finder®
SWITCH TO THE FUTURE

Modular timers
8 - 12 - 16 A

- Panels for electrical distribution
- Automatic car-washes
- Packaging machines
- Pump control
- Industrial refrigeration
- Fountains



83
SERIES

FINDER reserves the right to alter characteristics at any time without notice. FINDER assumes no liability for damage to persons or property, caused as a result of the incorrect use or application of its products.

Multi-function timer range

Type 83.01
- Multi-function & multi-voltage
- 1 Pole

Type 83.02
- Multi-function & multi-voltage
- 2 Pole (timed + instantaneous options), external time setting potentiometer option

Type 83.52
- Multi-function & multi-voltage
- 2 Pole (timed + instantaneous options), external time setting potentiometer option, pause function option

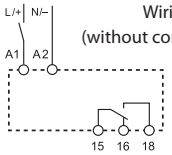
- 22.5 mm wide
- Eight time scales from 0.05 s to 10 days
- High input/output isolation
- Wide supply range (24…240)V AC/DC
- 35 mm rail (EN 60715) mount
- "Blade + cross" - both flat blade and cross head screw drivers can be used to adjust the range and function selectors, the timing trimmer, and to disengage the rail mounting clip
- Multi-voltage versions with "PWM clever" technology
- Complies with EN 45545-2:2013 (protection against fire of materials), EN 61373 (resistance against random vibrations and shock, Category 1, Class B), EN 50155 (resistance to temperature and humidity, T1 class)

83.01

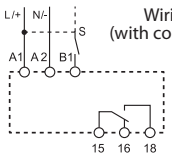


- Multi-voltage
- Multi-function

AI: On-delay
DI: Interval
GI: Pulse delayed
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
WD: Watchdog (Retriggerable interval with control signal on)



Wiring diagram (without control signal)



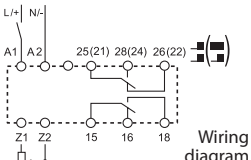
Wiring diagram (with control signal)

83.02

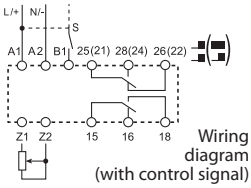


- Multi-voltage
- Multi-function
- Timing can be regulated using ext. Potentiometer
- 2 timed contacts or 1 timed + 1 instantaneous contact

AI: On-delay
DI: Interval
GI: Pulse delayed
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
WD: Watchdog (Retriggerable interval with control signal on)



Wiring diagram (without control signal)



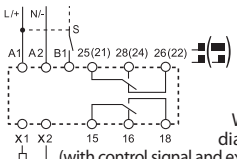
Wiring diagram (with control signal)

83.52

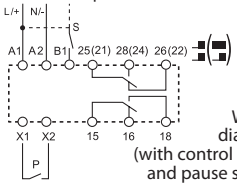


- Multi-voltage
- Multi-function
- Timing can be regulated using ext. Potentiometer
- 2 timed contacts or 1 timed + 1 instantaneous contact
- 3 functions with pause option

AE: On-delay with control signal
GE: Pulse delayed with control signal on
IT: Timing step
FE: Interval with control signal on and off
EEa: Interval with control signal off (retriggerable)
DEp: Interval with control signal on and pause signal
BEp: Off-delay with control signal and pause signal
SHp: "Shower" function



Wiring diagram (with control signal and external potentiometer connection)



Wiring diagram (with control signal and pause signal)

For outline drawing see page 7

Contact specification				
Contact configuration		1 CO (SPDT)	2 CO (DPDT)	2 CO (DPDT)
Rated current/Maximum peak current	A	16/30	12/30	12/30
Rated voltage/ Maximum switching voltage	V AC	250/400	250/400	250/400
Rated load AC1	VA	4000	3000	3000
Rated load AC15 (230 V AC)	VA	750	750	750
Single phase motor rating (230 V AC)	kW	0.5	0.5	0.5
Breaking capacity DC1: 30/110/220 V	A	16/0.3/0.12	12/0.3/0.12	12/0.3/0.12
Minimum switching load	mW (V/mA)	300 (5/5)	300 (5/5)	300 (5/5)
Standard contact material		AgNi	AgNi	AgNi
Supply specification				
Nominal voltage (U_N)	V AC (50/60 Hz)	24…240	24…240	24…240
	V DC	24…240	24…240	24…240
Rated power AC/DC	VA (50 Hz)/W	< 1.5/< 2	< 2/< 2	< 2/< 2
Operating range	V AC	16.8…265	16.8…265	16.8…265
	V DC	16.8…265	16.8…265	16.8…265
Technical data				
Specified time range		(0.05…1)s, (0.5…10)s, (0.05…1)min, (0.5…10)min, (0.05…1)h, (0.5…10)h, (0.05…1)d, (0.5…10)d		
Repeatability	%	± 1	± 1	± 1
Recovery time	ms	200	200	200
Minimum control impulse	ms	50	50	50
Setting accuracy-full range	%	± 5	± 5	± 5
Electrical life at rated load in AC1	cycles	$50 \cdot 10^3$	$60 \cdot 10^3$	$60 \cdot 10^3$
Ambient temperature range	°C	–20…+60	–20…+60	–20…+60
Protection category		IP 20	IP 20	IP 20
Approvals (according to type)		CE EAC LR RINA cULus		

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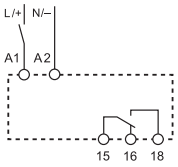
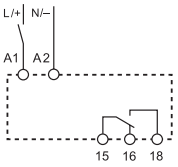
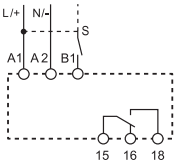
Mono-function timer range

Type 83.11
- ON-delay, multi-voltage

Type 83.21
- Interval, multi-voltage

Type 83.41
- Off-delay with control signal, multi-voltage

- 1 Pole
- 22.5 mm wide
- Eight time scales from 0.05 s to 10 days
- High input/output isolation
- Wide supply range (24…240)V AC/DC
- 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
- Multi-voltage versions with "PWM clever" technology
- Complies with EN 45545-2:2013 (protection against fire of materials), EN 61373 (resistance against random vibrations and shock, Category 1, Class B), EN 50155 (resistance to temperature and humidity, T1 class)

	83.11	83.21	83.41
			
	• Multi-voltage • Mono-function	• Multi-voltage • Mono-function	• Multi-voltage • Mono-function
	AI: On-delay	**DI:** Interval	**BE:** Off-delay with control signal
			
For outline drawing see page 7	Wiring diagram (without control signal)	Wiring diagram (without control signal)	Wiring diagram (with control signal)
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	4000	4000	4000
Rated load AC15 (230 V AC) VA	750	750	750
Single phase motor rating (230 V AC) kW	0.5	0.5	0.5
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)	300 (5/5)	300 (5/5)	300 (5/5)
Standard contact material	AgNi	AgNi	AgNi
Supply specification			
Nominal voltage (U_N) V AC (50/60 Hz)	24…240	24…240	24…240
V DC	24…240	24…240	24…240
Rated power AC/DC VA (50 Hz)/W	< 1.5/< 2	< 1.5/< 2	< 1.5/< 2
Operating range V AC	16.8…265	16.8…265	16.8…265
V DC	16.8…265	16.8…265	16.8…265
Technical data			
Specified time range	(0.05…1)s, (0.5…10)s, (0.05…1)min, (0.5…10)min, (0.05…1)h, (0.5…10)h, (0.05…1)d, (0.5…10)d		
Repeatability %	± 1	± 1	± 1
Recovery time ms	200	200	200
Minimum control impulse ms	—	—	50
Setting accuracy-full range %	± 5	± 5	± 5
Electrical life at rated load in AC1 cycles	$50 \cdot 10^3$	$50 \cdot 10^3$	$50 \cdot 10^3$
Ambient temperature range °C	–20…+60	–20…+60	–20…+60
Protection category	IP 20	IP 20	IP 20
Approvals (according to type)	CE EAC LR RINA cULus		

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Mono-function and multi-function timer range

Type 83.62
- Power off-delay, multi-voltage, 2 Pole

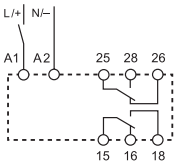
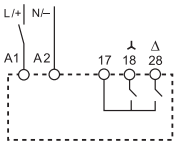
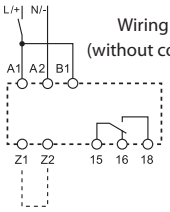
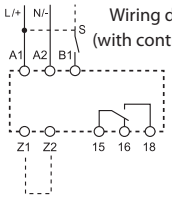
Type 83.82
- Star-Delta, multi-voltage, star and delta output contacts

Type 83.91
- Asymmetrical flasher, multi-voltage, 1 Pole

- 22.5 mm wide
- Time scales:
  Type 83.62 - 0.05 s to 3 minutes
  Type 83.82/83.91 - 0.05 s to 10 days
- Wide supply range (24…240)V AC / DC
- 35 mm rail (EN 60715) mount
- Complies with EN 45545-2:2013 (protection against fire of materials), EN 61373 (resistance against random vibrations and shock, Category 1, Class B), EN 50155 (resistance to temperature and humidity, T1 class)

* (0.05…2)s, (1…16)s, (8…70)s, (50…180)s
** (0.05…1)s, (0.5…10)s, (0.05…1)min, (0.5…10)min, (0.05…1)h, (0.5…10)h, (0.05…1)d, (0.5…10)d
*** 0.05 s, 0.2 s, 0.3 s, 0.45 s, 0.6 s, 0.75 s, 0.85 s, 1 s

For outline drawing see page 7

	83.62	83.82	83.91
			
	• Multi-voltage • Mono-function • 2 pole	• Multi-voltage • Mono-function • 2 pole • Transfer time can be regulated (0.05…1)s***	• Multi-voltage • Multi-function
	BI: Power off-delay (True off-delay)	**SD:** Star-delta	**LI:** Asymmetrical flasher (starting pulse on) **LE:** Asymmetrical flasher (starting pulse on) with control signal **PI:** Asymmetrical flasher (starting pulse off) **PE:** Asymmetrical flasher (starting pulse off) with control signal
	 Wiring diagram (without control signal)	 Wiring diagram (without control signal)	 Wiring diagram (without control signal)  Wiring diagram (with control signal)
Contact specification			
Contact configuration	2 CO (DPDT)	2 NO (DPST-NO)	1 CO (SPDT)
Rated current/Maximum peak current A	8/15	16/30	16/30
Rated voltage/ Maximum switching voltage V AC	250/400	250/400	250/400
Rated load AC1 VA	2000	4000	4000
Rated load AC15 (230 V AC) VA	400	750	750
Single phase motor rating (230 V AC) kW	0.3	0.5	0.5
Breaking capacity DC1: 30/110/220 V A	8/0.3/0.12	16/0.3/0.12	16/0.3/0.12
Minimum switching load mW (V/mA)	300 (5/5)	300 (5/5)	300 (5/5)
Standard contact material	AgNi	AgNi	AgNi
Supply specification			
Nominal voltage (U_N) V AC (50/60 Hz)	24…240	24…240	24…240
V DC	24…220	24…240	24…240
Rated power AC/DC VA (50 Hz)/W	< 1.5/< 2	< 1.5/< 2	< 1.5/< 2
Operating range V AC	16.8…265	16.8…265	16.8…265
V DC	16.8…242	16.8…265	16.8…265
Technical data			
Specified time range	*	**	
Repeatability %	± 1	± 1	± 1
Recovery time ms	—	200	200
Minimum control impulse ms	500 ms (A1 - A2)	—	50
Setting accuracy-full range %	± 5	± 5	± 5
Electrical life at rated load in AC1 cycles	$100 \cdot 10^3$	$50 \cdot 10^3$	$50 \cdot 10^3$
Ambient temperature range °C	–20…+60	–20…+60	–20…+60
Protection category	IP 20	IP 20	IP 20
Approvals (according to type)	CE EAC LR RINA cULus		

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Ordering information

Example: 83 series, modular timers, 1 CO (SPDT) - 16 A, supply rated at (24…240)V AC/DC.

8 3 . 0 1 . 0 . 2 4 0 . 0 0 0 0

Series

Type
0 = Multi-function
(AI, DI, GI, SW, BE, CE, DE, WD)
1 = On-delay (AI)
2 = Interval (DI)
4 = Off-delay with control signal (BE)
5 = Multi-function
(AE, GE, IT, FE, EEa, DEp, BEp, SHp)
6 = Power off-delay (True off-delay) (BI)
8 = Star-delta (SD)
9 = Asymmetrical flasher (LI, LE, PI, PE)

Versions
0000 = Standard

Supply voltage
240 = (24 … 240)V AC/DC

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

No. of poles
1 = 1 CO (SPDT)
2 = 2 CO (DPDT) for 83.02, 83.52 and 83.62
2 = 2 NO (DPST-NO) for 83.82

Technical data

Insulation					
Dielectric strength	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**	**83.01/02/52/11/21/41/82/91**	**83.62**
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
	(1000 ÷ 2700 MHz)		EN 61000-4-3	3 V/m	3 V/m
Fast transients (burst) (5-50 ns, 5 and 100 kHz)	on Supply terminals		EN 61000-4-4	7 kV	6 kV
	on control signal terminal (B1)		EN 61000-4-4	7 kV	6 kV
Surges (1.2/50 µs) on Supply terminals	common mode		EN 61000-4-5	6 kV	6 kV
	differential mode		EN 61000-4-5	6 kV	4 kV
on control signal terminal (B1)	common mode		EN 61000-4-5	6 kV	6 kV
	differential mode		EN 61000-4-5	4 kV	4 kV
Radio-frequency common mode	(0.15 ÷ 80 MHz)		EN 61000-4-6	10 V	10 V
on Supply terminals	(80 ÷ 230 MHz)		EN 61000-4-6	10 V	10 V
Radiated and conducted emission			EN 55022	class A	class A
Other data					
Current absorption on control signal (B1)			< 1 mA		
	- max cable length (capacity of ≤ 10 nF/100 m)		150 m		
	- when applying a control signal to B1, which is different from the supply voltage at A1/A2		B1 is isolated from A1 and A2 by an opto-coupler, and can therefore be operated at a voltage other than the supply voltage. If using a control signal of between (24… 48)V DC and a supply voltage of (24…240)V AC, ensure that the signal - is connected to A2 and the + is applied to B1, and that L is applied to B1 and N to A2.		
External potentiometer for 83.02/52			Use a 10 kΩ / ≥ 0.25 W linear potentiometer. Maximum cable length 10 m. When using an external potentiometer, the timer automatically use its setting in place of the internal setting. Consider the voltage potential at the potentiometer to be the same as the timer supply voltage.		
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	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	

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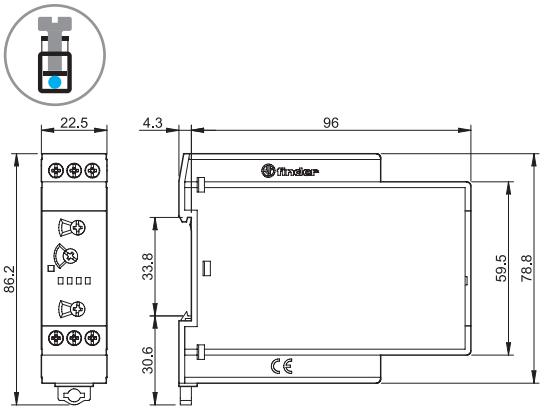
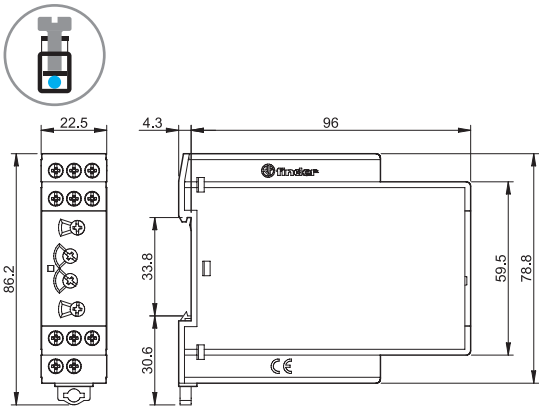
Outline drawings

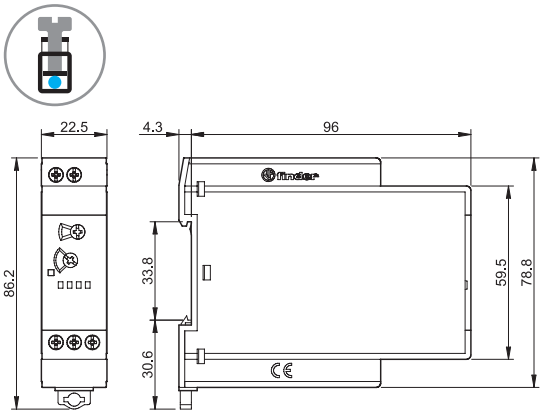
83.01
Screw terminal



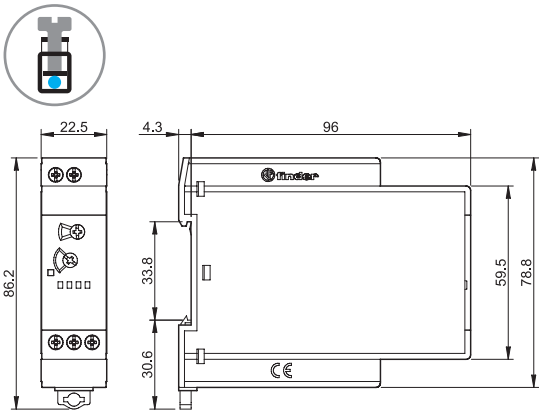
83.02/52
Screw terminal



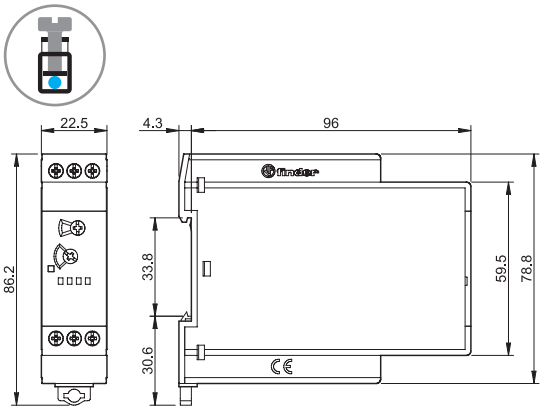
83.11
Screw terminal



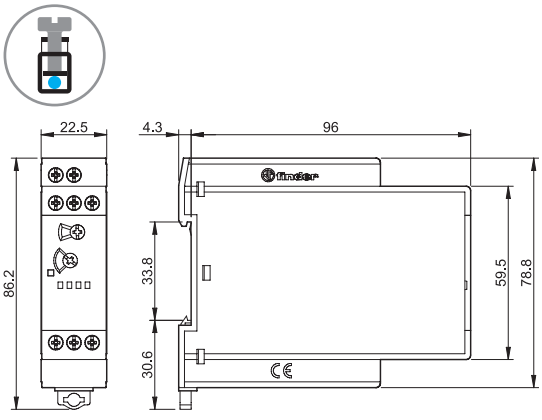
83.21
Screw terminal



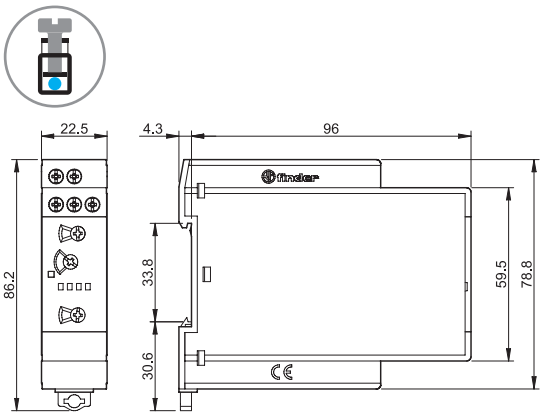
83.41
Screw terminal



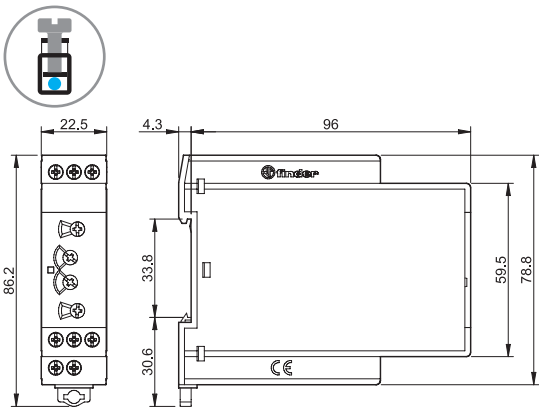
83.62
Screw terminal



83.82
Screw terminal



83.91
Screw terminal



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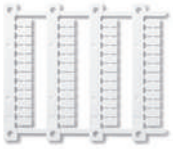
Accessories

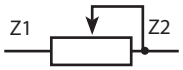


060.48

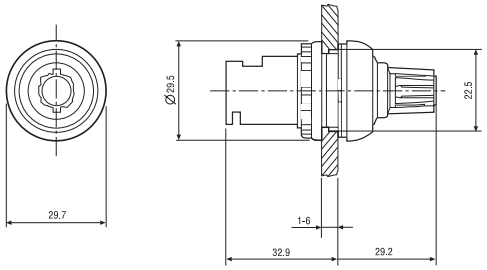
Sheet of marker tags (CEMBRE Thermal transfer printers) for relays types 83.01/11/21/41/62/82, plastic, 48 tags, 6 x 12 mm	060.48



087.02.2



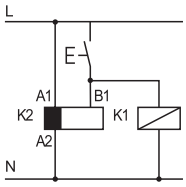
Potentiometer usable as external potentiometer for type 83.02/52 10 kΩ / 0.25 W linear, IP 66	087.02.2



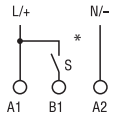
Functions

LED*	Supply voltage	NO output contact	Contacts Open	Contacts Closed
	OFF	Open	15 - 18 25 - 28	15 - 16 25 - 26
	ON	Open	15 - 18 25 - 28	15 - 16 25 - 26
	ON	Open (Timing in Progress)	15 - 18 25 - 28	15 - 16 25 - 26
	ON	Closed	15 - 16 25 - 26	15 - 18 25 - 28

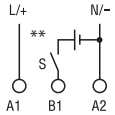
* The LED on type 83.62 is illuminated when supply voltage is supplied to timer.



• 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 control signal (B1), example:
A1 - A2 = 230 V AC
B1 - A2 = 12 V DC

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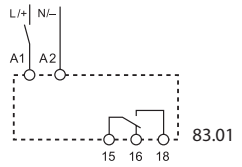
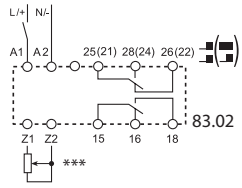
Functions

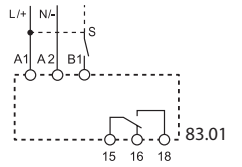
Wiring diagram | **U** = Supply voltage | **S** = Signal switch | = Output contact

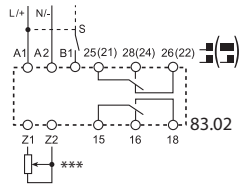
Multi-function
without control signal





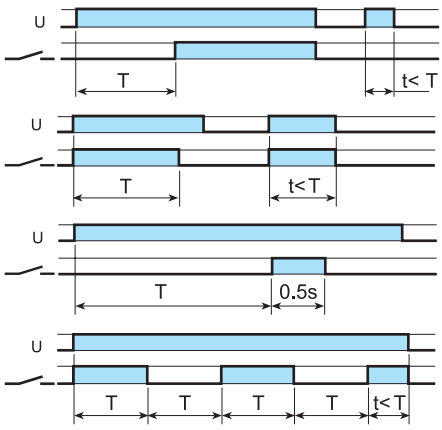
with control signal





*** Type 83.02: regulated using an external potentiometer (10 kΩ - 0.25 W).

Type
83.01
83.02

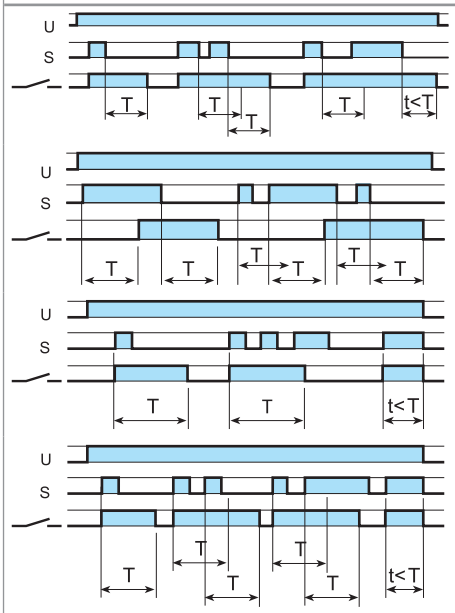


(AI) On-delay.
Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs when power is removed.

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

(GI) Pulse delayed.
Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs after a fixed time of 0.5s.

(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).



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

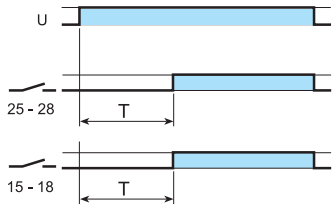
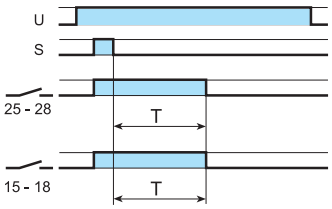
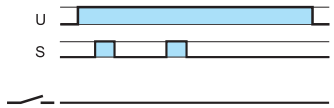
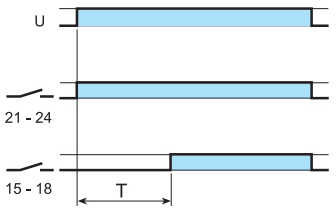
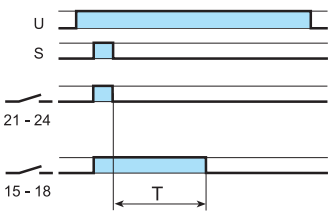
(CE) On- and off-delay with control signal.
Power is permanently applied to the timer.
Closing the control signal (S) initiates the preset delay, after which time the output contacts transfer. Opening the control signal initiates the same preset delay, after which time the output contacts reset.

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

(WD) Watchdog (Retriggerable interval with control signal on).
Power is permanently applied to the timer.
On momentary or maintained closure of control signal (S), the output contacts transfer, and remain so for the duration of the preset delay, after which they reset; subsequent closures of control signal during the delay will extend the time. If the closure of the control signal (S) is longer than the preset time (T) then the output contacts reset.

NOTE: The timing function must be set when the timer is de-energised. Or for the 83.02/52, when the contact mode selector is in the OFF position.

83.02 type

Contact mode selector	Functions without control signal (example: AI)	Functions with control signal (example: BE)
2 timed contacts 	 Both output contacts (15-18 and 25-28) follow the timing function	 Both output contacts (15-18 and 25-28) follow the timing function
OFF 	 Both output contacts [15-18 and 25(21)-28(24)] stay permanently open	 Both output contacts [15-18 and 25(21)-28(24)] stay permanently open
1 timed + 1 instantaneous contact 	 The output contact 15-18 follows the timing function The output contact 21-24 follows the power supply (U)	 The output contact 15-18 follows the timing function The output contact 21-24 follows the control signal (S)

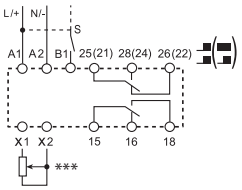
H

Functions

Wiring diagram

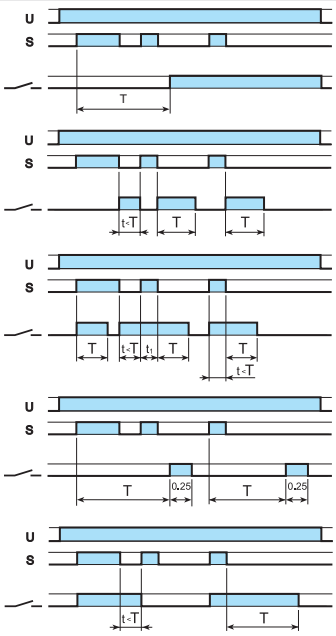
U = Supply voltage **S** = Signal switch **P** = Pause switch = Output contact

Multi-function
with control signal



*** Regulated using an external potentiometer (10 kΩ - 0.25 W).

Type 83.52



(AE) On-delay with control signal.
Power is permanently applied to the timer.
Closing the Signal Switch (S) initiates the preset delay, after which times the output contacts transfer and remain so until the power is removed.

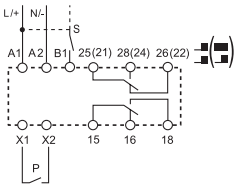
(EEa) Interval with control signal off (retriggerable).
Power is permanently applied to the timer.
On opening of the Signal Switch (S) the output contacts transfer, and remain so for the duration of the preset delay, after which they reset.

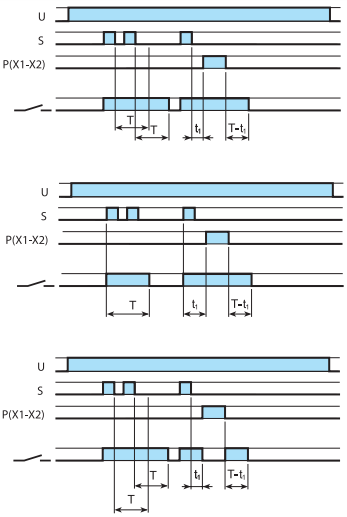
(FE) Interval with control signal on and off.
Power is permanently applied to the timer.
Both the opening and the closing of the Signal Switch (S) initiates the transfer of the output contacts. In both instances the contacts reset after the preset delay has elapsed.

(GE) Pulse delayed with control signal on.
Power is permanently applied to the timer.
Closing the Signal Switch (S) initiates the preset delay, after which the output contacts transfer. Reset occurs after a fixed time of 0.25 s.

(IT) Timing step.
Closing the Signal Switch (S) the output contacts transfer and remain so, after S opening, for the duration of the preset delay, after which they reset. During the timing period it is possible to immediate open the contact with a further impulse on S.

with control signal and pause signal



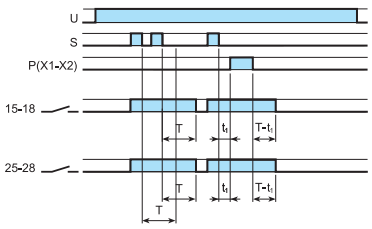
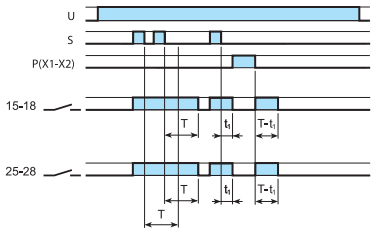
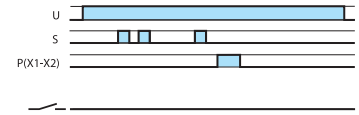
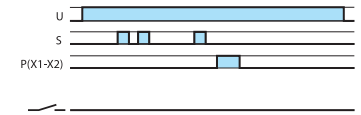
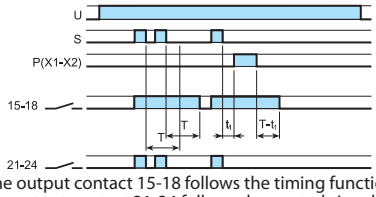
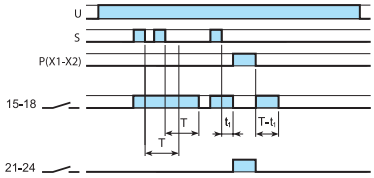


(BEp) Off-delay with control signal and pause signal.
Power is permanently applied to the timer. The output contacts transfer immediately on closure of the Signal Switch (S). Opening the signal switch initiates the preset delay, after which the output contacts reset. Closure of the pause switch (X1-X2) will immediately halt the timing process, but the elapsed time will be retained. The current state of the output contacts will be maintained. On opening of the pause switch, timing resumes from the retained value.

(DEp) Interval with control signal on and pause signal.
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. Closure of the pause switch (X1-X2) will immediately halt the timing process, but the elapsed time will be retained. The current state of the output contacts will be maintained. On opening of the pause switch, timing resumes from the retained value.

(SHp) "Shower" function (Off-delay with control signal and pause 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 the output contacts reset. Closure of the pause switch (X1-X2) will immediately halt the timing process, but the elapsed time will be retained. During the pause, the output contacts 15-18 and 25-28 will be open. On opening of the pause switch, timing resumes from the retained value and the output contacts will take the previous condition.

83.52 type

Contact mode selector	Functions with control signal and pause signal (example: BEp)	Function SHp
2 timed contacts 	 Both output contacts (15-18 and 25-28) follow the timing function	 Both output contacts (15-18 and 25-28) follow the timing function
OFF 	 Both output contacts [15-18 and 25(21)-28(24)] stay permanently open	 Both output contacts [15-18 and 25(21)-28(24)] stay permanently open
1 timed + 1 instantaneous contact 	 The output contact 15-18 follows the timing function The output contact 21-24 follows the control signal (S)	 The output contact 15-18 follows the timing function. The output contact 21-24 is always open, unless during the pause, when is closed

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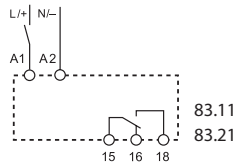
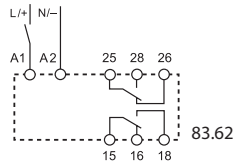
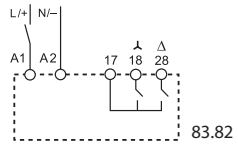
Functions

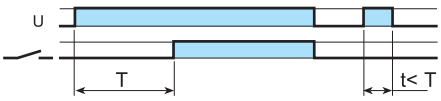
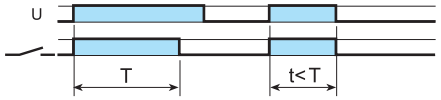
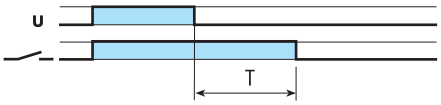
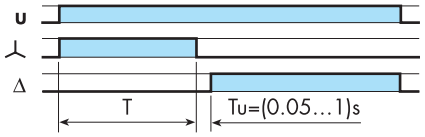
Wiring diagram | **U** = Supply voltage | **S** = Signal switch | = Output contact

Mono-function
without control signal

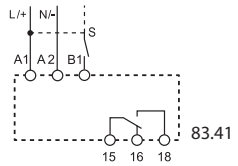


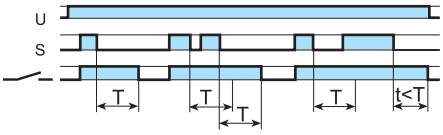




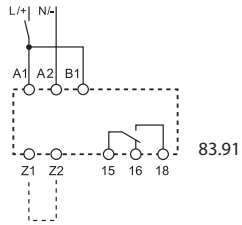
Type		
83.11		**(AI) On-delay.** Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs when power is removed.
83.21		**(DI) Interval.** Apply power to timer. Output contacts transfer immediately. After the preset time has elapsed, contacts reset.
83.62		**(BI) Power 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.
83.82		**(SD) Star-3delta.** Apply power to timer. The star contact (⅄) closes immediately. After preset delay has elapsed the star contact (⅄) resets. After a further time (settable from 0.05 s to 1 s) the delta contact (Δ) closes and remains in that position, until reset on power off.

with control signal (S)



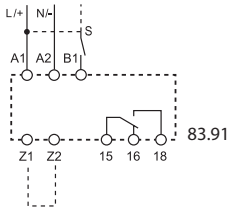
Type		
83.41		**(BE) Off-delay with control signal.** Power is permanently applied to the timer. The output contacts transfer immediately on closure of the control signal (S). Opening the control signal initiates the preset delay, after which time the output contacts reset.

Asymmetrical recycler
without control signal

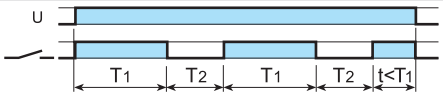
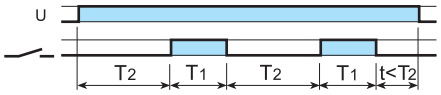
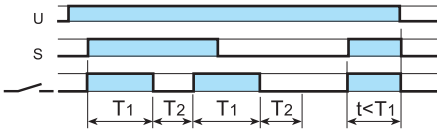
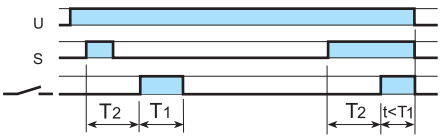


Z1-Z2 open: **(LI)** function
Z1-Z2 linked: **(PI)** function

with control signal



Z1-Z2 open: **(LE)** function
Z1-Z2 linked: **(PE)** function

Type		
83.91		**(LI) Asymmetrical flasher (starting pulse on)- (Z1-Z2 open).** Apply power to timer. Output contacts transfer immediately and cycle between ON and OFF for as long as power is applied. The ON and OFF times are independently adjustable.
		**(PI) Asymmetrical flasher (starting pulse off) - (Z1-Z2 linked).** Apply power to timer. Output contacts transfer after time T1 has elapsed and cycle between OFF and ON for as long as power is applied. The ON and OFF times are independently adjustable.
		**(LE) Asymmetrical flasher (starting pulse on) with control signal - (Z1-Z2 open).** Power is permanently applied to the timer. Closing control signal (S) causes the output contacts to transfer immediately and cycle between ON and OFF, until opened.
		**(PE) Asymmetrical flasher (starting pulse off) with control signal - (Z1-Z2 linked).** Power is permanently applied to the timer. Closing the control signal (S) initiates delay T1 after which the output contacts transfer and continue to cycle between OFF and ON, until the control signal is opened.

H