

### Multi-function and mono-function timer range

#### 80.01T - Multi-function & multi-voltage 80.11T - On-delay, multi-voltage

- Complies with EN 45545-2:2013 (protection against fire of materials), EN 61373 (resistance against random vibrations and shock, Category 1, Class B), EN 50155 (resistance to temperature and humidity, T1 class)
- 17.5 mm wide
- Six time scales from 0.1 s to 24 h
- High input/output isolation
- "Blade + cross" - both flat blade and cross head screw drivers can be used to adjust the range and function selectors, the timing trimmer, and to disengage the rail mounting clip
- New multi-voltage versions with "PWM clever" technology
- 35 mm rail (EN 60715) mount

80.01T / 80.11T  
Screw terminal



\* Short term (10 min) +70°C

For outline drawing see page 38

### Contact specification

|                                             |           |             |             |
|---------------------------------------------|-----------|-------------|-------------|
| Contact configuration                       |           | 1 CO (SPDT) | 1 CO (SPDT) |
| Rated current/Maximum peak current          | A         | 16/30       | 16/30       |
| 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         |
| Single phase motor rating (230 V AC)        | kW        | 0.55        | 0.55        |
| Breaking capacity DC1: 30/110/220 V         | A         | 16/0.3/0.12 | 16/0.3/0.12 |
| Minimum switching load                      | mW (V/mA) | 500 (10/5)  | 500 (10/5)  |
| Standard contact material                   |           | AgCdO       | AgCdO       |

### Supply specification

|                                   |                 |            |            |
|-----------------------------------|-----------------|------------|------------|
| Nominal voltage (U <sub>N</sub> ) | V AC (50/60 Hz) | 12...240   | 24...240   |
|                                   | V DC            | 12...240   | 24...240   |
| Rated power AC/DC                 | VA (50 Hz)/W    | < 1.8/< 1  | < 1.8/< 1  |
| Operating range                   | V AC            | 10.8...265 | 16.8...265 |
|                                   | V DC            | 10.8...265 | 16.8...265 |

### Technical data

|                                      |        |                                                                         |                       |
|--------------------------------------|--------|-------------------------------------------------------------------------|-----------------------|
| Specified time range                 |        | (0.1...2)s, (1...20)s, (0.1...2)min, (1...20)min, (0.1...2)h, (1...24)h |                       |
| Repeatability                        | %      | ± 1                                                                     | ± 1                   |
| Recovery time                        | ms     | ≤ 50                                                                    | ≤ 50                  |
| Minimum control impulse              | ms     | 50                                                                      | —                     |
| Setting accuracy-full range          | %      | ± 5                                                                     | ± 5                   |
| Electrical life at rated load in AC1 | cycles | 100 · 10 <sup>3</sup>                                                   | 100 · 10 <sup>3</sup> |
| Ambient temperature range            | °C     | -25...+55*                                                              | -25...+55*            |
| Protection category                  |        | IP 20                                                                   | IP 20                 |

Approvals (according to type)

### 80.01T



- Multi-voltage
- Multi-function

**AI:** On-delay

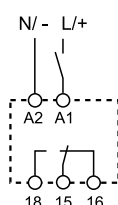
**DI:** Interval

**SW:** Symmetrical flasher (starting pulse on)

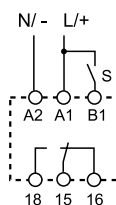
**BE:** Off-delay with control signal

**CE:** On- and off-delay with control signal

**DE:** Interval with control signal on



Wiring diagram  
(without control signal)



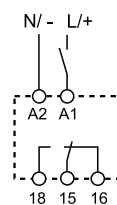
Wiring diagram  
(with control signal)

### 80.11T



- Multi-voltage
- Mono-function

**AI:** On-delay



Wiring diagram  
(without control signal)

**Mono-function timer range****80.41T - Off-delay with control signal, multi-voltage****80.61T - Power off-delay (True off-delay), multi-voltage**

- Complies with EN 45545-2:2013 (protection against fire of materials), EN 61373 (resistance against random vibrations and shock, Category 1, Class B), EN 50155 (resistance to temperature and humidity, T1 class)
- 17.5 mm wide
- Type 80.41T: six time scales from 0.1 s to 24 h
- Type 80.61T: four time scales from 0.1 s to 3 min
- High input/output isolation
- "Blade + cross" - both flat blade and cross head screw drivers can be used to adjust the range and function selectors, the timing trimmer, and to disengage the rail mounting clip
- New multi-voltage versions with "PWM clever" technology
- 35 mm rail (EN 60715) mount

80.41T / 80.61T  
Screw terminal



\* Short term (10 min) +70°C

For outline drawing see page 38

**Contact specification**

|                                             |           |             |             |
|---------------------------------------------|-----------|-------------|-------------|
| Contact configuration                       |           | 1 CO (SPDT) | 1 CO (SPDT) |
| Rated current/Maximum peak current          | A         | 16/30       | 8/15        |
| Rated voltage/<br>Maximum switching voltage | V AC      | 250/400     | 250/400     |
| Rated load AC1                              | VA        | 4000        | 2000        |
| Rated load AC15 (230 V AC)                  | VA        | 750         | 400         |
| Single phase motor rating (230 V AC)        | kW        | 0.55        | 0.3         |
| Breaking capacity DC1: 30/110/220 V         | A         | 16/0.3/0.12 | 8/0.3/0.12  |
| Minimum switching load                      | mW (V/mA) | 500 (10/5)  | 300 (5/5)   |
| Standard contact material                   |           | AgCdO       | AgNi        |

**Supply specification**

|                                   |                 |            |             |
|-----------------------------------|-----------------|------------|-------------|
| Nominal voltage (U <sub>N</sub> ) | V AC (50/60 Hz) | 24...240   | 24...240    |
|                                   | V DC            | 24...240   | 24...220    |
| Rated power AC/DC                 | VA (50 Hz)/W    | < 1.8/< 1  | < 0.6/< 0.6 |
| Operating range                   | V AC            | 16.8...265 | 16.8...265  |
|                                   | V DC            | 16.8...265 | 16.8...242  |

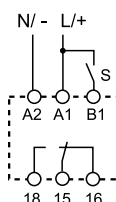
**Technical data**

|                                      |        |                                                                         |                                                |
|--------------------------------------|--------|-------------------------------------------------------------------------|------------------------------------------------|
| Specified time range                 |        | (0.1...2)s, (1...20)s, (0.1...2)min, (1...20)min, (0.1...2)h, (1...24)h | (0.05...2)s, (1...16)s, (8...70)s, (50...180)s |
| Repeatability                        | %      | ± 1                                                                     | ± 1                                            |
| Recovery time                        | ms     | ≤ 50                                                                    | —                                              |
| Minimum control impulse              | ms     | 50                                                                      | 500 (A1-A2)                                    |
| Setting accuracy-full range          | %      | ± 5                                                                     | ± 5                                            |
| Electrical life at rated load in AC1 | cycles | 100 · 10 <sup>3</sup>                                                   | 100 · 10 <sup>3</sup>                          |
| Ambient temperature range            | °C     | -25...+55*                                                              | -25...+55*                                     |
| Protection category                  |        | IP 20                                                                   | IP 20                                          |

**Approvals** (according to type)**80.41T**

- Multi-voltage
- Mono-function

**BE:** Off-delay with control signal

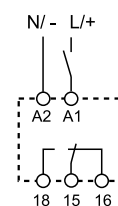


Wiring diagram  
(with control signal)

**80.61T**

- Multi-voltage
- Mono-function

**BI:** Power off-delay (True off-delay)



Wiring diagram  
(without control signal)

## Ordering information

Example: 80 series, modular timers, 1 CO (SPDT) - 16 A, supply rated at (12...240)V AC/DC.

|                                                                                                                                            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|                                                                                                                                            | 8 | 0 | . | 0 | 1 | . | 0 | . | 2 | 4 | 0 | . | 0 | 0 | 0 | 0 | T |
| <b>Series</b>                                                                                                                              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>Type</b>                                                                                                                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 0 = Multi-function timer (AI, DI, SW, BE, CE, DE);<br>1 CO 16 A - 250 V AC                                                                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 1 = Monofunction timer (AI);<br>1 CO 16 A - 250 V AC                                                                                       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 4 = Monofunction timer (BE);<br>1 CO 16 A - 250 V AC                                                                                       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 6 = Monofunction timer (BI);<br>1 CO 8 A - 250 V AC                                                                                        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>Versions</b><br>0 = Standard                                                                                                            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>Supply voltage</b><br>240 = (12 ... 240)V AC/DC (80.01T)<br>240 = (24 ... 240)V AC/DC (80.11T, 80.41T)<br>240 = (24...220)V DC (80.61T) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>Supply version</b><br>0 = AC (50/60 Hz)/DC                                                                                              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>No. of poles</b><br>1 = 1 CO (SPDT)                                                                                                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

## Technical data

| Insulation                                                                                       |  |  |                                  |                   |                 |      |
|--------------------------------------------------------------------------------------------------|--|--|----------------------------------|-------------------|-----------------|------|
| Dielectric strength                                                                              |  |  |                                  | 80.01T/11T/41T    | 80.61T          |      |
|                                                                                                  |  |  | between input and output circuit | V AC              | 4000            | 2500 |
|                                                                                                  |  |  | between open contacts            | V AC              | 1000            | 1000 |
| Insulation (1.2/50 μs) between input and output                                                  |  |  | kV                               | 6                 | 4               |      |
| EMC specifications                                                                               |  |  |                                  |                   |                 |      |
| Type of test                                                                                     |  |  | Reference standard               |                   |                 |      |
| Electrostatic discharge                                                                          |  |  | contact discharge                | EN 61000-4-2      | 4 kV            |      |
|                                                                                                  |  |  | air discharge                    | EN 61000-4-2      | 8 kV            |      |
| Radio-frequency electromagnetic field (80 ÷ 1000 MHz)                                            |  |  |                                  | EN 61000-4-3      | 10 V/m          |      |
| Fast transients (burst) (5-50 ns, 5 kHz) on Supply terminals                                     |  |  |                                  | EN 61000-4-4      | 4 kV            |      |
| Surges (1.2/50 μs) on Supply terminals                                                           |  |  | common mode                      | EN 61000-4-5      | 4 kV            |      |
|                                                                                                  |  |  | differential mode                | EN 61000-4-5      | 4 kV            |      |
|                                                                                                  |  |  | on start terminal (B1)           | common mode       | EN 61000-4-5    | 4 kV |
|                                                                                                  |  |  |                                  | differential mode | EN 61000-4-5    | 4 kV |
| Radio-frequency common mode (0.15 ÷ 80 MHz) on Supply terminals                                  |  |  |                                  | EN 61000-4-6      | 10 V            |      |
| Radiated and conducted emission                                                                  |  |  |                                  | EN 55022          | class B         |      |
| Other data                                                                                       |  |  |                                  |                   |                 |      |
| Current absorption on signal control (B1)                                                        |  |  |                                  | < 1 mA            |                 |      |
| Power lost to the environment                                                                    |  |  | without contact current          | W                 | 1.4             |      |
|                                                                                                  |  |  | with rated current               | W                 | 3.2             |      |
|  Screw torque |  |  | Nm                               | 0.8               |                 |      |
| Max. wire size                                                                                   |  |  |                                  | solid cable       | stranded cable  |      |
|                                                                                                  |  |  | mm²                              | 1 x 6 / 2 x 4     | 1 x 4 / 2 x 2.5 |      |
|                                                                                                  |  |  | AWG                              | 1 x 10 / 2 x 12   | 1 x 12 / 2 x 14 |      |

## Functions

**U** = Supply voltage**S** = Signal switch

— = Output contact

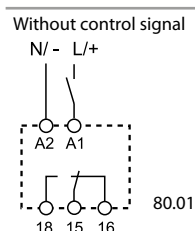
| LED*                                                                              | Supply voltage | NO output contact            | Contacts |         |
|-----------------------------------------------------------------------------------|----------------|------------------------------|----------|---------|
|                                                                                   |                |                              | Open     | Closed  |
|  | OFF            | Open                         | 15 - 18  | 15 - 16 |
|  | ON             | Open                         | 15 - 18  | 15 - 16 |
|  | ON             | Open<br>(Timing in Progress) | 15 - 18  | 15 - 16 |
|  | ON             | Closed                       | 15 - 16  | 15 - 18 |

\* The LED on type 80.61T is illuminated only when the supply voltage is applied to the timer; during the timing period the LED is not illuminated.

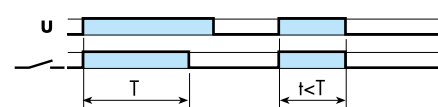
## Wiring diagram

Without control signal = Start via contact in supply line (A1).

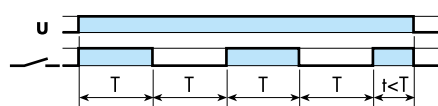
With control signal = Start via contact into control terminal (B1).

**Type  
80.01T****(AI) On-delay.**

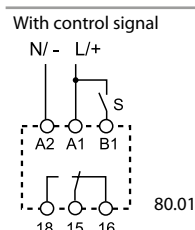
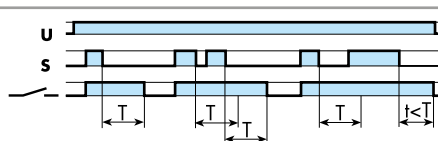
Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs when power is removed.

**(DI) Interval.**

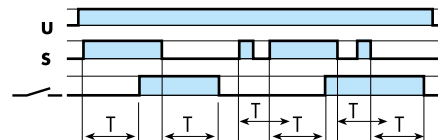
Apply power to timer. Output contacts transfer immediately. After the preset time has elapsed, contacts reset.

**(SW) Symmetrical flasher (starting pulse on).**

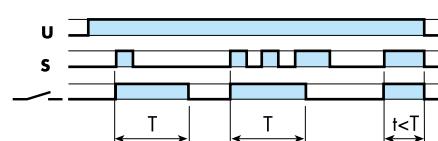
Apply power to timer. Output contacts transfer immediately and cycle between ON and OFF for as long as power is applied. The ratio is 1:1 (time on = time off).

**80.01T****(BE) Off-delay with control signal.**

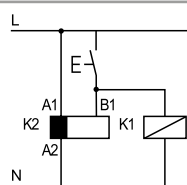
Power is permanently applied to the timer. The output contacts transfer immediately on closure of the Signal Switch (S). Opening the Signal Switch initiates the preset delay, after which time the output contacts reset.

**(CE) On- and off-delay with control signal.**

Power is permanently applied to the timer. Closing the Signal Switch (S) initiates the preset delay, after which time the output contacts transfer. Opening the Signal switch initiates the same preset delay, after which time the output contacts reset.

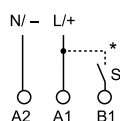
**(DE) Interval with control signal on.**

Power is permanently applied to the timer. On momentary or maintained closure of Signal Switch (S), the output contacts transfer, and remain so for the duration of the preset delay, after which they reset.

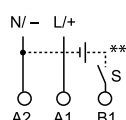


NOTE: The function must be set before energising the timer.

• Possible to control an external load, such as another relay coil or timer, connected to the control signal terminal B1.



\* With DC supply, positive polarity has to be connected to B1 terminal (according to EN 60204-1).



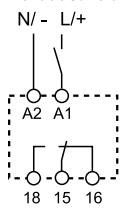
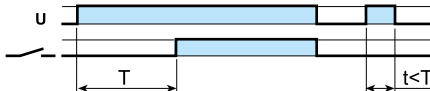
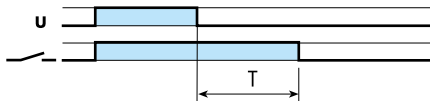
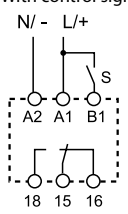
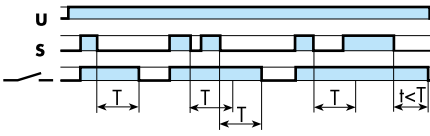
\*\* A voltage other than the supply voltage can be applied to the command Start (B1), example:

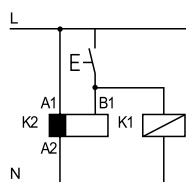
A1 - A2 = 230 V AC

B1 - A2 = 12 V DC

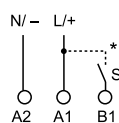
## Functions

### Wiring diagram

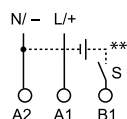
|                                                                                                                                    |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <p>Without control signal</p>  <p>80.11/21/61</p> | <p><b>Type</b><br/><b>80.11T</b></p> <p><b>80.61T</b></p> |  <p><b>(AI) On-delay.</b><br/>Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs when power is removed.</p>  <p><b>(BI) Power off-delay (True off-delay).</b><br/>Apply power to timer (minimum 300 ms). Output contacts transfer immediately. Removal of power initiates the preset delay, after which time the output contacts reset.</p> |  |
| <p>With control signal</p>  <p>80.41</p>          | <p><b>80.41T</b></p>                                      |  <p><b>(BE) Off-delay with control signal.</b><br/>Power is permanently applied to the timer.<br/>The output contacts transfer immediately on closure of the Signal Switch (S). Opening the Signal Switch initiates the preset delay, after which time the output contacts reset.</p>                                                                                                                                                                                |  |



• Possible to control an external load, such as another relay coil or timer, connected to the control signal terminal B1.



\* With DC supply, positive polarity has to be connected to B1 terminal (according to EN 60204-1).

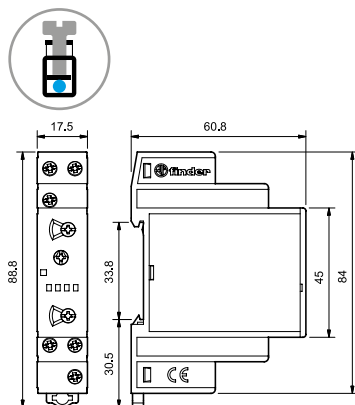
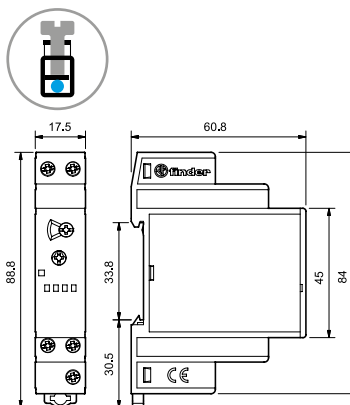
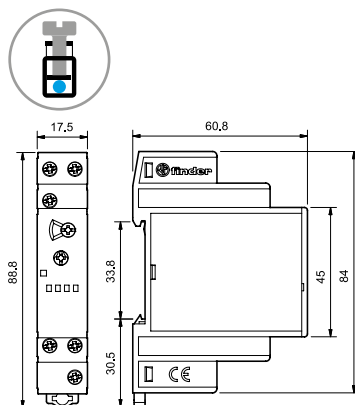
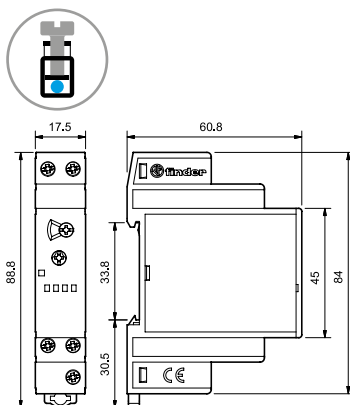


\*\* A voltage other than the supply voltage can be applied to the command Start (B1), example:

A1 - A2 = 230 V AC

B1 - A2 = 12 V DC

## Outline drawings

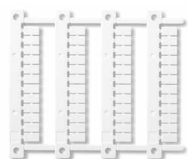
80.01T  
Screw terminal80.11T  
Screw terminal80.41T  
Screw terminal80.61T  
Screw terminal

## Accessories



Sheet of marker tags, for types 80.01T/11T/41T/61T, plastic, 72 tags, 6 x 12 mm, for plotter printing 060.72

060.72



NEW

Sheet of marker tags, plastic, 48 tags, 6 x 12 mm, for CEMBRE's thermal transfer printers

060.48

060.48