

Features

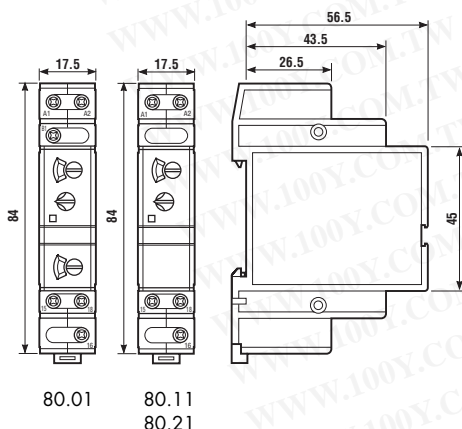
Mono-function and multi-function timer range

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

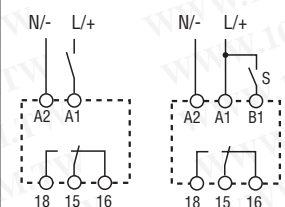


80.01



- 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



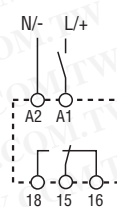
wiring diagram (without signal START) wiring diagram (with signal START)

80.11



- Mono-voltage
- Mono-function

AI: ON delay



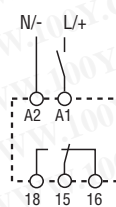
wiring diagram (without signal START)

80.21



- Mono-voltage
- Mono-function

DI: ON pulse



wiring diagram (without signal START)

Contact specification

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

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

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)



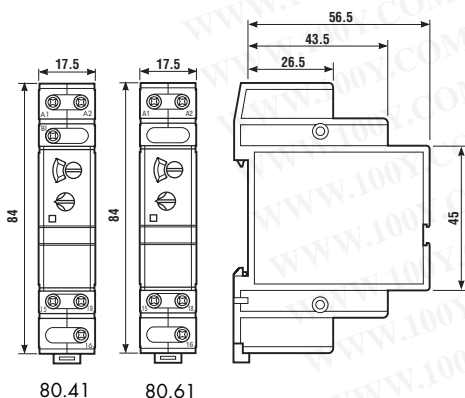
Features

Mono-function and multi-function timer range

80.41 - Signal OFF delay, mono-voltage

80.61 - True OFF delay, multi-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



80.41

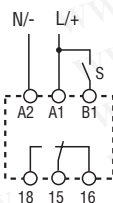
80.61

- Mono-voltage
- Mono-function

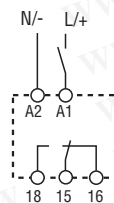
- Multi-voltage
- Mono-function

BE: Signal OFF delay

BI: True Off Delay



wiring diagram
(with signal START)



wiring diagram
(without signal START)

Contact specification

Contact configuration		1 CO (SPDT)	1 CO (SPDT)
Rated current/Maximum peak current	A	16/30	8/15
Rated voltage/Maximum switching voltage V AC		250/400	250/400
Rated load AC1	VA	4,000	2,000
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 _N)	V AC (50/60 Hz)	24 - 110...125 - 230...240	24...240
	V DC	24 - 110...125	24...240
Rated power AC/DC	VA (50 Hz)/W	< 1.8/ < 0.6	< 0.6/ < 0.6
Operating range	AC	(0.85...1.1)U _N	(17...265)V
	DC	(0.85...1.1)U _N	(17...265)V

Technical data

Specified time range		(0.1...2)s, (1...20)s, (0.1...2)min, (1...20)min, (0.1...2)h, (1...20)h	(0.1...1)s, (0.5...5)s, (2...20)s, (0.2...2)min
Repeatability	%	± 1	± 1
Recovery time	ms	≤ 50	≤ 50
Minimum control impulse	ms	50	300 (A1-A2)
Setting accuracy-full range	%	± 5	± 5
Electrical life at rated load in AC1	cycles	100·10 ³	100·10 ³
Ambient temperature range	°C	-10...+50	-10...+50
Protection category		IP 20	IP 20

Approvals (according to type)



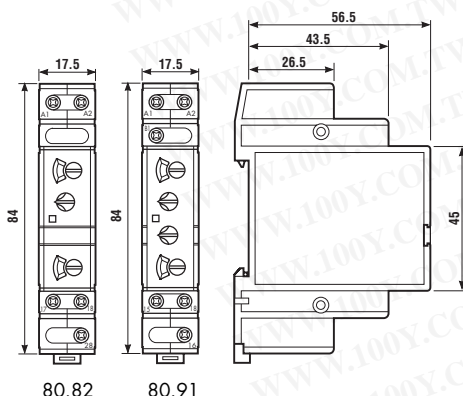
Features

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

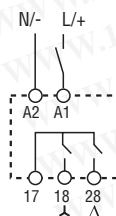


80.82



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

SD: Star-Delta



wiring diagram
(without signal START)

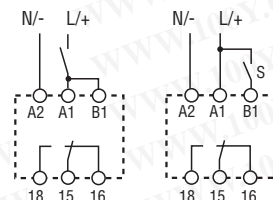
80.91



- Multi-voltage
- Mono-function

LI: Asymmetrical recycling (ON starting)

LE: Signal asymmetrical recycling (ON starting)



wiring diagram
(without signal START)

wiring diagram
(with signal START)

Contact specification

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

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

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

60·10³

100·10³

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	2,500
	between open contacts	V AC	1,000	1,000
Insulation (1.2/50 µs) between input and output		kV	6	4

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	1x6 / 2x4	1x4 / 2x2.5
		AWG	1x10 / 2x12	1x12 / 2x14

Accessories



020.24

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

020.24

Functions

U = Supply voltage

S = Signal switch

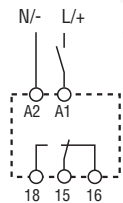
= Output contact

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

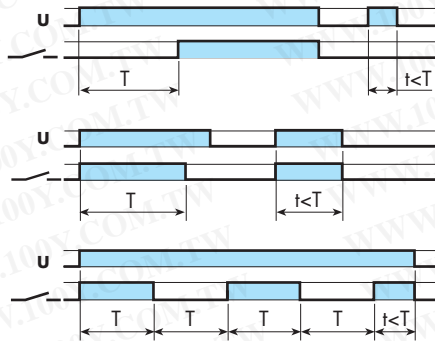
* The LED on type 80.61 is illuminated only when the supply voltage is applied to the timer; during the timing period the LED is not illuminated.

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.

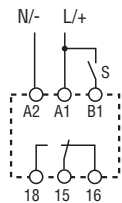
(DI) ON pulse.

Apply power to timer. Output contacts transfer immediately and cycle between ON and OFF for as long as power is applied. After the preset time has elapsed, contacts reset.

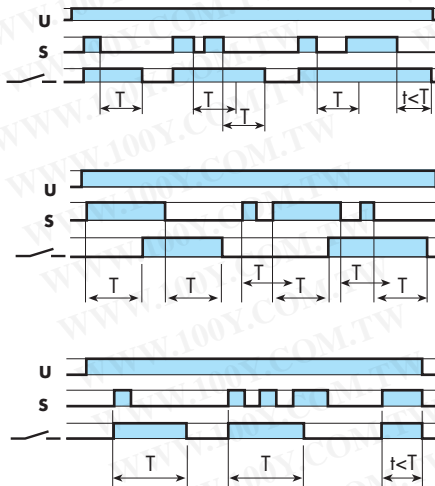
(SW) Symmetrical recycling: ON start.

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.

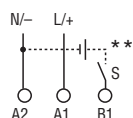
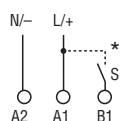
Power is permanently applied to the timer. Closing the Signal Switch (S) initiates the preset delay, after which time the output contacts transfer. Opening the Signal switch initiates the same preset delay, after which time the output contacts reset.

(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:

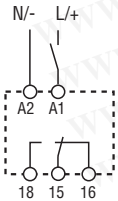
A1 - A2 = 230 V AC
B1 - A2 = 12 V DC

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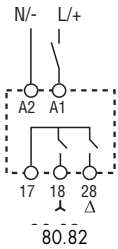
Functions

Wiring diagram

Without signal START

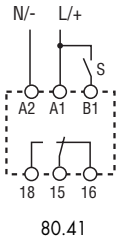


80.11/21/61



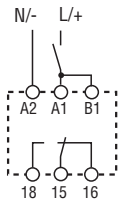
80.82

With signal START



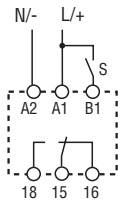
80.41

Without signal START



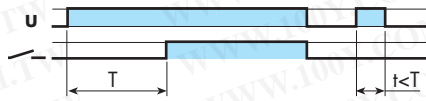
80.91

With signal START



80.91

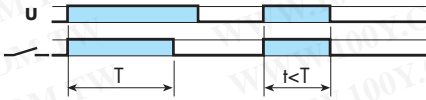
Type
80.11



(AI) ON delay.

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

80.21



(DI) ON pulse.

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

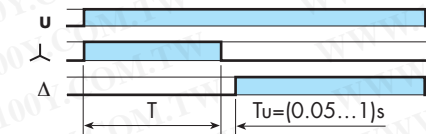
80.61



(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.

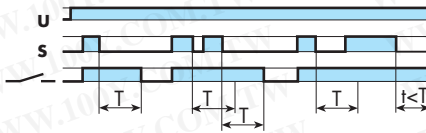
80.82



(SD) Star - delta.

Apply power to timer. The star contact (Δ) closes immediately. After preset delay has elapsed the star contact (Δ) 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.

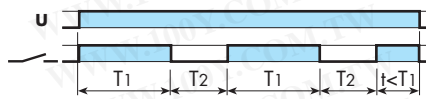
80.41



(BE) Signal OFF delay.

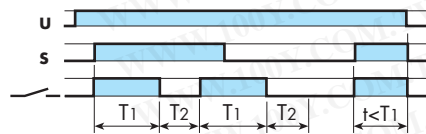
Power is permanently applied to the timer. The output contacts transfer immediately on closure of the Signal Switch (S). Opening the Signal Switch initiates the preset delay, after which time the output contacts reset.

80.91



(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.

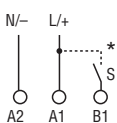


(LE) Signal asymmetrical recycling (ON start)

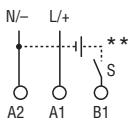
Power is permanently applied to the timer. Closing Signal Switch (S) causes the output contacts to transfer immediately and cycle between ON (T1) and OFF (T2), until opened.

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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