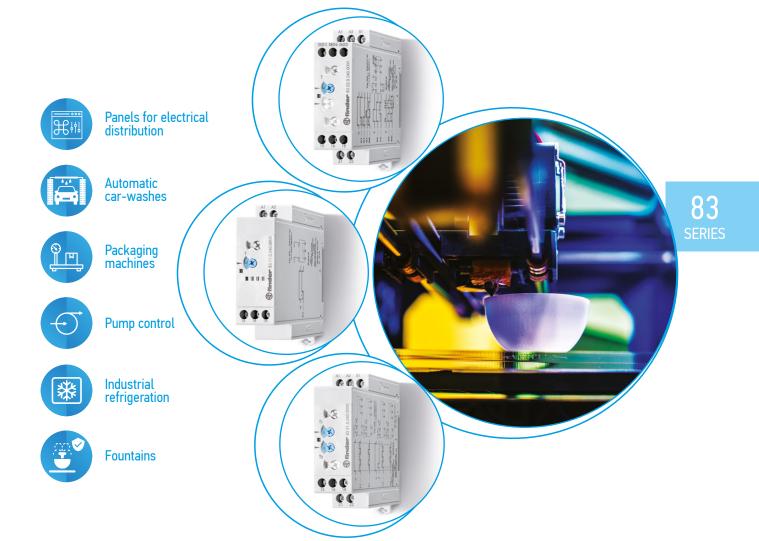


# Modular timers 8 - 10 - 12 - 16 A





## **Multi-function and Mono-function timer** range

## Type 83.01

- Multi-function & multi-voltage
- 1 Pole

## Type 83.11

- ON-delay, multi-voltage

## Type 83.21

- Interval, multi-voltage
- 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)



- Multi-voltage
- Multi-function



83.11

- Multi-voltage
- Mono-function AI: On-delay

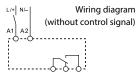


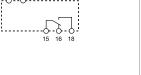
- Multi-voltage
- Mono-function

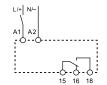
DI: Interval

AI:	On-delay
DI:	Interval
GI:	Pulse delay

- Pulse delayed SW: Symmetrical flasher (starting pulse on)
- Off-delay with control signal
  On- and off-delay with control signal
- **DE:** Interval with control signal on **WD:** Watchdog (Retriggerable interval with control signal on)







IP 20

CE CH FIII RINA O S

Wiring diagram   S (with control signal)
A1  A2  B1 ' - O - O - O
15 16 18
13 10 10

A1 A2 B11'
15 16 18

<sup>1)</sup> Short term (10 min) + 70°C Wiring diagram Wiring diagram					
For outline drawing see page 9			(without control signal)	(without control signal)	
Contact specification					
Contact configuration		1 CO (SPDT)	1 CO (SPDT)	1 CO (SPDT)	
Rated current/Maximum peak cu	urrent 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: 24/110/2	20 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 <sub>N</sub> )	V AC (50/60 Hz)	24240	24240	24240	

Supply specification				
Nominal voltage (U <sub>N</sub> )	V AC (50/60 Hz)	24240	24240	24240
	V DC	24240	24240	24240
Rated power AC/DC	VA (50 Hz)/W	< 1.5/< 2	< 1.5/< 2	< 1.5/< 2
Operating range	V AC	16.8265	16.8265	16.8265
	V DC	16.8265	16.8265	16.8265
Technical data				
Specified time range		(0.051)s, (0.510)s, (0.051	)min, (0.510)min, (0.051)h, (0.	510)h, (0.051)d, (0.510)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 · 10³	50 · 10³	50 · 10³
Ambient temperature range	°C	-20+60 <sup>(1)</sup>	-20+60 <sup>(1)</sup>	-20+60 <sup>(1)</sup>

IP 20

Approvals (according to type)

Protection category

IP 20



83.62

## Mono-function and multi-function timer range

## Type 83.41

- Off-delay with control signal, multi-voltage

## Type 83.52

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

## Type 83.62

- Power off-delay, multi-voltage, 2 Pole
- 1 Pole
- 22.5 mm wide
- Time scales:

Type 83.62 - 0.05 s to 3 minutes

- 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)

83.41



- Multi-voltage
- Mono-function

**BE:** Off-delay with control signal



- 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

BI: Power off-delay (True off-delay)

Multi-voltage

• 2 pole

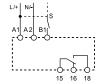
Mono-function

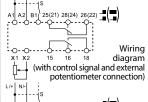


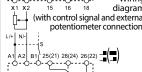
signal on Timing step Interval with control signal FE: on and off Interval with control signal off (retriggerable) EFa:

Interruguetable)
Interval with control signal
on and pause signal
Off-delay with control signal
and pause signal
"Shayar" fronties DEp: BEp:

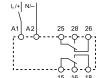
SHp: "Shower" function







Wiring 18 diagram (with control signal and pause signal)



 $^{(1)}$  Short term (10 min) + 70°C Wiring diagram Wiring diagram For outline drawing see page 9 (with control signal) (without control signal) **Contact specification** 

Contact configuration		1 CO (SPDT)	2 CO (DPDT)	2 CO (DPDT)
Rated current/Maximum peak cu	ırrent A	16/30	12/30	8/15
Rated voltage/ Maximum switching voltage	V AC	250/400	250/400	250/400
Rated load AC1	VA	4000	3000	2000
Rated load AC15 (230 V AC)	VA	750	750	400
Single phase motor rating (230 V	AC) kW	0.5	0.5	0.3
Breaking capacity DC1: 24/110/2	20 V A	16/0.3/0.12	12/0.3/0.12	8/0.3/0.12
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 <sub>N</sub> )	V AC (50/60 Hz)	24240	24240	24240
	V DC	24240	24240	24220
Rated power AC/DC	VA (50 Hz)/W	< 1.5/< 2	< 2/< 2	< 1.5/< 2
Operating range	V AC	16.8265	16.8265	16.8265
	V DC	16.8265	16.8265	16.8242
Technical data				

Technical data				
Specified time range		(0.051)s, (0.510)s, (0.051	(0.052)s, (116)s, (870)s,	
		(0.510)h, (0.05	(50180)s	
Repeatability	%	± 1	± 1	± 1
Recovery time	ms	200	200	_
Minimum control impulse	ms	50	50	500 ms (A1 - A2)

Setting accuracy-full range % ± 5 ± 5 ± 5 Electrical life at rated load in AC1 cycles  $50 \cdot 10^3$  $60\cdot 10^3$  $100 \cdot 10^{3}$ Ambient temperature range °C -20...+60<sup>(1)</sup> -20...+60<sup>(1)</sup> -20...+60<sup>(1)</sup> IP 20 IP 20 IP 20 Protection category

Approvals (according to type)

## Mono-function and multi-function timer range

## 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 83.82/83.91 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)

83.82



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

83.91

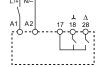


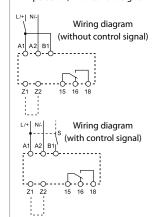
**finder** 

- Multi-voltage
- Multi-function

- 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





(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,

(0.05...1)s, (0.5...10)s, (0.05...1)min,

0.85 s, 1 s

<sup>(1)</sup> S For

Short term (10 min) + 70°C	Wiring diagram
r outline drawing see page 9	(without control signal)
ntact specification	
entact configuration	2 NO (DPST-NO)
ted current/Maximum peak current A	16/30

3 , 3			
Contact specification			
Contact configuration		2 NO (DPST-NO)	1 CO (SPDT)
Rated current/Maximum peak cu	rrent 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	0.5	0.5
Breaking capacity DC1: 24/110/2	20 V A	16/0.3/0.12	16/0.3/0.12
Minimum switching load	mW (V/mA)	300 (5/5)	300 (5/5)
Standard contact material		AgNi	AgNi
Supply specification			
Nominal voltage (U <sub>N</sub> )	V AC (50/60 Hz)	24240	24240
,	V DC	24240	24240
Rated power AC/DC	VA (50 Hz)/W	< 1.5/< 2	< 1.5/< 2
Operating range	V AC	16.8265	16.8265
	V DC	16.8265	16.8265
Technical data			
Specified time range		*	
Repeatability	%	± 1	± 1
Recovery time	ms	200	200
Minimum control impulse	ms	_	50
Setting accuracy-full range	%	± 5	± 5
Electrical life at rated load in AC1	cycles	50 · 10³	50 · 10³
Ambient temperature range	°C	-20+60 <sup>(1)</sup>	-20+60 <sup>(1)</sup>
Protection category	_	IP 20	IP 20

C€ UK [AL B RINA ® S &

www.findernet.com

Approvals (according to type)



## Multi-function timer and IECEx - Ex - HazLoc multi-function modular timer

## Type 83.02

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

## Type 83.02.0.240.0003

- Multi-function & multi-voltage IECEx. Ex (Zone 2, Category 3), HazLoc (CI I, Div.2)
- 2 Pole (timed + instantaneous options), external time setting potentiometer 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

 $^{(1)}$  Short term (10 min) + 70°C

- "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)

#### 83.02



- Multi-voltage
- Multi-function
- Timing can be regulated using ext.
- Potentiometer

On-delay

signal on)

Pulse delayed

Symmetrical flasher

(starting pulse on)

Off-delay with control signal

Interval with control signal on

On- and off-delay with control signal

**WD:** Watchdog (Retriggerable interval with control

Interval

AI:

DI:

DE:

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

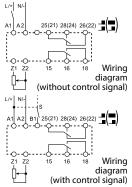
• IECEx - Ex - HazLoc

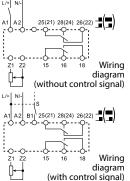
• 2 timed contacts or 1 timed + 1 instantaneous contact

• Multi-voltage and Multi-function

83.02 - 0003

- On-delay AI:
- DI: Interval
- Pulse delayed
- Symmetrical flasher (starting pulse on)
- Off-delay with control signal
- On- and off-delay with control signal
- **DE:** Interval with control signal on
- WD: Watchdog (Retriggerable interval with control signal on)



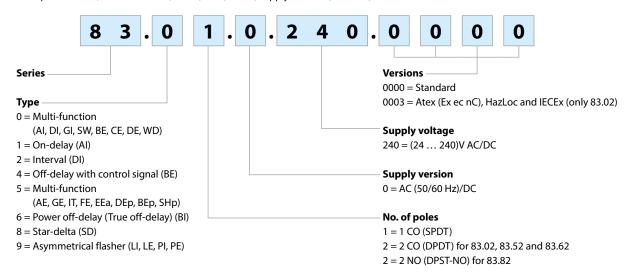


A1 A2 25(21) 28(24) 26(22)
z1 z2 15 16 18 Wiring diagram (without control signal)
A1 A2 B1 25(21) 28(24) 26(22)
z1 z2 15 16 18 Wiring diagram (with control signal)

For outline drawing see page 9		(with control signal)	(with control signal)
Contact specification			
Contact configuration		2 CO (DPDT)	2 CO (DPDT)
Rated current/Maximum peak c	urrent A	12/30	10/30
Rated voltage/			
Maximum switching voltage	V AC	250/400	277/400
Rated load AC1	VA	3000	2770
Rated load AC15 (230 V AC)	VA	750	750
Single phase motor rating (230 )	V AC) kW	0.5	0.5
Breaking capacity DC1: 24/110/2	220 V A	12/0.3/0.12	5/0.3/0.12
Minimum switching load	mW (V/mA)	300 (5/5)	300 (5/5)
Standard contact material		AgNi	AgNi
Supply specification			
Nominal voltage (U <sub>N</sub> )	V AC (50/60 Hz)	24240	24240
	V DC	24240	24240
Rated power AC/DC	VA (50 Hz)/W	< 2/< 2	< 2/< 2
Operating range	V AC	16.8265	16.8265
	V DC	16.8265	16.8265
Technical data			
Specified time range		(0.051)s, (0.510)s, (0.051)min, (0.510)mi	in, (0.051)h, (0.510)h, (0.051)d, (0.510)d
Repeatability	%	± 1	± 1
Recovery time	ms	200	200
Minimum control impulse	ms	50	50
Setting accuracy-full range	%	± 5	± 5
Electrical life at rated load in AC	1 cycles	60 · 10³	60 · 10³
Ambient temperature range	°C	-20+60 <sup>(1)</sup>	-20+55
Protection category		IP 20	IP 20
Approvals (according to type)		CE K EH RINA 🐠 💩	CEKEEE [HIERINA (40) 115 🕸 🖾 🗓 Hazlor

## **Ordering information**

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



## **Technical data**

Insulation							
Dielectric strength	between i	nput and output circuit	V AC	4000			
_		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 1	00 kHz)	on Supply terminals		EN 61000-4-4	7 kV		6 kV
	-	on control signal termina	al (B1)	EN 61000-4-4	7 kV		6 kV
Surges (1.2/50 μs) on Supply terminals	5 (	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 lengt	th (capacity of ≤ 10 nF/10	0 m)	150 m			
- when applying a control signal to B1, which is different from the supply voltage at A1/A				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 (24240)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 k $\Omega$ / $\geq$ 0.25 W linear potentiometer. Maximum cable length 1 m. When using an external potentiometer, the timer automatically us its setting in place of the internal setting. Consider the voltage potential at the potentiometer to be the same a the timer supply voltage.		tomatically use	
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	
			$mm^2$	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	



## Markings - Type 83.02...0003 - ATEX, IECEx and HazLoc versions

 $\langle \epsilon_{x} \rangle$ ATEX (UL 23 ATEX 3005 X): II 3 G Ex ec nC IIC T4 Gc IECEx (IECEx ULD 23.0013 X): CI I, Div2, Gr A, B, C, D, T4 Haz.Loc. (E497395): CI I, Zn 2, AEx ec nC IIC T4 Ex ec nC IIC T4 Gc X Specific marking of explosion protection II Component for surface plant (different from mines) 3 Category 3: normal level of protection G-CII Explosive atmosphere due to presence of combustible gas vapour or mist **Div 2 - Zn 2** Hazardous explosive concentration presence just in case of fault Ex ec - AEx ec Increased safety Ex nC - AEx nC Sealed device IIC - Gr A, B, C, D Gas group **T4** Temperature class **Gc** Device protection level



UL - ULD: ID of the notified body which issues the type certificate 23: year of issue of the certificate

3005 - 0013: number of the type certificate

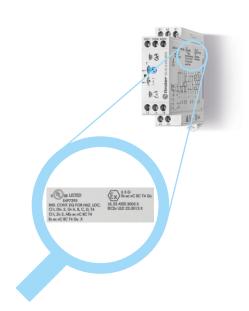
E497395: UL file number

**-20°C** ≤ **Ta** ≤ **+55°C** Ambient temperature range

X: special instruction for use

## Zyy: production batch identification

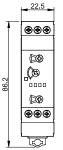
Z: year, yy: week

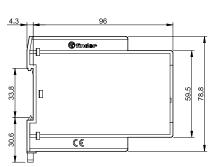


## **Outline drawings**

Type 83.01 Screw terminal

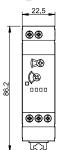


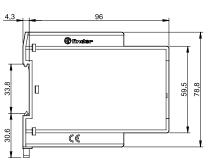




Type 83.11 Screw terminal

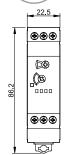


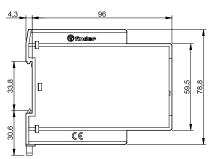




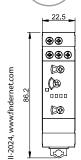
Type 83.41 Screw terminal

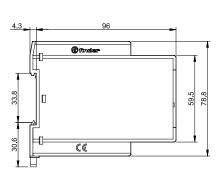






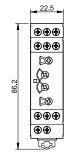
Type 83.82 Screw terminal

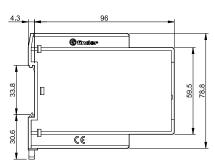




Types 83.02/52 Screw terminal



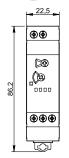


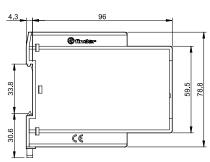


finder

Type 83.21 Screw terminal

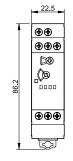


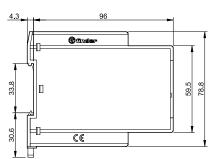




Type 83.62 Screw terminal

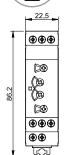


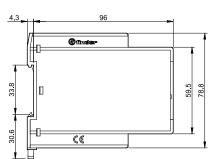




Type 83.91 Screw terminal







## 83 SERIES Modular timers 8 - 10 - 12 - 16 A



## **Accessories**



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

060.48

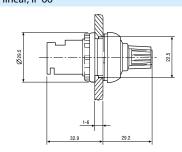


**Potentiometer** usable as external potentiometer for type 83.02/52  $10~k\Omega$  / 0.25~W linear, IP 66

087.02.2



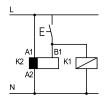




## **Functions**

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

 $<sup>^{*}</sup>$  The LED on type 83.62 is illuminated when supply voltage is supplied to timer.



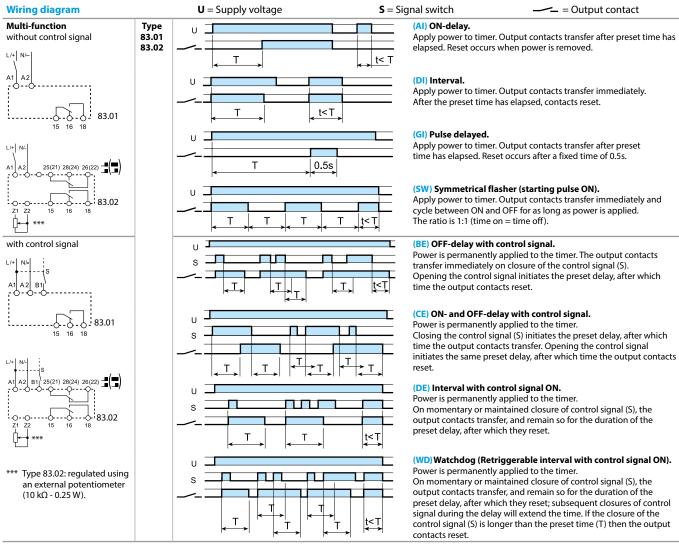
• Possible to control an external load, such as another relay coil or timer, connected to the control signal terminal B1.



- \* With DC supply, positive polarity has to be connected to B1 terminal (according to EN 60204-1).
- L/+ N/
  \*\*
  S
  A1 B1 A2
- \*\* 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

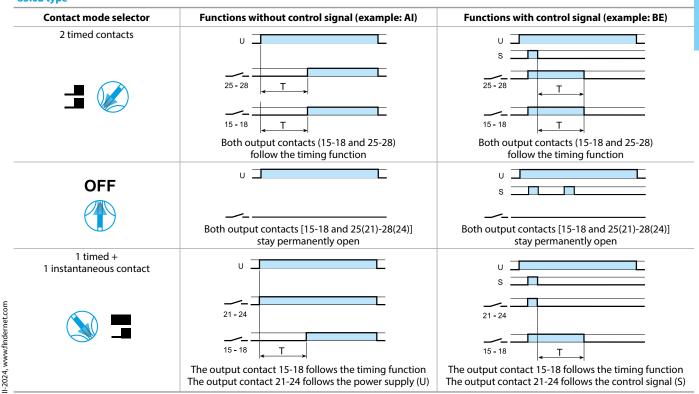


## **Functions**



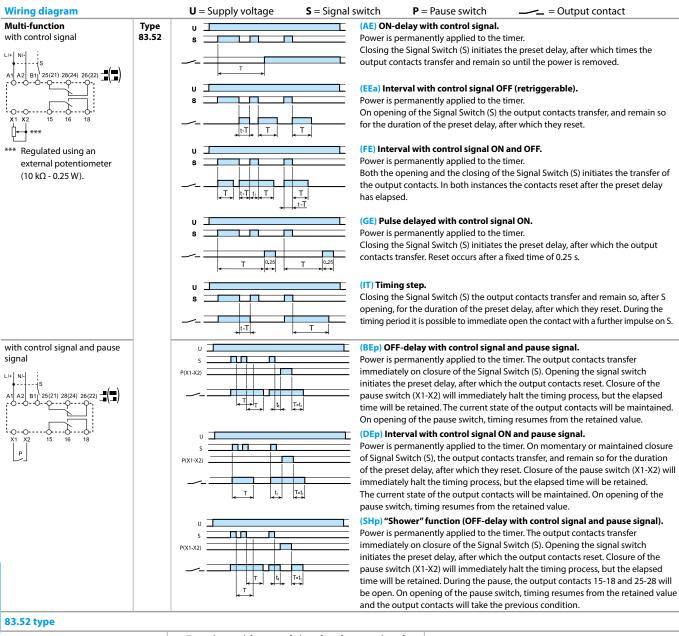
NOTE: The timing function must be set when the timer is de-energised. Or for the 83.02/52, when the contact mode selector is in the OFF position.

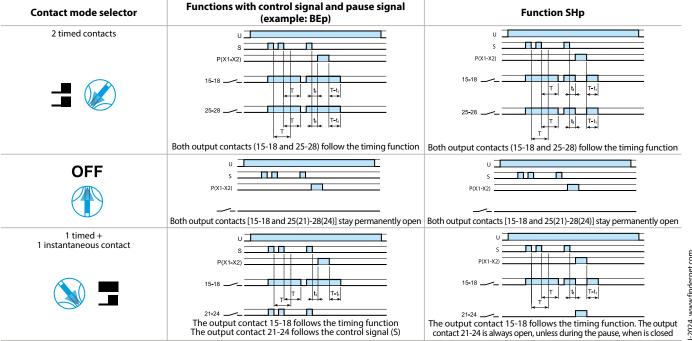
## 83.02 type





#### **Functions**





## **Functions**

#### **Wiring diagram U** = Supply voltage **S** = Signal switch = Output contact Mono-function (AI) ON-delay. Type without control signal Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs when power is removed. t< T A2 83.21 (DI) Interval. Apply power to timer. Output contacts transfer immediately. 83.11 After the preset time has elapsed, contacts reset. 83.21 t<T 83.62 (BI) Power OFF-delay (True OFF-delay). Apply power to timer (minimum 500 ms). Output contacts transfer A2 immediately. Removal of power initiates the preset delay, after which time the output contacts reset. 83.62 83.82 (SD) Star-delta. Apply power to timer. The star contact (人) closes immediately. 人 After preset delay has elapsed the star contact (人) resets. After a further time (settable from 0.05 s to 1 s) the delta contact ( $\Delta$ ) Tu=(0.05...1)s closes and remains in that position, until reset on power off. 3 83.82 with control signal (S) 83.41 (BE) OFF-delay with control signal. Power is permanently applied to the timer. s The output contacts transfer immediately on closure of the control signal (S). Opening the control signal initiates the preset delay, after ţ<Ţ B1 which time the output contacts reset. 83.41 Asymmetrical recycler 83.91 (LI) Asymmetrical flasher (starting pulse ON)- (Z1-Z2 open). without control signal 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 T2 T2 | t<T1 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. Т1 T2 T1 t<T2 The ON and OFF times are independently adjustable. Z1-Z2 open: (LI) function Z1-Z2 linked: (PI) function (LE) Asymmetrical flasher (starting pulse ON) with control signal with control signal (Z1-Z2 open). Power is permanently applied to the timer. Closing control signal (S) causes the output contacts to transfer | T2 T1 T<sub>1</sub> T2 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 T2 |t<T1 T2 T1 contacts transfer and continue to cycle between OFF and ON, until the Z1-Z2 open: (LE) function control signal is opened. Z1-Z2 linked: (PE) function

## **Times scales**

Rotary switch position 83 series















(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

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