 A
- Switch ON, Switch OFF, Pulse



- Weekly programming
- 2 CO 16 A
- Switch ON, Switch OFF, Pulse



**Contact specification**

|  |           |                      |                      |
|--|-----------|----------------------|----------------------|
| Contact configuration                              |           | 1 CO (SPDT)          | 2 CO (DPDT)          |
| Rated current/Maximum peak current                 | A         | 16/30 (120 A - 5 ms) | 16/30 (120 A - 5 ms) |
| Rated voltage/<br>Maximum switching voltage        | V AC      | 250/400              | 250/400              |
| Rated load AC1                                     | VA        | 4000                 | 4000                 |
| Rated load AC15 (230 V AC)                         | VA        | 750                  | 750                  |
| Nominal lamp rating:                               |           |                      |                      |
| 230 V incandescent/halogen W                       |           | 2000                 | 2000                 |
| fluorescent tubes with electronic ballast W        |           | 1000                 | 1000                 |
| fluorescent tubes with electromechanical ballast W |           | 750                  | 750                  |
| CFL W  |           | 400                  | 400                  |
| 230 V LED W  |           | 400                  | 400                  |
| LV halogen or LED with electronic ballast W        |           | 400                  | 400                  |
| LV halogen or LED with electromechanical ballast W |           | 800                  | 800                  |
| Minimum switching load                             | mW (V/mA) | 1000 (10/10)         | 1000 (10/10)         |
| Standard contact material                          |           | AgSnO <sub>2</sub>   | AgSnO <sub>2</sub>   |

**Supply specification**

|                                   |                 |         |           |           |
|-----------------------------------|-----------------|---------|-----------|-----------|
| Nominal voltage (U <sub>N</sub> ) | V AC (50/60 Hz) | 12...24 | 110...230 | 110...230 |
|                                   | V DC            | 12...24 | 110...230 | 110...230 |
| Rated power AC/DC                 | VA (50 Hz)/W    | 2.8/0.9 |           | 2.8/0.9   |
| Operating range                   | V AC (50 Hz)    | 10...30 | 88...253  | 88...253  |
|                                   | V DC            | 10...30 | 88...253  | 88...253  |

**Technical data**

|                                      |        |                                     |                                     |
|--------------------------------------|--------|-------------------------------------|-------------------------------------|
| Electrical life at rated load in AC1 | cycles | 100 · 10 <sup>3</sup>               | 100 · 10 <sup>3</sup>               |
| Type of time switch                  |        | Weekly                              | Weekly                              |
| Memory locations for switching times |        | 50                                  | 50                                  |
| Minimum internal setting             | min    | 1                                   | 1                                   |
| Accuracy                             | s/day  | 1                                   | 1                                   |
| Ambient temperature range            | °C     | -20...+50 (see page 9, diagram L12) | -20...+50 (see page 9, diagram L12) |
| Protection category                  |        | IP 20                               | IP 20                               |

**Approvals** (according to type)



**Weekly Astro time switch**

- Can be programmed in "Classic" mode via the joystick, or "Smart" mode via smartphones with NFC communication
- "Astro" program: calculation of sunrise and sunset times through date, time and location coordinates

**Type 12.A1**  
- 1 CO 16 A

**Type 12.A2**  
- 2 CO 16 A

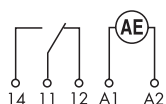
- Functions: "Astro" ON, "Astro" OFF, Switch ON, Switch OFF, Pulse: 1s...59 min
- Location coordinates easily settable for most European countries through Post codes
- Offset function: allows programming of switching times offset from the astronomic time (by up to 90 min, in 1 min step)
- Minimum time interval setting - 1 minute
- Summer/Winter European, Australian, Brazilian time
- LCD status indication, set-up and programming
- Lock with a 4-digit PIN
- Back-light display
- Internal battery for set-up and programming without supply, easily replaceable from the front
- Protective separation between supply and contacts
- 35 mm wide
- 35 mm rail (EN 60715) mount
- Cadmium free contact material

For outline drawing see page 14

**NEW 12.A1**



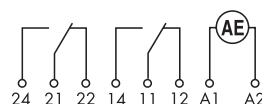
- Weekly programming
- 1 CO 16 A
- Switch ON, Switch OFF, Pulse



**NEW 12.A2**



- Weekly programming
- 2 CO 16 A
- Switch ON, Switch OFF, Pulse



**Contact specification**

|  |           |                      |                      |
|--|-----------|----------------------|----------------------|
| Contact configuration                              |           | 1 CO (SPDT)          | 2 CO (DPDT)          |
| Rated current/Maximum peak current                 | A         | 16/30 (120 A - 5 ms) | 16/30 (120 A - 5 ms) |
| Rated voltage/Maximum switching voltage            | V AC      | 250/400              | 250/400              |
| Rated load AC1                                     | VA        | 4000                 | 4000                 |
| Rated load AC15 (230 V AC)                         | VA        | 750                  | 750                  |
| Nominal lamp rating:                               |           |                      |                      |
| 230 V incandescent/halogen W                       |           | 2000                 | 2000                 |
| fluorescent tubes with electronic ballast W        |           | 1000                 | 1000                 |
| fluorescent tubes with electromechanical ballast W |           | 750                  | 750                  |
| CFL W  |           | 400                  | 400                  |
| 230 V LED W  |           | 400                  | 400                  |
| LV halogen or LED with electronic ballast W        |           | 400                  | 400                  |
| LV halogen or LED with electromechanical ballast W |           | 800                  | 800                  |
| Minimum switching load                             | mW (V/mA) | 1000 (10/10)         | 1000 (10/10)         |
| Standard contact material                          |           | AgSnO <sub>2</sub>   | AgSnO <sub>2</sub>   |

**Supply specification**

|                                   |                 |           |         |           |
|-----------------------------------|-----------------|-----------|---------|-----------|
| Nominal voltage (U <sub>N</sub> ) | V AC (50/60 Hz) | 110...230 | 12...24 | 110...230 |
|                                   | V DC            | 110...230 | 12...24 | 110...230 |
| Rated power AC/DC                 | VA (50 Hz)/W    | 2.8/0.9   | 2.8/0.9 |           |
| Operating range                   | V AC (50 Hz)    | 88...253  | 10...30 | 88...253  |
|                                   | V DC            | 88...253  | 10...30 | 88...253  |

**Technical data**

|                                      |        |                                     |                                     |
|--------------------------------------|--------|-------------------------------------|-------------------------------------|
| Electrical life at rated load in AC1 | cycles | 100 · 10 <sup>3</sup>               | 100 · 10 <sup>3</sup>               |
| Type of time switch                  |        | Weekly                              | Weekly                              |
| Memory locations for switching times |        | 50                                  | 50                                  |
| Minimum internal setting             | min    | 1                                   | 1                                   |
| Accuracy                             | s/day  | 1                                   | 1                                   |
| Ambient temperature range            | °C     | -20...+50 (see page 9, diagram L12) | -20...+50 (see page 9, diagram L12) |
| Protection category                  |        | IP 20                               | IP 20                               |

**Approvals (according to type)**



**Electronic digital time switches**  
- 1 Weekly time setting

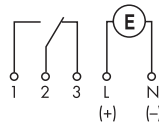
**Type 12.71**

- 1 CO 16 A
- 17.8 mm wide
- Minimum time interval setting - 1 minute
- Internal battery for set-up without supply
- Pulse output function:  
1 s... 59:59(mm:ss)
- Automatic adjustment for daylight saving
- 35 mm rail (EN 60715) mount

**12.71**



- Digital weekly time switch
- 1 CO 16 A
- 17.8 mm wide



For outline drawing see page 13

| Contact specification                                 |                 |                           |                            |
|---|-----------------|---------------------------|----------------------------|
| Contact configuration                                 |                 | 1 CO (SPDT)               |                            |
| Rated current/Maximum peak current                    | A               | 16/30                     |                            |
| Rated voltage/<br>Maximum switching voltage           | V AC            | 250/—                     |                            |
| Rated load AC1  | VA              | 4000                      |                            |
| Rated load AC15 (230 V AC)                            | VA              | 420                       |                            |
| Nominal lamp rating:                                  |                 |                           |                            |
| 230 V incandescent/halogen W                          |                 | 400                       |                            |
| fluorescent tubes with<br>electronic ballast W        |                 | 100                       |                            |
| fluorescent tubes with<br>electromechanical ballast W |                 | 100                       |                            |
| CFL W   |                 | 50                        |                            |
| 230 V LED W   |                 | 50                        |                            |
| LV halogen or LED with<br>electronic ballast W        |                 | 50                        |                            |
| LV halogen or LED with<br>electromechanical ballast W |                 | 100                       |                            |
| Minimum switching load                                | mW (V/mA)       | 1000 (10/10)              |                            |
| Standard contact material                             |                 | AgNi                      |                            |
| Supply specification                                  |                 |                           |                            |
| Nominal voltage (U <sub>N</sub> )                     | V AC (50/60 Hz) | —                         | 230                        |
|   | V AC/DC         | 24                        | —                          |
| Rated power AC/DC                                     | VA (50 Hz)/W    | 1.4/1.4                   | 2/—                        |
| Operating range                                       | AC (50 Hz)      | (0.9...1.1)U <sub>N</sub> | (0.85...1.1)U <sub>N</sub> |
|   | DC              | (0.9...1.1)U <sub>N</sub> | —                          |
| Technical data  |                 |                           |                            |
| Electrical life at rated load in AC1                  | cycles          | 50 · 10 <sup>3</sup>      |                            |
| Type of time switch                                   |                 | weekly                    |                            |
| Memory locations for switching times*                 |                 | 30                        |                            |
| Minimum switching interval                            | min             | 1                         |                            |
| Accuracy  | s/day           | 0.5                       |                            |
| Ambient temperature range                             | °C              | -30...+55                 |                            |
| Protection category                                   |                 | IP 20                     |                            |
| <b>Approvals</b> (according to type)                  |                 | <b>CE EAC</b>             |                            |

\* Switching times in memory may be used more than once i.e. when selected for different days.

## Ordering information

Example: 12 series digital (analogue style) time switch, 1 CO 16 A contact, (110...230)V AC/DC supply

1 2 . 5 1 . 8 . 2 3 0 . 0 0 0 0

### Series

### Type

0 = Daily, 35.8 mm wide  
 1 = Daily, 17.5 mm wide  
 3 = Daily or Weekly, 72 x 72 mm  
 5 = Digital (analogue style),  
 NFC programming, 35 mm wide  
 6 = Weekly, NFC programming,  
 35 mm wide  
 7 = Weekly, 17.5 mm wide  
 8 = Astro-switch, NFC programming,  
 35 mm wide  
 A = Weekly "Astro", NFC programming,  
 35 mm wide

### No. of poles

1 = 1 CO (SPDT), 16 A  
 1 = 1 NO (SPST), 16 A  
 2 = 2 CO (DPDT), 16 A

### Option

0 = With power back-up  
 1 = Without power back-up  
 (type 12.11)

### Supply voltage

024 = 24 V AC/DC (type 12.71)  
 024 = 12...24 V AC/DC  
 (types 12.61, 12.A2)  
 120 = 120 V AC  
 230 = 230 V AC  
 230 = (110...230)V AC/DC  
 (types 12.51, 12.61, 12.62,  
 12.81, 12.A1, 12.A2)

### Supply version

0 = AC (50/60 Hz)/DC  
 (types 12.61.0.024, 12.A2.0.024, 12.71.0.024)  
 8 = AC (50/60 Hz)  
 8 = AC (50/60 Hz)/DC  
 (types 12.51, 12.81, 12.61, 12.62, 12.A1, 12.A2)

### Option

0 = Standard  
 0 = Daily only for 12.31  
 7 = Weekly only for 12.31

### Special version

0 = Standard

### Codes

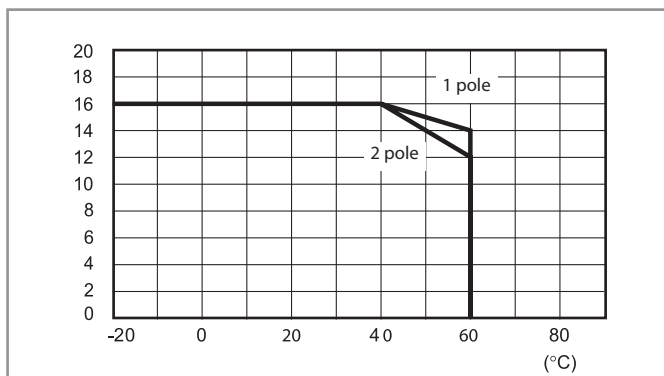
12.01.8.230.0000  
 12.11.8.230.0000  
 12.11.8.230.1000  
 12.31.8.230.0000  
 12.31.8.230.0007  
 12.51.8.230.0000  
 12.71.0.024.0000  
 12.71.8.230.0000  
 12.81.8.230.0000  
 12.61.0.024.0000  
 12.61.8.230.0000  
 12.62.8.230.0000  
 12.A1.8.230.0000  
 12.A2.0.024.0000  
 12.A2.8.230.0000



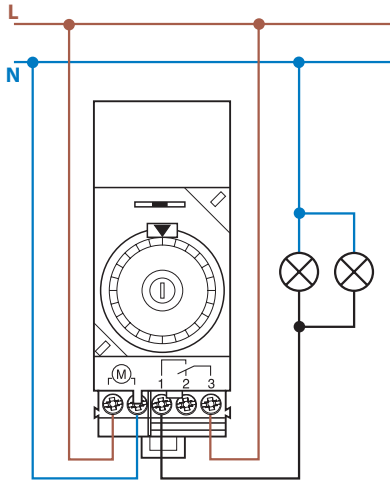
**Technical data**

| <b>Insulation</b>   |                           | <b>12.51, 12.61, 12.62, 12.81, 12.A1, 12.A2</b>                      | <b>12.01, 12.11, 12.31, 12.71</b> |                            |
|---|---------------------------|--|-----------------------------------|----------------------------|
| Dielectric strength between supply and contacts           | V AC                      | 4000   | 4000                              |                            |
| Dielectric strength between open contacts                 | V AC                      | 1000   | 1000                              |                            |
| Rated impulse voltage (between supply and contacts)       | kV/(1.2/50) $\mu$ s       | 6  | 6                                 |                            |
| Rated impulse voltage (between open contacts)             | kV/(1.2/50) $\mu$ s       | 1.5  | 1.5                               |                            |
| <b>EMC specifications</b>                                 |                           |  |                                   |                            |
| <b>Type of test</b>                                       |                           | <b>Reference standard</b>  |                                   |                            |
| Electrostatic discharge                                   | contact discharge         | EN 61000-4-2   | 4 kV                              | 6 kV                       |
|   | air discharge             | EN 61000-4-2   | 8 kV                              | 8 kV                       |
| Radiated electromagnetic field (80...1000 MHz)            |                           | EN 61000-4-3   | 10 V/m                            | 10 V/m                     |
| Fast transients (burst 5/50 ns, 5 and 100 kHz)            |                           | EN 61000-4-4   | 4 kV                              | 4 kV                       |
| Voltage pulses on supply terminals (surge 1.2/50 $\mu$ s) | common mode               | EN 61000-4-5   | 4 kV                              | 2 kV                       |
|   | differential mode         | EN 61000-4-5   | 4 kV                              | 2 kV                       |
| Radiofrequency common mode voltage (0.15...80 MHz)        |                           | EN 61000-4-6   | 10 V                              | 10 V                       |
| Voltage dips  | 70% $U_N$ , 40% $U_N$     | EN 61000-4-11  | 10 cycles                         | 10 cycles                  |
| Short interruptions                                       |                           | EN 61000-4-11  | 10 cycles                         | 10 cycles                  |
| Radio frequency conducted emissions                       | 0.15...30 MHz             | EN 55014   | class B                           | class B                    |
| Radiated emissions  |                           | 30...1000 MHz  | EN 55014                          | class B                    |
| <b>Terminals</b>  |                           |  |                                   |                            |
| Screw torque  |                           | Nm   | 0.8                               | 1.2                        |
| Max. wire size  |                           | mm <sup>2</sup>  | AWG                               | mm <sup>2</sup>            |
|   | solid cable               | 1 x 6 / 2 x 4  | 1 x 10 / 2 x 12                   | 1 x 6 / 2 x 4              |
|   | stranded cable            | 1 x 4 / 2 x 2.5  | 1 x 12 / 2 x 14                   | 1 x 6 / 2 x 2.5            |
| Wire strip length   |                           | mm   | 9                                 |                            |
| <b>Other data</b>   |                           |  |                                   |                            |
| Power back-up (Battery life)                              |                           | 6 years (12.51, 12.61, 12.62, 12.81, 12.A1, 12.A2, 12.71)            |                                   |                            |
| Battery type  |                           | CR 2032, 3 V, 230 mAh (12.51, 12.61, 12.62, 12.81, 12.A1, 12.A2)     |                                   |                            |
| Power back-up   |                           | 100 h (12.01, 12.11, 12.31 - following 80 h continuous energisation) |                                   |                            |
| Power lost to the environment                             |                           | <b>12.51, 12.61, 12.81, 12.A1</b>                                    | <b>12.62, 12.A2</b>               | <b>12.01, 12.11, 12.31</b> |
|   | in stand-by W             | 0.2  | 0.2                               | —                          |
|   | without contact current W | 0.9  | 0.9                               | 1.5                        |
|   | with rated current W      | 1.5  | 2.1                               | 2.5                        |
|   |                           |  |                                   | <b>12.71</b>               |
|   |                           |  |                                   | —                          |
|   |                           |  |                                   | 2                          |
|   |                           |  |                                   | 3 (for 1 pole)             |

**L 12 - Rated current v ambient temperature**



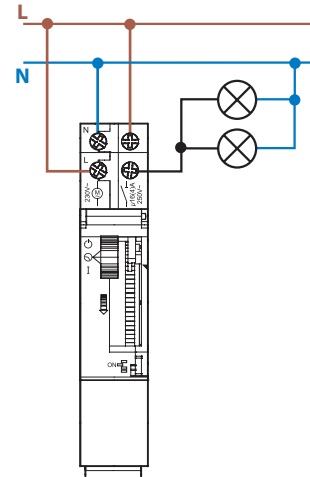
Wiring diagrams



**Type 12.01**

Selector switch:

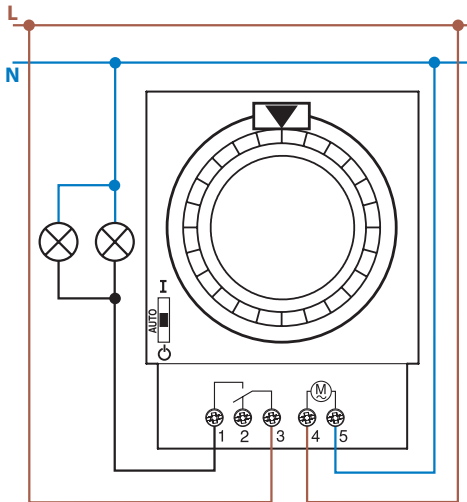
- ⊖ = Permanently OFF
- AUTO = Automatic
- I = Permanently ON



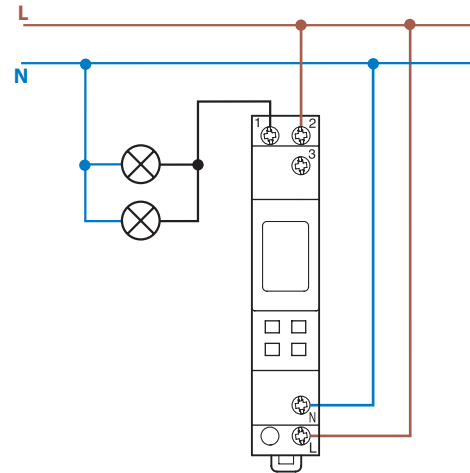
**Type 12.11**

Selector switch:

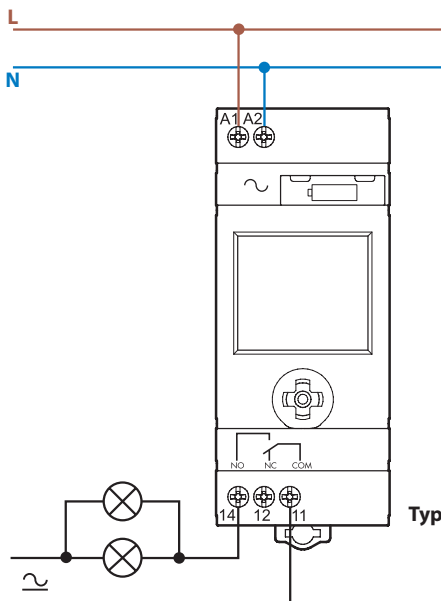
- ⊖ = Permanently OFF
- ⊕ = Automatic
- I = Permanently ON



**Type 12.31**

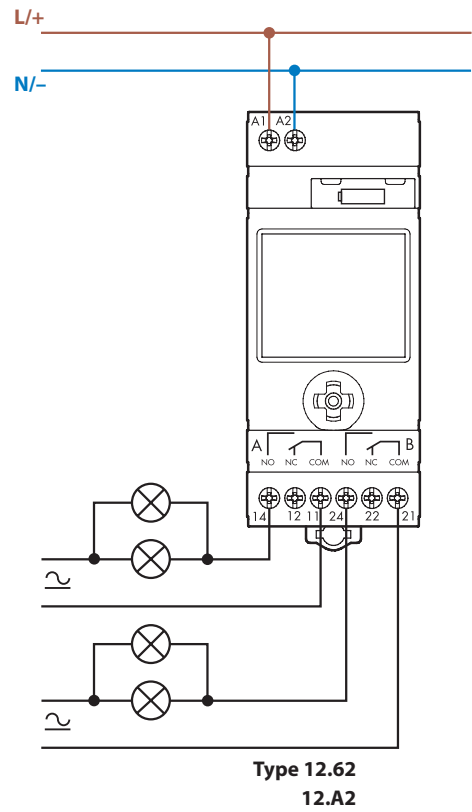
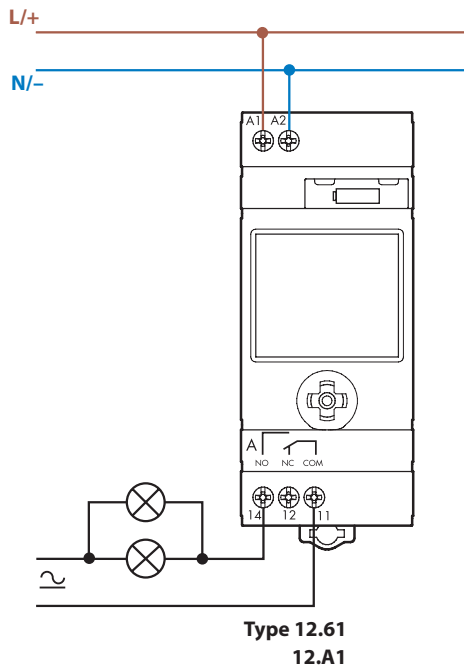


**Type 12.71**



**Type 12.51  
12.81**

**Wiring diagrams**



## Two programming modes for type 12.51, 12.61, 12.62, 12.81, 12.A1, 12.A2

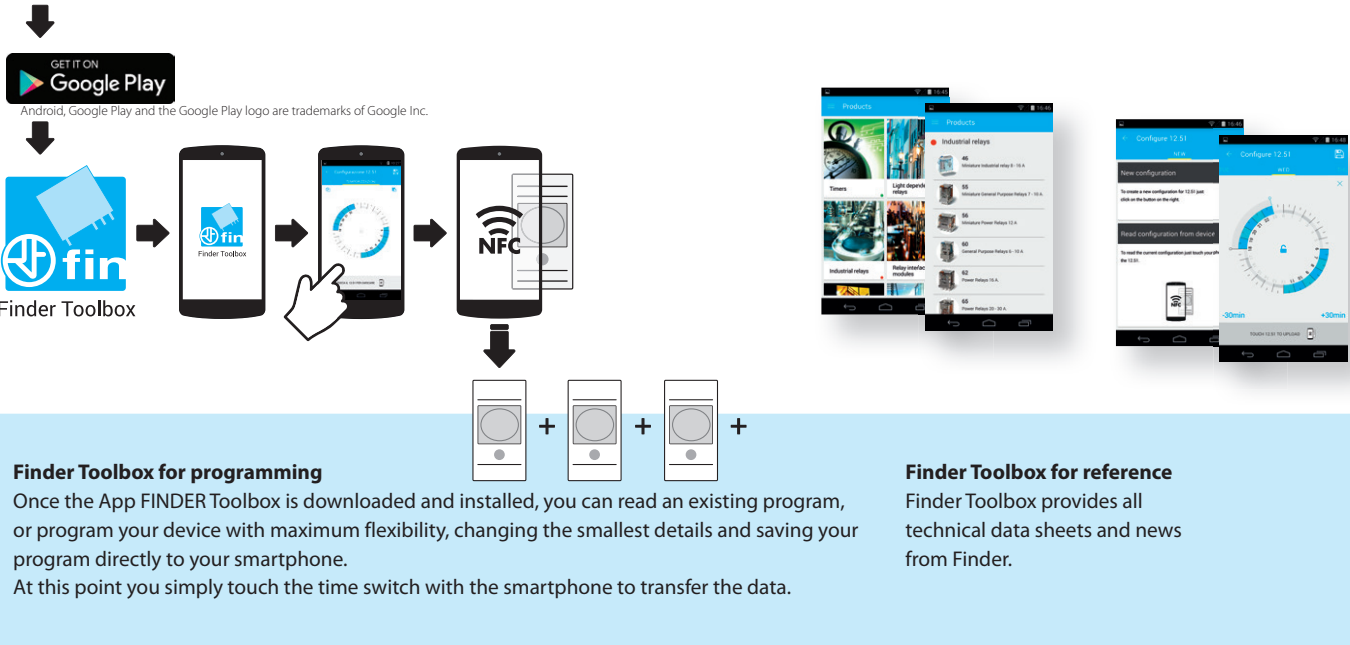
### "Smart"

Mode via smartphones with NFC communication using Finder toolbox Android App.

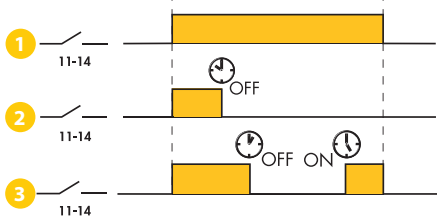


### "Classic"

Mode via the joystick



## Functions type 12.81



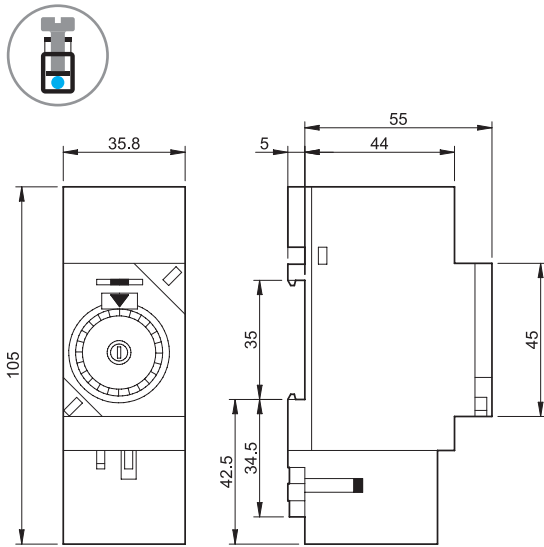
The Override feature permits the 12.81 three different ways of functioning:

- 1 Classic function where the **AstroON** and **AstroOFF** times are determined by the geographic coordinates. These times vary every day.
- 2 Functions such that the output turns on according to the **AstroON** time and turns off according to the clock off-time  $\text{OFF}$ . Application example: shop window lighting on by **AstroON** at sunset and off  $\text{OFF}$  at 00:30.
- 3 Functions such that the output turns on according to the **AstroON** time and turns off according to the clock off-time  $\text{OFF}$ , and then turns back on at the clock on-time  $\text{ON}$  (for the remainder of the ASTRO time period). Application example: company car park lighting, on by **AstroON** at sunset, off end of the evening shift at 23:00  $\text{OFF}$ . On again at the beginning of the morning shift at 5:00  $\text{ON}$  and off automatically by **AstroOFF**\*.

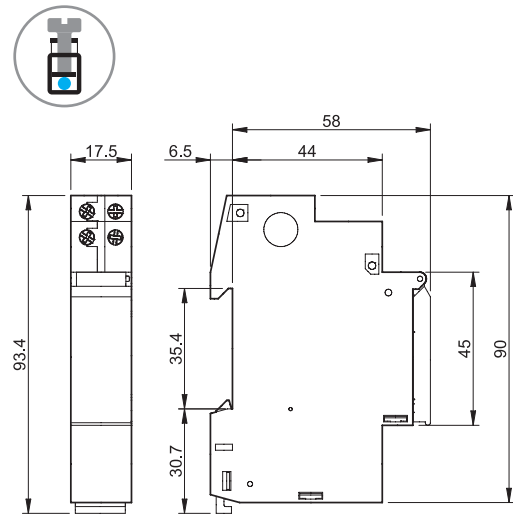
\* Depending on the time of year (summer specifically) it may be that the override ON time will fall after the AstroOFF time. In this case, the output switches off at the AstroOFF time and the override ON time is ignored.

**Outline drawings**

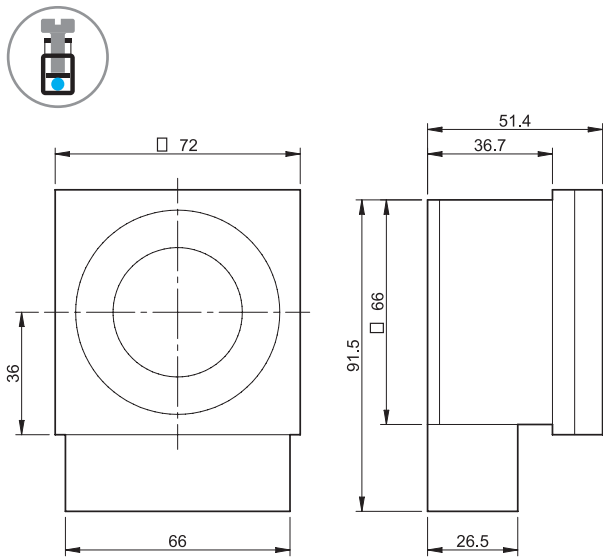
12.01  
Screw terminal



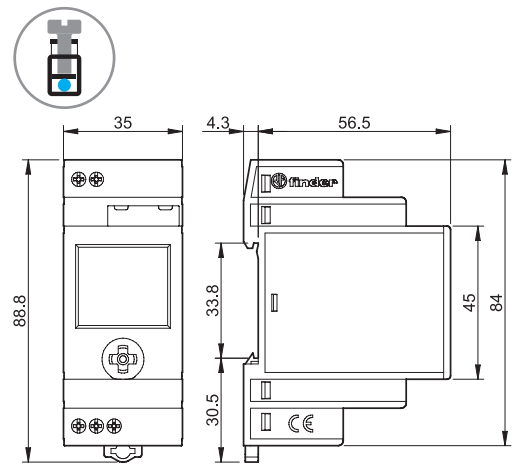
12.11  
Screw terminal



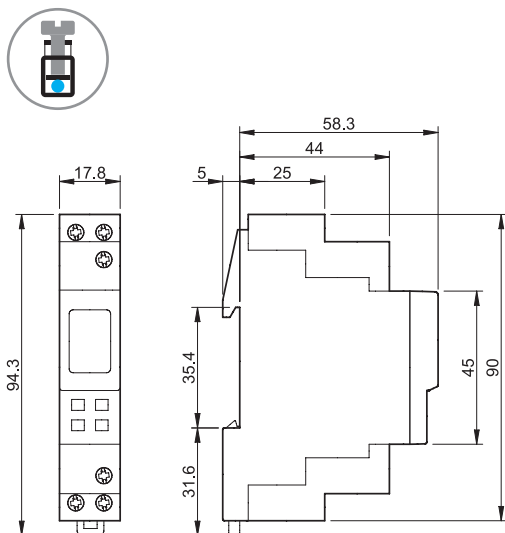
12.31  
Screw terminal



12.51/12.81  
Screw terminal

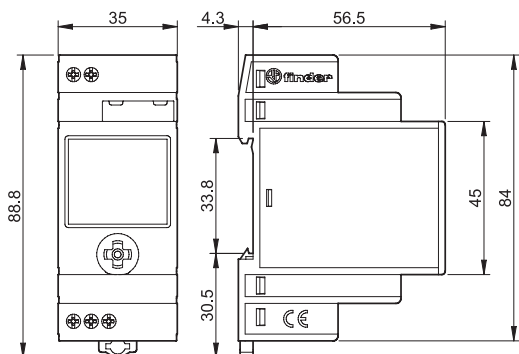


12.71  
Screw terminal

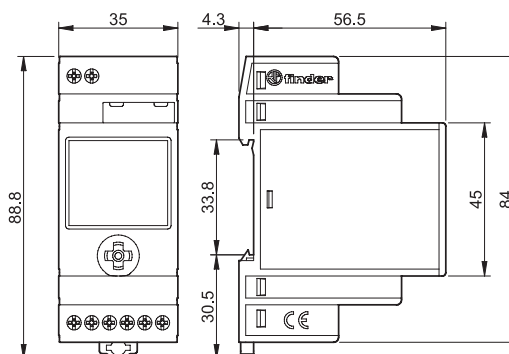


## Outline drawings

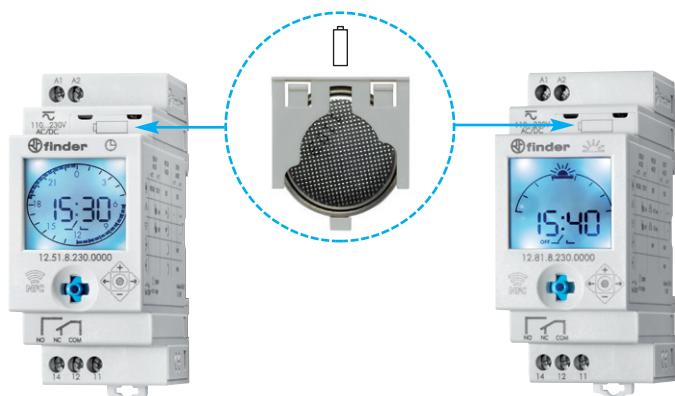
12.61 / 12.A1  
Screw terminal




12.62 / 12.A2  
Screw terminal



## Battery replacement type 12.51, 12.61, 12.62, 12.81, 12.A1, 12.A2



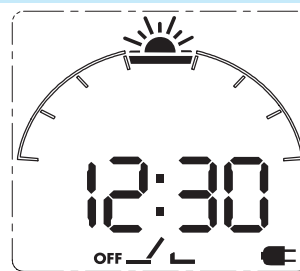
### Power-save mode

If the 230 V AC supply is not connected, the time switch enters power-save mode: only the clock is maintained active whilst the display turns off so as to guarantee a long life for the built-in back-up battery. With a press to the joystick it is possible to "awake" the device and enter Display mode (with the "plug" symbol displayed). A further press to  will enter the program or set-up mode as explained in the Display mode section above.

After about 1 minute of inactivity the power-save mode will start again. During program or set-up the current absorption is higher than in power-save mode, thus influencing the battery life.

In this mode the display back-light is not active. It is activated following a press to the joystick only with the 230 V AC supply connected, but after about 1 minute of inactivity the display back-light will turn off, and to activate it again it is necessary to press the joystick again.

Note: the output relay only functions if the power supply is connected.

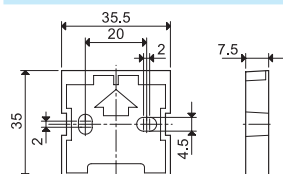


## Accessories type 12.51, 12.61, 12.62, 12.81, 12.A1, 12.A2



011.01

Adaptor for panel mounting, 35 mm wide



011.01

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