

DIN rail mounted relays



RE17

RE7, RE8, RE9

REXL

Panel mounted relays



RE48A

Presentation

A timing relay is a component which is designed to time events in industrial automation systems by closing or opening contacts before, during or after a set timing period.

There are two main 'families' of timing relays:

- "DIN rail mounted" relays (RE7, RE8, RE9, RE17, REXL...) designed for mounting on DIN rails in an enclosure,

- "Panel mounted" relays type RE48A designed for mounting on the front of a panel to give users easy access to the settings.

These relays have one, two or four outputs. Sometimes the second output can be either timed or instantaneous.

If the power is switched off during the timing period, the relay reverts to its initial position.

Application examples:

- opening of automatic doors,
- alarm,
- lighting in toilets,
- car park barriers ...

Definitions

The following definitions will assist in understanding the operation of these relays:

■ Relay output:

This is the most common type of output. When the relay is energized, the moving armature is attracted by the coil and so actuates the contacts, which change state. When the relay is de-energized, both the armature and the contacts revert to their initial position.

This type of output allows complete isolation between the supply and the output.

There are three types of output:

C/O: changeover contact, i.e. when the relay is de-energized, the circuit between the common point C and N/C is closed and when the relay is operating (coil energized), it closes the circuit between the common point C and N/O.	
N/C: a contact that is closed without being actuated is called a Normally Closed (N/C) contact.	
N/O: a contact that closes when actuated is called a Normally Open (N/O) contact.	

■ Solid state output:

These outputs are entirely electronic and involve no moving parts; service life is therefore increased.

■ Breaking capacity:

The current value that a contact is capable of breaking in specified conditions.

■ Mechanical durability:

The number of mechanical operating cycles of the contact or contacts.

■ Minimum switching capacity (or minimum breaking capacity):

corresponds to the minimum required current which can flow through the contacts of a relay.

■ G (Gate) Input:

Gate input allows timing in progress to be interrupted without resetting it.

Definitions (continued)

Functions

Timing functions are identified by letters.

Main timing functions	Complementary functions (1)	Definitions
A (2)		Power on delay relay
	Ac	On-delay and off-delay relay with control signal
	Ad	Pulse delayed relay with control signal
	Ah	Pulse delayed relay (single cycle) with control signal
	Ak	Asymmetrical On-delay and Off-delay with external control
	At	Power on delay relay (summation) with control signal
	Aw	Off-delay on energization or on opening of control contact
B (2)		Interval relay with control signal
	Bw	Double interval relay with control signal
C (2)		Off-delay relay with control signal
D (2)		Symmetrical flasher relay (starting pulse off)
	Di (2)	Symmetrical flasher relay (starting pulse on)
H (2)		Interval relay
	He	Pulse-on de-energization
	Ht	Interval relay (summation) with control signal
K		Delay on de-energization (without auxiliary supply)
L (2)		Asymmetrical flasher relay (starting pulse off)
	Li (2)	Asymmetrical flasher relay (starting pulse on)
	Lt	Asymmetrical flashing with partial stop of timing
N		Retriggerable interval relay with control signal on
O		Retriggerable interval delayed relay with control signal on
P		Pulse delayed relay with fixed pulse length
	Pt	Pulse delayed relay (summation and fixed pulse length) with control signal off
	Qc	Star-delta timing
	Qe	Star-delta timing
	Qg	Star-delta timing
	Qt	Star-delta timing
T		Bistable relay with control signal on
	Tt	Retriggerable bistable relay with control signal on
W		Interval relay with control signal off

(1) Complementary functions enhance the main timing functions.

Example: **Ac**: timing after closing and opening of control contact.

(2) The most commonly used timing functions.

Selection table

Selection criteria

- **Functions** (On-delay or Off-delay, counter, flashing...)
 - **Supply voltage** (example: $\sim/\equiv 12\text{ V} \dots 240\text{ V}$).
 - **Timing range** for a timing relay (example: 0.05 s...100 h)
 - **Type of output** (contact or solid state) and required **Number of contacts**.
 - **Breaking capacity** or **Rated current** of contacts, expressed in Amperes.
- This is the maximum current which may flow through the contacts.

Functions	Timing range	Supply voltage	Type of output	Rated current	Relay				
A	0.1 s...100 h	$\equiv 12\text{ V}$	2 C/O contacts	5 A	REXL2TMJD				
			4 C/O contacts	3 A	REXL4TMJD				
	0.1 s...100 h	$\equiv 24\text{ V}$	2 C/O contacts	5 A	REXL2TMBD				
			4 C/O contacts	3 A	REXL4TMBD				
	0.1 s...100 h	$\sim 24\text{ V}$	2 C/O contacts	5 A	REXL2TMB7				
			4 C/O contacts	3 A	REXL4TMB7				
	0.1 s...100 h	$\sim 120\text{ V}$	2 C/O contacts	5 A	REXL2TMF7				
			4 C/O contacts	3 A	REXL4TMF7				
	0.1 s...100 h	$\sim 230\text{ V}$	2 C/O contacts	5 A	REXL2TMP7				
			4 C/O contacts	3 A	REXL4TMP7				
	0.1 s...10 s	$\sim/\equiv 24 \dots 240\text{ V}$	1 solid state output	0.7 A	RE9TA11MW				
	0.3 s...30 s			0.7 A	RE9TA31MW				
	3 s...300 s			0.7 A	RE9TA21MW				
	40 s...60 min			0.7 A	RE9TA51MW				
	1 s...100 h			0.7 A	RE17LAMW				
	0.02 s...300 h			5 A	2 timed C/O contacts	RE48ATM12MW			
	0.05 s...300 h	$\sim/\equiv 24\text{ V}, \sim 110 \dots 240\text{ V}$	1 C/O contact	8 A	RE7TL11BU				
	0.1 s...3 s			8 A	RE8TA61BUTQ				
	0.1 s...10 s			8 A	RE8TA11BUTQ				
	0.3 s...30 s			8 A	RE8TA31BUTQ				
	3 s...300 s			8 A	RE8TA21BUTQ				
	20...30 min			8 A	RE8TA41BUTQ				
	0.05 s...300 h			$\sim/\equiv 24\text{ V}, \sim 110 \dots 240\text{ V}, \sim/\equiv 42 \dots 48\text{ V}$	2 C/O contacts	8 A	RE7TP13BU		
A, Ac, At, B, Bw, C, D, Di, H, Ht	1 s...100 h					$\sim 24 \dots 240\text{ V}$	1 solid state output	0.7 A	RE17LMBM
	1 s...100 h					$\sim/\equiv 12\text{ V}$	1 C/O contact	8 A	RE17RMJU
	1 s...100 h					$\sim/\equiv 12 \dots 240\text{ V}$	1 C/O contact	8 A	RE17RMMW
			8 A	RE17RMMWS					
	1 s...100 h	$\equiv 24\text{ V}, \sim 24 \dots 240\text{ V}$	1 C/O contact	8 A	RE17RMMU				
A, At	1 s...100 h	$\equiv 24\text{ V}, \sim 24 \dots 240\text{ V}$	1 C/O contact	8 A	RE17RAMU				
A, At, Aw	0.05 s...300 h	$\sim 110 \dots 240\text{ V}, \sim/\equiv 24\text{ V}, \sim/\equiv 42 \dots 48\text{ V}$	1 C/O contact	8 A	RE7TM11BU				
A, At, B, C, D, Di, H, Ht	1 s...10 h	$\equiv 24\text{ V}, \sim 24 \dots 240\text{ V}$	1 C/O contact	8 A	RE17RMEMU				
A, B, C, Di	0.02 s...300 h	$\sim/\equiv 24 \dots 240\text{ V}$	2 C/O contacts	5 A	RE48AML12MW				
A, C, D, Di, H, Qg, Qt, W	0.05 s...300 h	$\sim 110 \dots 240\text{ V}, \sim/\equiv 24\text{ V}, \sim/\equiv 42 \dots 48\text{ V}$	2 C/O contacts	8 A	RE7MY13BU				
			2 C/O contacts	8 A	RE7MY13MW				
A, C, D, Di, H, W	0.05 s...300 h	$\sim 110 \dots 240\text{ V}, \sim/\equiv 24\text{ V}, \sim/\equiv 42 \dots 48\text{ V}$	1 C/O contact	8 A	RE7ML11BU				
A, D, Di, H	0.1 s...10 s and 3 s...300 s	$\sim/\equiv 24 \dots 240\text{ V}$ $\sim 24 \dots 240\text{ V}$	1 solid state output	0.7 A	RE9MS21MW				
A1, A2, H1, H2	0.02 s...300 h	$\sim/\equiv 24 \dots 240\text{ V}$	2 C/O contacts	5 A	RE48AMH13MW				
Ac	0.05 s...300 h	$\sim 110 \dots 240\text{ V}, \sim/\equiv 24\text{ V}, \sim/\equiv 42 \dots 48\text{ V}$	1 C/O contact	8 A	RE7MA11BU				
			2 C/O contacts	8 A	RE7MA13BU				
Ad, Ah, N, O, P, Pt, T, Tt, W	1 s...100 h	$\equiv 24\text{ V}, \sim 24 \dots 240\text{ V}$	1 C/O contact	8 A	RE17RMXMU				
Ak	0.05 s...300 h	$\sim 110 \dots 240\text{ V}, \sim/\equiv 24\text{ V}, \sim/\equiv 42 \dots 48\text{ V}$	1 C/O contact	8 A	RE7MV11BU				

Selection table (continued)						
Functions	Timing range	Supply voltage	Type of output	Rated current	Relay	
B	1 s...100 h	≐ 24 V, ~ 24...240 V	1 C/O contact	8 A	RE17RBMU	
C	0.1 s...10 s	~≐ 24 V	1 C/O contact	8 A	RE8RA11BTQ	
	0.3 s...30 s			8 A	RE8RA31BTQ	
	3 s...300 s			8 A	RE8RA21BTQ	
	1 s...100 h	≐ 24 V, ~ 24...240 V	1 C/O contact	8 A	RE17RCMU	
	0.1 s...10 s	~ 110...240 V	1 C/O contact	8 A	RE8RA11FUTQ	
	0.3 s...30 s			8 A	RE8RA31FUTQ	
	3 s...300 s			8 A	RE8RA21FUTQ	
	20 s...30 min			8 A	RE8RA41FUTQ	
	0.05 s...300 h		~≐ 24 V, ~ 110...240 V, ~≐ 42...48 V	1 C/O contact	8 A	RE7RA11BU
					8 A	RE7RM11BU
				2 C/O contacts	8 A	RE7RL13BU
	0.1 s...10 s	~ 24...240 V	1 solid state output	0.7 A	RE9RA11MW7	
	0.3 s...30 s			0.7 A	RE9RA31MW7	
	3 s...300 s			0.7 A	RE9RA21MW7	
	40 s...60 min			0.7 A	RE9RA51MW7	
1 s...100 h			0.7 A	RE17LCBM		
D	0.05 s...300 h	~≐ 24 V, ~ 110...240 V	1 C/O contact	8 A	RE7CL11BU	
	0.1 s...10 s			8 A	RE8CL11BUTQ	
	0.05 s...300 h	~≐ 24 V, ~ 110...240 V, ~≐ 42...48 V	2 C/O contacts	8 A	RE7CP13BU	
H	0.05 s...300 h	~≐ 24 V, ~ 110...240 V	1 C/O contact	8 A	RE7PE11BU	
	0.1 s...10 s			8 A	RE8PE11BUTQ	
	0.3 s...30 s			8 A	RE8PE31BUTQ	
	3 s...300 s			8 A	RE8PE21BUTQ	
	0.05 s...300 h	~≐ 24 V, ~ 110...240 V, ~≐ 42...48 V	2 C/O contacts	8 A	RE7PP13BU	
1 s...100 h	~ 24...240 V	1 solid state output	0.7 A	RE17LHBM		
H, Ht	1 s...100 h	≐ 24 V, ~ 24...240 V	1 C/O contact	8 A	RE17RHMU	
He	0.05 s...0.5 s	~≐ 24 V, ~ 110...240 V	1 C/O contact	8 A	RE8PT01BUTQ	
K	0.05 s...10 min	~≐ 24...240 V	1 C/O contact	5 A	RE7RB11MW	
	0.05 s...0.5 s	~≐ 24 V, ~ 110...240 V	1 C/O contact	8 A	RE8RB51BUTQ	
	0.1 s...10 s			8 A	RE8RB11BUTQ	
	0.3 s...30 s			8 A	RE8RB31BUTQ	
	0.05 s...10 min	~≐ 24...240 V	2 C/O contacts	5 A	RE7RB13MW	
L, Li	1 s...100 h	≐ 24 V, ~ 24...240 V	1 C/O contact	8 A	RE17RLMU	
	1 s...100 h	~ 24...240 V	1 solid state output	0.7 A	RE17LLBM	
	1 s...100 h	~≐ 12 V	1 C/O contact	8 A	RE17RLJU	
	0.02 s...300 h	~≐ 24...240 V	2 timed C/O contacts	5 A	RE48ACV12MW	
L, Li, Lt	0.05 s...300 h	~ 110...240 V, ~≐ 24 V, ~≐ 42...48 V	1 C/O contact	8 A	RE7CV11BU	
Qc	0.1 s...10 s	~≐ 24 V, ~ 110...240 V	1 C/O contact	8 A	RE8YG11BUTQ	
	0.3 s...30 s			8 A	RE8YG31BUTQ	
	3 s...300 s			8 A	RE8YG21BUTQ	
Qe	0.3 s...30 s	~≐ 24 V	1 NO + 1 NC	8 A	RE8YA32BTQ	
	0.3 s...30 s	~ 110...240 V	1 NO + 1 NC	8 A	RE8YA32FUTQ	
	0.3 s...30 s	~ 380...415 V	1 NO + 1 NC	8 A	RE8YA32QTQ	
Qg	0.05 s...300 h	~≐ 24 V, ~ 110...240 V, ~≐ 42...48 V	1 NO + 1 NC	8 A	RE7YR12BU	
Qt	0.05 s...300 h	~≐ 24 V, ~ 110...240 V, ~≐ 42...48 V	2 C/O contacts	8 A	RE7YA12BUè+	
W	0.1 s...10 s	~≐ 24 V	1 C/O contact	8 A	RE8PD11BTQ	
	0.3 s...30 s			8 A	RE8PD31BTQ	
	3 s...300 s			8 A	RE8PD21BTQ	
	0.1 s...10 s	~ 110...240 V	1 C/O contact	8 A	RE8PD11FUTQ	
	0.3 s...30 s			8 A	RE8PD31FUTQ	
	3 s...300 s			8 A	RE8PD21FUTQ	
	0.05 s...300 h	~≐ 24 V, ~ 110...240 V, ~≐ 42...48 V	2 C/O contacts	8 A	RE7PD13BU	
W, Ht	0.05 s...300 h	~≐ 24 V, ~ 110...240 V, ~≐ 42...48 V	1 C/O contact	8 A	RE7PM11BU	

Functions

U: Supply
R: Relay or solid state output
R1/R2: 2 timed outputs
R2 inst.: The second output is instantaneous if the right position is selected
T: Timing period
C: Control contact
G: Gate
Ta: Adjustable On-delay
Tr: Adjustable Off-delay

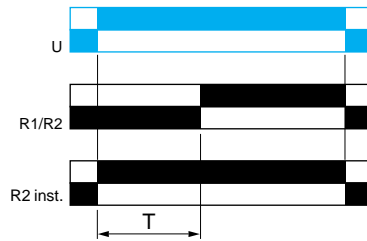
Function diagram :

Function A: Power on delay relay

1 output



2 outputs

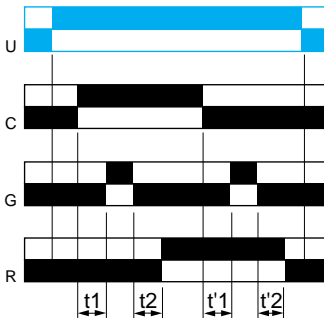


The timing period T begins on energization. After timing, the output(s) R close(s). The second output can be either timed or instantaneous.

2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.).

Function Ac: On-delay and off-delay relay with control signal

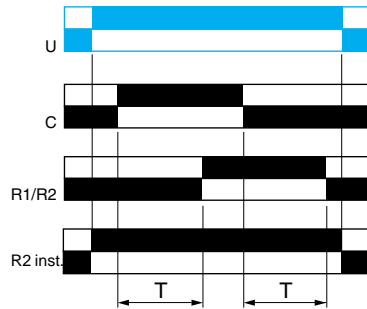
1 output



$$T = t1 + t2 + \dots$$

$$T = t'1 + t'2 + \dots$$

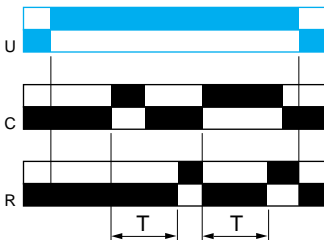
2 outputs



After power-up, closing of the control contact C causes the timing period T to start (timing can be interrupted by operating the Gate control contact G). At the end of this timing period, the relay closes. When control contact C re-opens, the timing T starts. At the end of this timing period T, the output reverts to its initial position (timing can be interrupted by operating the Gate control contact G). The second output can be either timed or instantaneous.

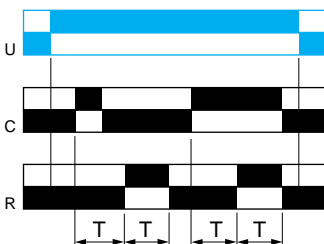
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.).

Function Ad: Pulse delayed relay with control signal



After power-up, pulsing or maintaining control contact C starts the timing T. At the end of this timing period T, the output R closes. The output R will be reset the next time control contact C is pulsed or maintained.

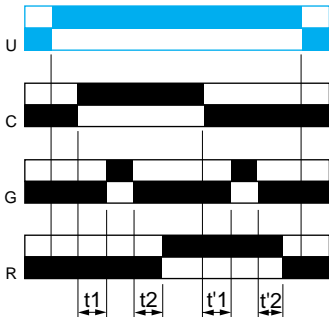
Function Ah: Pulse delayed relay (single cycle) with control signal



After power-up, pulsing or maintaining control contact C starts the timing T. A single cycle then starts with 2 timing periods T of equal duration (start with output in rest position). Output R changes state at the end of the first timing period T and reverts to its initial position at the end of the second timing period T. Control contact C must be reset in order to re-start the single flashing cycle.

Functions (continued)

Function Ak: Asymmetrical On-delay and Off-delay with external control

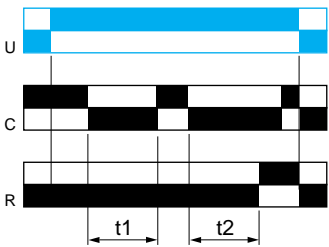


After power-up and closing of the control contact C, timing starts for a period T_a (timing can be interrupted by operating the Gate control contact G).
 At the end of this timing period T_a , the output R closes.
 Opening of control contact C causes a second timing period T_r to start (timing can be interrupted by operating the Gate control contact G).
 At the end of this timing period T_r , the output R reverts to its initial state.

$$T_a = t_1 + t_2 + \dots$$

$$T_r = t'_1 + t'_2 + \dots$$

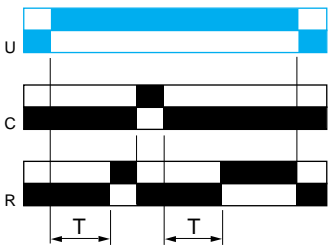
Function At: Power on delay relay (summation) with control signal



After power-up, the first opening of control contact C starts the timing. Timing can be interrupted each time control contact C closes. When the cumulative total of time periods elapsed reaches the pre-set value T, the output relay closes.

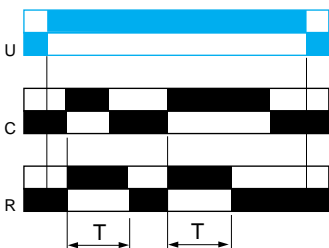
$$T = t_1 + t_2 + \dots$$

Function Aw: Off-delay on energization or on opening of control contact



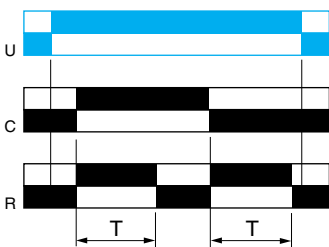
The timing period T starts on energization.
 At the end of the timing period T, the output R closes.
 Closing of the control contact C makes the output R open.
 Opening of control contact C restarts timing period T.
 At the end of the timing period T, the output R closes.

Function B: Interval relay with control signal



After power-up, pulsing or maintaining control contact C starts the timing T.
 The output R closes for the duration of the timing period T then reverts to its initial state.

Function Bw: Double interval relay with control signal

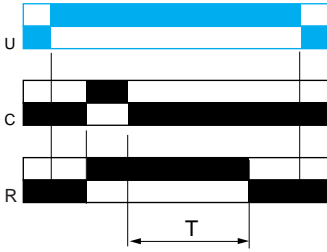


On closing and opening of control contact C, the output R closes for the duration of the timing period T.

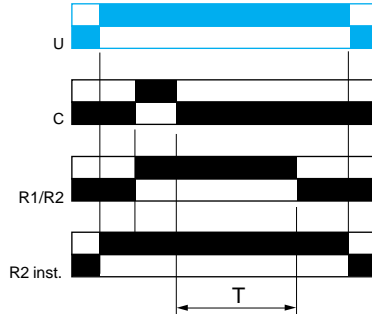
Functions (continued)

Function C: Off-delay relay with control signal

1 output



2 outputs

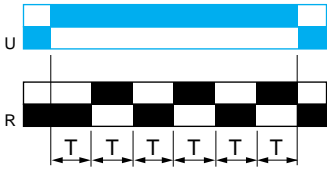


After power-up and closing of the control contact C, the output R closes. When control contact C re-opens, timing T starts. At the end of the timing period, output(s) R revert(s) to its/their initial state. The second output can be either timed or instantaneous.

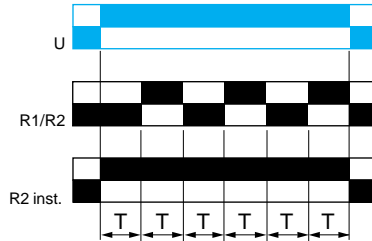
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.).

Function D: Symmetrical flasher relay (starting pulse off)

1 output



2 outputs

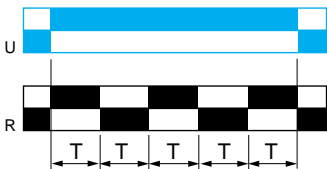


Repetitive cycle with two timing periods T of equal duration, with output(s) R changing state at the end of each timing period T. The second output can be either timed or instantaneous.

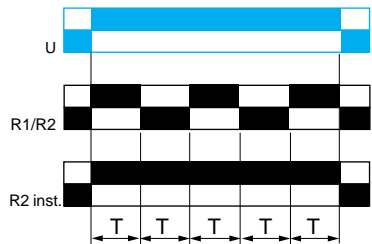
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.).

Function Di: Symmetrical flasher relay (starting pulse on)

1 output



2 outputs

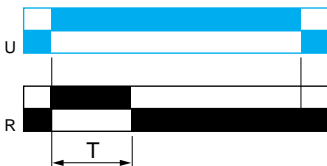


Repetitive cycle with two timing periods T of equal duration, with output(s) R changing state at the end of each timing period T. The second output can be either timed or instantaneous.

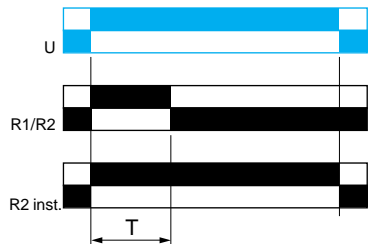
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.).

Function H: Interval relay

1 output



2 outputs

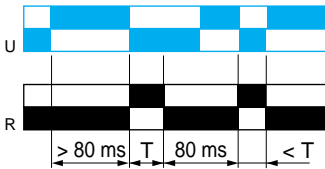


On energization of the relay, timing period T starts and the output(s) R close(s). At the end of the timing period T, output(s) R revert(s) to its/their initial state. The second output can be either timed or instantaneous.

2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.).

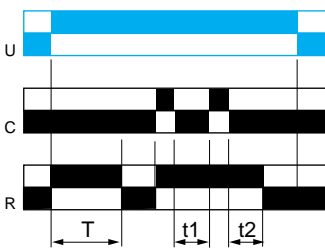
Functions (continued)

Function He: Pulse-on de-energization



On de-energization, the output R closes for the duration of a timing period T.

Function Ht: Interval relay (summation) with control signal



On energization, the output R closes for the duration of a timing period T then reverts to its initial state.

Pulsing or maintaining control contact C will again close the output R.

Timing T is only active when control contact C is released and so the output R will not revert to its initial state until after a time $t_1 + t_2 + \dots$.

The relay memorises the total, cumulative opening time of control contact C and, once the set time T is reached, output R reverts to its initial state.

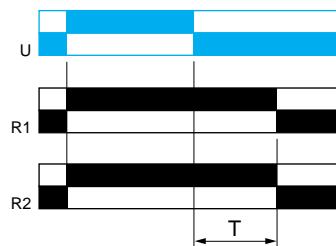
$$T = t_1 + t_2 + \dots$$

Function K: Delay on de-energization (without auxiliary supply)

1 output

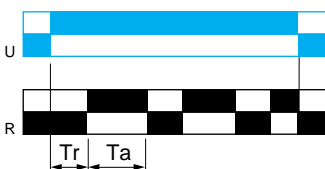


2 outputs



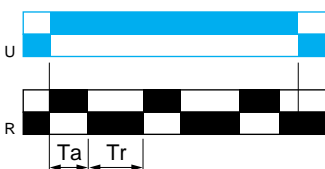
On energization, the output(s) R close(s).
On de-energization, timing period T starts and, at the end of this period, the output(s) R revert to its/their initial state.

Function L: Asymmetrical flasher relay (starting pulse off)



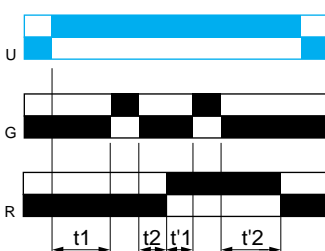
Repetitive cycle consisting of two, independently adjustable timing periods T_a and T_r . Each timing period corresponds to a different state of the output R.

Function Li: Asymmetrical flasher relay (starting pulse on)



Repetitive cycle consisting of two, independently adjustable timing periods T_a and T_r . Each timing period corresponds to a different state of the output R.

Function Lt: Asymmetrical flashing with partial stop of timing



Repetitive cycle comprises of two, independently adjustable timing periods T_a and T_r . Each timing period corresponds to a different state of the output R.

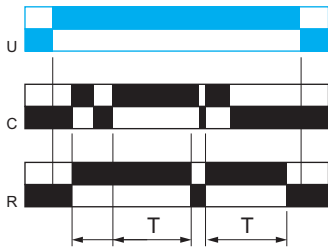
Gate control contact G can be operated to partially stop timing periods T_a and T_r .

$$T_r = t_1 + t_2 + \dots$$

$$T_a = t'_1 + t'_2 + \dots$$

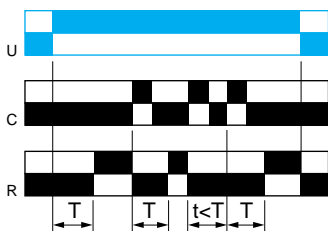
Functions (continued)

Function N: Retriggerable interval relay with control signal on



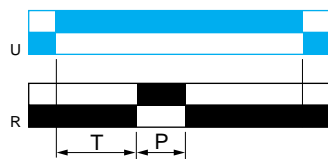
After power-up and an initial control pulse C, the output R closes.
 If the interval between two control pulses C is greater than the set timing period T, timing elapses normally and the output R opens at the end of the timing period. If the interval is not greater than the set timing period, the output R remains closed until this condition is met.

Function O: Retriggerable interval delayed relay with control signal on



An initial timing period T begins on energization. At the end of this timing period, the output R closes.
 As soon as there is a control pulse C, the output R reverts to its initial state and remains in that state until the interval between two control pulses is less than the value of the set timing period T. Otherwise, the output R closes at the end of the timing period T.

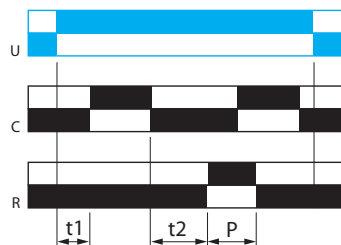
Function P: Pulse delayed relay with fixed pulse length



The timing period T starts on energization.
 At the end of this period, the output R closes for a fixed time P.

P = 500 ms

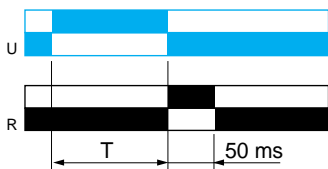
Function Pt: Pulse delayed relay (summation and fixed pulse length) with control signal off



On energization, timing period T starts (it can be interrupted by operating control contact C).
 At the end of this period, the output R closes for a fixed time P.

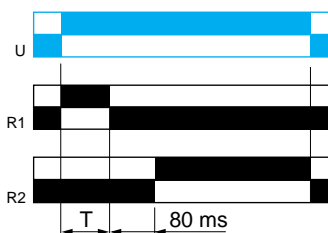
$T = t1 + t2 + \dots$
 P = 500 ms

Function Qc: Star-delta timing



Timing for star delta starter with contact for switching to star connection.

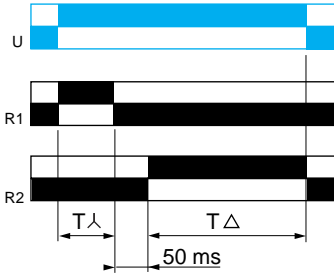
Function Qe: Star-delta timing



On energization, the star contact closes instantly and timing starts.
 At the end of the timing period, the star contact opens.
 After a 80 ms pause, the delta contact closes and remains in this position.

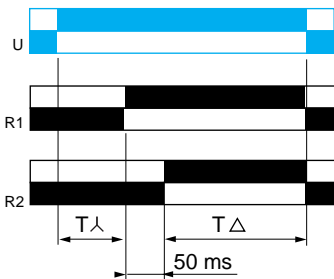
Functions (continued)

Function Qg: Star-delta timing



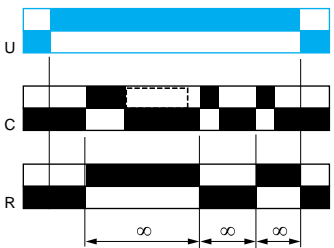
Timing for star delta starter with contact for switching to star connection.

Function Qt: Star-delta timing



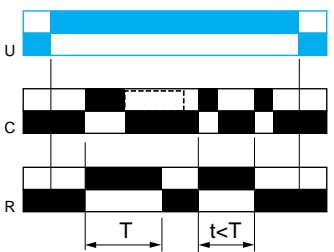
Timing for star-delta starter with double On-delay period.

Function T: Bistable relay with control signal on



After power-up, pulsing or maintaining of control contact C switches the output on. A second pulse on the control contact C switches the output R off.

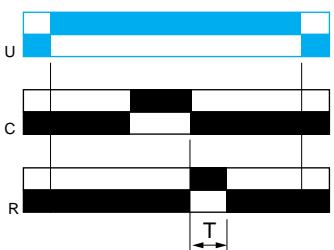
Function Tt: Retriggerable bistable relay with control signal on



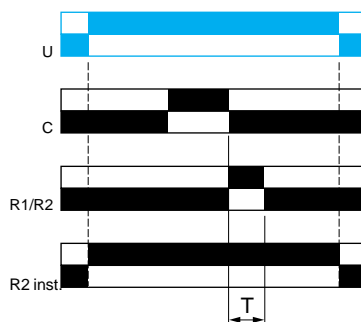
After power-up, pulsing or maintaining control contact C switches output R on and starts timing. The output switches off at the end of the timing period T or following a second pulse on the control contact C.

Function W: Interval relay with control signal off

1 output



2 outputs

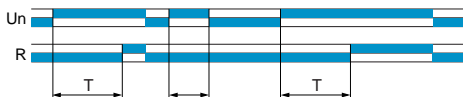


After power-up and opening of the control contact, the output(s) close(s) for a timing period T. At the end of this timing period the output(s) revert to its/their initial state. The second output can be either timed or instantaneous.

2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.).

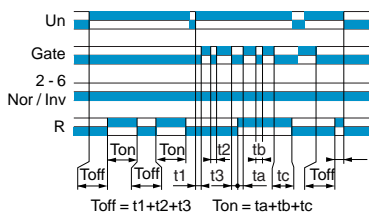
RE48ATM12MW

Function A: Delay on energization

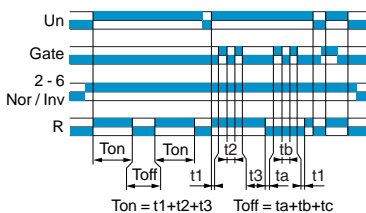


RE48ACV12MW

Function L: Asymmetrical flashing, start with output in rest position

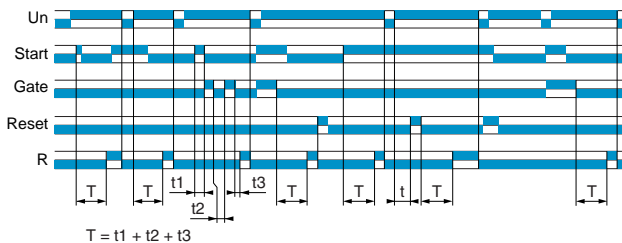


Function Li: Asymmetrical flashing, start with output in operating position

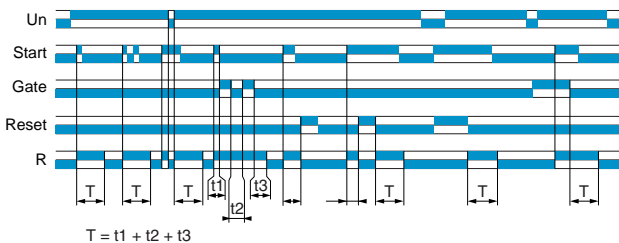


RE48AML12MW

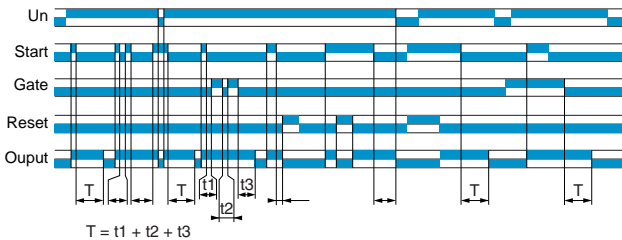
Function A: Delay on energization



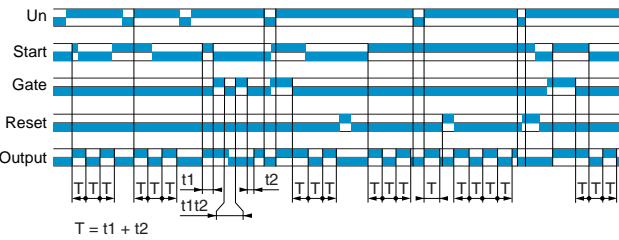
Function B: Timing on impulse, one shot



Function C: Timing after opening of control contact

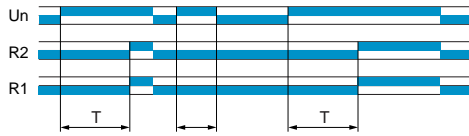


Function Di: Symmetrical flashing, start with output in operating position

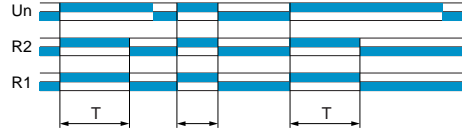


RE48AMH13MW

Functions A1, A2: Delay on energization



Functions H1, H2: Pulse-on energization



Note: If A1 or H1 is selected, only R2 is timed, R1 is instantaneous

Zelio Time - timing relays

Modular relays with solid state or relay output, width 17.5 mm/0.69 in.

Solid state output

- Multifunction, dual function or single function
- Multi-range (7 selectable ranges)
- Multivoltage
- Solid state output: 0.7 A
- Screw terminals



RE17LAMW



RE17LLBM

Relay output, 1 C/O contact

- Dual function or single function
- Multi-range (7 selectable ranges)
- Multivoltage
- 1 relay output: 8 A
- Screw terminals
- State indication by 1 LED
- Option of supplying a load in parallel
- 3-wire sensor control option



RE17R0M0

Modular relays with solid state output 0.7 A

Single function

Timing ranges	Functions	Voltages V	Reference	Weight kg/lb
1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	A	≈ 24...240	RE17LAMW	0.060/ 0.132
	H	~ 24...240	RE17LHBM	0.060/ 0.132
	C	~ 24...240	RE17LCBM	0.060/ 0.132

Dual function

1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	L, Li	~ 24...240	RE17LLBM	0.060/ 0.132
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Multifunction

1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	A, At, B, C, H, Ht, D, Di, Ac, Bw	~ 24...240	RE17LMBM	0.060/ 0.132
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Modular relays with relay output, 1 C/O contact

Single function

Timing ranges	Functions	Voltages V	Reference	Weight kg/lb
1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	B	≡ 24 / ~ 24...240	RE17RBMU	0.070/ 0.154
	C	≡ 24 / ~ 24...240	RE17RCMU	0.070/ 0.154

Dual function

1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	A, At	≡ 24 / ~ 24...240	RE17RAMU	0.070/ 0.154
	H, Ht	≡ 24 / ~ 24...240	RE17RHMU	0.070/ 0.154
	L, Li	≡ 24 / ~ 24...240	RE17RLMU	0.070/ 0.154
		~ 12	RE17RLJU	0.070/ 0.154

Multifunction

1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	A, At, B, C, H, Ht, D, Di, Ac, Bw	≈ 12	RE17RMJU	0.070/ 0.154
		≡ 24 / ~ 24...240	RE17RMMU	0.070/ 0.154
		≈ 12...240	RE17RMMW	0.070/ 0.154
			RE17RMMWS	0.070/ 0.154
	Ad, Ah, N, O, P, Pt, T, Tt, W	≡ 24 / ~ 24...240	RE17RMXMU	0.070/ 0.154
1 s, 10 s, 1 min, 10 min, 1 h, 10 h	A, At, B, C, H, Ht, D, Di	≡ 24 / ~ 24...240	RE17RMEMU	0.070/ 0.154

Zelio Time - timing relays

Industrial single or multifunction relays,
solid state output, width 22.5 mm/0.89 in.

Solid state output

- Multifunction or single function
- Multivoltage
- Screw terminals
- Transparent, hinged and sealable flap on front panel



RE9A1MW



RE9MS21MW

References				
Single function				
Timing ranges	Functions	Voltages	Reference	Weight
		V		kg/lb
0.1 s...10 s	A	~ 24... 240 V	RE9TA11MW	0.110/ 0.243
	C	~ 24... 240 V	RE9RA11MW7	0.110/ 0.243
0.3 s...30 s	A	~ 24... 240 V	RE9TA31MW	0.110/ 0.243
	C	~ 24... 240 V	RE9RA31MW7	0.110/ 0.243
3 s...300 s	A	~ 24... 240 V	RE9TA21MW	0.110/ 0.243
	C	~ 24... 240 V	RE9RA21MW7	0.110/ 0.243
40 s...60 min	A	~ 24... 240 V	RE9TA51MW	0.110/ 0.243
	C	~ 24... 240 V	RE9RA51MW7	0.110/ 0.243
Multifunction				
0.1 s...10 s, 0.3 s...30 s	A	~ 24... 240 V	RE9MS21MW	0.110/ 0.243
	H, D, Di	~ 24... 240 V		

Zelio time - timing relays

Industrial single, dual or multifunction relays,
relay output, width 22.5 mm/0.89 in.

Output 1 C/O and 2 C/O contacts

- Multifunction, dual function or single function
- Multiple timing ranges (7 switchable ranges)
- Multivoltage
- 1 and 2 relay outputs: 8 A - 250 V (10 A UL)
- Screw or spring terminals
- State indication by 1 LED
- Option of supplying a load in parallel
- 3-wire sensor control option

PF516208



RE88865125

PF516211



RE88865155

References

Single function

Timing ranges	Functions	No. of relay outputs	Voltages	Reference	Weight
			V		kg/lb
1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	B	1	\approx 24...240	RE88865125 (1)	0.090/ 0.198
	C	1	\approx 24...240	RE88865135 (1)	0.090/ 0.198
0.6 s, 2.5 s, 20 s, 160 s	K	2	\approx 24...240	RE88865265 (1)	0.090/ 0.198
Selectable interswitching time	Functions	No. of relay outputs	Voltages	Reference	Weight
					kg/lb
20 ms, 40 ms, 60 ms, 80 ms, 100 ms, 120 ms, 140 ms	Q	1	\approx 24...240	RE88865175 (1)	0.090/ 0.198
			\approx 230 / 380	RE88865176 (1)	0.090/ 0.198

Dual function

Timing ranges	Functions	No. of relay outputs	Voltages	Reference	Weight
					kg/lb
1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	A, At	2	\approx 24...240	RE88865215 (1)	0.090/ 0.198
		1	\approx 24...240	RE88865115 (1)	0.090/ 0.198
	H, Ht	1	\approx 24...240	RE88865145 (1)	0.090/ 0.198
	L, Li	1	\approx 24...240	RE88865155 (1)	0.090/ 0.198

Multifunction

1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	A, At, B, C, H, Ht, Di, D, Ac, Bw	1	\approx 24...240	RE88865105 (1)	0.090/ 0.198
		1	\approx 12	RE88865100 (1)	0.090/ 0.198
		1	\approx 12...240	RE88865103 (1)	0.090/ 0.198
		2 of which 1 convertible to instantaneous	\approx 24...240	RE88865305 (1)	0.090/ 0.198
			\approx 12	RE88865300 (1)	0.090/ 0.198
			\approx 12...240	RE88865303 (1)	0.090/ 0.198
	Ad, Ah, N, O, P, Pt, Ti, Tt, W	1	\approx 24...240	RE88865185 (1)	0.090/ 0.198
		2	\approx 24...240	RE88865385 (1)	0.090/ 0.198

(1) Connection by screw terminals.

(2) Connection by spring terminals.

Zelio time - timing relays

Industrial single, dual or multifunction relays,
relay output, width 22.5 mm/0.89 in.

Output 1 C/O and 2 C/O contacts

- Multifunction, dual function or single function
- Multiple timing ranges
- Multivoltage
- Transparent, hinged and sealable flap on front panel



RE7TM11BU



RE7MA11BU



RE7CV11BU

References (continued)

Timing ranges	Functions	No. of relay outputs	Voltages	Reference	Weight
			V		
0.05 s...300 h (10 ranges)	A, Aw, At	1	~ 24, ~ 110...240, ~ 42...48	RE7TM11BU	0.150/ 0.331
	Ac	1	~ 24, ~ 110...240, ~ 42...48	RE7MA11BU	0.150/ 0.331
		2	~ 24, ~ 110...240, ~ 42...48	RE7MA13BU (symmetrical)	0.150/ 0.331
	Ak	1	~ 24, ~ 110...240, ~ 42...48	RE7MV11BU	0.150/ 0.331
		C	1	~ 24, ~ 110...240, ~ 42...48	RE7RA11BU
	1		~ 24, ~ 110...240, ~ 42...48	RE7RM11BU (low level contact)	0.150/ 0.331
		2	~ 24, ~ 110...240, ~ 42...48	RE7RL13BU (low level contact)	0.150/ 0.331
	Ht, W		1	~ 24, ~ 110...240, ~ 42...48	RE7PM11BU
		L, Li, Lt	1	~ 24, ~ 110...240, ~ 42...48	RE7CV11BU
	A, C, H, W, D, Di		1	~ 24, ~ 110...240, ~ 42...48	RE7ML11BU
		A	1	~ 24, ~ 110...240	RE7TL11BU
	2		~ 24, ~ 110...240, ~ 42...48	RE7TP13BU	0.150/ 0.331
		H	1	~ 24, ~ 110...240	RE7PE11BU
	2		~ 24, ~ 110...240, ~ 42...48	RE7PP13BU	0.150/ 0.331
D		1	~ 24, ~ 110...240	RE7CL11BU	0.150/ 0.331
	2	~ 24, ~ 110...240, ~ 42...48	RE7CP13BU	0.150/ 0.331	
W		2	~ 24, ~ 110...240, ~ 42...48	RE7PD13BU	0.150/ 0.331
	Qt	2	~ 24, ~ 110...240, ~ 42...48	RE7YA12BU	0.150/ 0.331
Qg		2	~ 24, ~ 110...240, ~ 42...48	RE7YR12BU	0.150/ 0.331
	A, C, H, W, D, Di, Qg, Qt	2	~ 24, ~ 110...240, ~ 42...48	RE7MY13BU	0.150/ 0.331
2		~ 24...240	RE7MY13MW	0.150/ 0.331	
	0.05 s...10 min (7 ranges)	K	1	~ 24...240	RE7RB11MW
2			~ 24...240	RE7RB13MW	0.150/ 0.331

Zelio Time - timing relays

Industrial single function relays, optimum, relay output, width 22.5 mm/0.89 in.

- Single function
- Single timing range
- Output 1 C/O contact
- Transparent, hinged and sealable flap on front panel

PF106875E



RE8TA●●●●●●

References				
Timing ranges	Functions	Voltages	Unit reference (1)	Weight
		V		kg/lb
0.05 s...0.5 s	K	⎯ 24, ~ 110...240	RE8RB51BUTQ	0.110/ 0.243
	He	⎯ 24, ~ 110...240	RE8PT01BUTQ	0.110/ 0.243
0.1 s...3 s	A	⎯ 24, ~ 110...240	RE8TA61BUTQ	0.110/ 0.243
0.1 s...10 s	A	⎯ 24, ~ 110...240	RE8TA11BUTQ	0.110/ 0.243
		⎯ 24	RE8RA11BTQ	0.110/ 0.243
	C	~ 110...240	RE8RA11FUTQ	0.110/ 0.243
		⎯ 24, ~ 110...240	RE8CL11BUTQ	0.110/ 0.243
	K	⎯ 24, ~ 110...240	RE8RB11BUTQ	0.110/ 0.243
	H	⎯ 24, ~ 110...240	RE8PE11BUTQ	0.110/ 0.243
	Qc	⎯ 24, ~ 110...240	RE8YG11BUTQ	0.110/ 0.243
	W	⎯ 24	RE8PD11BTQ	0.110/ 0.243
		~ 110...240	RE8PD11FUTQ	0.110/ 0.243
	0.3 s...30 s	A	⎯ 24, ~ 110...240	RE8TA31BUTQ
⎯ 24			RE8RA31BTQ	0.110/ 0.243
C		~ 110...240	RE8RA31FUTQ	0.110/ 0.243
		⎯ 24, ~ 110...240	RE8PE31BUTQ	0.110/ 0.243
K		⎯ 24, ~ 110...240	RE8RB31BUTQ	0.110/ 0.243
Qc		⎯ 24, ~ 110...240	RE8YG31BUTQ	0.110/ 0.243
Qe		⎯ 24	RE8YA32BTQ	0.110/ 0.243
		~ 110...240	RE8YA32FUTQ	0.110/ 0.243
W		~ 380...415	RE8YA32QTQ	0.110/ 0.243
		⎯ 24	RE8PD31BTQ	0.110/ 0.243
	~ 110...240	RE8PD31FUTQ	0.110/ 0.243	
	3 s...300 s	A	⎯ 24, ~ 110...240	RE8TA21BUTQ
⎯ 24			RE8RA21BTQ	0.110/ 0.243
C	~ 110...240	RE8RA21FUTQ	0.110/ 0.243	
	⎯ 24, ~ 110...240	RE8PE21BUTQ	0.110/ 0.243	
Qc	⎯ 24, ~ 110...240	RE8YG21BUTQ	0.110/ 0.243	
	W	⎯ 24	RE8PD21BTQ	0.110/ 0.243
~ 110...240		RE8PD21FUTQ	0.110/ 0.243	
20 s...30 min	A	⎯ 24, ~ 110...240	RE8TA41BUTQ	0.110/ 0.243
		⎯ 24, ~ 110...240	RE8RA41FUTQ	0.110/ 0.243

(1) These products are sold in packs of 10

Zelio Time - timing relays

Universal plug-in relays, 11-pin,
relay output, width 35 mm/1.38 in.

Output 2 C/O contacts

- Multifunction, dual function or single function
- Multiple timing ranges (7 switchable ranges)
- Multivoltage
- 2 relay output: 8 A - 250 V (10 A UL)
- Plug-in
- State indication by 1 LED
- Option of supplying a load in parallel
- 3-wire sensor control option



RE88867415



RE88867305



RE88867300

References

Single function

Timing ranges	Functions	No. of relay outputs	Voltages	Reference	Weight
			V		kg/lb
1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	C	2	≈ 24...240	RE88867435	0.080/ 0.176

Dual function

1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	A, At	2	≈ 24...240	RE88867415	0.080/ 0.176
	Li, L	2	≈ 24...240	RE88867455	0.080/ 0.176

Multifunction

1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	A, At, B, C, H, Ht, Di, D, Ac, Bw	2 of which 1 instantaneous	≈ 24...240	RE88867305	0.080/ 0.176
	≈ 12		RE88867300	0.080/ 0.176	
	≈ 12...240	RE88867303	0.080/ 0.176		

Sockets for 11-pin relays

Contact terminal arrangement	For use with relays	Connection	Unit reference (1)	Weight
				kg/lb
Mixed (2)	RE88867●●●	Connector	RXZE2M114	0.054/ 0.119

(1) These products are sold in packs of 10

(2) The inputs are mixed with the relay's supply, with the outputs being located on the opposite side of the socket.

Zelio Time - timing relays

Universal plug-in relays, 8-pin,
relay output, width 35 mm/1.38 in.

Output 1 C/O or 2 C/O contacts

- Multifunction, dual function or single function
- Multiple timing ranges (7 switchable ranges)
- Multivoltage
- 1 or 2 relay outputs: 8 A - 250 V (10 A UL)
- Plug-in
- State indication by 1 LED
- Option of supplying a load in parallel
- 3-wire sensor control option



RE88867215



RE88867155



RE88867105

References

Single function

Timing ranges	Functions	No. of relay outputs	Voltages	Reference	Weight
			V		kg/lb
1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	A	2	≈ 24...240	RE88867215	0.080/ 0.176
	C	1	≈ 24...240	RE88867135	0.080/ 0.176

Dual function

Timing ranges	Functions	No. of relay outputs	Voltages	Reference	Weight
1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	Li, L	1	≈ 24...240	RE88867155	0.080/ 0.176

Multifunction

Timing ranges	Functions	No. of relay outputs	Voltages	Reference	Weight
1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	A, At, B, C, H, Ht, Di, D, Ac, Bw	1	≈ 24...240	RE88867105	0.080/ 0.176
			≈ 12	RE88867100	0.080/ 0.176
			≈ 12...240	RE88867103	0.080/ 0.176

Sockets for 8-pin relays

Contact terminal arrangement	For use with relays	Unit reference (1)	Weight
Mixed (2)	RE888671●●, RE888672●●	RUZC2M	0.054/ 0.119

(1) These products are sold in packs of 10

(2) The inputs are mixed with the relay's supply, with the outputs being located on the opposite side of the socket.

Output, 2 C/O and 4 C/O contacts

- Miniature and plug-in (21 x 27 mm/0.827 x 1.062 in.)
- Single function: function A = delay on energization
- Rated current ~ 5 A
- 7 timing ranges (0.1 s to 100 h)
- Multivoltage
- Excellent immunity to interference
- Power on and relay energized indication by 2 LEDs



REXL2TM●●



REXL4TM●●

References

Single function

Timing ranges	Functions	No. of relay outputs	Voltages	Reference	Weight
			V	kg/lb	
0.1 s...1 s, 1 s...10 s, 0.1 min...1 min, 1 min...10 min, 0.1 h...1 h, 1 h...10 h, 10 h...100 h (7 switchable ranges)	A	2	⎓ 12	REXL2TMJD	0.050/ 0.110
			⎓ 24	REXL2TMBD	0.050/ 0.110
			~ 24 (50/60 Hz)	REXL2TMB7	0.050/ 0.110
			~ 120 (50/60 Hz)	REXL2TMF7	0.050/ 0.110
			~ 230 (50/60 Hz)	REXL2TMP7	0.050/ 0.110
			⎓ 12	REXL4TMJD	0.050/ 0.110
			⎓ 24 (1)	REXL4TMBD	0.050/ 0.110
~ 24 (50/60 Hz) (1)	REXL4TMB7	0.050/ 0.110			
~ 120 (50/60 Hz)	REXL4TMF7	0.050/ 0.110			
~ 230 (50/60 Hz)	REXL4TMP7	0.050/ 0.110			

Sockets for relays

Contact terminal arrangement	For use with relays	Connection	Unit reference (2)	Weight kg/lb
Mixed (3)	REXL2TM●●, REXL4TM●●	Screw clamp	RXZE2M114 (5)	0.048/ 0.106
	REXL2TM●●, REXL4TM●●	Connector	RXZE2M114M (6)	0.056/ 0.123
Separate (4)	REXL2TM●●	Connector	RXZES108M	0.070/ 0.154
	REXL4TM●●	Connector	RXZE2S114M	0.058/ 0.128

(1) For ⎓ 48 V supply, additional resistor 560 Ω 2 W / ⎓ 24 V.

For ~ 48 V, additional resistor 390 Ω 4 W / ~ 24 V.

(2) These products are sold in lots of 10.

(3) The inputs are mixed with the relay's supply, with the outputs being located on the opposite side of the socket.

(4) The inputs and outputs are separated from the relay supply.

(5) Thermal current I_{th}: 10 A.

(6) Thermal current I_{th}: 12 A.

Zelio Time - timing relays

Analog, electronic relays,
relay output, 48 x 48

Output 2 C/O contacts

- Time unit selector knob
- Multifunction, single function or dual function
- Multirange
- Multivoltage
- 2 relay outputs, 5 A
- Panel-mounted or plug-in
- LED indication



RE48ATM12MW



RE48AMH13MW



RUZC3M



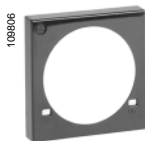
RE48ASOC11AR



RE8ASOC8SOLD



RE48ASOC11SOLD



RE48ASETCOV



RE48AIPCOV

References

8-pin relay

Timing ranges	Function	No. of relay outputs	Voltages	Reference	Weight
			V		kg/lb
1.2 s, 3 s, 12 s, 30 s, 120 s, 300 s, 12 min, 30 min, 120 min, 300 min, 12 h, 30 h, 120 h, 300 h	A	1	≈ 24...240	RE48ATM12MW	0.140/ 0.309
	A1, A2, H1, H2	2 of which 1 instantaneous	≈ 24...240	RE48AMH13MW	0.140/ 0.309

11-pin relay

1.2 s, 3 s, 12 s, 30 s, 120 s, 300 s, 12 min, 30 min, 120 min, 300 min, 12 h, 30 h, 120 h, 300 h	L, Li	2	≈ 24...240	RE48ACV12MW	0.140/ 0.309
	A, B, C, Di	2	≈ 24...240	RE48AML12MW	0.140/ 0.309

Sockets

Description	Number of pins	For use with relays	Sold in lots of	Unit reference	Weight kg/lb
IP 20 sockets with connection by connector and mixed contact terminals (1)	8	RE48ATM12MW, RE48AMH13MW	10	RUZC2M	0.054/ 0.119
	11	RE48ACV12MW, RE48AML12MW	10	RUZC3M	0.054/ 0.119
IP20 socket with screw terminal connections on rear face	11	RE48ACV12MW, RE48AML12MW	1	RE48ASOC11AR	–

Connectors and protective cover

IP20 solder connectors	8	RE48ATM12MW, RE48AMH13MW	1	RE48ASOC8SOLD	–
	11	RE48ACV12MW, RE48AML12MW	1	RE48ASOC11SOLD	–
Setting protection cover	–	RE48ATM12MW, RE48ACV12MW, RE48AML12MW, RE48AMH13MW	1	RE48ASETCOV	–
Protective cover IP64	–	RE48ATM12MW, RE48ACV12MW, RE48AML12MW, RE48AMH13MW	1	RE48AIPCOV	–

(1) The inputs are mixed with the relay's supply terminals, with the outputs being located on the opposite side of the socket

Zelio Time - timing relays

Panel-mounted universal, plug-in relays, relay output

Output 1 C/O or 2 C/O contacts

- LCD display
- Multifunction or single function
- Multirange
- Multivoltage
- 1 8A relay or 2 relay outputs: 5 A (RE8885740●), 8 A (RE8885730●)
- Reset function on front panel (RE8885730●)
- Memory in the event of mains power failure (RE 88 857 30●)
- Locking of access to programming (RE8885710● and RE8885700●)
- Upcount or downcount mode
- Internal supply by lithium battery (10 years at 20 °C)



RE8885740●



RE8885760●

References

8-pin relay					
Timing ranges	Functions	No. of relay outputs	Voltages	Reference	Weight
			V		kg/lb
99.99 s, 999.9 s, 9999 s, 99 min 59 s, 99.99 min, 999.9 min, 9999 min, 99 h 59 min, 99.99 h, 999.9 h, 9999 h	A	2	~ 24	RE88857409	0.140/ 0.309
			~ 110	RE88857406	0.140/ 0.309
			~ 220...240	RE88857400	0.140/ 0.309
	A, B, C, D, Di, H	1	~ 12 and ~ 24...48	RE88857003	0.100/ 0.220
			~ 24 and ~ 110...240	RE88857005	0.100/ 0.220
			~ 24 and ~ 48	RE88857604	0.100/ 0.220
			~ 24 V and ~ 110, (50/60 Hz)	RE88857607	0.100/ 0.220
			~ 24 and ~ 24...240, (50/60 Hz)	RE88857601	0.100/ 0.220

11-pin relay					
Timing ranges	Functions	No. of relay outputs	Voltages	Reference	Weight
99.99 s, 999.9 s, 9999 s, 99 min 59 s, 99.99 min, 999.9 min, 9999 min, 99 h 59 min, 99.99 h, 999.9 h, 9999 h	A, B, C, D, Di, H	1	~ 12 and ~ 24...48	RE88857103	0.100/ 0.220
			~ 24 and ~ 110...240	RE88857105	0.100/ 0.220
			~ 24 and ~ 48	RE88857704	0.100/ 0.220
			~ 24 V and ~ 110 (50/60 Hz)	RE88857707	0.100/ 0.220
			~ 24 and ~ 24...240 (50/60 Hz)	RE88857701	0.100/ 0.220
	A1, A2, AM, AMt	2 of which 1 instantaneous	~ 12 V and ~ 42...48	RE88857302	0.140/ 0.309
			~ 24 and ~ 110	RE88857307	0.140/ 0.309
			~ 24 V and ~ 220...240	RE88857301	0.140/ 0.309

Sockets for relays			
Number of pins	For use with relays	Unit reference (1)	Weight kg/lb
8-pin connector	RE8885740●, RE8885700●, RE8885760●	RUZC2M	0.054/ 0.119
11-pin	RE8885710●, RE8885730●, RE8885770●	RUZC3M	0.054/ 0.119

(1) These products are sold in packs of 10