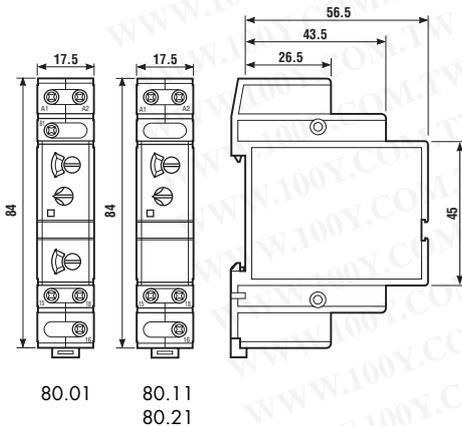


Features

Mono-function and multi-function timer range

- 80.01 - Multi-function & multi-voltage
- 80.11 - ON delay, mono-voltage
- 80.21 - ON pulse, mono-voltage

- 17.5 mm wide
- Rotary selector
- Six time scales from 0.1 s to 20h
- High input/output isolation
- 35 mm rail (EN 50022) mount

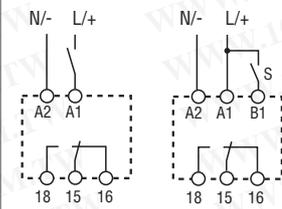


80.01



- Multi-voltage
- Multi-function

- AI:** ON delay
- DI:** ON pulse
- SW:** Symmetrical recycling: ON start
- BE:** Signal OFF delay
- CE:** Signal ON and OFF delay
- DE:** Signal ON pulse



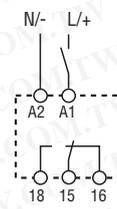
wiring diagram (without signal START) wiring diagram (with signal START)

80.11



- Mono-voltage
- Mono-function

- AI:** ON delay



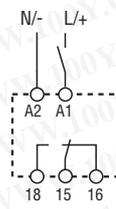
wiring diagram (without signal START)

80.21



- Mono-voltage
- Mono-function

- DI:** ON pulse



wiring diagram (without signal START)

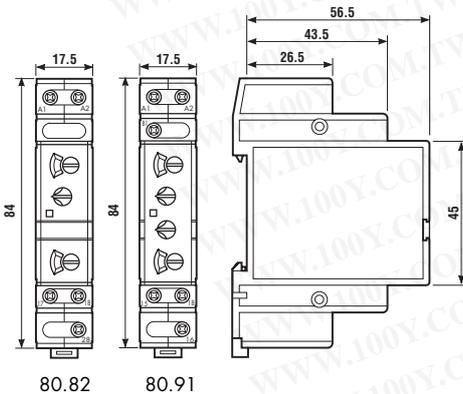
Contact specification		80.01	80.11	80.21
Contact configuration		1 CO (SPDT)	1 CO (SPDT)	1 CO (SPDT)
Rated current/Maximum peak current	A	16/30	16/30	16/30
Rated voltage/Maximum switching voltage V AC		250/400	250/400	250/400
Rated load AC1	VA	4,000	4,000	4,000
Rated load AC15 (230 V AC)	VA	750	750	750
Single phase motor rating (230 V AC)	kW	0.55	0.55	0.55
Breaking capacity DC1: 30/110/220 V	A	16/0.3/0.12	16/0.3/0.12	16/0.3/0.12
Minimum switching load	mW(V/mA)	500 (10/5)	500 (10/5)	500 (10/5)
Standard contact material		AgCdO	AgCdO	AgCdO
Supply specification		80.01	80.11	80.21
Nominal voltage (U _N)	V AC (50/60 Hz)	12...240	24 - 110...125 - 230...240	24 - 110...125 - 230...240
	V DC	12...240	24 - 110...125	24 - 110...125
Rated power AC/DC	VA (50 Hz)/W	< 1.8 / < 1.4	< 1.8 / < 0.6	< 1.8 / < 0.6
Operating range	AC	(10.2...265)V	(0.85...1.1)U _N	(0.85...1.1)U _N
	DC	(10.2...265)V	(0.85...1.1)U _N	(0.85...1.1)U _N
Technical data		80.01	80.11	80.21
Specified time range		(0.1...2)s, (1...20)s, (0.1...2)min, (1...20)min, (0.1...2)h, (1...20)h		
Repeatability	%	± 1	± 1	± 1
Recovery time	ms	≤ 50	≤ 50	≤ 50
Minimum control impulse	ms	50	—	—
Setting accuracy-full range	%	± 5	± 5	± 5
Electrical life at rated load in AC1	cycles	100·10 ³	100·10 ³	100·10 ³
Ambient temperature range	°C	-10...+50	-10...+50	-10...+50
Protection category		IP 20	IP 20	IP 20
Approvals (according to type)				

Features

Mono-function and multi-function timer range

- 80.82 - Star-Delta timer, multi-voltage
- 80.91 - Asymmetrical recycling, multi-voltage

- 17.5 mm wide
- Rotary selector
- Six time scales from 0.1s to 20h
- High input/output isolation
- 35 mm rail (EN 50022) mount

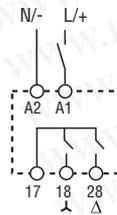


80.82



- Multi-voltage
- Mono-function
- Transfer time can be regulated (0.05...1)s

SD: Star-Delta



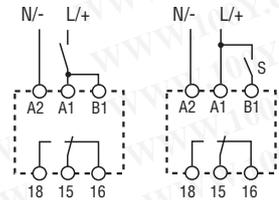
wiring diagram
(without signal START)

80.91



- Multi-voltage
- Mono-function

L: Asymmetrical recycling (ON starting)
 LE: Signal asymmetrical recycling (ON starting)



wiring diagram
(without signal START)

wiring diagram
(with signal START)

Contact specification		80.82	80.91
Contact configuration		2 NO (DPST-NO)	1 CO (SPDT)
Rated current/Maximum peak current	A	6/10	16/30
Rated voltage/Maximum switching voltage V AC		250/400	250/400
Rated load AC1	VA	1,500	4,000
Rated load AC15 (230 V AC)	VA	300	750
Single phase motor rating (230 V AC)	kW	—	0.55
Breaking capacity DC1: 30/110/220 V	A	6/0.2/0.12	16/0.3/0.12
Minimum switching load	mW(V/mA)	500 (12/10)	500 (10/5)
Standard contact material		AgNi	AgCdO
Supply specification		80.82	80.91
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	< 1.3/ < 0.8	< 1.8/ < 1.4
Operating range	AC	(10.2...265)V	(10.2...265)V
	DC	(10.2...265)V	(10.2...265)V
Technical data		80.82	80.91
Specified time range		(0.1...2)s, (1...20)s, (0.1...2)min, (1...20)min	(0.1...2)s,(1...20)s,(0.1...2)min,(1...20)min,(0.1...2)h,(1...20)h
Repeatability	%	± 1	± 1
Recovery time	ms	≤ 50	≤ 50
Minimum control impulse	ms	50	50
Setting accuracy-full range	%	± 5	± 5
Electrical life at rated load in AC1	cycles	60·10 ³	100·10 ³
Ambient temperature range	°C	-10...+50	-10...+50
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)
- 1 = ON delay (AI)
- 2 = ON pulse (DI)
- 4 = Signal OFF delay (BE)
- 6 = True OFF delay (BI)
- 8 = Star-Delta (SD)
- 9 = Asymmetrical recycling ON starting (LI, LE)

No. of poles

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

Supply voltage

- 024 = 24 V AC/DC
- 240 = (230...240)V AC (80.11, 80.21, 80.41)
- 240 = (12 ... 240)V AC/DC (80.01, 80.82, 80.91)
- 240 = (24 ... 240)V AC/DC (80.61)
- 125 = (110...125)V AC/DC (80.11, 80.21, 80.41)

Supply version

- 0 = AC (50/60 Hz)/DC (80.01, 80.61, 80.82, 80.91)
- 8 = AC (50/60 Hz) (80.11, 80.21, 80.41)

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Technical data

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	
Insulation				
Dielectric strength		80.01/11/21/41/82/91	80.61	
	between input and output circuit	V AC	4,000	
	between open contacts	V AC	1,000	
Insulation (1.2/50 µs) between input and output		kV	6	
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	1x6 / 2x4	
		AWG	1x10 / 2x12	

Accessories



020.24

Sheet of marker tags, for types 80.01/11/21/41/61/82, plastic, 24 tags, 9x17 mm	020.24
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Functions

U = Supply voltage

S = Signal switch

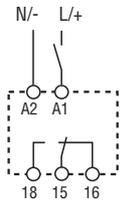
= Output contact

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

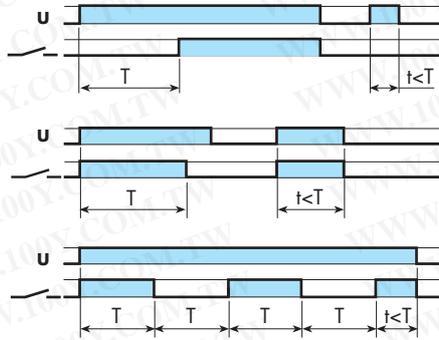
* The LED on type 80.61 is illuminated only when the supply voltage is applied to the timer; during the timing period the LED is not illuminated.

Wiring diagram

Without signal START



Type 80.01



(AI) ON delay.

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

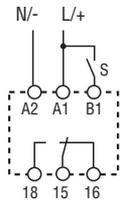
(DI) ON pulse.

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

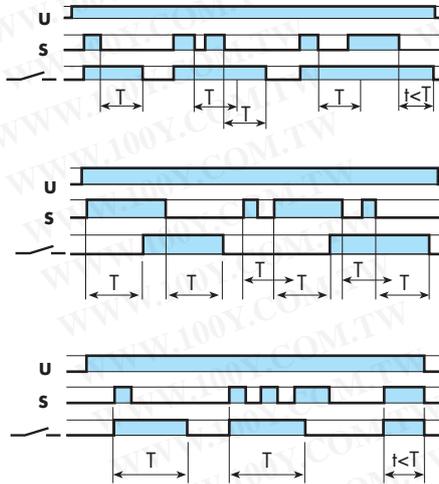
(SW) Symmetrical recycling: ON start.

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 signal START



80.01



(BE) Signal OFF delay.

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) Signal ON and OFF delay.

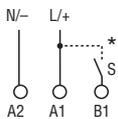
Power is permanently applied to the timer. Closing the Signal Switch (S) initiates the preset delay, after which time the output contacts transfer. Opening the Signal switch initiates the same preset delay, after which time the output contacts reset.

(DE) Signal ON pulse.

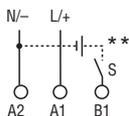
Power is permanently applied to the timer. On momentary or maintained closure of Signal Switch (S), the output contacts transfer, and remain so for the duration of the preset delay, after which they reset.

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

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



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

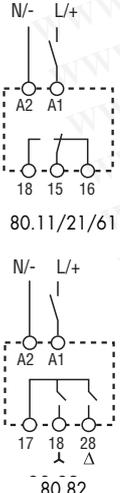
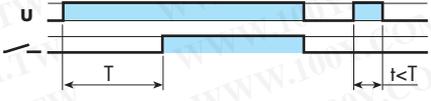
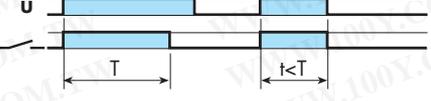
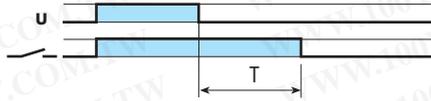
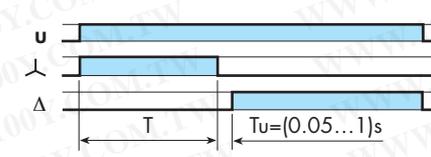
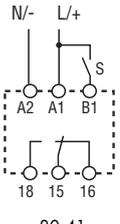
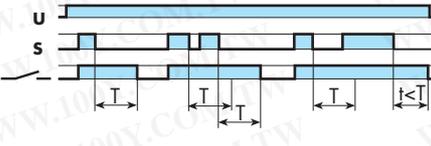
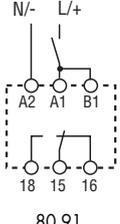
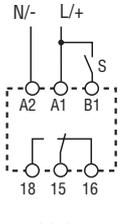
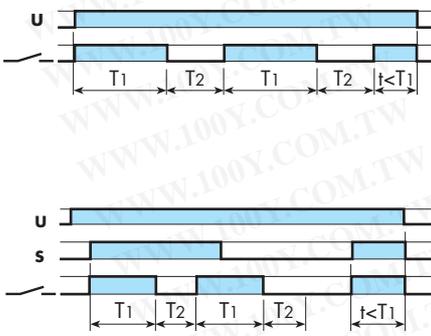


** A voltage other than the supply voltage can be applied to the command Start (B1), example:
A1 - A2 = 230 V AC
B1 - A2 = 12 V DC

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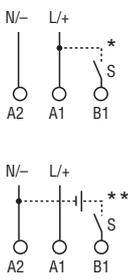
Functions

Wiring diagram

<p>Without signal START</p>  <p>80.11/21/61</p> <p>80.82</p>	<p>Type</p> <p>80.11</p>  <p>80.21</p>  <p>80.61</p>  <p>80.82</p> 	<p>(AI) ON delay. Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs when power is removed.</p> <p>(DI) ON pulse. Apply power to timer. Output contacts transfer immediately. After the preset time has elapsed, contacts reset.</p> <p>(BI) True OFF delay (power OFF). Apply power to timer (minimum 300ms). Output contacts transfer immediately. Removal of power initiates the preset delay, after which time the output contacts reset.</p> <p>(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.</p>
<p>With signal START</p>  <p>80.41</p>	<p>80.41</p> 	<p>(BE) Signal OFF delay. 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.</p>
<p>Without signal START</p>  <p>80.91</p> <p>With signal START</p>  <p>80.91</p>	<p>80.91</p> 	<p>(LI) Asymmetrical recycling (ON start). Apply power to timer. Output contacts transfer immediately and cycle between ON and OFF for as long as power is applied. The ON (T1) and OFF (T2) times are independently adjustable.</p> <p>(LE) Signal asymmetrical recycling (ON start) Power is permanently applied to the timer. Closing Signal Switch (S) causes the output contacts to transfer immediately and cycle between ON (T1) and OFF (T2), until opened.</p>

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



* 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