Multi-function timer range

80.01 - Multi-function & multi-voltage

80.01 NFC - Multi-function & multi-voltage Can be programmed via smartphone with NFC communication using the Finder Toolbox app (for Android and iOS).

- 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

80.01/80.01 NFC
Box clamp

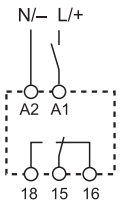
For UL ratings see: "General technical information" page X

For outline drawing see page 9

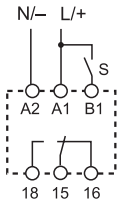
80.01

- 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)

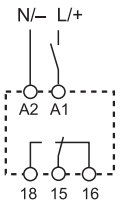


Wiring diagram (with control signal)

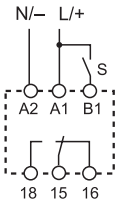
NEW 80.01 NFC

- Multi-voltage
- Multi-function
- Programmable via NFC

AI: On-delay
DI: Interval
LI: Asymmetrical flasher (starting pulse ON)
BE: Off-delay with control signal
CEb: ON and OFF independent delays with control signal
DE: Interval with control signal on
LE: Asymmetrical flasher (starting pulse on) with control signal



Wiring diagram (without control signal)



Wiring diagram (with control signal)

Contact specification			
Contact configuration		1 CO (SPDT)	1 CO (SPDT)
Rated current/Maximum peak current	A	16/30	16/30
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
Single phase motor rating (230 V AC)	kW	0.55	0.55
Breaking capacity DC1: 24/110/220 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		AgNi	AgNi
Supply specification			
Nominal voltage (U_N)	V AC (50/60 Hz)	12…240	12…240
	V DC	12…240	12…240
Rated power AC/DC	VA (50 Hz)/W	< 1.8/< 1	< 1.8/< 1
Operating range	V AC	10.8…265	10.8…265
	V DC	10.8…265	10.8…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	100	100
Minimum control impulse	ms	50	50
Setting accuracy-full range	%	± 5	± 5
Electrical life at rated load in AC1	cycles	$50 \cdot 10^3$	$50 \cdot 10^3$
Ambient temperature range	°C	–20…+60	–20…+60
Protection category		IP 20	IP 20
Approvals (according to type)			

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)
0 = Multi-function (AI, DI, LI, BE, CEb, DE, LE)
only for 80.01 NFC
1 = On-delay (AI)
2 = Interval (DI)
4 = Off-delay with control signal (BE)
5 = Multi-function (AI, DI, SW, BE, CE, DE)
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)

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

Supply version
0 = AC (50/60 Hz)/DC

Supply voltage
240 = (12…240)V AC/DC (80.01, 80.01 NFC, 80.91)
240 = (24…240)V AC/DC
(80.11, 80.21, 80.41, 80.51, 80.71, 80.82)
240 = (24…240)V AC, (24…220)V DC (80.61)

Versions
0 = Standard
N = NFC (only for 80.01 NFC)
P = Push-in (only for 80.51.0.240.P000)

Technical data

Insulation						
Dielectric strength			**80.01/80.01 NFC/11/21/41/51/82/91**		**80.61**	**80.71**
	between input and output circuit	V AC	4000		2500	2500
	between open contacts	V AC	1000		1000	—
Insulation (1.2/50 µs) between input and output		kV	6		4	4
EMC specifications						
Type of test			**Reference standard**	**80.01/ 80.01 NFC/11/21/41/61/71/91**		**80.51/82**
Electrostatic discharge	contact discharge		EN 61000-4-2	4 kV		4 kV
	air discharge		EN 61000-4-2	8 kV		8 kV
Radio-frequency electromagnetic field (80 ÷ 1000 MHz)			EN 61000-4-3	10 V/m		10 V/m
Fast transients (burst) (5-50 ns, 5 kHz) on Supply terminals			EN 61000-4-4	4 kV		4 kV
Surges (1.2/50 µs) on Supply terminals	common mode		EN 61000-4-5	4 kV		4 kV
	differential mode		EN 61000-4-5	4 kV		4 kV
on start terminal (B1)	common mode		EN 61000-4-5	4 kV		4 kV
	differential mode		EN 61000-4-5	4 kV		4 kV
Radio-frequency common mode (0.15 ÷ 80 MHz) on Supply terminals			EN 61000-4-6	10 V		10 V
Magnetic field immunity			EN 61000-4-8	40 A/m		—
Radiated and conducted emission			EN 55011	class B		class A
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			
Terminals			**Box clamp**		**Push-in terminals (only for 80.51.0.240.P000)**	
Wire strip length		mm	8		10	
Screw torque		Nm	0.8		—	
Max. wire size			solid cable	stranded cable	solid cable	stranded cable
		mm^2	1 x 4 / 2 x 2.5	1 x 4 / 2 x 2.5	1 x 2.5 / 2 x 2.5	1 x 2.5 / 2 x 2.5
		AWG	1 x 12 / 2 x 14	1 x 12 / 2 x 14	1 x 14 / 2 x 14	1 x 14 / 2 x 14

LED

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

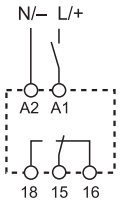
- 80.01 NFC: the led will flicker fast for 3 seconds to confirm that program has been transferred correctly (only with timer powered).
- 80.61: The LED is illuminated on type 80.61 is illuminated only when the supply voltage is applied to the timer; during the timing period the LED is not illuminated.

Functions

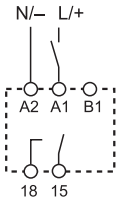
Without control signal = Start via contact in supply line (A1).
With control signal = Start via contact into control terminal (B1).

Wiring diagram **U**= Supply voltage **S**= Signal switch = Output contact

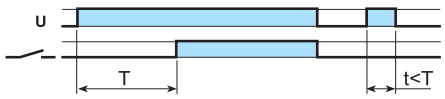
Without control signal



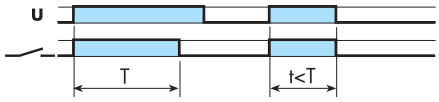
80.01
80.01 NFC
80.51



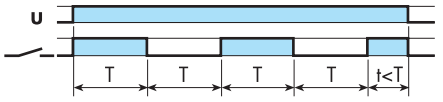
80.71



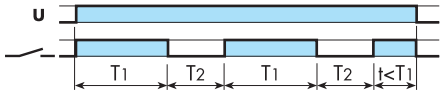
(AI) ON-delay.
Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs when power is removed.



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

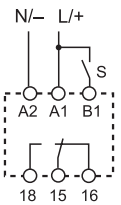


(SW) Symmetrical flasher (starting pulse ON) - only for 80.01, 80.51 and 80.71.
Apply power to timer. Output contacts transfer immediately and cycle between ON and OFF for as long as power is applied. The ratio is 1:1 (time on = time off).

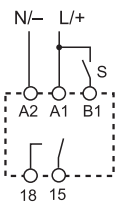


(LI) Asymmetrical flasher (starting pulse ON) - only for 80.01 NFC.
Apply power to timer. Output contacts transfer immediately and cycle between ON and OFF for as long as power is applied. The ON (T_1) and OFF (T_2) user-settable.

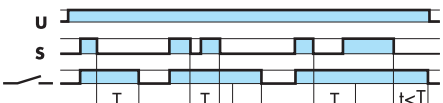
With control signal



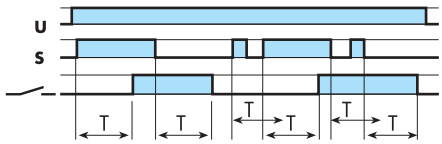
80.01
80.01 NFC
80.51



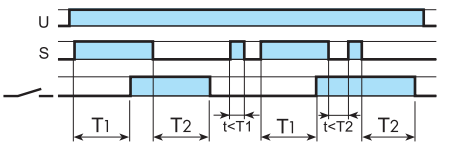
80.71



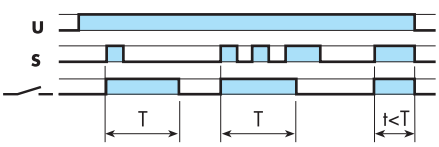
(BE) OFF-delay with control signal.
Power is permanently applied to the timer. The output contacts transfer immediately on closure of the Signal Switch (S). Opening the Signal Switch initiates the preset delay, after which time the output contacts reset.



(CE) ON- and OFF-delay with control signal - only for 80.01, 80.51 and 80.71.
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.



(CEb) ON and OFF independent delays with control signal - only 80.01 NFC.
Power is permanently applied to the timer. Closing the Signal Switch (S) initiates the preset delay T_1, after which the output contact transfers. Opening the Signal switch initiates the preset delay T_2, after which the output contact resets.



(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.

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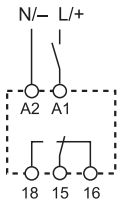
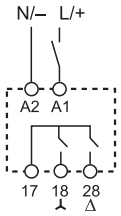
Functions

Wiring diagram | **U**= Supply voltage | **S**= Signal switch | = Output contact

Without control signal

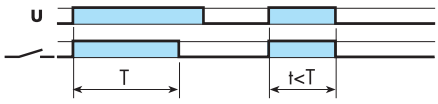


80.11
80.21
80.61

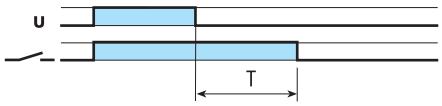


80.82

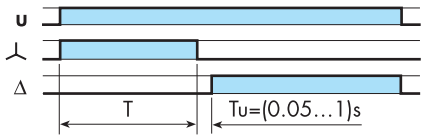
(AI) ON-delay.
Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs when power is removed.



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

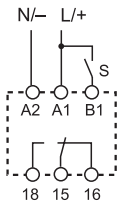


(BI) Power OFF-delay (True OFF-delay).
Apply power to timer (minimum 500 ms). Output contacts transfer immediately. Removal of power initiates the preset delay, after which time the output contacts reset.

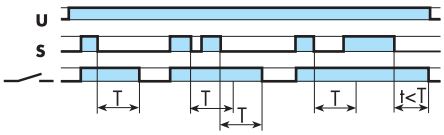


(SD) Star-delta.
Apply power to timer. The star contact (⅄) closes immediately. After preset delay has elapsed the star contact (⅄) resets. After a further transfer time variable from (0.05…1)s the delta contact (Δ) closes and remains in that position, until reset on power off.

With control signal

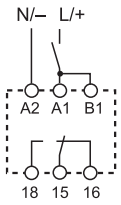


80.41

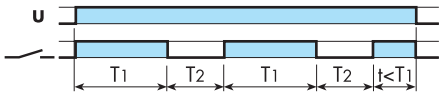


(BE) OFF-delay with control signal.
Power is permanently applied to the timer.
The output contacts transfer immediately on closure of the Signal Switch (S). Opening the Signal Switch initiates the preset delay, after which time the output contacts reset.

Without control signal

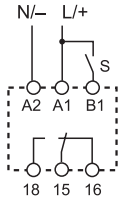


80.91

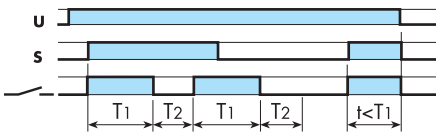


(LI) Asymmetrical flasher (starting pulse ON).
Apply power to timer. Output contacts transfer immediately and cycle between ON and OFF for as long as power is applied. The ON (T_1) and OFF (T_2) times are independently adjustable.

With control signal

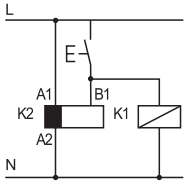


80.91
80.01 NFC

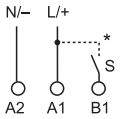


(LE) Asymmetrical flasher (starting pulse ON) with control signal
Power is permanently applied to the timer.
Closing Signal Switch (S) causes the output contacts to transfer immediately and cycle between ON (T_1) and OFF (T_2), until opened.

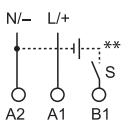
NOTE: The function must be set before energising the timer.



• 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