Zelio Time - timing relays

DIN rail mounted relays

RE11

RE7, RE8, RE9

RE XL

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**, **RE11**, **RE XL**…) designed for mounting on DIN rails in an enclosure,

■ "Panel mounted" relays type **RE 48A** 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 energised, the moving armature is attracted by the coil and so actuates the contacts, which change state. When the relay is de-energised, 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-energised, the circuit between the common point C and N/C is closed and when the relay is operating (coil energised), 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)*		Delay on energisation
	Ac	Timing after closing and opening of control contact
	Ad	Timing on closing of control contact.
	Ah	Flashing single cycle by operation of control contact
	Ak	Asymmetrical On-delay and Off-delay with external control
	At	Delay on energisation with memory
	Aw	Off-delay on energisation or on opening of control contact
B *(2)*		Timing on impulse, one shot
	Bw	Pulse output (width adjustable)
C *(2)*		Timing after opening of control contact
D *(2)*		Symmetrical flashing, start with output in rest position
	Di *(2)*	Symmetrical flashing, start with output in operating position
H *(2)*		Timing on energisation
	He	Pulse-on de-energisation
	Ht	Timing on energisation with memory
K		Delay on de-energisation (without auxiliary supply)
L *(2)*		Asymmetrical flashing, start with output in rest position
	Li *(2)*	Asymmetrical flashing, start with output in operating position
	Lt	Asymmetrical flashing with partial stop of timing
N		Safe-guard
O		Delayed safe-guard
P		Delayed fixed-length pulse
	Pt	Impulse counter (on-delay)
	Qc	Star-delta timing
	Qe	Star-delta timing
	Qg	Star-delta timing
	Qt	Star-delta timing
T		Bistable relay
	Tt	Timed impulse relay
W		On-delay after opening of control contact

(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.

Zelio Time - timing relays

Selection table

Selection criteria

- **Functions** (On-delay or Off-delay, counter, flashing…)
- **Supply voltage** (example: ∿/⎓ 12 V…240 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	⎓ 12 V	2 C/O contacts	5 A	RE XL2TMJD
			4 C/O contacts	3 A	RE XL4TMJD
	0.1 s…100 h	⎓ 24 V	2 C/O contacts	5 A	RE XL2TMBD
			4 C/O contacts	3 A	RE XL4TMBD
	0.1 s…100 h	∿ 24 V	2 C/O contacts	5 A	RE XL2TMB7
			4 C/O contacts	3 A	RE XL4TMB7
	0.1 s…100 h	∿ 120 V	2 C/O contacts	5 A	RE XL2TMF7
			4 C/O contacts	3 A	RE XL4TMF7
	0.1 s…100 h	∿ 230 V	2 C/O contacts	5 A	RE XL2TMP7
			4 C/O contacts	3 A	RE XL4TMP7
	0.1 s…10 s	∿/⎓ 24…240 V	1 solid state output	0.7 A	RE9 TA11MW
	0.3 s…30 s			0.7 A	RE9 TA31MW
	3 s…300 s			0.7 A	RE9 TA21MW
	40 s…60 min			0.7 A	RE9 TA51MW
	1 s…100 h			0.7 A	RE11 LA MW
	0.02 s…300 h		2 timed C/O contacts	5 A	RE 48A TM12 MW
	0.05 s…300 h	∿/⎓ 24 V, ∿ 110…240 V	1 C/O contact	8 A	RE7 TL11BU
	0.1 s…3 s			8 A	RE8 TA61BUTQ
	0.1s…10 s			8 A	RE8 TA11BUTQ
	0.3 s…30 s			8 A	RE8 TA31BUTQ
	3 s…300 s			8 A	RE8 TA21BUTQ
	20…30 min			8 A	RE8 TA41BUTQ
	0.05 s…300 h	∿/⎓ 24 V, ∿ 110…240 V, ∿/⎓ 42…48 V	2 C/O contacts	8 A	RE7 TP13BU
A, Ac, At, B, Bw, C, D, Di, H, Ht	1 s…100 h	∿ 24…240 V	1 solid state output	0.7 A	RE11 LM BM
	1 s…100 h	∿/⎓ 12 V	1 C/O contact	8 A	RE11 RM JU
	1 s…100 h	∿/⎓ 12…240 V	1 C/O contact	8 A	RE11 RM MW
				8 A	RE11 RM MWS
	1 s…100 h	⎓ 24 V, ∿ 24…240 V	1 C/O contact	8 A	RE11 RM MU
A, At	1 s…100 h	⎓ 24 V, ∿ 24…240 V	1 C/O contact	8 A	RE11 RA MU
A, At, Aw	0.05 s…300 h	∿ 110…240 V, ∿/⎓ 24 V, ∿/⎓ 42…48 V	1 C/O contact	8 A	RE7 TM11BU
A, At, B, C, D, Di, H, Ht	1 s…10 h	⎓ 24 V, ∿ 24…240 V	1 C/O contact	5 A	RE11 RME MU
A, B, C, Di	0.02 s…300 h	∿/⎓ 24…240 V	2 C/O contacts	5 A	RE 48A ML12 MW
A, C, D, Di, H, Qg, Qt, W	0.05 s…300 h	∿ 110…240 V, ∿/⎓ 24 V, ∿/⎓ 42…48 V	2 C/O contacts	8 A	RE7 MY13BU
	0.05 s…300 h	∿/⎓ 24…240 V	2 C/O contacts	8 A	RE7 MY13MW
A, C, D, Di, H, W	0.05 s…300 h	∿ 110…240 V, ∿/⎓ 24 V, ∿/⎓ 42…48 V	1 C/O contact	8 A	RE7 ML11BU
A, D, Di, H	0.1 s…10 s and 3 s…300 s	∿/⎓ 24…240 V ∿ 24…240 V	1 solid state output	0.7 A	RE9 MS21MW
A1, A2, H1, H2	0.02 s…300 h	∿/⎓ 24…240 V	2 C/O contacts	5 A	RE 48A MH13 MW
Ac	0.05 s…300 h	∿ 110…240 V, ∿/⎓ 24 V, ∿/⎓ 42…48 V	1 C/O contact	8 A	RE7 MA11BU
			2 C/O contacts	8 A	RE7 MA13BU
Ad, Ah, N, O, P, Pt, T, Tt, W	1 s…100 h	⎓ 24 V, ∿ 24…240 V	1 C/O contact	8 A	RE11 RMX MU
Ak	0.05 s…300 h	∿ 110…240 V, ∿/⎓ 24 V, ∿/⎓ 42…48 V	1 C/O contact	8 A	RE7 MV11BU

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	RE11 RB MU
C	0.1 s…10 s	∿/⎓ 24 V	1 C/O contact	8 A	RE8 RA11BTQ
	0.3 s…30 s			8 A	RE8 RA31BTQ
	3 s…300 s			8 A	RE8 RA21BTQ
	1 s…100 h	⎓ 24 V, ∿ 24…240 V	1 C/O contact	8 A	RE11 RC MU
	0.1 s…10 s	∿ 110…240 V	1 C/O contact	8 A	RE8 RA11FUTQ
	0.3 s…30 s			8 A	RE8 RA31FUTQ
	3 s…300 s			8 A	RE8 RA21FUTQ
	20 s…30 min			8 A	RE8 RA41FUTQ
	0.05 s…300 h	∿/⎓ 24 V, ∿ 110…240 V, ∿/⎓ 42…48 V	1 C/O contact	8 A	RE7 RA11BU
				8 A	RE7 RM11BU
			2 C/O contacts	8 A	RE7 RL13BU
	0.1 s…10 s	∿ 24…240 V	1 solid state output	0.7 A	RE9 RA11MW7
	0.3 s…30 s			0.7 A	RE9 RA31MW7
	3 s…300 s			0.7 A	RE9 RA21MW7
	40 s…60 min			0.7 A	RE9 RA51MW7
	1 s…100 h			0.7 A	RE11 LC BM
D	0.05 s…300 h	∿/⎓ 24 V, ∿ 110…240 V	1 C/O contact	8 A	RE7 CL11BU
	0.1 s…10 s			8 A	RE8 CL11BUTQ
	0.05 s…300 h	∿/⎓ 24 V, ∿ 110…240 V, ∿/⎓ 42…48 V	2 C/O contacts	8 A	RE7 CP13BU
H	0.05 s…300 h	∿/⎓ 24 V, ∿ 110…240 V	1 C/O contact	8 A	RE7 PE11BU
	0.1 s…10 s			8 A	RE8 PE11BUTQ
	0.3 s…30 s			8 A	RE8 PE31BUTQ
	3 s…300 s			8 A	RE8 PE21BUTQ
	0.05 s…300 h	∿/⎓ 24 V, ∿ 110…240 V, ∿/⎓ 42…48 V	2 C/O contacts	8 A	RE7 PP13BU
	1 s…100 h	∿ 24…240 V	1 solid state output	0. 7 A	RE11 LH BM
H, Ht	1 s…100 h	⎓ 24 V, ∿ 24…240 V	1 C/O contact	8 A	RE11 RH MU
He	0.05 s…0.5 s	∿/⎓ 24 V, ∿ 110…240 V	1 C/O contact	8 A	RE8 PT01BUTQ
K	0.05 s…10 min	∿/⎓ 24…240 V	1 C/O contact	5 A	RE7 RB11MW
	0.05 s…0.5 s	∿/⎓ 24 V, ∿ 110…240 V	1 C/O contact	8 A	RE8 RB51BUTQ
	0.1 s…10 s			8 A	RE8 RB11BUTQ
	0.3 s…30 s			8 A	RE8 RB31BUTQ
	0.05 s…10 min	∿/⎓ 24…240 V	2 C/O contacts	5 A	RE7 RB13MW
L, Li	1 s…100 h	⎓ 24 V, ∿ 24…240 V	1 C/O contact	8 A	RE11 RL MU
	1 s…100 h	∿ 24…240 V	1 solid state output	0.7 A	RE11 LL BM
	1 s…100 h	∿/⎓ 12 V	1 C/O contact	8 A	RE11 RL JU
	0.02 s…300 h	∿/⎓ 24…240 V	2 timed C/O contacts	5 A	RE 48A CV12 MW
L, Li, Lt	0.05 s…300 h	∿ 110…240 V, ∿/⎓ 24 V, ∿/⎓ 42…48 V	1 C/O contact	8 A	RE7 CV11BU
Qc	0.1 s…10 s	∿/⎓ 24 V, ∿ 110…240 V	1 C/O contact	8 A	RE8 YG11BUTQ
	0.3 s…30 s			8 A	RE8 YG31BUTQ
	3 s…300 s			8 A	RE8 YG21BUTQ
Qe	0.3 s…30 s	∿/⎓ 24 V	1 NO + 1 NC	8 A	RE8 YA32BTQ
	0.3 s…30 s	∿ 110…240 V	1 NO + 1 NC	8 A	RE8 YA32FUTQ
	0.3 s…30 s	∿ 380…415 V	1 NO + 1 NC	8 A	RE8 YA32QTQ
Qg	0.05 s…300 h	∿/⎓ 24 V, ∿ 110…240 V, ∿/⎓ 42…48 V	1 NO + 1 NC	8 A	RE7 YR12BU
Qt	0.05 s…300 h	∿/⎓ 24 V, ∿ 110…240 V, ∿/⎓ 42…48 V	2 C/O contacts	8 A	RE7 YA12BUè+
W	0.1 s…10 s	∿/⎓ 24 V	1 C/O contact	8 A	RE8 PD11BTQ
	0.3 s…30 s			8 A	RE8 PD31BTQ
	3 s…300 s			8 A	RE8 PD21BTQ
	0.1 s…10 s	∿ 110…240 V	1 C/O contact	8 A	RE8 PD11FUTQ
	0.3 s…30 s			8 A	RE8 PD31FUTQ
	3 s…300 s			8 A	RE8 PD21FUTQ
	0.05 s…300 h	∿/⎓ 24 V, ∿ 110…240 V, ∿/⎓ 42…48 V	2 C/O contacts	8 A	RE7 PD13BU
W, Ht	0.05 s…300 h	∿/⎓ 24 V, ∿ 110…240 V, ∿/⎓ 42…48 V	1 C/O contact	8 A	RE7 PM11BU

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

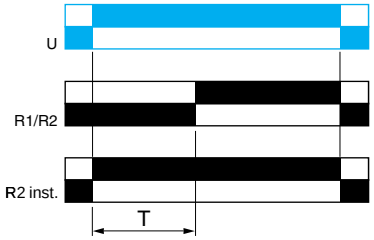
Function diagram :

- Relay de-energised
- Relay energised
- Output open
- Output closed

Function A: Delay on energisation

1 output

2 outputs

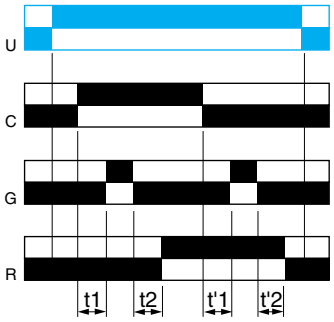


2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.).

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

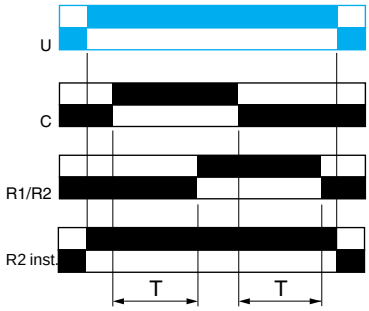
Function Ac: Timing after closing and opening of control contact

1 output



T = t1 + t2 + …
T = t'1 + t'2 + …

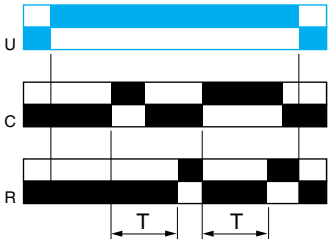
2 outputs



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

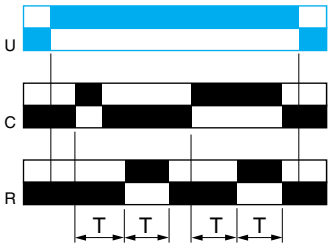
After power-up, closing of the control contact C causes the timing period T to start (timing can be interrupted by operating the Gate control contact G).
At the end of this timing period, the relay closes.
When control contact C re-opens, the timing T starts.
At the end of this timing period T, the output 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.

Function Ad: Timing on closing of control contact



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.

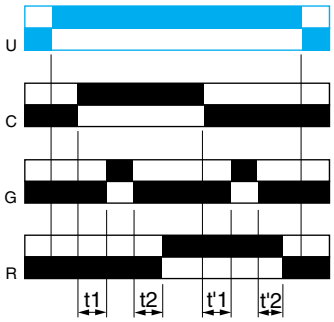
Function Ah: Flashing single cycle by operation of control contact



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)

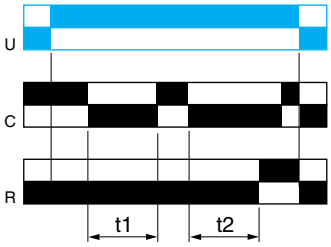
Function Ak: Asymmetrical On-delay and Off-delay with external control



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

Ta = t1 + t2 + …
Tr = t'1 + t'2 + …

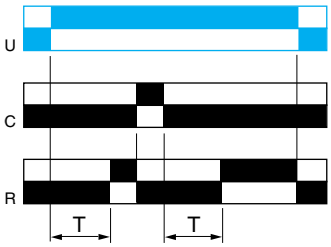
Function At: Delay on energisation with memory



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.

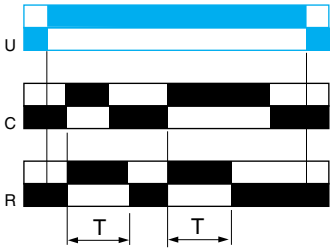
T = t1 + t2 + …

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



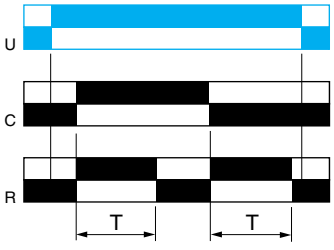
The timing period T starts on energisation.
At the end of the timing period T, the output R closes.
Closing of the control contact C makes the output R open.
Opening of control contact C restarts timing period T.
At the end of the timing period T, the output R closes.

Function B: Timing on impulse, one shot



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.

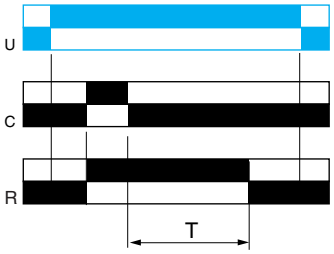
Function Bw: Pulse output (width adjustable)



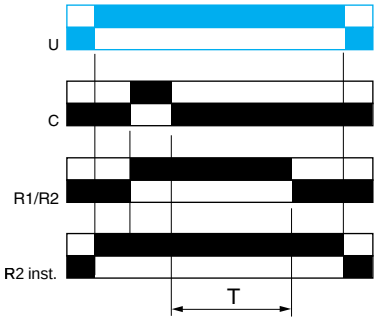
On closing and opening of control contact C, the output R closes for the duration of the timing period T.

Function C: Timing after opening of control contact

1 output



2 outputs

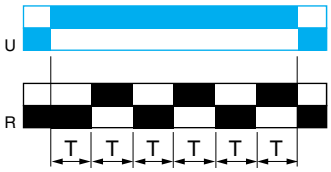


2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.).

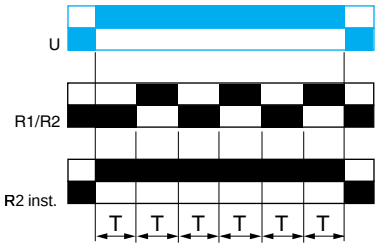
After power-up and closing of the control contact C, the output R closes.
When control contact C re-opens, timing T starts.
At the end of the timing period, output(s) R revert(s) to its/their initial state.
The second output can be either timed or instantaneous.

Function D: Symmetrical flashing, start with output in rest position

1 output



2 outputs

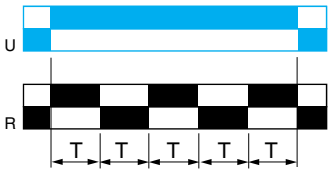


2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.).

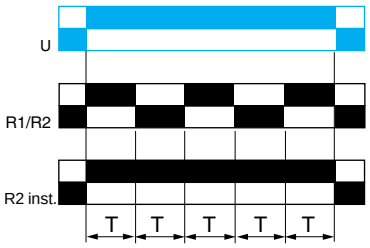
Repetitive cycle with two timing periods T of equal duration, with output(s) R changing state at the end of each timing period T.
The second output can be either timed or instantaneous.

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

1 output



2 outputs

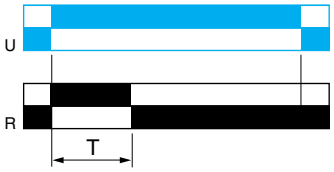


2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.).

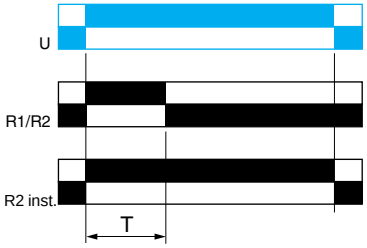
Repetitive cycle with two timing periods T of equal duration, with output(s) R changing state at the end of each timing period T.
The second output can be either timed or instantaneous.

Function H: Timing on energisation

1 output



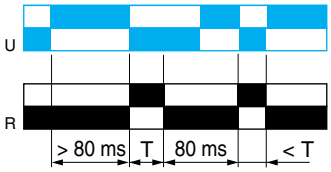
2 outputs



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

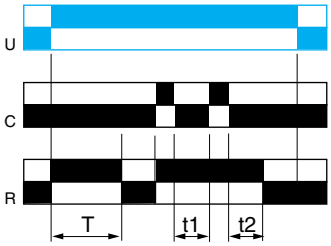
On energisation of the relay, timing period T starts and the output(s) R close(s).
At the end of the timing period T, output(s) R revert(s) to its/their initial state.
The second output can be either timed or instantaneous.

Function He: Pulse-on de-energisation



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

Function Ht: Timing on energisation with memory

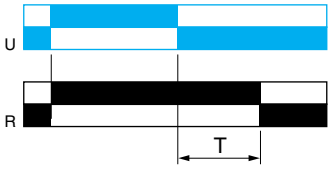


On energisation, the output R closes for the duration of a timing period T then reverts to its initial state.
Pulsing or maintaining control contact C will again close the output R.
Timing T is only active when control contact C is released and so the output R will not revert to its initial state until after a time t1 + t2 + … .
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.

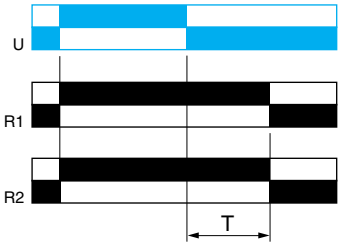
T = t1 + t2 + …

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

1 output

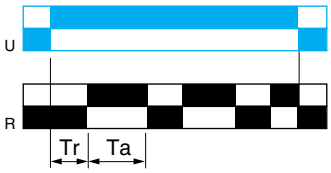


2 outputs



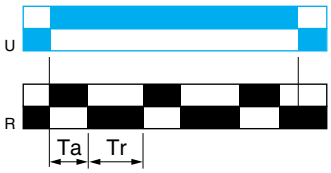
On energisation, the output(s) R close(s).
On de-energisation, timing period T starts and, at the end of this period, the output(s) R revert to its/their initial state.

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



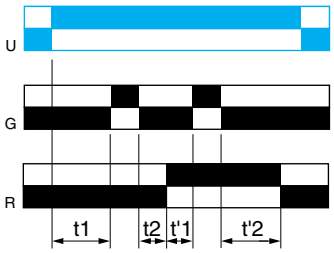
Repetitive cycle consisting of two, independently adjustable timing periods Ta and Tr.
Each timing period corresponds to a different state of the output R.

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



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

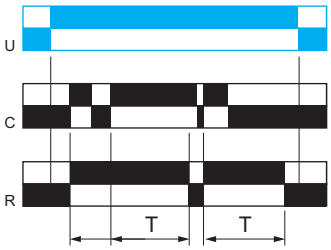
Function Lt: Asymmetrical flashing with partial stop of timing



Repetitive cycle comprises of two, independently adjustable timing periods Ta and Tr.
Each timing period corresponds to a different state of the output R.
Gate control contact G can be operated to partially stop timing periods Ta and Tr.

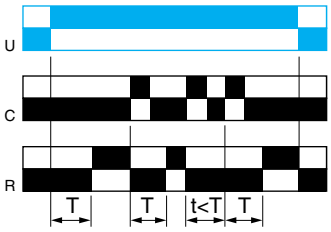
Tr = t1 + t2 + …
Ta = t'1 + t'2 + …

Function N: Safe-guard



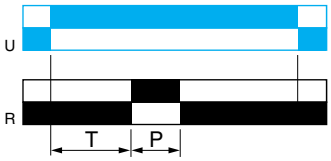
After power-up and an initial control pulse C, the output R closes.
If the interval between two control pulses C is greater than the set timing period T, timing elapses normally and the output R opens at the end of the timing period. If the interval is not greater than the set timing period, the output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

Function O: Delayed safe-guard



An initial timing period T begins on energisation. 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.

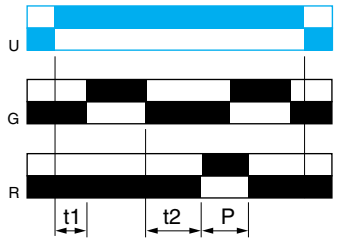
Function P: Delayed fixed-length pulse



P = 500 ms

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

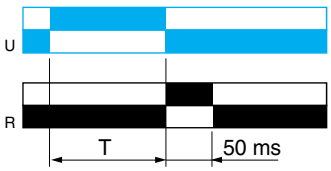
Function Pt: Impulse counter (on-delay)



T = t1 + t2 + …
P = 500 ms

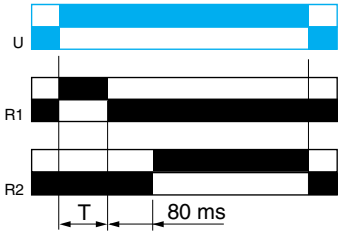
On energisation, timing period T starts (it can be interrupted by operating the Gate control contact G).
At the end of this period, the output R closes for a fixed time P.

Function Qc: Star-delta timing



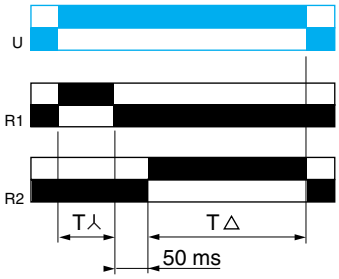
Timing for star delta starter with contact for switching to star connection.

Function Qe: Star-delta timing



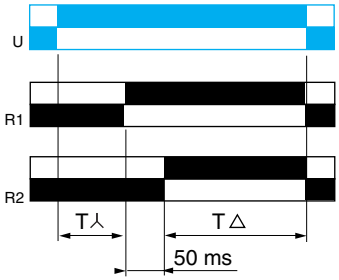
On energisation, the star contact closes instantly and timing starts.
At the end of the timing period, the star contact opens.
After a 80 ms pause, the delta contact closes and remains in this position.

Function Qg: Star-delta timing



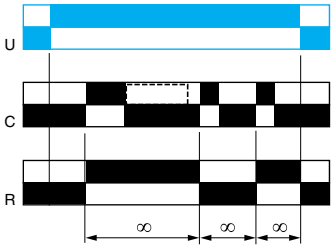
Timing for star delta starter with contact for switching to star connection.

Function Qt: Star-delta timing



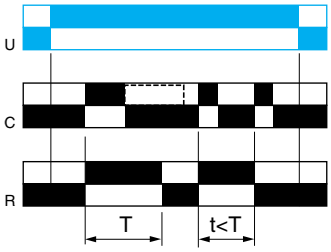
Timing for star-delta starter with double On-delay period.

Function T: Bistable relay



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.

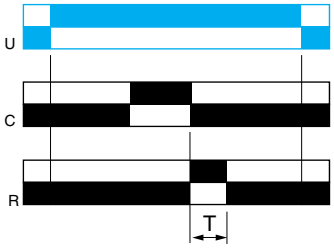
Function Tt: Timed impulse relay



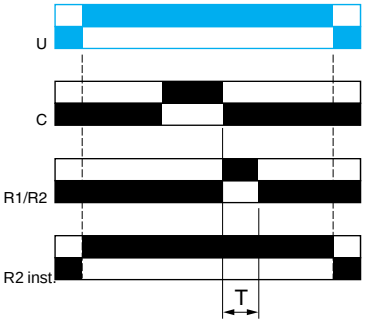
After power-up, pulsing or maintaining control contact C switches output R on and starts timing.
The output switches off at the end of the timing period T or following a second pulse on the control contact C.

Function W: On-delay after opening of control contact

1 output



2 outputs



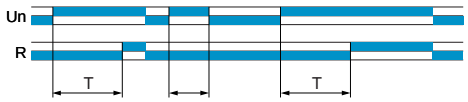
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.).

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.

Zelio Time - timing relays
Electronic relays, relay output, 48 x 48

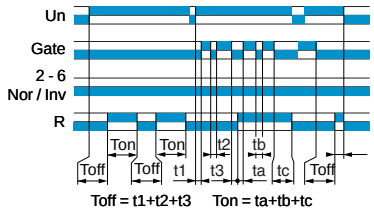
RE 48A TM12 MW

Function A: Delay on energisation

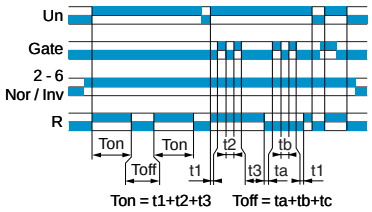


RE 48A CV12 MW

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

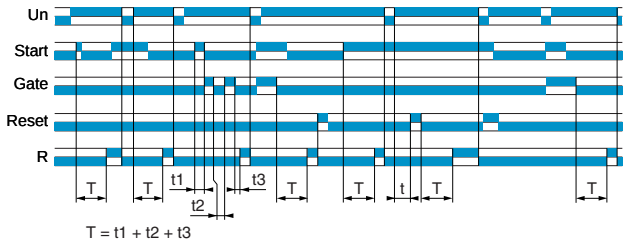


Function Li: Asymmetrical flashing, start with output in operating position

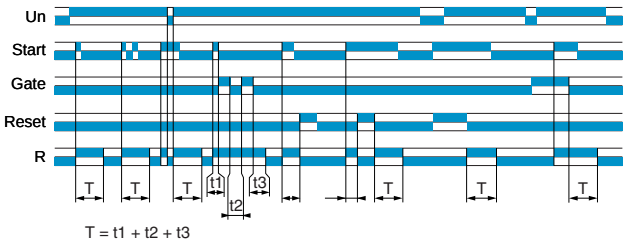


RE 48A ML12 MW

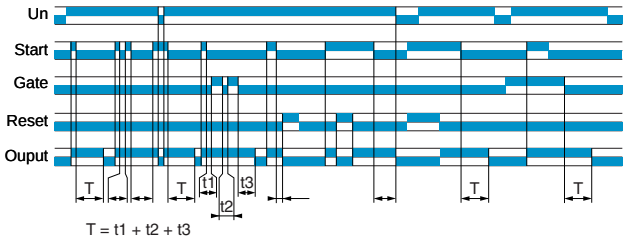
Function A: Delay on energisation



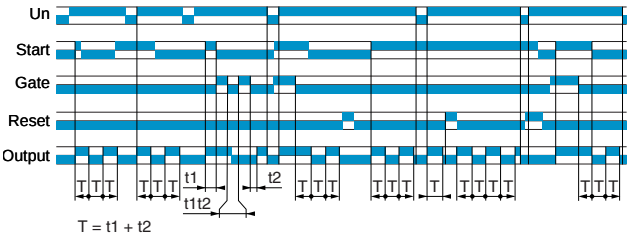
Function B: Timing on impulse, one shot



Function C: Timing after opening of control contact

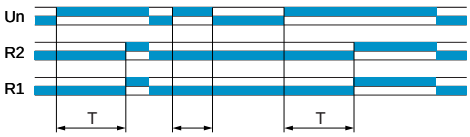


Function Di: Symmetrical flashing, start with output in operating position

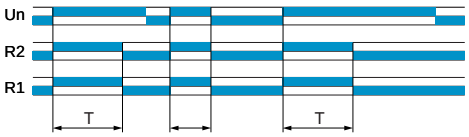


RE 48A MH13 MW

Functions A1, A2: Delay on energisation



Functions H1, H2: Pulse-on energisation



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

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

RE11 LAMW

RE11 LLBM

Modular relays with solid state output 0.7 A

Single function

Timing ranges	Functions	Voltages	Reference	Weight
		V		kg
1 s, 10 s,	A	≂ 24…240	RE11 LA MW	0.060
1 min, 10 min, 1 h, 10 h, 100 h	H	~ 24…240	RE11 LH BM	0.060
	C	~ 24…240	RE11 LC BM	0.060
Dual function				
1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	L, Li	~ 24…240	RE11 LL BM	0.060
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	RE11 LM BM	0.060

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*

RE11 R● M●

Modular relays with relay output, 1 C/O contact

Single function

Timing ranges	Functions	Voltages	Reference	Weight
		V		kg
1 s, 10 s,	B	≂ 24…240	RE11 RB MU	0.060
1 min, 10 min, 1 h, 10 h, 100 h	C	≂ 24…240	RE11 RC MU	0.060
Dual function				
1 s, 10 s,	A, At	≂ 24…240	RE11 RA MU	0.060
1 min, 10 min, 1 h, 10 h, 100 h	H, Ht	≂ 24…240	RE11 RH MU	0.060
	L, Li	≂ 24…240	RE11 RL MU	0.060
		≂ 12	RE11 RL JU	0.060
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	RE11 RM JU	0.060
		≂ 24…240	RE11 RM MU	0.060
		≂ 12…240	RE11 RM MW	0.060
			RE11 RM MWS	0.060
	Ad, Ah, N, O, P, Pt, T, Tt, W	≂ 24…240	RE11 RMX MU	0.060
1 s, 10 s, 1 min 10 min, 1 h, 10 h	A, At, B, C, H, Ht, D, Di	≂ 24…240	RE11 RME MU	0.060

Zelio Time - timing relays

Industrial single or multifunction relays, solid state output, width 22.5 mm

Solid state output
- ☐ *Multifunction or single function*
- ☐ *Multivoltage*
- ☐ *Screw terminals*
- ☐ *Transparent, hinged and sealable flap on front panel*

RE9 ●A●1MW

RE9 MS21MW

References

Single function

Timing ranges	Functions	Voltages	Reference	Weight
		V		kg
0.1 s…10 s	A	≂ 24… 240 V	RE9 TA11MW	0.110
	C	≂ 24… 240 V	RE9 RA11MW7	0.110
0.3 s…30 s	A	≂ 24… 240 V	RE9 TA31MW	0.110
	C	≂ 24… 240 V	RE9 RA31MW7	0.110
3 s…300 s	A	≂ 24… 240 V	RE9 TA21MW	0.110
	C	≂ 24… 240 V	RE9 RA21MW7	0.110
40 s…60 min	A	≂ 24… 240 V	RE9 TA51MW	0.110
	C	≂ 24… 240 V	RE9 RA51MW7	0.110

Multifunction

0.1 s…10 s, 0.3 s…30 s	A	≂ 24… 240 V	RE9 MS21MW	0.110
	H, D, Di	∼ 24…240 V		

Zelio time - timing relays

Industrial single, dual or multifunction relays, relay output, width 22.5 mm

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*

RE 88 865 125

RE 88 865 155

References

Single function

Timing ranges	Functions	No. of relay outputs	Voltages	Reference	Weight
			V		kg
1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	B	1	≂ 24…240	**RE 88 865 125** *(1)*	0.090
	C	1	≂ 24…240	**RE 88 865 135** *(1)*	0.090
0.6 s, 2.5 s, 20 s, 160 s	K	2	≂ 24…240	**RE 88 865 265** *(1)*	0.090

Selectable interswitching time	Functions	No. of relay outputs	Voltages	Reference	Weight
					kg
20 ms, 40 ms, 60 ms, 80 ms, 100 ms, 120 ms, 140 ms	Q	1	≂ 24…240	**RE 88 865 175** *(1)*	0.090
			~ 230 / 380	**RE 88 865 176** *(1)*	0.090

Dual function

Timing ranges	Functions	No. of relay outputs	Voltages	Reference	Weight
					kg
1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	A, At	2	≂ 24…240	**RE 88 865 215** *(1)*	0.090
		1	≂ 24…240	**RE 88 865 115** *(1)*	0.090
	H, Ht	1	≂ 24…240	**RE 88 865 145** *(1)*	0.090
	L, Li	1	≂ 24…240	**RE 88 865 155** *(1)*	0.090

Multifunction

Timing ranges	Functions	No. of relay outputs	Voltages	Reference	Weight
					kg
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	**RE 88 865 105** *(1)*	0.090
		1	≂ 12	**RE 88 865 100** *(1)*	0.090
		1	≂ 12…240	**RE 88 865 103** *(1)*	0.090
				RE 88 865 503 *(2)*	0.090
		2 of which 1 convertible to instantaneous	≂ 24…240	**RE 88 865 305** *(1)*	0.090
			≂ 12	**RE 88 865 300** *(1)*	0.090
			≂ 12…240	**RE 88 865 303** *(1)*	0.090
	Ad, Ah, N, O P, Pt, Tl, Tt, W	1	≂ 24…240	**RE 88 865 185** *(1)*	0.090
		2	≂ 24…240	**RE 88 865 385** *(1)*	0.090

(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

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*

RE7 TM11BU

RE7 MA11BU

RE7 CV11BU

References

Timing ranges	Functions	No. of relay outputs	Voltages	Reference	Weight
			V		kg
0.05 s…300 h (10 ranges)	**A, Aw, At**	1	⎓ 24, ∿ 110…240, ⎓ 42…48	**RE7 TM11BU**	0.150
	Ac	1	⎓ 24, ∿ 110…240, ⎓ 42…48	**RE7 MA11BU**	0.150
		2	⎓ 24, ∿ 110…240, ⎓ 42…48	**RE7 MA13BU** *(symmetrical)*	0.150
	Ak	1	⎓ 24, ∿ 110…240, ⎓ 42…48	**RE7 MV11BU**	0.150
	C	1	⎓ 24, ∿ 110…240, ⎓ 42…48	**RE7 RA11BU**	0.150
		1	⎓ 24, ∿ 110…240, ⎓ 42…48	**RE7 RM11BU** *(low level contact)*	0.150
		2	⎓ 24, ∿ 110…240, ⎓ 42…48	**RE7 RL13BU** *(low level contact)*	0.150
	Ht, W	1	⎓ 24, ∿ 110…240, ⎓ 42…48	**RE7 PM11BU**	0.150
	L, Li, Lt	1	⎓ 24, ∿ 110…240, ⎓ 42…48	**RE7 CV11BU**	0.150
	A, C, H, W, D, Di	1	⎓ 24, ∿ 110…240, ⎓ 42…48	**RE7 ML11BU**	0.150
	A	1	⎓ 24, ∿ 110…240	**RE7 TL11BU**	0.150
		2	⎓ 24, ∿ 110…240, ⎓ 42…48	**RE7 TP13BU**	0.150
	H	1	⎓ 24, ∿ 110…240	**RE7 PE11BU**	0.150
		2	⎓ 24, ∿ 110…240, ⎓ 42…48	**RE7 PP13BU**	0.150
	D	1	⎓ 24, ∿ 110…240	**RE7 CL11BU**	0.150
		2	⎓ 24, ∿ 110…240, ⎓ 42…48	**RE7 CP13BU**	0.150
	W	2	⎓ 24, ∿ 110…240, ⎓ 42…48	**RE7 PD13BU**	0.150
	Qt	2	⎓ 24, ∿ 110…240, ⎓ 42…48	**RE7 YA12BU**	0.150
	Qg	2	⎓ 24, ∿ 110…240, ⎓ 42…48	**RE7 YR12BU**	0.150
	A, C, H, W, D, Di, Qg, Qt	2	⎓ 24, ∿ 110…240, ⎓ 42…48	**RE7 MY13BU**	0.150
		2	⎓ 24…240	**RE7 MY13MW**	0.150
0.05 s…10 min (7 ranges)	**K**	1	⎓ 24…240	**RE7 RB11MW**	0.150
		2	⎓ 24…240	**RE7 RB13MW**	0.150

Zelio Time - timing relays

Industrial single function relays, optimum, relay output, width 22.5 mm

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

RE8 TA●●●●●●

References

Timing ranges	Functions	Voltages	Unit reference	Weight
		V	(1)	kg
0.05 s…0.5 s	K	⎓ 24, ∿ 110…240	RE8 RB51BUTQ	0.110
	He	⎓ 24, ∿ 110…240	RE8 PT01BUTQ	0.110
0.1 s…3 s	A	⎓ 24, ∿ 110…240	RE8 TA61BUTQ	0.110
0.1 s…10 s	A	⎓ 24, ∿ 110…240	RE8 TA11BUTQ	0.110
	C	⎓ 24	RE8 RA11BTQ	0.110
		∿ 110…240	RE8 RA11FUTQ	0.110
	D	⎓ 24, ∿ 110…240	RE8 CL11BUTQ	0.110
	K	⎓ 24, ∿ 110…240	RE8 RB11BUTQ	0.110
	H	⎓ 24, ∿ 110…240	RE8 PE11BUTQ	0.110
	Qc	⎓ 24, ∿ 110…240	RE8 YG11BUTQ	0.110
	W	⎓ 24	RE8 PD11BTQ	0.110
		∿ 110…240	RE8 PD11FUTQ	0.110
0.3 s…30 s	A	⎓ 24, ∿ 110…240	RE8 TA31BUTQ	0.110
	C	⎓ 24	RE8 RA31BTQ	0.110
		∿ 110…240	RE8 RA31FUTQ	0.110
	H	⎓ 24, ∿ 110…240	RE8 PE31BUTQ	0.110
	K	⎓ 24, ∿ 110…240	RE8 RB31BUTQ	0.110
	Qc	⎓ 24, ∿ 110…240	RE8 YG31BUTQ	0.110
	Qe	⎓ 24	RE8 YA32BTQ	0.110
		∿ 110…240	RE8 YA32FUTQ	0.110
		∿ 380…415	RE8 YA32QTQ	0.110
	W	⎓ 24	RE8 PD31BTQ	0.110
		∿ 110…240	RE8 PD31FUTQ	0.110
3 s…300 s	A	⎓ 24, ∿ 110…240	RE8 TA21BUTQ	0.110
	C	⎓ 24	RE8 RA21BTQ	0.110
		∿ 110…240	RE8 RA21FUTQ	0.110
	H	⎓ 24, ∿ 110…240	RE8 PE21BUTQ	0.110
	Qc	⎓ 24, ∿ 110…240	RE8 YG21BUTQ	0.110
	W	⎓ 24	RE8 PD21BTQ	0.110
		∿ 110…240	RE8 PD21FUTQ	0.110
20 s…30 min	A	⎓ 24, ∿ 110…240	RE8 TA41BUTQ	0.110
	C	∿ 110…240	RE8 RA41FUTQ	0.110

(1) These products are sold in packs of 10

Zelio Time - timing relays

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

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*

RE 88 867 415

RE 88 867 305

RE 88 867 300

References

Single function

Timing ranges	Functions	No. of relay outputs	Voltages	Reference	Weight
			V		kg
1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	**C**	2	≂ 24…240	**RE 88 867 435**	0.080

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	**A, At**	2	≂ 24…240	**RE 88 867 415**	0.080
	Li, L	2	≂ 24…240	**RE 88 867 455**	0.080

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**	2 of which 1 instantaneous	≂ 24…240	**RE 88 867 305**	0.080
			≂ 12	**RE 88 867 300**	0.080
			≂ 12…240	**RE 88 867 303**	0.080

Sockets *(1)* for 11-pin relays

Contact terminal arrangement	For use with relays	Connection	Unit reference	Weight
				kg
Mixed *(2)*	RE 88 867 ●●●	Connector	**RXZ E2M114**	0.054

(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

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*

RE 88 867 215

RE 88 867 155

RE 88 867 105

References

Single function

Timing ranges	Functions	No. of relay outputs	Voltages	Reference	Weight
			V		kg
1 s, 10 s , 1 min, 10 min, 1 h, 10 h, 100 h	**A**	2	≂ 24…240	**RE 88 867 215**	0.080
	C	1	≂ 24…240	**RE 88 867 135**	0.080

Dual function

1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	**Li, L**	1	≂ 24…240	**RE 88 867 155**	0.080

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	≂ 24…240	**RE 88 867 105**	0.080
			≂ 12	**RE 88 867 100**	0.080
			≂ 12…240	**RE 88 867 103**	0.080

Sockets *(1)* for 8-pin relays

Contact terminal arrangement	For use with relays	Unit reference	Weight
			kg
Mixed *(2)*	RE 88 867 1●●, RE 88 867 2●●	**RUZ C2M**	0.054

(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
Miniature plug-in relays, relay output

Output, 2 C/O and 4 C/O contacts
- *Miniature and plug-in (21 x 27 mm)*
- *Single function: function A = delay on energisation*
- *Rated current ∼ 5 A*
- *7 timing ranges (0.1 s to 100 h)*
- *Multivoltage*
- *Excellent immunity to interference*
- *Power on and relay energised indication by 2 LEDs*

RE XL2TM●●

RE XL4TM●●

References

Single function

Timing ranges	Functions	No. of relay outputs	Voltages	Reference	Weight
			V		kg
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	**RE XL2TMJD**	0.050
			⎓ 24	**RE XL2TMBD**	0.050
			∼ 24 (50/60 Hz)	**RE XL2TMB7**	0.050
			∼ 120 (50/60 Hz)	**RE XL2TMF7**	0.050
			∼ 230 (50/60 Hz)	**RE XL2TMP7**	0.050
		4	⎓ 12	**RE XL4TMJD**	0.050
			⎓ 24 *(1)*	**RE XL4TMBD**	0.050
			∼ 24 (50/60 Hz) *(1)*	**RE XL4TMB7**	0.050
			∼ 120 (50/60 Hz)	**RE XL4TMF7**	0.050
			∼ 230 (50/60 Hz)	**RE XL4TMP7**	0.050

Sockets *(2)* for relays

Contact terminal arrangement	For use with relays	Connection	Unit reference	Weight
				kg
Mixed *(3)*	RE XL2TM●●, RE XL4TM●●	Screw clamp	**RXZ E2M114** *(5)*	0.048
	RE XL2TM●●, RE XL4TM●●	Connector	**RXZ E2M114M** *(6)*	0.056
Separate *(4)*	RE XL2TM●●	Connector	**RXZ ES108M**	0.070
	RE XL4TM●●	Connector	**RXZ E2S114M**	0.058

(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 Ith: 10 A.
(6) Thermal current Ith: 12 A.

Zelio Time - timing relays

Analogue, 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*

RE 48A TM12 MW

RE 48A MH13 MW

RUZ C3M

RE 48A SOC11 AR

RE 48A SOC8 SOLD

RE 48ASOC11 SOLD

RE 48A SET COV

RE 48A IP COV

References

8-pin relay

Timing ranges	Function	No. of relay outputs	Voltages	Reference	Weight
			V		kg
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	**RE 48A TM12 MW**	0.140
	A1, A2, H1, H2	2 of which 1 instantaneous	≂ 24…240	**RE 48A MH13 MW**	0.140

11-pin relay

Timing ranges	Function	No. of relay outputs	Voltages	Reference	Weight
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	**RE 48A CV12 MW**	0.140
	A, B, C, Di	2	≂ 24…240	**RE 48A ML12MW**	0.140

Sockets

Description	Number of pins	For use with relays	Sold in lots of	Unit reference	Weight kg
IP 20 sockets with connection by connector and mixed contact terminals *(1)*	8	RE 48A TM12 MW, RE 48A MH13 MW	10	**RUZ C2M**	0.054
	11	RE 48A CV12 MW, RE 48A ML12 MW	10	**RUZ C3M**	0.054
IP20 socket with screw terminal connections on rear face	11	RE 48A CV12 MW, RE 48A ML12 MW	1	**RE 48A SOC11 AR**	–

Connectors and protective cover

IP20 solder connectors	8	RE 48A TM12 MW, RE 48A MH13 MW	1	**RE 48A SOC8 SOLD**	–
	11	RE 48A CV12 MW, RE 48A ML12 MW	1	**RE 48A SOC11 SOLD**	–
Setting protection cover	–	RE 48A TM12 MW, RE 48A CV12 MW, RE 48A ML12 MW, RE 48A MH13 MW	1	**RE 48A SET COV**	–
Protective cover IP64	–	RE 48A TM12 MW, RE 48A CV12 MW, RE 48A ML12 MW, RE 48A MH13 MW	1	**RE 48A IP COV**	–

(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 (RE 88 857 40●), 8 A (RE 88 857 30●)*
- □ *Reset function on front panel (RE 88 857 30●)*
- □ *Memory in the event of mains power failure (RE 88 857 30●)*
- □ *Locking of access to programming (RE 88 857 10● and RE 88 857 00●)*
- □ *Upcount or downcount mode*
- □ *Internal supply by lithium battery (10 years at 20 °C)*

RE 88 857 40●

RE 88 857 60●

References

8-pin relay

Timing ranges	Functions	No. of relay outputs	Voltages	Reference	Weight
			V		kg
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	**RE 88 857 409**	0.140
			∿ 110	**RE 88 857 406**	0.140
			∿ 220…240	**RE 88 857 400**	0.140
	A, B, C, D, Di, H	1	⎓ 12 and ⎓ 24…48	**RE 88 857 003**	0.100
			⎓ 24 and ∿ 110…240	**RE 88 857 005**	0.100
			⎓ 24 and ⎓ 48	**RE 88 857 604**	0.100
			⎓ 24 V and ∿ 110, (50/60 Hz)	**RE 88 857 607**	0.100
			⎓ 24 and ∿ 24…240, (50/60 Hz)	**RE 88 857 601**	0.100

11-pin relay

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	**RE 88 857 103**	0.100
			⎓ 24 and ∿ 110…240	**RE 88 857 105**	0.100
			⎓ 24 and ⎓ 48	**RE 88 857 704**	0.100
			⎓ 24 V and ∿ 110 (50/60 Hz)	**RE 88 857 707**	0.100
			⎓ 24 and ∿ 24…240 (50/60 Hz)	**RE 88 857 701**	0.100
	A1, A2, AM, AMt	2 of which 1 instantaneous	⎓ 12 V and ⎓ 42…48	**RE 88 857 302**	0.140
			⎓ 24 and ∿ 110	**RE 88 857 307**	0.140
			⎓ 24 V and ∿ 220…240	**RE 88 857 301**	0.140

Sockets *(1)* for relays

Number of pins	For use with relays	Unit reference	Weight kg
8-pin connector	RE 88 857 40●, RE 88 857 00●, RE 88 857 60●	**RUZ C2M**	0.054
11-pin	RE 88 857 10●, RE 88 857 30●, RE 88 857 70●	**RUZ C3M**	0.054

(1) These products are sold in packs of 10.