

80 Series - Modular timers 16 A
Multi-function and mono-function timer range
80.01 - Multi-function & multi-voltage
80.11 - On-delay, multi-voltage

- 17.5 mm wide
- Six time scales from 0.1 s to 24 h
- High input/output isolation
- 35 mm rail (EN 60715) mount
- "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

 80.01 / 80.11
 Screw terminal


FOR UL RATINGS SEE:

"General technical information" page V

For outline drawing see page 6

Contact specification

Contact configuration

Rated current/Maximum peak current A

 Rated voltage/
 Maximum switching voltage V AC

Rated load AC1 VA

Rated load AC15 (230 V AC) VA

Single phase motor rating (230 V AC) kW

Breaking capacity DC1: 30/110/220 V A

Minimum switching load mW (V/mA)

Standard contact material

Supply specification

 Nominal voltage (U_N) V AC (50/60 Hz)

V DC

Rated power AC/DC VA (50 Hz)/W

Operating range V AC

V DC

Technical data

Specified time range

Repeatability %

Recovery time ms

Minimum control impulse ms

Setting accuracy-full range %

Electrical life at rated load in AC1 cycles

Ambient temperature range °C

Protection category

Approvals (according to type)

80.01


- Multi-voltage
- Multi-function

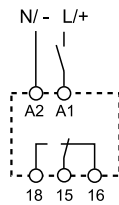
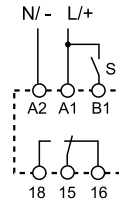
AI: On-delay

DI: Interval

SW: Symmetrical flasher (starting pulse on)

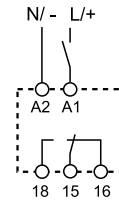
BE: Off-delay with control signal

CE: On- and off-delay with control signal

DE: Interval with control signal on

 Wiring diagram
 (without control signal)

 Wiring diagram
 (with control signal)

80.11


- Multi-voltage
- Mono-function

AI: On-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

Series
Type

- 0 = Multi-function (AI, DI, SW, BE, CE, DE)
- 1 = On-delay (AI)
- 2 = Interval (DI)
- 4 = Off-delay with control signal (BE)
- 6 = Power off-delay (True off-delay) (BI)
- 7 = Multi-function with solid state output (AI, DI, SW, BE, CE, DE)
- 8 = Star-delta (SD)
- 9 = Asymmetrical flasher (LI, LE)

Versions

0 = Standard

Supply voltage

- 240 = (12 ... 240)V AC/DC (80.01, 80.91)
- 240 = (24 ... 240)V AC/DC (80.11, 80.21, 80.41, 80.71, 80.82)
- 240 = (24...240)V AC, (24...220)V DC (80.61)

Supply version

0 = AC (50/60 Hz)/DC

No. of poles

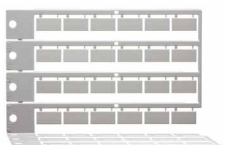
- 1 = 1 CO (SPDT)
- 1 = 1 NO (SPST-NO), type 80.71 only
- 2 = 2 NO (DPST-NO), type 80.82 only

Technical data

Insulation			
Dielectric strength			80.01/11/21/41/82/91
	between input and output circuit	V AC	4000
	between open contacts	V AC	1000
Insulation (1.2/50 μs) between input and output		kV	6
EMC specifications			
Type of test		Reference standard	80.01/11/21/41/61/71/91
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
	on start terminal (B1) 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
		mm ²	1 x 6 / 2 x 4
		AWG	1 x 10 / 2 x 12

H

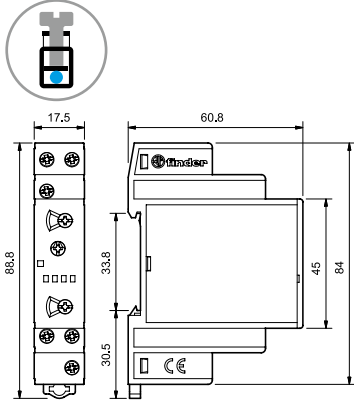
Accessories


020.24
Sheet of marker tags, for types 80.82, plastic, 24 tags, 9 x 17 mm
020.24

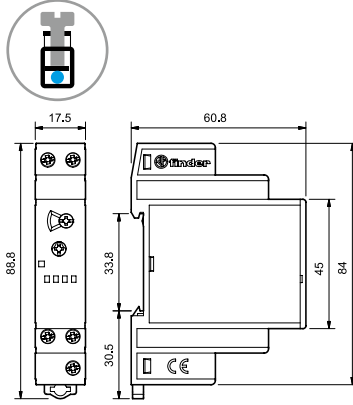
060.72
Sheet of marker tags, for types 80.01/11/21/41/61/71, plastic, 72 tags, 6 x 12 mm
060.72

Outline drawings

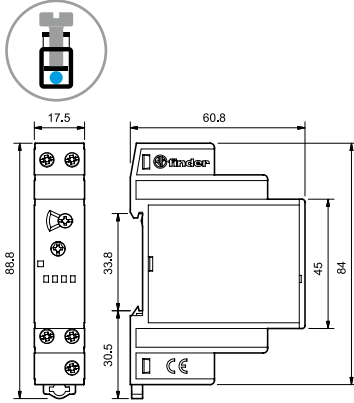
80.01
Screw terminal



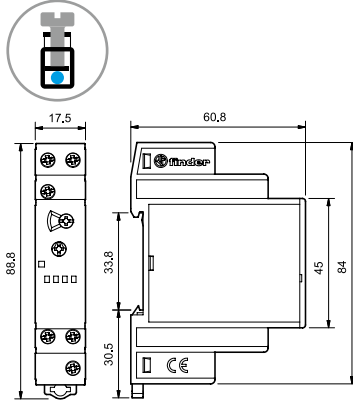
80.11
Screw terminal



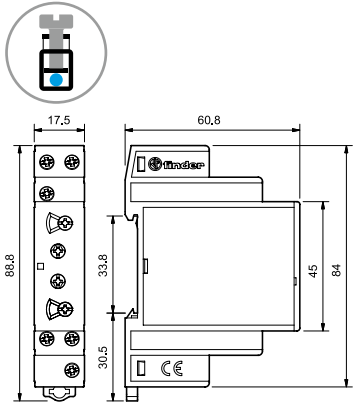
80.21
Screw terminal



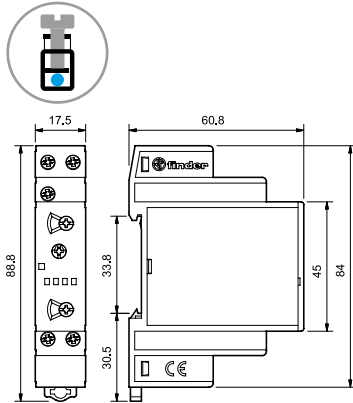
80.41
Screw terminal



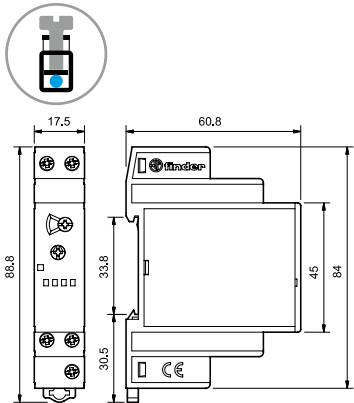
80.91
Screw terminal



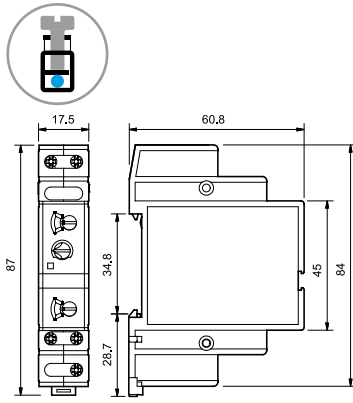
80.71
Screw terminal



80.61
Screw terminal



80.82
Screw terminal








H

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 (Timing in Progress)	Open	15 - 18	15 - 16
	ON	Closed	15 - 16	15 - 18

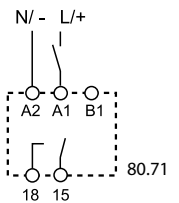
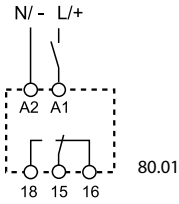
* The LED on type 80.61 is illuminated only when the supply voltage is applied to the timer; during the timing period the LED is not illuminated.

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

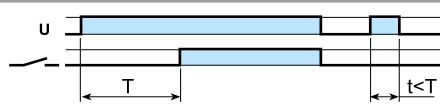
With control signal = Start via contact into control terminal (B1).

Wiring diagram

Without control signal

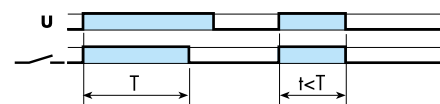


Type
80.01
80.71



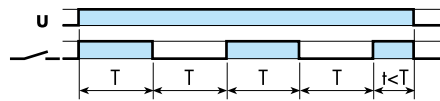
(AI) On-delay.

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



(DI) Interval.

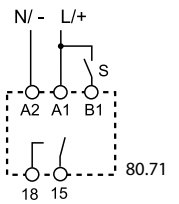
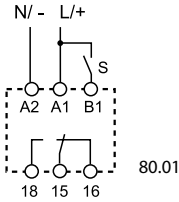
Apply power to timer. Output contacts transfer immediately. After the preset time has elapsed, contacts reset.



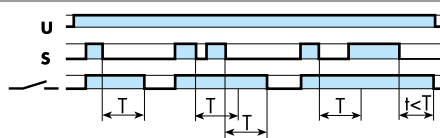
(SW) Symmetrical flasher (starting pulse on).

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).

With control signal

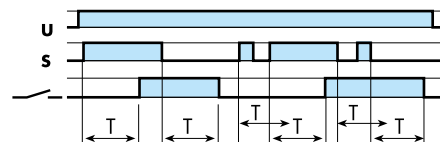


80.01
80.71



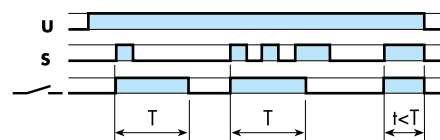
(BE) Off-delay with control signal.

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.



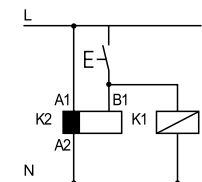
(CE) On- and off-delay with control signal.

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.



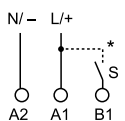
(DE) Interval with control signal on.

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.

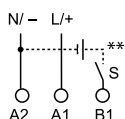


NOTE: The function must be set before energising the timer.

• 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).



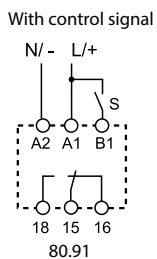
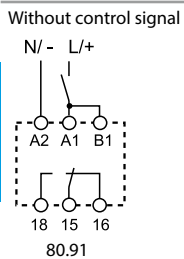
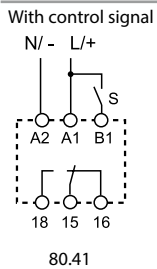
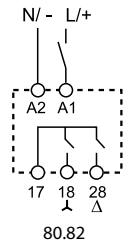
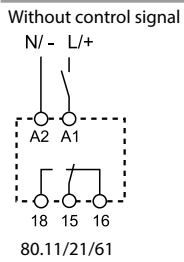
** A voltage other than the supply voltage can be applied to the command Start (B1), example:

A1 - A2 = 230 V AC

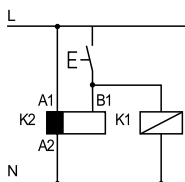
B1 - A2 = 12 V DC

Functions

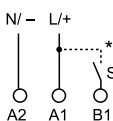
Wiring diagram



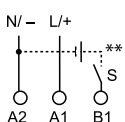
Type	Timing Diagram	Description
80.11		(AI) On-delay. Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs when power is removed.
80.21		(DI) Interval. Apply power to timer. Output contacts transfer immediately. After the preset time has elapsed, contacts reset.
80.61		(BI) Power off-delay (True off-delay). Apply power to timer (minimum 500 ms). Output contacts transfer immediately. Removal of power initiates the preset delay, after which time the output contacts reset.
80.82		(SD) Star-delta. Apply power to timer. The star contact (Λ) closes immediately. After preset delay has elapsed the star contact (Λ) resets. After a further transfer time variable from (0.05...1)s the delta contact (Δ) closes and remains in that position, until reset on power off.
80.41		(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.
80.91		(LI) Asymmetrical 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 ON (T ₁) and OFF (T ₂) times are independently adjustable.
		(LE) Asymmetrical flasher (starting pulse on) with control signal Power is permanently applied to the timer. Closing Signal Switch (S) causes the output contacts to transfer immediately and cycle between ON (T ₁) and OFF (T ₂), until opened.



• 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