

Modular timers 8 - 10 - 12 - 16 A



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83 SERIES Modular timers 16 A







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Mono-function and multi-function timer range	83.41	83.52	83.62
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 	• Multi-voltage • Mono-function	 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 	 Multi-voltage Mono-function 2 pole
 Eight time scales from 0.05 s to 10 days High input/output isolation Wide supply range (24240)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 	BE: Off-delay with control signal	 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 	BI: Power off-delay (True off-delay)
83.41/83.52/83.62 Box clamp	Wiring diagram (with control signal)	All A2 B1 25(21) 28(22) 28(22) \downarrow Wiring X1 X2 15 16 18 diagram \downarrow (with control signal and external potentiometer connection) $L^{/+}$ N/- A1 A2 B1 25(21) 28(24) 28(22) \downarrow \downarrow (with control signal A1 A2 B1 25(21) 28(24) 28(22) \downarrow \downarrow (with control signal A1 A2 B1 25(21) 28(24) 28(22) \downarrow \downarrow (with control signal and pause signal)	A1 A2 25 28 26
For outline drawing see page 9			
Contact specification			
Bated current/Maximum peak current 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: 24/110/220 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_N) 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 V DC	16.8265 16.8265	16.8265 16.8265	16.8265 16.8242
Technical data			
Specified time range	(0.051)s, (0.510)s, (0.051 (0.510)h, (0.05	l)min, (0.5…10)min, (0.05…1)h, …1)d, (0.5…10)d	(0.052)s, (116)s, (870)s, (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 · 10 ³	60 · 10 ³	100·10 ³
Ambient temperature range °C	-20+60	-20+60	-20+60
Protection category	IP 20	IP 20	IP 20
Approvals (according to type)	·		<u>A</u>
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Type 83.82

Type 83.91

83 82/83 91

Box clamp

• 22.5 mm wide Time scales:

output contacts

Mono-function and multi-function timer range

- Star-Delta, multi-voltage, star and delta

- Asymmetrical flasher, multi-voltage, 1 Pole

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

83.82

Multi-voltage

(0.05...1)s** SD: Star-delta

 Mono-function • 2 pole



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L/+| N/ (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 (with control signal) Wiring diagram (without control signal) For outline drawing see page 9 **Contact specification** 2 NO (DPST-NO) Contact configuration 1 CO (SPDT) Rated current/Maximum peak current А 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 16/0.3/0.12 Breaking capacity DC1: 24/110/220 V 16/0.3/0.12 А Minimum switching load mW (V/mA) 300 (5/5) 300 (5/5) Standard contact material AgNi AgNi Supply specification Nominal voltage (U_N) V AC (50/60 Hz) 24...240 24...240 V DC 24...240 24...240 Rated power AC/DC VA (50 Hz)/W < 1.5/< 2 < 1.5/< 2 16.8...265 16.8...265 Operating range V AC V DC 16.8...265 16.8...265 **Technical data** Specified time range Repeatability % ±1 ±1 Recovery time 200 200 ms Minimum control impulse 50 ms ____ Setting accuracy-full range % ± 5 ± 5 Electrical life at rated load in AC1 cycles $50 \cdot 10^{3}$ 50 · 10³ Ambient temperature range °C -20...+60 -20...+60 Protection category IP 20 IP 20 CE \K [A] [A] [A] [A] [A] [A] [A] [A] Approvals (according to type)



Multi-function timer and IECE	x - Ex - HazLoc	83.02	VEI 83.02 - 0003	
 Type 83.02 Multi-function & multi-voltag 2 Pole (timed + instantaneou external time setting potentie Type 83.02.0.240.0003 Multi-function & multi-voltag Fx (Zone 2 Category 3) Hazl 	je s options), ometer option je IECEx, oc (CLL Div 2)			
 Ex (Zone 2, Category 3), HazLoc (CI I, DIV.2) timer 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 (24240)V AC/DC 		 Multi-voltage Multi-function Timing can be regulated using ext. Potentiometer 2 timed contacts or 1 timed + 1 instantaneous contact Al: On-delay DI: Interval 	 IECEx - Ex - HazLoc Multi-voltage and Multi-function Timing can be regulated using ext. Potentiometer 2 timed contacts or 1 timed + 1 instantaneous contact Al: On-delay DI: Interval 	
 SS mini (EV 60/15) mount "Blade + cross" - both flat blade screw drivers can be used to a and function selectors, the tim to disengage the rail mounting Multi-voltage versions with "PV technology 	e and cross head djust the range ing trimmer, and g clip WM clever"	 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) 	 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) 	
83.02 Box clamp		$L^{I+} N^{I+} A_2 = 25(21) 28(24) 26(22) = (3)$ $Z_1 = Z_2 = 15 = 16 = 18 $ (without control signal) $L^{I+} N^{I+} = \frac{1}{15}$ $A_1 = A_2 = B_1 + 25(21) 28(24) 26(22) = (3)$ $C_1 = C_1 + C_2 + C_$	$L_{1}^{(+)} N_{1}^{(+)}$ A1 A2 25(21) 28(24) 26(22) ((-) 21 Z2 15 16 18 Wiring diagram (without control signal) $L_{1}^{(+)} N_{1}^{(+)}$ A1 A2 B1 25(21) 28(24) 26(22) ((-) A1 A2 B1) 25(21) 28(24) 26(22) ((-) A1 A2 B1) 25(21) 28(24) 26(22) ((-) A1 A2 B1) 25(21) 28(24) 26(22) ((-) ((-)) (
For outline drawing see page 9		(with control signal)	(with control signal)	
Contact specification				
Contact configuration		2 CO (DPDT)	2 CO (DPD1)	
Rated current/Maximum peak co Rated voltage/	urrent A	250/400	277/400	
Maximum switching voltage	V AC	3000	277/400	
Rated load ACT	VA	750	2770	
Single phase motor rating (220)		05	05	
Broaking capacity DC1: 24/110/	220.V A	12/03/012	5/0 3/0 12	
Minimum switching load	mW(V/mA)	300 (5/5)	300 (5/5)	
Standard contact material		AaNi	AgNi	
Supply specification				
Nominal voltage (U _N)	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)m	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 · 10 ³	60 · 10 ³	
Ambient temperature range	°C	-20+60	-20+55	
Protection category		IP 20	IP 20	
Approvals (according to type)				



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Ordering information

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



Technical data

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Insulation							
Dielectric strength between input and obtineed between open contained between open containe		n input and output circuit	V AC	AC 4000			
		n 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 electromagnet	ic 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 termina	al (B1)	EN 61000-4-4	7 kV		6 kV
Surges (1.2/50 µs) on Supply ter	minals	common mode		EN 61000-4-5	6 kV		6 kV
		differential mode		EN 61000-4-5	6 kV		4 kV
on control signal termina	al (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	2	(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	on			EN 55022	class A		class A
Other data							
Current absorption on control si	gnal (B1)			< 1 mA			
	- max cable len	gth (capacity of \leq 10 nF/10	0 m)	150 m			
	- when applyin	g a control signal to B1, wl	hich	B1 is isolated from A1 and A2 by an opto-coupler, and can therefore be			
	is different fro	om the supply voltage at A	1/A2	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 +			
External potentiometer for 83.07	0/50			Is applied to b, and that L is applied to b rand it to A2.			
External potention etch for 05.02	2/ 52			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 volta	ge.		
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	



45 .1

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

ATEX (UL 23 ATEX 3005 X):	II 3 G	Æx>
IECEx (IECEx ULD 23.0013 X):	Ex ec nC IIC T4 Gc	
Haz.Loc. (E497395):	Cl I, Div2, Gr A, B, C, D, T4 Cl I, Zn 2, AEx ec nC IIC T4 Ex ec nC IIC T4 Gc X	LISTED IND. CONT. EQ FOR HAZLOC.
Specific marking of explosion pro	otection	
II Component for surface plant	(different from mines)	
3 Category 3: normal level of p	rotection	
G - CI I Explosive atmosphere d or mist	lue to presence of combustible	gas vapour
Div 2 - Zn 2 Hazardous explosiv	e concentration presence just in	n 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		
Ambient temperature range		
UL 23 ATEX 3005 X - IECEx ULD	23.0013 X - E497395	
UL - ULD: ID of the notified body	which issues the type certificat	e
23: year of issue of the certificate		
3005 - 0013: number of the type	certificate	
E497395: UL file number		
X: special instruction for use		
Zyy: production batch identific	ation	
Z: year, yy: week		



Outline drawings





Type 83.11 Box clamp





Type 83.41 Box clamp

86.2





Type 83.82 Box clamp







Type 83.21 Box clamp

59.5

78.8

78.8





Type 83.62 Box clamp

86.2



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86.2



Type 83.91 Box clamp

h



59.5 78.8





Accessories



Sheet of marker tags (CEMBRE Thermal transfer printers) for relays types83.01/11/21/41/62/82, plastic, 48 tags, 6 x 12 mm060.48

060.48





087.02.2



Functions

LED*	Supply	NO output	Contacts		
	voltage	contact	Open	Closed	
055	Onon	15 - 18	15 - 16		
	OFF Open	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	

* 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



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.

Type 83.02

Contact mode selector	Functions without control signal (example: AI)	Functions with control signal (example: BE)
2 timed contacts		
-	25-28 T	25 - 28 T
	15-18 T	15 - 18 T
	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	U _	
	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		
	21 - 24 15 - 18 T	21 - 24
	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

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— = Output contact

Functions





cch **P** = Pause switch

(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.

(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.

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83.52 type

Contact mode selector	Functions with control signal and pause signal (example: BEp)	Function SHp
2 timed contacts	U S P(X1-X2)	U S P(X1-X2) 15-18 T U T U T U T U T T
	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		
	P(X1-X2)	P(X1-X2)
	<i>_</i>	
	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		
		21-24
	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



Times scales



