finder®
SWITCH TO THE FUTURE

Modular timers 16 A

- Control panels
- Milk processing plant
- Punches, cleaners, planers and sanders
- Hoists and cranes
- Shipyards
- Door and gate openers

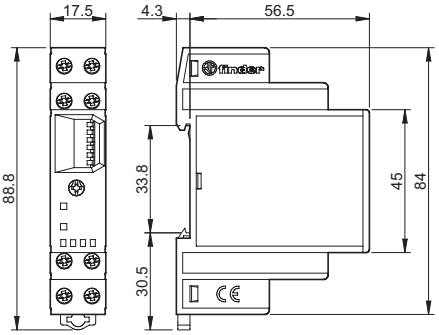
81
SERIES

finder

Multi-function and multi-voltage timer

- One module 17.5 mm wide housing
- Seven functions (4 with supply start and 3 with control signal)
- Additional Reset function
- Six time ranges from 0.1 s to 10 h
- 35 mm rail (EN 60715) mounting

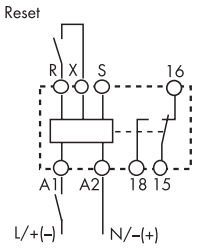
81.01
Screw terminal



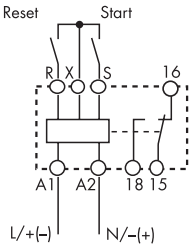
81.01

- Multi-voltage (DC non polarized)
- Multi-function
- 35 mm rail (EN 60715) mounting

AI: On-delay
DI: Interval
SW: Symmetrical flasher (starting pulse on)
SP: Symmetrical flasher (starting pulse off)
BE: Off-delay with control signal
DE: Interval with control signal on
EEb: Interval with control signal off



Wiring diagram
(supply START)



Wiring diagram
(control signal)

Contact specification		
Contact configuration		1 CO (SPDT)
Rated current/Maximum peak current	A	16/30
Rated voltage/ Maximum switching voltage	V AC	250/400
Rated load AC1	VA	4000
Rated load AC15 (230 V AC)	VA	750
Single phase motor rating (230 V AC)	kW	0.55
Breaking capacity DC1: 30/110/220 V	A	16/0.3/0.12
Minimum switching load	mW (V/mA)	500 (10/5)
Standard contact material		AgCdO
Supply specification		
Nominal voltage (U_N)	V AC (50/60 Hz)	12…230
	V DC	12…230 (non polarized)
Rated power AC/DC	VA (50 Hz)/W	< 2/< 2
Operating range	V AC	10.8…250
	V DC	10.8…250
Technical data		
Specified time range		(0.1…1)s, (1…10)s, (10…60)s, (1…10)min, (10…60)min, (1…10)h
Repeatability	%	± 1
Recovery time	ms	≤ 50
Minimum control impulse	ms	50
Setting accuracy-full range	%	± 5
Electrical life at rated load in AC1	cycles	$100 \cdot 10^3$
Ambient temperature range	°C	–10…+50
Protection category		IP 20
Approvals (according to type)		CE EAC

H

Ordering information

Example: 81 series, modular timer multi-voltage, 1 CO (SPDT) - 16 A, supply rated at (12…230)V AC/DC.

8 1	.	0	.	1	.	0	.	2 3 0	.	0	0	0

Series

Type
0 = Multi-function
(AI, DI, SW, SP, BE, DE, EEb)

No. of poles
1 = 1 CO (SPDT)

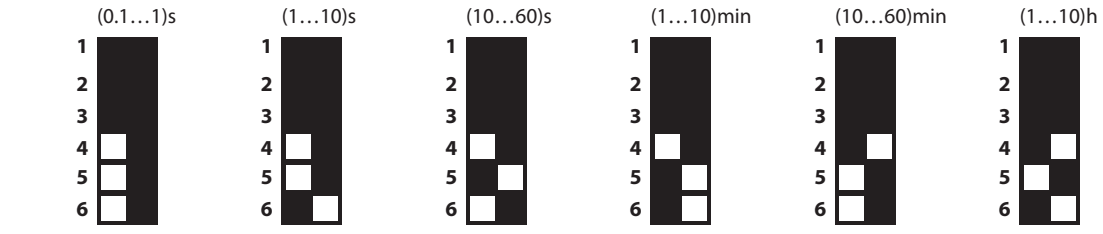
Supply voltage
230 = (12 … 230)V AC/DC

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

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
Radio-frequency common mode (0.15 ÷ 80 MHz) on Supply terminals			EN 61000-4-6	10 V
Radiated and conducted emission			EN 55022	class A
Other data				
Current absorption on signal control (B1)			< 1 mA (S-X)	< 1 mA (R-X)
Voltage potential on the input terminal R - X and S -X			Not galvanic separation from the supply voltage on A1 - A2	
Power lost to the environment	without contact current	W	1.3	
	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

Time range setting



NOTE: time range and function must be set before energising the timer.

Functions

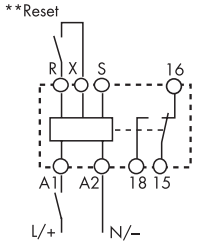
U = Supply voltage
S = Signal switch
R = Reset
= Output contact

LED (green)	LED (red)	Supply voltage	NO output contact	Contacts	
				Open	Closed
		OFF	Open	15 - 18	15 - 16
		ON	Open	15 - 18	15 - 16
		ON	Closed	15 - 16	15 - 18

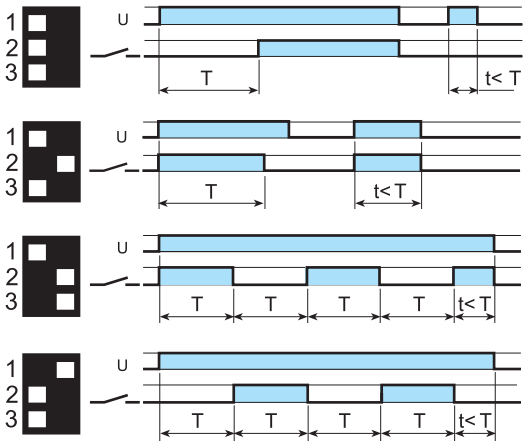
Supply Start = Start via contact in supply line (A1).
Control signal = Start via contact into control terminal (X-S).

Wiring diagram

Supply START



** Connection of the Reset (R-X) is optional



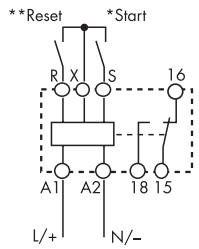
(AI) On-delay.
Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs when power is removed.

(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).

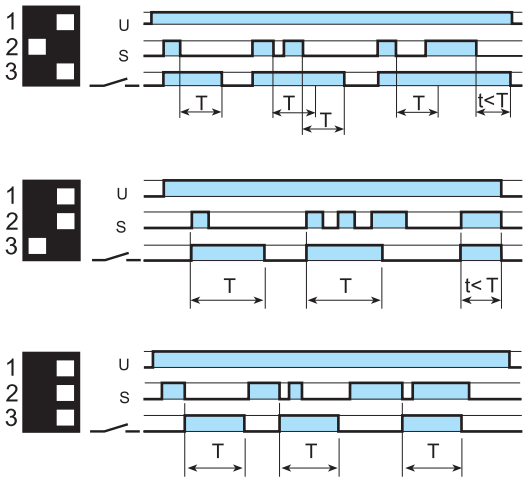
(SP) Symmetrical flasher (starting pulse off).
Apply power to timer. First transfer of contact occurs after preset time has elapsed. The timer now cycles between OFF and ON as long as power is applied. The ratio is 1:1 (time on = time off).

Control signal



* Terminals R, S & X must not be directly connected to the timer supply voltage, but they should be considered to be at supply voltage potential for the purposes of insulation.

** Connection of the Reset (R-X) is optional



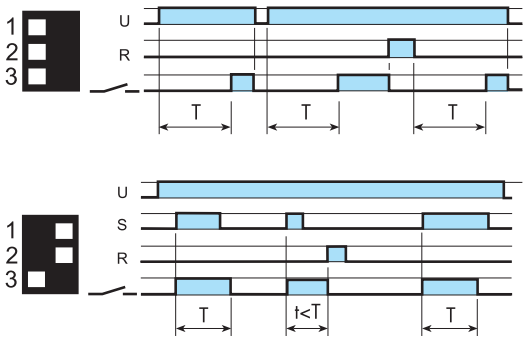
(BE) Off-delay with control signal.
Power is permanently applied to the timer. The output contacts transfer immediately on closure of the Signal Switch (S). Opening the Signal Switch initiates the preset delay, after which time the output contacts reset.

(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.

(EEb) Interval with control signal off.
Power is permanently applied to the timer.
On opening of the Signal Switch (S) the output contacts transfer, and remain so for the duration of the preset delay, after which they reset.

RESET function (R)

For each and every function and time range, the timer is immediately reset when the reset switch is closed.



Example:
Supply START; ON delay function
Closing the external reset switch immediately resets the timer. Opening the reset switch re-initiates the timing function.

Example:
Control signal; ON pulse function.
Closing the external reset switch terminates the interval time and resets the timer. To re-start, it is necessary to open the reset switch, before closing the control signal contact.

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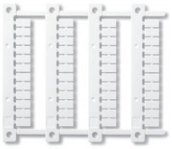
Accessories

019.01

Identification tag, for type 81.01, plastic, 1 tag, 17 x 25.5 mm	019.01



060.48

Sheet of marker tags (CEMBRE Thermal transfer printers) for type 81.01, plastic, 48 tags, 6 x 12 mm	060.48