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3

Applications	These timing relays enable simple automation cycles to be set up using wired logic. They can also be used to complement the functions of PLCs.	
Output	Solid state Timing relays with solid state output reduce the amount of wiring required (wired in series). The durability of these timing relays is independent of the number of operating cycles.	Relay Relay outputs provide complete isolation between the supply and outut circuits. It is possible to have several output circuits.



Type	Modular	Industrial	Modular	Industrial
Timing ranges	7 ranges : 1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	1 or 2 ranges, depending on model : 10 s, 30 s, 300 s, 60 min	7 ranges : 1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	Depending on model : 4 ranges : 0.6 s, 2.5 s, 20 s, 160 s 7 ranges : 1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h 7 ranges : 1 s, 3 s, 10 s, 30 s, 100 s, 300 s, 10 min 10 ranges : 1 s, 3 s, 10 s, 30 s, 100 s, 300 s, 30 min, 300 min, 30 h, 300 h
Relay type	RE 88 826 0●●	RE9	RE 88 826 1●● RE 88 826 503	RE 88 865 ●●● RE7
Pages	3/6 and 3/7	3/10	3/14 and 3/15	3/18 to 3/23 and 3/26 to 3/29

These timing relays enable simple automation cycles to be set up using wired logic. They can also be used to complement the functions of PLCs.

Relay
Relay outputs provide complete isolation between the supply and output circuits. It is possible to have several output circuits.



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Optimum	Plug-in		Panel-mounted		
	Universal	Miniature	Analogue	Digital	Electromechanical
1 range, depending on model : 0.5 s, 3 s, 10 s, 30 s, 300 s, 30 min	7 ranges : 1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	7 ranges : 1 s, 10 s, 1 min, 10 min, 1 h, 10 h, 100 h	Depending on model : 6 ranges : 1 s, 10 s, 1 min, 10 min, 1 h, 10 h 8 ranges : 1 s, 10 s, 1 min, 4 min, 10 min, 1 h, 10 h, 60 h	Depending on model : 7 ranges : 99.99 s, 999.99 s, 99 min 59 s, 99.99 min, 999.9 min, 99 h 59 min, 999.9 h 11 ranges : 99.99 s, 999.99 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	Depending on model : 3 ranges : 6 s, 60 s, 12 min 3 ranges : 6 min, 60 min, 12 h
RE8	RE 88 867 ●●●	RE 88 896 20●	RE 88 875 ●●● RE 88 896 ●●●	RE 88 857 ●●●	RE 88 226 ●●●
3/34 to 3/37	3/40 to 3/45	3/47	(1)	3/51, 3/55 and 3/57	(1)

(1) Please consult your Regional Sales office.

Zelio Time - timing relays

Modular relays, solid state output,
width 17.5 mm

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Timing characteristics

Repeat accuracy (with constant parameters)	Conforming to IEC 1812-1		± 0.5 %
Drift	Temperature		± 0.05 % / °C
	Voltage		± 0.2 % / V
Setting accuracy at full scale	Conforming to IEC 1812-1		± 10 % at 25 °C
Minimum duration of control impulse	Typical	ms	50
Maximum reset time by de-energisation	Typical	ms	350
Immunity time to microbreaks	Typical	ms	> 10




Supply characteristics

Multivoltage supply			Depending on version, see pages 3/6 and 3/7
Frequency		Hz	50/60
Operating range			85...110 % Un
On-load factor			100 %
Maximum power consumption	Depending on model	$\overline{\text{---}}$ 24 V	W 0.6
		$\overline{\text{---}}$ 240 V	W 1.5
		\sim 240 V	VA 32

Output characteristics

Output type			Solid state
Breaking capacity		A	$\sim/\overline{\text{---}}$ 0.7 at 20° C (0.5 A UL)
Derating		mA	5 / °C
Maximum permissible current		A	20 ≤ 10 ms
Minimum breaking current		mA	10
Leakage current		mA	< 5
Maximum switching voltage		V	$\sim/\overline{\text{---}}$ 250
Typical voltage drop at terminals			3-wire 4V - 2-wire 8V
Electrical life			10 ⁸ operations
Mechanical life			10 ⁸ operations
Dielectric strength conforming to IEC 664, IEC 255-5		kV	2.5 at 1 mA / 1 min

Display characteristics

State indication by 1 LED	Green		Operating status indication:  Pulsing : relay energised, no timing in progress (except Di-D and Li-L)  Flashing : timing in progress  On steady : relay energised, no timing in progress
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Input characteristics

Input type		V	Volt-free contact (no potential) Control possible by 3-wire sensor with PNP output, maximum residual voltage : 0.4 V whatever the supply voltage of the timer
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General characteristics				
Conforming to standards			IEC 1812-1, EN 50081-1/2, EN 50082-1/2, LV directives (73/23/EEC + 93/68/EEC (CE marking) + EMC (89/336/EEC + IEC 669-2-3)	
Product certifications			c UL us, CSA	
Temperature limits	Operation	°C	- 20...+ 60	
	Storage	°C	- 30...+ 60	
Creepage distance and clearance	Conforming to IEC 60664-1	kV	4 kV/3	
Degree of protection conforming to IEC 529	Terminal block		IP 20	
	Enclosure		IP 40	
	Panel-mounted		IP 50	
Vibration resistance	Conforming to IEC 68-2-6		f = 10...55 Hz A = 0.35 mm	
Relative humidity without condensation	Conforming to IEC 68-2-3		93 %	
Electromagnetic compatibility	Immunity to electrostatic discharge, conforming to IEC 1000-4-2		Level III (Air 8 kV/Contact 6 kV)	
	Immunity to electromagnetic fields, conforming to ENV 50140/204 (IEC 1000-4-3)		Level III 10 V/m : (80 MHz...1 GHz)	
	Immunity to fast transients in bursts, conforming to IEC 1000-4-4		Level III (direct 2 kV / capacitive connecting clip 1 kV)	
	Immunity to surges on the power supply conforming to IEC 1000-4-5		Level III (common mode 2 kV / differential mode 1 kV)	
	Immunity to radio frequency interference in common mode conforming to ENV 50141 (IEC 1000-4-6)		Level III (10 V rms : 0.15...80 MHz)	
	Immunity to voltage dips and breaks conforming to IEC 1000-4-11			30 % / 10 ms
				60 % / 100 ms >
			95 % / 5 s	
Radiated and mains conducted disturbance conforming to EN 55022 (EN 55011 Group 1)			Class B	
Mounting method	Symmetrical mounting rail (EN 50022)	mm	35	
Clamping capacity	Without cable end	mm ²	2 x 2.5	
	With cable end	mm ²	2 x 1.5	
Spring terminals, 2 terminals per connection point	Flexible cable	mm ²	1.5	
	Solid cable	mm ²	2.5	
Enclosure material			Self-extinguishing	

Zelio Time - timing relays

Modular relays, solid state output,
width 17.5 mm

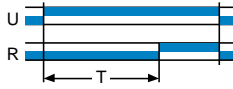
Solid state output

- Multifunction or single function
- Multi-range (7 switchable ranges)
- Multivoltage
- Solid state output: 0.7 A - 250 V (0.5 A UL)
- Screw terminals
- State indication by 1 LED

Function diagrams

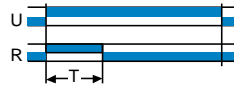
Function A

Delay on energisation



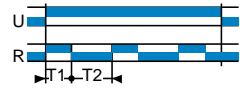
Function H

Timing on energisation
Pulse-on energisation



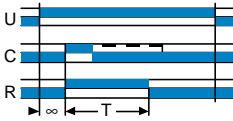
Function Li

Asymmetrical recycler
Pulse start



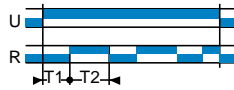
Function B

Timing on impulse, one shot



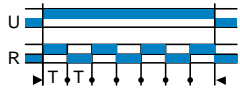
Function L

Asymmetrical recycler
Start after pause



Function Di

Symmetrical flasher, start
with output in operating
position



References

660847



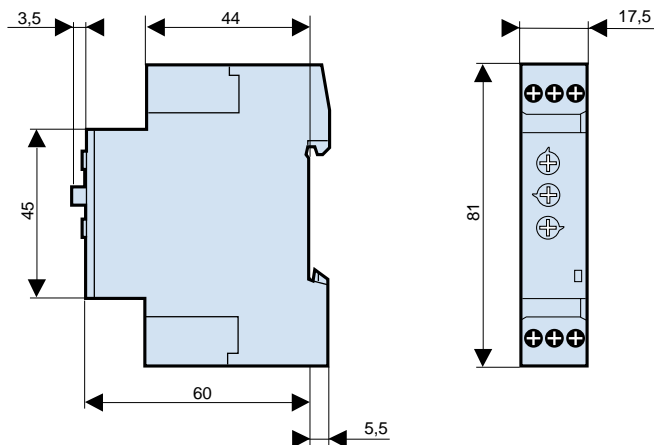
660848



Connection	Screw terminals	●	●
Functions		Multifunction	Single function
		A - At - B - C - H - Ht - Di - D - Ac - Bw	A
Timing ranges	7 ranges	1 s - 10 s - 1 min - 10 min - 1 h - 10 h - 100 h	
Rated current		0.7 A	0.7 A
Voltages	24...240 V ~ 50/60 Hz	RE 88 826 004	-
	24...240 V ~/DC 50/60 Hz	-	RE 88 826 014
Weight (kg)		0.060	0.060

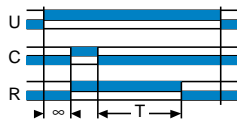
Dimensions and connection schemes

Dimensions



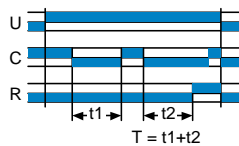
Function C

Off-delay, with control contact



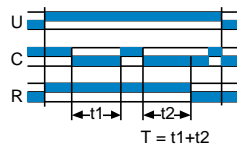
Function At

Timing on energisation with memory



Function Ht

Delay on energisation with memory



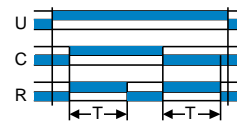
Function D

Symmetrical flasher, start with output in rest position



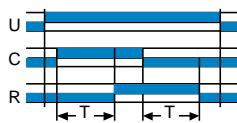
Function Bw

Pulse output (adjustable)



Function Ac

Timing after closing/opening of control contact



Single function

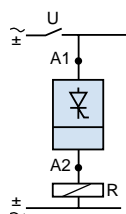
H
1 s - 10 s - 1 min - 10 min - 1 h - 10 h - 100 h
0.7 A
RE 88 826 044
-
0.060

Dual function

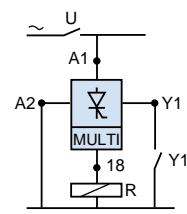
Li - L
0.7 A
RE 88 826 054
-
0.060

Connection schemes

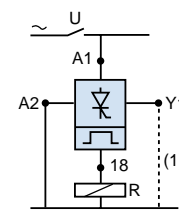
Functions A, H



Function U



Functions L, Li



(1) Link A2-Y1 for function L only.

Zelio Time - timing relays

Industrial relays, solid state output, width 22.5 mm

Presentation



The RE9 range of relays is designed for simple, repetitive applications with short and intensive cycles because their solid state output provides very high electrical durability.

Each relay has a single timing range.

Each relay has a wide voltage range from 24 to 240 V.

The range comprises 9 references with 3 model types:

- RE9-TA: function A,
- RE9-RA: function C,
- RE9-MS: multifunction A, H, L, Li.

These products have a transparent, hinged flap on their front face to avoid any accidental alteration of the settings. This flap can be directly sealed.

3

Environment

Conforming to standards			IEC 61812-1, EN 61812-1
Product certifications			CSA, GL pending, UL
CE marking			Zelio Time timing relays conform to European regulations relating to CE marking
Ambient air temperature around the device	Storage	°C	- 40...+ 85
	Operation	°C	- 20...+ 60
Permissible relative humidity range	Conforming to IEC 60721-3-3		15...85 % Environmental class 3K3
Vibration resistance	Conforming to IEC 6068-2-6, 10 to 55 Hz		a = 0.35 ms
Shock resistance	Conforming to IEC 6068-2-27		15 gn - 11 ms
Degree of protection	Casing		IP 50
	Terminals		IP 20
Degree of pollution	Conforming to IEC 60664-1		3
Overvoltage category	Conforming to IEC 60664-1		III
Rated insulation voltage	Conforming to IEC	V	250
	Conforming to CSA	V	300
Test voltage for insulation tests	Dielectric test	kV	2.5
	Shock wave	kV	4.8
Voltage limits	Power supply circuit		0.85...1.1 U _c
Frequency limits	Power supply circuit	Hz	50/60 ± 5 %
Disconnection value	Power supply circuit		> 0.1 U _c
Mounting position without derating	In relation to normal vertical mounting plane		Any position
Cabling Maximum c.s.a.	Flexible cable without cable end	mm ²	2 x 2.5
	Flexible cable with cable end	mm ²	2 x 1.5
Tightening torque		N.m	0.6...1.1
Immunity to electromagnetic interference (EMC) (application class 2 conforming to EN 61812-1)			
Electrostatic discharge	Conforming to IEC 61000-4-2		Level 3 (6 kV contact, 8 kV air)
Electromagnetic fields	Conforming to IEC 61000-4-3		Level 3 (10 V/m)
Fast transients	Conforming to IEC 61000-4-4		Level 3 (2 kV)
Shock waves	Conforming to IEC 61000-4-5		Level 3 (2 kV)
Radiated and conducted emissions	CISPR11		Group 1 class A
	CISPR22		Class A

Timing relay type		RE9-TA On-delay	RE9-RA Off-delay	RE9-MS Multifunction
Supply characteristics				
Supply voltage		V	$\approx 24 \dots 240$	$\approx 24 \dots 240$ See page 3/10
Voltage limits	Of the control circuit		0.85...1.1 Un	
Frequency		Hz	50...60 \pm 5 %	
Control contact	Mechanical only		In series	Between Y2 and A2 In series
Maximum length of connecting cable	From contact to RE9	m	–	20 –
Control input consumption	Input Y2	mA	–	5 –
Timing characteristics				
Setting accuracy			< \pm 20 %	
Repeat accuracy			< 1 %	
Minimum reset time	After the time delay period	ms	100	
Minimum switching time		ms	–	40 –
Maximum immunity to microbreaks	During the time delay period	ms	100	2 70
	After the time delay period	ms	2	– 2
Temperature drift			≤ 0.1 % per degree centigrade	
Switching characteristics (solid state type)				
Maximum continuous current	At ambient temperature: 20 °C	A	0.7 (minimum 10 mA)	
Maximum overload current	VDE 0435 part. 303, 4.8.3/Class II	A	15 for 10 ms	
Maximum voltage drop	Closed state	V	At 0.7 A: 3	
Leakage current	Open state	mA	≤ 6	≤ 1 ≤ 6
Maximum dissipated power		W	2.5	4 2.5
Derating	For temperature > 20 °C	mA	Without	
Electrical durability	In millions of operating cycles		> 100	

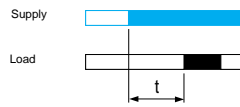
Solid state output, 1 C/O contact

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Function diagrams

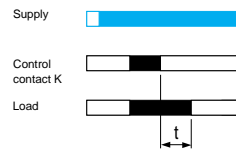
Function A

Delay on energisation



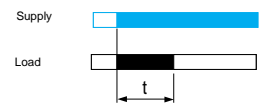
Function C

Off-delay



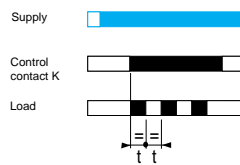
Function H

Timing on energisation
Pulse-on energisation



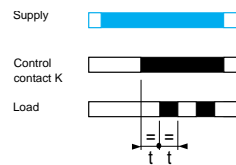
Function Di

Symmetrical flasher, start
with output in operating
position



Function D

Symmetrical flasher, start
with output in rest position



References

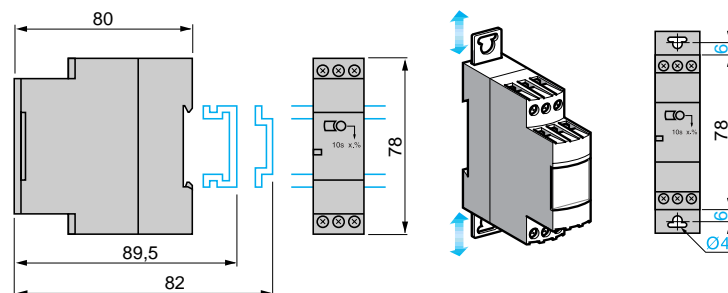


Functions		A	C	A, H, D, Di
Voltages	\equiv or \sim 24...240 V	●	–	● (A)
	\sim 24...240 V	–	●	● (H, D, Di)
Timing ranges	0.1 s...10 s	RE9 TA11MW	RE9 RA11MW7	RE9 MS21MW
	0.3 s...30 s	RE9 TA31MW	RE9 RA31MW7	–
	3 s...300 s	RE9 TA21MW	RE9 RA21MW7	RE9 MS21MW
	40 s...60 min	RE9 TA51MW	RE9 RA51MW7	–
Weight (kg)		0.110	0.110	0.110

Dimensions

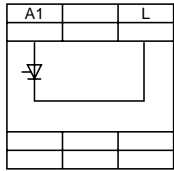
Rail mounting

Screw fixing

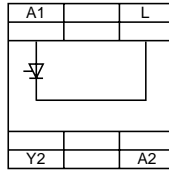


Terminal blocks

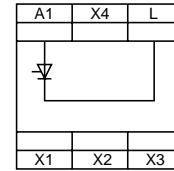
RE9 TA



RE9 RA

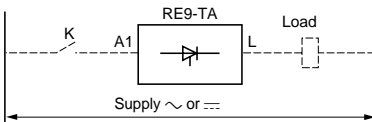


RE9 MS



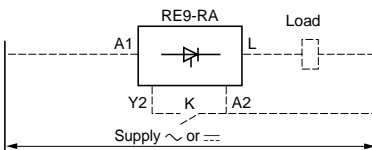
Recommended application schemes

RE9 TA



The timing relay is placed in series, with the load whose de-energisation is to be delayed on one side and switch K on the other side. The mains supply may be a.c. or d.c. and the voltage may be between 24 V and 240 V. See function diagram on page opposite.

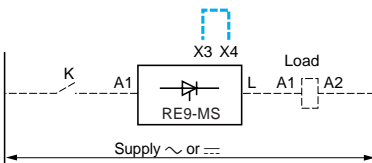
RE9 RA



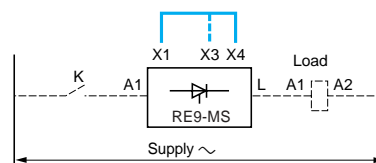
The timing relay is placed in series with the load whose de-energisation is to be delayed. Switch K is connected to terminals Y2 and A2 of the timing relay, and terminal A2 is connected to the mains supply, as indicated in the diagram opposite. The device is operated from an a.c. mains supply whose voltage is between 24 V and 240 V. See function diagram on page opposite.

RE9 MS

Delay on energisation Function A



Pulse-on energisation Function H



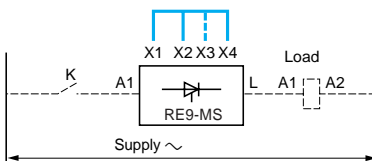
Selection of the timing range

X3-X4 not linked : range 3 s...300 s
(factory configuration)

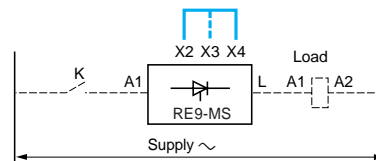
X3-X4 linked : range 0.1 s...10 s

Link to be made between terminals X1 and X4

Symmetrical flasher Start with output in the rest position Function D



Symmetrical flasher Start with output in the operating position Function Di



Link to be made between terminals X2 and X4 on one side and between X1 and X2 on the other side

Link to be made between terminals X1 and X4

Note : For supply voltages greater than 30 V, the rated voltage of the load is equal to the supply voltage. For a supply voltage of 24 V, the voltage drop within the RE9 relay must be taken into account (about 3 V); a coil with a nominal voltage of 21 V must therefore be selected for the load.

3

Timing characteristics

Repeat accuracy (with constant parameters)	Conforming to IEC 1812-1		± 0.5 %
Drift	Temperature		± 0.05 % / °C
	Voltage		± 0.2 % / V
Setting accuracy at full scale	Conforming to IEC 1812-1		± 10 % at 25 °C
Minimum duration of control impulse	Typical	ms	30
	Typical under load	ms	100
Maximum reset time by de-energisation	Typical	ms	100
Immunity time to microbreaks	Typical	ms	> 10




Supply characteristics

Multivoltage supply			Depending on version, see pages 3/10
Frequency		Hz	50/60
Operating range			85...110 % of Un
On-load factor			100 %
Maximum power consumption	Depending on model	\equiv 24 V	W 0.6
		\equiv 240 V	W 1.5
		\sim 240 V	VA 32

Output characteristics

Output type			Relay, 1 C/O contact, AgNi (cadmium-free)
Breaking capacity			\sim 2000 VA, \equiv 80 W
Maximum breaking current		A	\sim 8, \equiv 8
Minimum breaking current		mA	10 / \equiv 5 V
Maximum switching voltage		V	\sim / \equiv 250
Electrical life			10 ⁵ operations 8 A 250 V resistive
Mechanical life			5 x 10 ⁶ operations
Dielectric strength	Conforming to IEC 1812-1	kV	2.5/1min/1 mA/50 Hz
Impulse voltage	Conforming to IEC 664-1, IEC 1812-1	kV	5, wave 1.2/50 μ s

Display characteristics

State indication by 1 LED	Green		<p>Operating status indication</p> <p> Pulsing : relay energised, no timing in progress (except Di-D and Li-L)</p> <p> Flashing : timing in progress</p> <p> On steady : relay energised, no timing in progress</p>
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Input characteristics

Input type		V	<p>Volt-free contact (no potential)</p> <p>Control possible by 3-wire sensor with PNP output, maximum residual voltage : 0.4 V whatever the supply voltage of the relay</p>
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General characteristics				
Conforming to standards			IEC 1812-1, EN 50081-1/2, EN 50082-1/2, LV directives (73/23/EEC + 93/68/EEC (CE marking) + EMC (89/336/EEC + IEC 669-2-3)	
Product certifications			c UL us, CSA, GL except RE 88 826 503	
Temperature limits	Operation	°C	- 20...+ 60	
	Storage	°C	- 30...+ 60	
Creepage distance and clearance	Conforming to IEC 60664-1	kV	4 kV/3	
Degree of protection conforming to IEC 529	Terminal block		IP 20	
	Enclosure		IP 40	
	Panel-mounted		IP 50	
Vibration resistance	Conforming to IEC 68-2-6		f = 10...55 Hz A = 0.35 mm	
Relative humidity without condensation	Conforming to IEC 68-2-3		93 %	
Electromagnetic compatibility	Immunity to electrostatic discharge, conforming to IEC 1000-42		Level III (Air 8 kV/Contact 6 kV)	
	Immunity to electromagnetic fields, conforming to ENV 50140/204 (IEC 1000-4-3)		Level III 10 V/m : (80 MHz...1 GHz)	
	Immunity to fast transients in bursts, conforming to IEC 1000-4-4		Level III (direct 2 kV / capacitive connecting clip 1 kV)	
	Immunity to surges on the power supply, conforming to IEC 1000-4-5		Level III (common mode 2 kV / differential mode 1 kV)	
	Immunity to radio frequency interference in common mode conforming to ENV 50141 (IEC 1000-4-6)		Level III (10 V rms : 0.15...80 MHz)	
	Immunity to voltage dips and breaks conforming to IEC 1000-4-11			30 % / 10 ms
				60 % / 100 ms >
			95 % / 5 s	
Radiated and mains conducted disturbance conforming to EN 55022 (EN 55011 Group 1)			Class B	
Mounting method	Symmetrical mounting rail (EN 50022)	mm	35	
Clamping capacity	Without cable end	mm ²	2 x 2.5	
	With cable end	mm ²	2 x 1.5	
Spring terminals, 2 terminals per connection point	Flexible cable	mm ²	1.5	
	Solid cable	mm ²	2.5	
Enclosure material			Self-extinguishing	

Zelio Time - timing relays

Modular relays, relay output,
width 17.5 mm

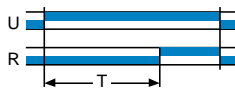
Relay output, 1 C/O contact

- Multifunction or single function
- Multi-range (7 switchable ranges)
- Multivoltage
- 1 relay output: 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

Function diagrams

Function A

Delay on energisation



Function H

Timing on energisation
Pulse-on energisation



Function Li

Asymmetrical recycler
Pulse start



Function B

Timing on impulse, one shot



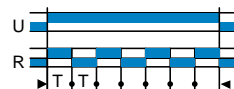
Function L

Asymmetrical recycler
Start after pause



Function Di

Symmetrical flasher, start
with output in operating
position



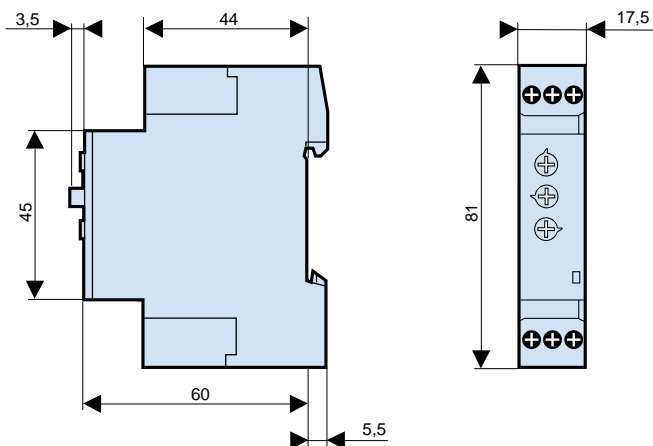
References



Connection	Screw terminals	●	●	●
	Spring terminals	—	—	—
Functions		Multifunction A - At - B - C - H - Ht - Di - D Ac - Bw	Dual function A - At	Single function B
Timing ranges	7 ranges	1 s - 10 s - 1 min - 10 min - 1 h - 10 h - 100 h		
Rated current		8 A	8 A	8 A
Voltages	$\overline{\text{=}} 24 \text{ V} / \sim 24 \dots 240 \text{ V}$	RE 88 826 105	RE 88 826 115	RE 88 826 125
	$\sim / \overline{\text{=}} 12 \dots 240 \text{ V}$	—	—	—
Weight (kg)		0.060	0.060	0.060

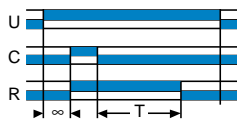
Dimensions and connection schemes

Dimensions



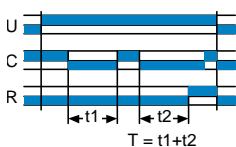
Function C

Off-delay, with control contact



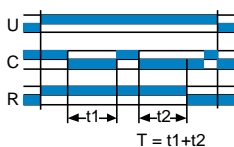
Function At

Timing on energisation with memory



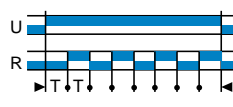
Function Ht

Delay on energisation with memory



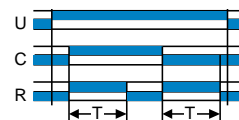
Function D

Symmetrical flasher, start with output in rest position



Function Bw

Pulse output (adjustable)



Function Ac

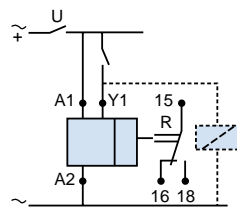
Timing after closing/opening of control contact



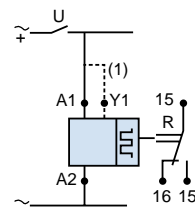
•	•	•	•	•
–	–	–	–	–
Single function	Dual function	Dual function	Multifunction	Multifunction
C	H - Ht	Li - L	A - At - B - C - H - Ht - Di - D - Ac - Bw	A - At - B - C - H - Ht - Di - D - Ac - Bw
1 s - 10 s - 1 min - 10 min - 1 h - 10 h - 100 h				
8 A	8 A	8 A	8 A	8 A
RE 88 826 135	RE 88 826 145	RE 88 826 155	–	–
–	–	–	RE 88 826 103	RE 88 826 503
0.060	0.060	0.060	0.060	0.060

Connection scheme

All functions except L and Li



Functions L and Li



(1) Link A1-Y1 for function L only.

Zelio Time - timing relays

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

3

Timing characteristics

Repeat accuracy (with constant parameters)	Conforming to IEC 1812-1		± 0.5 %
Drift	Temperature		± 0.05 % / °C
	Voltage		± 0.2 % / V
Full scale setting accuracy	Conforming to IEC 1812-1		± 10 % at 25 °C
Minimum duration of control impulse	Typical	ms	30
	Typical under load	ms	100
Maximum reset time by de-energisation	Typical	ms	100
Immunity time to microbreaks	Typical	ms	> 10




Supply characteristics

Mutivoltage supply			Depending on version, see pages 3/18 and 3/19
Frequency		Hz	50/60
Operating range			85...110 % Un (85...120 Un for \sim/\dots 12 V)
On-load factor			100 %
Maximum power consumption	Depending on model	\dots 24 V	W 0.6
		\dots 240 V	W 1.5
		\sim 240 V	VA 32

Output characteristics

Output type			Relay, C/O contact AgNi (cadmium free)
Breaking capacity			\sim 2000 VA, \dots 80 W
Maximum breaking current		A	\sim 8, \dots 8
Minimum breaking current		mA	10 / \dots 5 V
Maximum switching voltage		V	\sim/\dots 250
Electrical life			10 ⁵ operations 8 A 250 V resistive
Mechanical life			5 x 10 ⁶ operations
Dielectric strength	Conforming to IEC 1812-1	kV	2.5/1min/1 mA/50 Hz
Impulse voltage	Conforming to IEC 664-1, IEC 1812-1	kV	5, wave 1.2/50 μ s

Display characteristics

State indication by 2 LEDs	Green		Operating state indication green LED  Pulsing: relay energised, no timing in progress (except Di-D and Li-L)  Flashing: timing in progress  On steady: relay energised, no timing in progress
	Yellow		On-delay relay

Input characteristics

Input type		V	Volt-free contact (no potential) Control possible by 3-wire sensor with PNP output, maximum residual voltage: 0.4 V whatever the supply voltage of the timer
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Zelio Time - timing relays

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

General characteristics				
Conforming to standards			IEC 1812-1, EN 50081-1/2, EN 50082-1/2, LV directives (73/23/EEC + 93/68/EEC (CE marking) + EMC (89/336/EEC + IEC 669-2-3)	
Product certifications			c UL us, CSA, GL except RE 88 865 503	
Temperature limits	Operation	°C	- 20...+ 60	
	Storage	°C	- 30...+ 60	
Creepage distance and clearance	Conforming to IEC 60664-1	kV	4 kV/3	
Degree of protection conforming to IEC 529	Terminal block		IP 20	
	Enclosure		IP 40	
	Front panel		IP 50	
Vibration resistance	Conforming to IEC 68-2-6		f = 10...55 Hz A = 0.35 mm	
Relative humidity without condensation	Conforming to IEC 68-2-3		93 %	
Electromagnetic compatibility	Immunity to electrostatic discharge, conforming to IEC 1000-42		Level III (Air 8 kV/Contact 6 kV)	
	Immunity to electromagnetic fields, conforming to ENV 50140/204 (IEC 1000-4-3)		Level III 10 V/m : (80 MHz...1 GHz)	
	Immunity to fast transients in bursts conforming to IEC 1000-4-4		Level III (direct 2 kV / capacitive connecting clip 1 kV)	
	Immunity to surges on the power supply, conforming to IEC 1000-4-5		Level III (common mode 2 kV / differential mode 1 kV)	
	Immunity to radio frequency interference in common mode conforming to ENV 50141 (IEC 1000-4-6)		Level III (10 V rms : 0.15...80 MHz)	
	Immunity to voltage dips and breaks conforming to IEC 1000-4-11			30 % / 10 ms
				60 % / 100 ms
				95 % / 5 s
Radiated and mains conducted disturbance conforming to EN 55022 (EN 55011 Group 1)			Class B	
Fixing	Symmetrical mounting rail (EN 50022)	mm	35	
Clamping capacity	Without cable end	mm²	2 x 2.5	
	With cable end	mm²	2 x 1.5	
Spring terminals, 2 terminals per connection point	Flexible cable	mm²	1.5	
	Solid cable	mm²	2.5	
Enclosure material			Self-extinguishing	

Zelio Time - timing relays

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

3

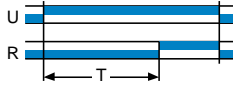
Relay output, 1 C/O contact

- Multifunction or single function
- Multi-range (7 switchable ranges)
- Multivoltage
- 1 relay output: 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

Function diagrams

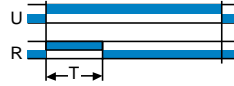
Function A

Delay on energisation



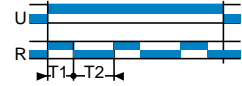
Function H

Timing on energisation



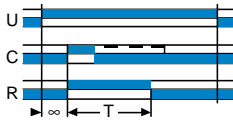
Function Li

Asymmetrical recycler
Pulse start



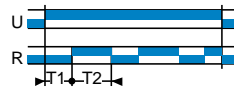
Function B

Timing on impulse, one shot



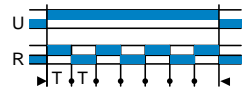
Function L

Asymmetrical recycler
Start after pause



Function Di

Flashing relay
Pulse start



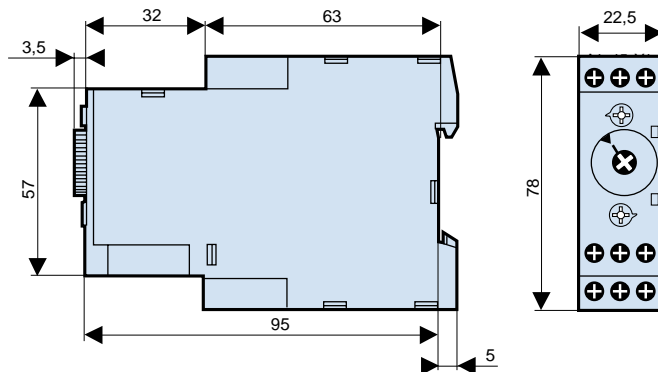
References

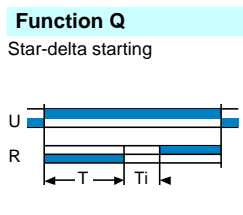
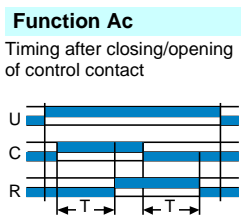
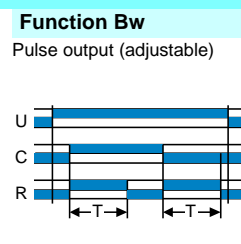
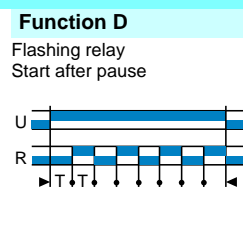
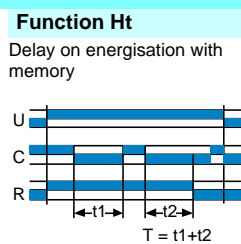
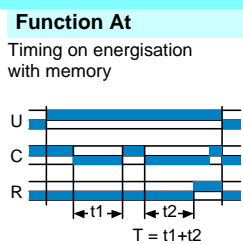
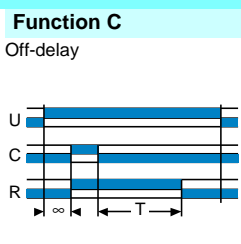


Connection	Screw terminals	●	●	●
	Spring terminals	-	-	-
Functions		Multifunction	Dual function	Single function
		A - At - B - C - H - Ht - Di - D Ac - Bw	A - At	B
Timing ranges	7 ranges	1 s - 10 s - 1 min - 10 min - 1 h - 10 h - 100 h		
Selectable interswitching time		-	-	-
Rated current		8 A	8 A	8 A
Voltages	$\overline{\sim}$ 24 V / \sim 24...240 V	RE 88 865 105	RE 88 865 115	RE 88 865 125
	$\sim/\overline{\sim}$ 12 V	-	-	-
	$\sim/\overline{\sim}$ 12...240 V	-	-	-
	\sim 230 / 380 V	-	-	-
Weight (kg)		0.090	0.090	0.090

Dimensions and connection schemes

Dimensions

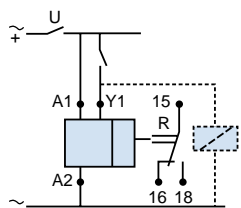




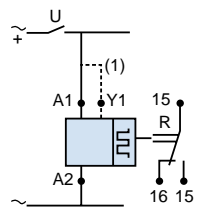
●	●	●	●	●	●	●
Single function	Dual function	Dual function	Single function	Single function	Multifunction	Multifunction
C	H - Ht	Li - L	Q	Q	A - At - B - C - H - Ht - Di - D - Ac - Bw	A - At - B - C - H - Ht - Di - D - Ac - Bw
1 s - 10 s - 1 min - 10 min - 1 h - 10 h - 100 h						
-	-	-	20 - 40 - 60 - 80 - 100 - 120 - 140 ms	20 - 40 - 60 - 80 - 100 - 120 - 140 ms	-	-
8 A	8 A	8 A	8 A	8 A	8 A	8 A
RE 88 865 135	RE 88 865 145	RE 88 865 155	RE 88 865 175	-	-	-
-	-	-	-	-	RE 88 865 103	RE 88 865 503
-	-	-	-	RE 88 865 176	-	-
0.090	0.090	0.090	0.090	0.090	0.090	0.090

Connection schemes

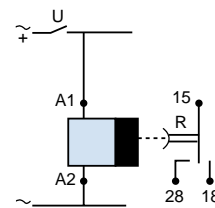
All functions except L and Li



Functions L and Li



Function Q



(1) Link A1-Y1 for function L only.

Zelio Time - timing relays

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

3

Timing characteristics

Repeat accuracy (with constant parameters)	Conforming to IEC 1812-1		± 0.5 %
Drift	Temperature		± 0.05 % / °C
	Voltage		± 0.2 % / V
Full scale setting accuracy	Conforming to IEC 1812-1		± 10 % at 25 °C
Minimum duration of control impulse	Typical	ms	30
	Typical under load	ms	100
Maximum reset time by de-energisation	Typical	ms	100
Immunity time to microbreaks	Typical	ms	> 10




Supply characteristics

Multivoltage supply			Depending on version, see pages 3/22 and 3/23
Frequency		Hz	50/60
Operating range			85...110 % Un (85...120 Un for $\sim/\text{---}$ 12 V)
On-load factor			100 %
Maximum power consumption	Depending on model	--- 24 V	W 0.6
		--- 240 V	W 1.5
		\sim 240 V	VA 32

Output characteristics

Output type			Relay, C/O contacts, AgNi (cadmium-free)
Breaking capacity			\sim 2000 VA, --- 80 W
Maximum breaking current		A	\sim 8, --- 8
Minimum breaking current		mA	10 / --- 5 V
Maximum switching voltage		V	$\sim/\text{---}$ 250
Electrical life			10 ⁵ operations 8 A 250 V resistive
Mechanical life			5 x 10 ⁶ operations
Dielectric strength	Conforming to IEC 1812-1	kV	2.5/1 min/1 mA/50 Hz
Impulse voltage	Conforming to IEC 664-1, IEC 1812-1	kV	5, wave 1.2/50 μ s

Display characteristics

State indication by 2 LEDs	Green		Operating state indication green LED  Pulsing: relay energised, no timing in progress (except Di-D and Li-L)  Flashing: timing in progress  On steady: relay energised, no timing in progress
	Yellow		On-delay relay

Input characteristics

Input type		V	Volt-free contact (no potential) Control possible by 3-wire sensor with PNP output, maximum residual voltage: 0.4 V whatever the supply voltage of the timer
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General characteristics				
Conforming to standards			IEC 1812-1, EN 50081-1/2, EN 50082-1/2, LV directives (73/23/EEC + 93/68/EEC (CE marking) + EMC (89/336/EEC + IEC 669-2-3)	
Product certifications			c UL us, CSA GL except RE 88 865 265	
Temperature limits	Operation	°C	- 20...+ 60	
	Storage	°C	- 30...+ 60	
Creepage distance and clearance	Conforming to IEC 60664-1	kV	4 kV/3	
Degree of protection conforming to IEC 529	Terminal block		IP 20	
	Enclosure		IP 40	
	Front panel		IP 50 except RE 88 865 265	
Vibration resistance	Conforming to IEC 68-2-6		f = 10...55 Hz A = 0.35 mm	
Relative humidity without condensation	Conforming to IEC 68-2-3		93 %	
Electromagnetic compatibility	Immunity to electrostatic discharge, conforming to IEC 1000-42		Level III (Air 8 kV/Contact 6 kV)	
	Immunity to electromagnetic fields, conforming to ENV 50140/204 (IEC 1000-4-3)		Level III 10 V/m : (80 MHz...1 GHz)	
	Immunity to fast transients in bursts conforming to IEC 1000-4-4		Level III (direct 2 kV / capacitive connecting clip 1 kV)	
	Immunity to surges on the power supply, conforming to IEC 1000-4-5		Level III (common mode 2 kV / differential mode 1 kV)	
	Immunity to radio frequency interference in common mode conforming to ENV 50141 (IEC 1000-4-6)		Level III (10 V rms : 0.15...80 MHz)	
	Immunity to voltage dips and breaks, conforming to IEC 1000-4-11			30 % / 10 ms
				60 % / 100 ms >
			95 % / 5 s	
Radiated and mains conducted disturbance conforming to EN 55022 (EN 55011 Group 1)			Class B	
Fixing	Symmetrical mounting rail (EN 50022)	mm	35	
Clamping capacity	Without cable end	mm ²	2 x 2.5	
	With cable end	mm ²	2 x 1.5	
Enclosure material			Self-extinguishing	
Weight : 22.5 mm enclosure		g	90	

Zelio Time - timing relays

Industrial single or multifunction relays,
relay outputs, width 22.5 mm

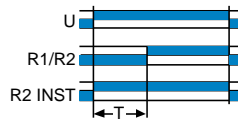
3

Relay output, 2 C/O contacts

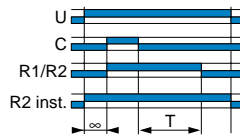
- Multifunction or single function
- Multi-range (7 switchable ranges)
- Multivoltage
- 2 relay outputs: 8 A - 250 V (10 A UL) of which 1 instantaneous
- Screw terminals
- State indication by 1 LED
- Option of supplying a load in parallel
- 3-wire sensor control option

Function diagrams

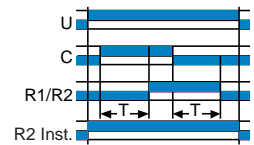
Function A
Delay on energisation,
2 timed contacts or
2 timed contacts, 1 of which
convertible to instantaneous



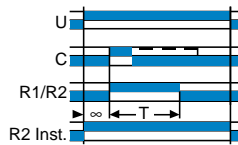
Function C
Off-delay
2 timed contacts or
2 timed contacts, 1 of which
convertible to instantaneous



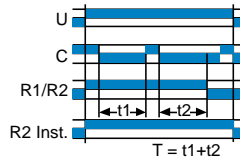
Function Ac
Timing after closing/opening
of control contact
2 timed contacts or
2 timed contacts, 1 of which
convertible to instantaneous



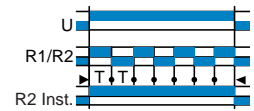
Function B
Timing on impulse, one shot
2 timed contacts or
2 timed contacts, 1 of which
convertible to instantaneous



Function Ht
Delay on energisation with
memory
2 timed contacts or
2 timed contacts, 1 of which
convertible to instantaneous



Function Di
Flashing relay
Pulse start
2 timed contacts or
2 timed contacts, 1 of which
convertible to instantaneous



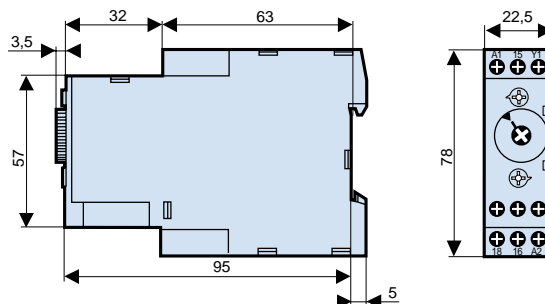
References



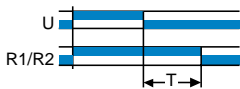
Connection	Screw terminals	●	●
Functions		Multifunction	Dual function
		A - At - B - C - H - Ht - Di - D - Ac - Bw	A - At
Timing ranges	7 ranges 4 ranges	1 s - 10 s - 1 min - 10 min - 1 h - 10 h - 100 h	-
Relay output		2 timed contacts, 1 convertible to instantaneous	2 timed contacts
Rated current		8 A	8 A
Voltages	$\overline{\sim}$ 24 V / \sim 24...240 V $\sim/\overline{\sim}$ 12 V	RE 88 865 305	RE 88 865 215
Weight (kg)		0.090	0.090

Dimensions and connection schemes

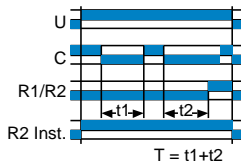
Dimensions



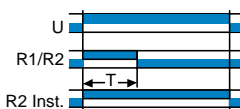
Function K
 Delay on de-energisation
 True off-delay
 (without auxiliary supply)
 2 timed contacts



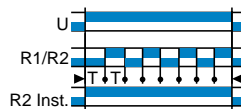
Function At
 Timing on energisation
 with memory
 2 timed contacts or
 2 timed contacts, 1 of which
 convertible to instantaneous



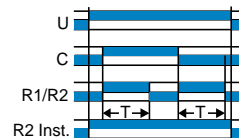
Function H
 Timing on energisation
 2 timed contacts or
 2 timed contacts, 1 of which
 convertible to instantaneous



Function D
 Flashing relay
 Start after pause
 2 timed contacts or
 2 timed contacts, 1 of which
 convertible to instantaneous



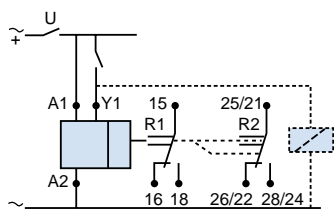
Function Bw
 Pulse output (adjustable)
 2 timed contacts or
 2 timed contacts, 1 of which
 convertible to instantaneous



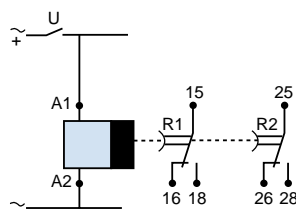
Single function	Multifunction
K	A - At - B - C - H - Ht - Di - D - Ac - Bw
-	1 s - 10 s - 1 min - 10 min - 1 h - 10 h - 100 h
0.6 s - 2.5 s - 20 s - 160 s	-
2 timed contacts	2 timed contacts, 1 convertible to instantaneous
8 A	8 A
RE 88 865 265	-
-	RE 88 865 303
0.090	0.090

Connection schemes

All functions except K



Function K



Zelio Time - timing relays

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

Presentation



The RE7 range of relays, with only 23 references, covers all timing applications.

These relays offer multi-range timing from 50 ms to 300 h.

They are multivoltage.

Three models combine several different functions: multifunction relays.

These products have a transparent, hinged flap on their front face to avoid any accidental alteration of the settings. This flap can be directly sealed.

Environment

Conforming to standards		IEC 61812-1, EN 61812-1	
Product certifications		CSA, GL pending, UL	
CE marking		Zelio Time timing relays conform to European regulations relating to CE marking	
Ambient air temperature around the device	Storage	°C	- 40...+ 85
	Operation	°C	- 20...+ 60
Permissible relative humidity range	Conforming to IEC 60721-3-3		15...85 % Environmental class 3K3
Vibration resistance	Conforming to IEC 6068-2-6, 10 to 55 Hz		a = 0.35 ms
Shock resistance	Conforming to IEC 6068-2-27		15 gn - 11 ms
Degree of protection	Casing	IP 50	
	Terminals	IP 20	
Degree of pollution	Conforming to IEC 60664-1		3
Overvoltage category	Conforming to IEC 60664-1		III
Rated insulation voltage Between contact circuit and power supply or between contact circuit and control inputs	Conforming to IEC	V	250
	Conforming to CSA	V	300
Test voltage for insulation tests	Dielectric test	kV	2.5
	Shock wave	kV	4.8
Voltage limits	Power supply circuit		0.85...1.1 Uc
Frequency limits	Power supply circuit		50/60 ± 5 %
Disconnection value	Power supply circuit		> 0.1 Uc
Mounting position without derating	In relation to normal vertical mounting plane		Any position
Cabling Maximum c.s.a.	Flexible cable without cable end	mm ²	2 x 2.5
	Flexible cable with cable end	mm ²	2 x 1.5
Tightening torque			N.m 0.6...1.1

Immunity to electromagnetic interference (EMC) (application class 2 conforming to EN 61812-1)

Electrostatic discharge	Conforming to IEC 61000-4-2	Level 3 (6 kV contact, 8 kV air)			
Electromagnetic fields	Conforming to IEC 61000-4-3	Level 3 (10 V/m)			
Fast transients	Conforming to IEC 61000-4-4	Level 3 (2 kV)			
Shock waves	Conforming to IEC 61000-4-5	Level 3 (2 kV)			
Radiated and conducted emissions	CISPR11	Group 1 class A			
	CISPR22	Class A			

Consumption

Average consumption		~ 50/60 Hz					---				
		24 V	48 V	110 V	240 V		24 V	48 V	110 V	240 V	
	RE7-●●11BU	VA	0.7	1.6	1.8	8.5	W	0.5	1.2	—	—
	RE7-●●12BU and RE7-●●13BU	VA	1.2	2	2.8	12.5	W	0.8	1.6	—	—
	RE7-●●●●MW (1)	VA	2	2.5	3.2	6	W	2	1	3.2	2

(1) RE7-RB●●MW: current peak on energisation = 1 A / 30 ms.

Timing characteristics

Setting accuracy	As % of the full-scale value		± 10 %
Repeat accuracy			± 0.2 %
Influence of voltage	In the voltage range, 0.85...1.1 Un		< 0.2 %
Influence of temperature			< 0.07 %/°C
Immunity to microbreaks		ms	3
Minimum control pulse		ms	20 (except RE7-RB1●MW: 1 s)
Reset time		ms	50

Output circuit characteristics

Maximum switching voltage	V	≈ 250		
Mechanical durability	In millions of operating cycles	20		
Current limit Ith	A	8 (except RE7-RB●●MW: 5 A)		
Rated operational limits at 70 °C Conforming to IEC 60947-5-1/1991 and VDE 0660	AC-15	24 V	115 V	250 V
		A	3	3
	DC-13	A	2	0.2
Minimum switching capacity		12 V/10 mA		
Contact material		90/10 nickel silver (except RE7-RB●●MU: gold flashed silver alloy)		

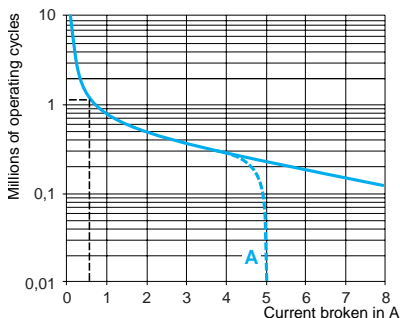
Remote control input characteristics

Maximum voltage	Applicable to inputs Y1Z2, X1Z2, X2Z2	V	60	
Signal delivered by control inputs Y1Z2, X1Z2, X2Z2 ⚠ No galvanic insulation between these inputs and the supply	Switching current	mA	< 1	
	Maximum distance	m	50	
	Compatibility		3/4-wire PNP and NPN Telemecanique sensors or other sensors without an internal load	
Potentiometer for connection between terminals Z1Z2, Z3Z2	Type		Linear at ± 20 %	
	Resistance	kΩ	47 ± 20 %	
	Power	W	0.2	
	Maximum distance	m	25 by shielded cable: shielding linked to terminal Z2	

a.c. load

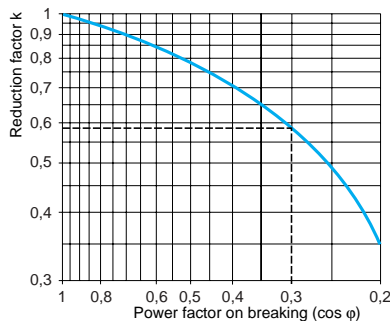
Curve 1

Electrical durability of contacts on resistive load in millions of operating cycles



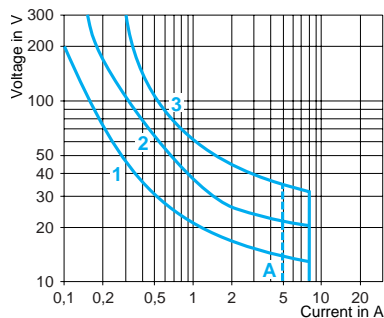
Curve 2

Reduction factor k for inductive loads (applies to values taken from durability curve 1)



d.c. load

Load limit curve



A RE7-RB●●MW

Example:

An LC1-F185 contactor supplied with 115 V/50 Hz for a consumption of 55 VA or a current consumption equal to 0.1 A and $\cos \phi = 0.3$.

For 0.1 A, curve 1 indicates a durability of approximately 1.5 million operating cycles.

As the load is inductive, it is necessary to apply a reduction coefficient k to this number of cycles as indicated by curve 2.

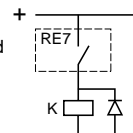
For $\cos \phi = 0.3$: $k = 0.6$

The electrical durability therefore becomes:

$1.5 \cdot 10^6$ operating cycles $\times 0.6 = 900\,000$ operating cycles.

A RE7-RB●●MW

- 1 L/R = 20 ms
- 2 L/R with load protection diode
- 3 Resistive load



Zelio Time - timing relays

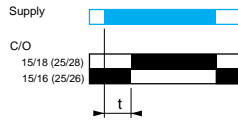
Industrial single-function relays,
relay output, width 22.5 mm

Relay output, 1 C/O contact
Multiple timing ranges

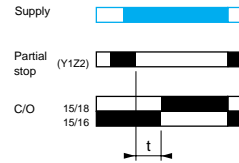
3

Function diagrams

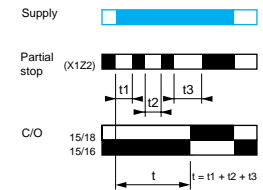
Function A
Delay on energisation



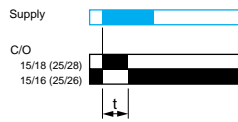
Function Wt
External control for start of time delay



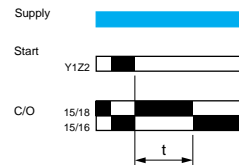
Function At
External control for partial stop of time delay (with memory)



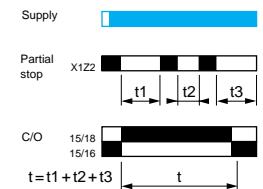
Function H
Pulse-on energisation
Start on energisation



Function Hi
Start on opening of external control contact



Function Ht
External control for partial stop of time delay (with memory)



References

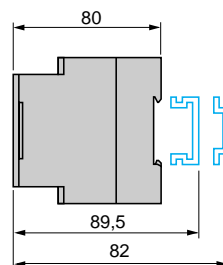


Functions	A	A, Wt, At	Ac	Ae, Af
Timing ranges	0.05 s...300 h 10 ranges	0.05 s...300 h 10 ranges	0.05 s...300 h 10 ranges	0.05 s...300 h 10 ranges
Voltages	<ul style="list-style-type: none"> ☐ or ~ 24 V ~ 110...240 V ~ or ☐ 42...48 V ☐ or ~ 24...240 V 	<ul style="list-style-type: none"> ● ● ● — 	<ul style="list-style-type: none"> ● ● ● — 	<ul style="list-style-type: none"> ● ● ● —
References	RE7 TL11BU	RE7 TM11BU	RE7 MA11BU	RE7 MV11BU
Weight (kg)	0.150	0.150	0.150	0.150

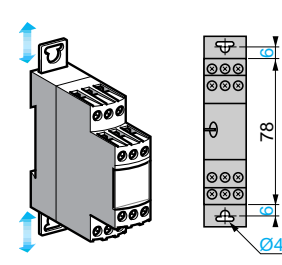
Dimensions and connection schemes

Dimensions

Rail mounting

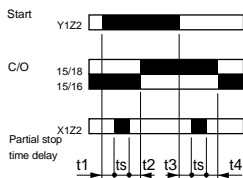


Screw fixing



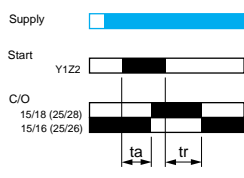
Function Ac

Remote control for partial stop of time delay



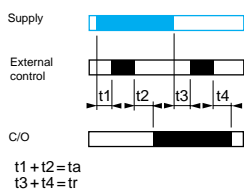
Function Ae

External control for start of time delay



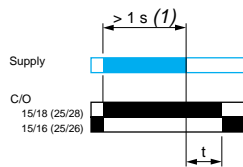
Function Af

Asymmetrical On-delay and Off-delay with external control



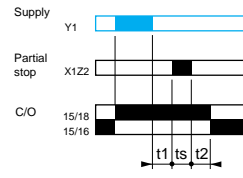
Function K

Off-delay



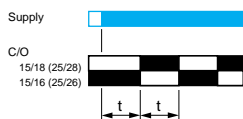
Function Hf

Remote control for stop of time delay



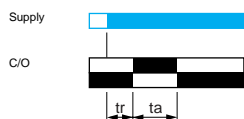
Function D

Symmetrical flasher, start with output in rest position



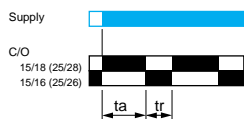
Function L

Start with output in rest position (X2Z2 not linked)



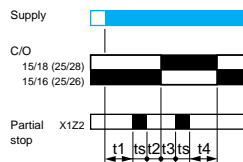
Function Li

Asymmetrical flasher. Start with output in operating position (X2Z2 linked)



Function Lt

External control for partial stop of time delay



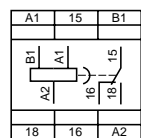
(1) If the device has been stored, de-energised, for more than a month, it must be energised for about 15 seconds in order to activate it. Subsequently, it only takes 1 second to start the time delay. Δ If this time is not complied with, the relay remains energised indefinitely.



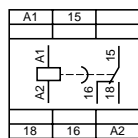
K	Hf	H	Hi, Ht	D	L, Li, Lt
0.05 s...10 min 7 ranges	0.05 s...300 h 10 ranges	0.05 s...300 h 10 ranges	0.05 s...300 h 10 ranges	0.05 s...300 h 10 ranges	0.05 s...300 h 10 ranges
-	•	•	•	•	•
-	•	•	•	•	•
-	•	-	•	-	•
•	-	-	-	-	-
RE7 RB11MW	RE7 RA11BU RE7 RM11BU low level contact	RE7 PE11BU	RE7 PM11BU	RE7 CL11BU	RE7 CV11BU
0.150	0.150	0.150	0.150	0.150	0.150

Connection schemes

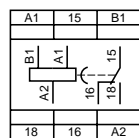
RE7 TL11BU



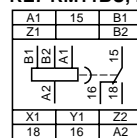
RE7 RB11MW



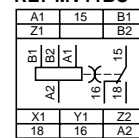
RE7 PE11BU



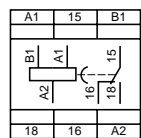
RE7 TM11BU, RE7 RA11BU
RE7 RM11BU, RE7 PM11BU



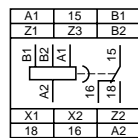
RE7 MA11BU
RE7 MV11BU



RE7 CL11BU



RE7 CV11BU



Characteristics :
pages 3/24 and 3/25

Dimensions :
page 3/26

Schemes :
pages 3/30 and 3/31

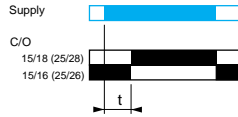
Relay output, 2 C/O contacts
Multiple timing ranges

3

Function diagrams

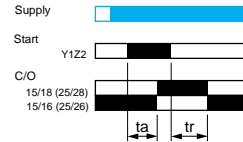
Function A

Start on energisation



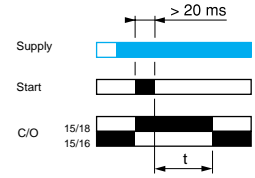
Function Ac

External control for start of time delay



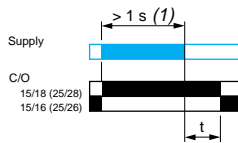
Function C

Off-delay with external control for start of time delay



Function K

Off-delay



(1) If the device has been stored, de-energised, for more than a month, it must be energised for about 15 seconds in order to activate it. Subsequently, it only takes 1 second to start the time delay. Δ If this time is not complied with, the relay remains energised indefinitely.

References



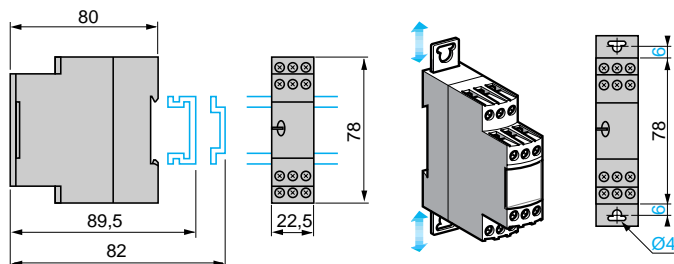
Functions	A	Ac	C	K
Timing ranges	0.05 s...300 h 10 ranges	0.05 s...300 h 10 ranges	0.05 s...300 h 10 ranges	0.05 s... 10 min 7 ranges
Voltages	<ul style="list-style-type: none"> • \equiv or \sim 24 V • \sim 110...240 V • \sim or \equiv 42...48 V • \equiv or \sim 24...240 V 	<ul style="list-style-type: none"> • • • • 	<ul style="list-style-type: none"> • • • • 	<ul style="list-style-type: none"> • • • •
References	RE7 TP13BU	RE7 MA13BU symmetrical	RE7 RL13BU low level contact	RE7 RB13MW
Weight (kg)	0.150	0.150	0.150	0.150

Dimensions and connection schemes

Dimensions

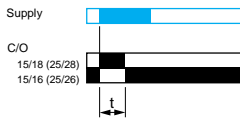
Rail mounting

Screw fixing



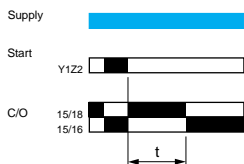
Function H

Pulse-on energisation
Start on energisation



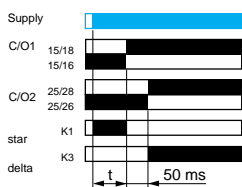
Function Hi

Start on opening of external control contact



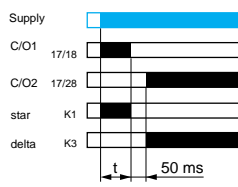
Function Qt

Timing relays for star-delta starters



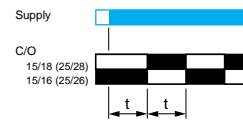
Function Qg

Timing relays for star-delta starters



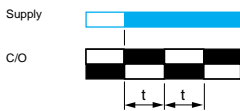
Function D

Symmetrical flasher, start with output in rest position



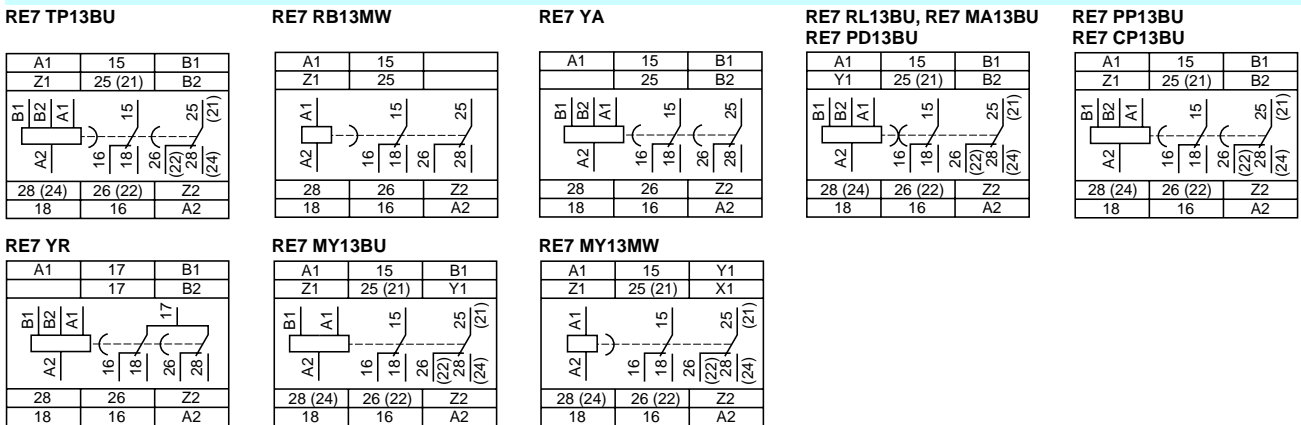
Function Di

Symmetrical flasher start with output in operating position



H	Hi	D	Qt	Qg	A, C, H, Hi, D, Di	A, C, H, Hi, D, Di, Qg, Qt
0.05 s...300 h	0.05 s...300 h	0.05 s...300 h	0.05 s...300 h	0.05 s...300 h	0.05 s...300 h	0.05 s...300 h
10 ranges	10 ranges	10 ranges	10 ranges	10 ranges	10 ranges	10 ranges
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
-	-	-	-	-	-	•
RE7 PP13BU	RE7 PD13BU	RE7 CP13BU	RE7 YA12BU	RE7 YR12BU	RE7 ML11BU	RE7 MY13BU
RE7 MY13MW						
0.150	0.150	0.150	0.150	0.150	0.150	0.150

Connection schemes



Characteristics :
pages 3/24 and 3/25

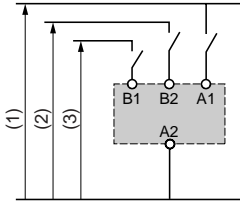
Dimensions :
page 3/29

Schemes :
pages 3/30 and 3/31

Recommended application schemes

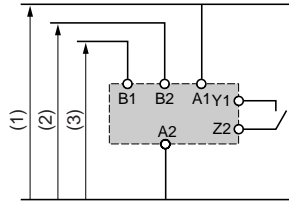
RE7 TL, TM, TP, CL, CP, ML, MY

Start on energisation



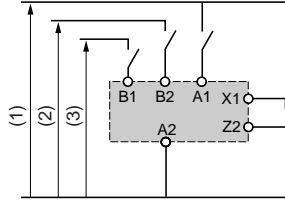
RE7 TM, MA, MV, RM, RL, PM, PD,
ML, MY

Start by external control



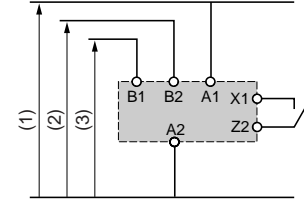
RE7 TM, PM, ML, MY

External control of partial stop



RE7 MA, MV, RA, RM

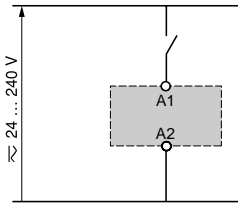
Start by external control



3

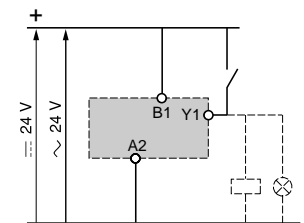
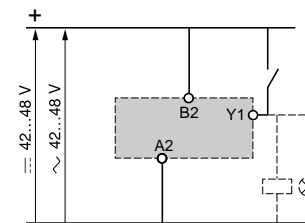
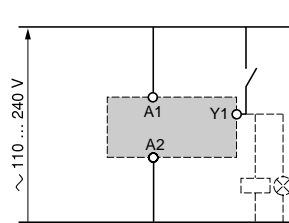
RE7 RB

Start on de-energisation



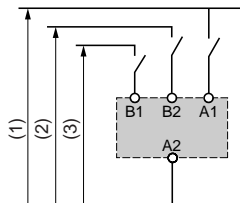
RE7 RA

Start by external control



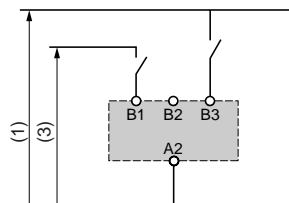
RE7 PP

Start on energisation



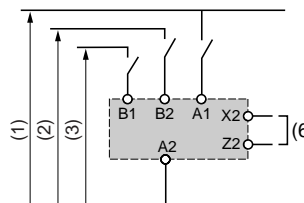
RE7 PE

Start on energisation



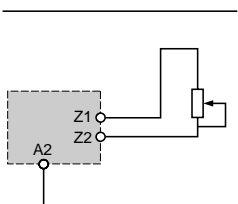
RE7 CV

Selection of starting phase



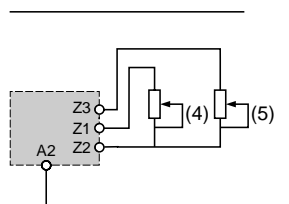
RE7 TM, TP, MA, RA, RM, PP, PM,
ML, MY

Connection of potentiometer



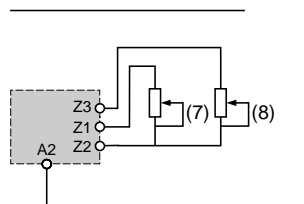
RE7 MV

Connection of potentiometers to
asymmetrical timing relays

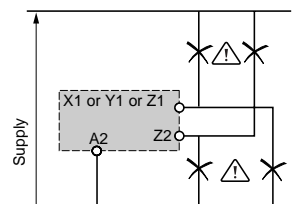


RE7 CV

Connection of potentiometers



Connection precautions



⚠ No galvanic isolation between supply terminals A1, A2, B1, B2 and control inputs X1, Y1, Z1, Z2.

(1) $\sim 110...240$ V except RE7 MY13MW : $\approx 24...240$ V

(2) $\approx 12...48$ V

(3) ≈ 24 V

(4) Adjustment of the On-delay period

(5) Adjustment of the Off-delay period

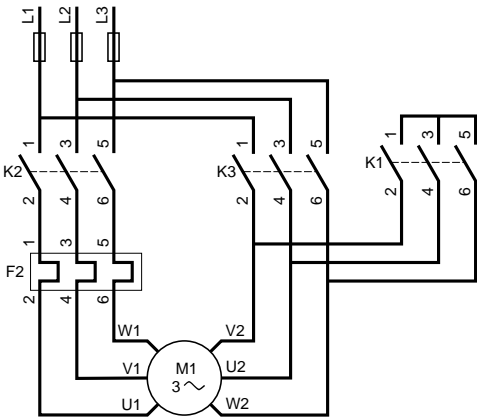
(6) Start during the On-delay period : X2, Z2 not linked

(7) Off-delay adjustment (t_r) (contact 15/16 closed)

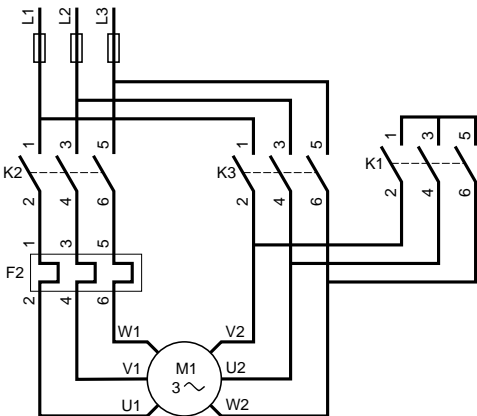
(8) On-delay adjustment (t_a) (contact 15/18 closed)

Recommended application schemes (continued)

Power scheme
RE7 YA12BU

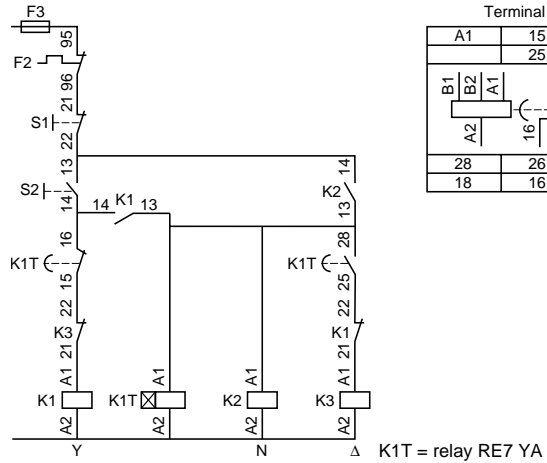


Power scheme
RE7 YR12BU



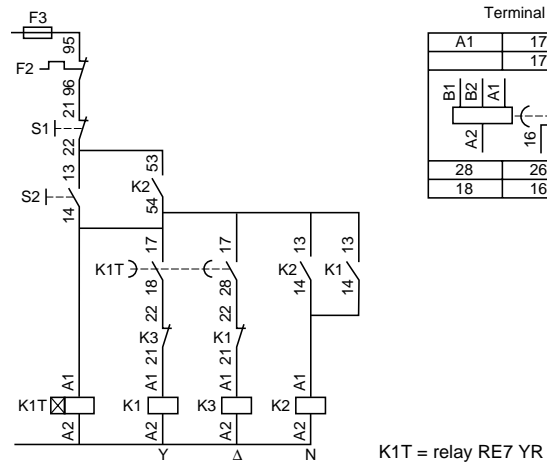
Control schemes

Star-delta function with double On-delay timing Qt



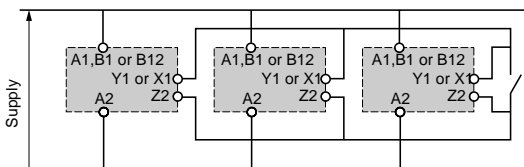
Control schemes

Star-delta function with contact for switching to star connection Q

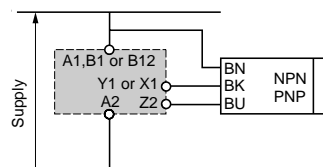


⚠ No galvanic isolation between supply terminals A1, A2, B1, B2 and supply terminal Z2. This terminal must therefore never be used (factory setting).

Control of several relays with a single external control contact



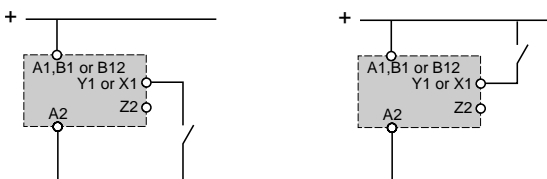
Connection of a Telemecanique 3-wire NPN or PNP sensor



It is advisable to follow the recommended wiring schemes detailed above and on previous pages. However, the connections below are possible if the restrictions given are taken into account.

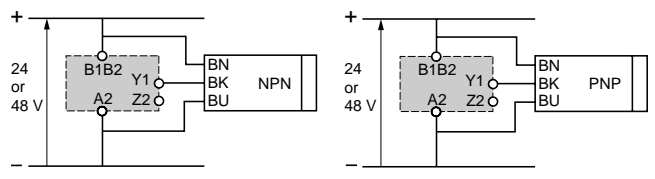
Connection of an external control contact without using terminal Z2:

- possible on all RE7 relays with external control option except RE7 RA11BU,
- d.c. supply only.



Connection of a Telemecanique 3-wire NPN or PNP sensor without using terminal Z2:

- only possible on relay RE7●●●●BU,
- d.c. supply only.



Zelio Time - timing relays

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

Presentation



The RE8 range of relays is designed for simple and repetitive applications, providing basic functions.

Each relay comprises:
 - a single timing range,
 - a C/O output relay.

These products have a transparent, hinged flap on their front face to avoid any accidental alteration of the settings. This flap can be directly sealed.

3

Environment

Conforming to standards			IEC 61812-1. EN 61812-1
Product certifications			CSA, GL pending, UL
CE marking			Zelio Time timing relays conform to European regulations relating to CE marking
Ambient air temperature around the device	Storage	°C	- 40...+ 85
	Operation	°C	- 20...+ 60
Permissible relative humidity range	Conforming to IEC 60721-3-3		15...85 % Environmental class 3K3
Vibration resistance	Conforming to IEC 6068-2-6, 10 to 55 Hz		a = 0.35 ms
Shock resistance	Conforming to IEC 6068-2-27		15 gn - 11 ms
Degree of protection	Casing		IP 50
	Terminals		IP 20
Degree of pollution	Conforming to IEC 60664-1		3
Overvoltage category	Conforming to IEC 60664-1		III
Rated insulation voltage	Conforming to IEC	V	250
	Conforming to CSA	V	300
Test voltage for insulation tests	Dielectric test	kV	2.5
	Shock wave	kV	4.8
Voltage limits	Power supply circuit		0.9...1.1 Uc
Frequency limits	Power supply circuit	Hz	50/60 ± 5 %
Disconnection value	Power supply circuit		> 0.1 Uc
Mounting position without derating	In relation to normal vertical mounting plane		Any position
Connection maximum c.s.a.	Flexible cable without cable end	mm ²	2 x 2.5
	Flexible cable with cable end	mm ²	2 x 1.5
Tightening torque		N.m	0.6...1.1

Immunity to electromagnetic interference (EMC) (application class 2 conforming to EN 61812-1)

Electrostatic discharge	Conforming to IEC 61000-4-2		Level 3 (6 kV contact, 8 kV air)
Electromagnetic fields	Conforming to IEC 61000-4-3		Level 3 (10 V/m)
Fast transients	Conforming to IEC 61000-4-4		Level 3 (2 kV)
Shock waves	Conforming to IEC 61000-4-5		Level 3 (2 kV)
Radiated and conducted emissions	CISPR11		Group 1 class A
	CISPR22		Class A

Consumption

Consumption			~					W	24 V
			24 V	110 V	240 V	380 V	415 V		
	RE8-TA, RA, CL, PE, PU, PT	VA	0.7	1.8	8.5	-	-	W	0.5
	RE8-YG, RB	VA	0.9	2.5	13	-	-	W	0.5
	RE8-YA	VA	0.9	2.5	13	8	9	W	0.7

Timing characteristics

Setting accuracy	As % of the full-scale value		± 20 %
Repeat accuracy			< 1 %
Influence of voltage	In the voltage range, 0.9...1.1 Un		< 2.5 %
Influence of temperature			< 0.2 %/°C
Immunity to microbreaks		ms	3
Minimum control pulse		ms	26 (except RE8-YG: 60)
Reset time		ms	50

Output circuit characteristics

Maximum switching voltage	V	≈ 250		
Mechanical durability	In millions of operating cycles	20		
Current limit Ith	A	8		
Rated operational limits at 70 °C		24 V	115 V	250 V
Conforming to IEC 60947-5-1/1991	AC-15	A	3	3
and VDE 0660	DC-13	A	2	0.2
Minimum switching capacity		12 V/10 mA		
Contact material		90/10 nickel silver		

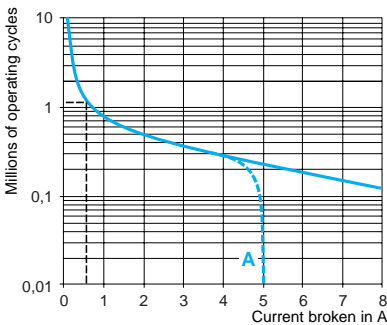
Remote control input characteristics

Signal delivered by control input Y1	No-load voltage		Supply voltage
	Switching current	mA	< 10
⚠ No galvanic insulation between this input and the supply	Maximum distance	m	50
	Compatibility		2-wire sensors --- with leakage current < 1 mA

a.c. load

Curve 1

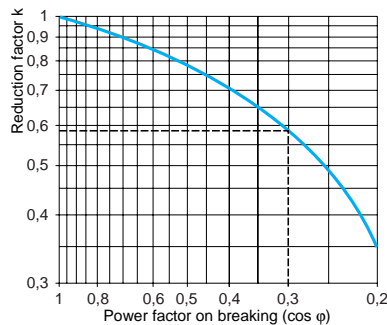
Electrical durability of contacts on resistive load in millions of operating cycles



A RE8-RB●●BUTQ

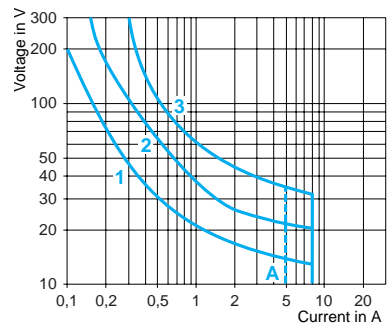
Curve 2

Reduction factor k for inductive loads (applies to values taken from durability curve 1)



d.c. load

Load limit curve



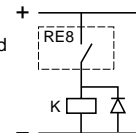
A RE8-RB●●BUTQ

- 1 L/R = 20 ms
- 2 L/R with load protection diode
- 3 Resistive load

Example:

An LC1-F185 contactor supplied with 115 V/50 Hz for a consumption of 55 VA or a current consumption equal to 0.1 A and $\cos \varphi = 0.3$.
 For 0.1 A, curve 1 indicates a durability of approximately 1.5 million operating cycles.
 As the load is inductive, it is necessary to apply a reduction coefficient k to this number of cycles as indicated by curve 2.

For $\cos \varphi = 0.3$: $k = 0.6$
 The electrical durability therefore becomes:
 $1.5 \cdot 10^6 \text{ operating cycles} \times 0.6 = 900\,000 \text{ operating cycles.}$



Zelio Time - timing relays

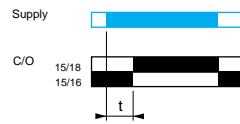
Industrial single-function relays, optimum,
relay output, width 22.5 mm

Relay output, 1 C/O contact
Single timing range

Function diagrams

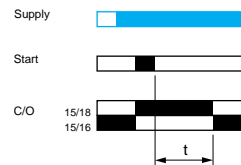
Function A

Start on energisation



Function C

With control contact



References (sold in packs of 10)



Functions

Voltages

— or ~ 24 V
~ 110...240 V
~ 380...415 V

Timing ranges

0.05 s...0.5 s
0.1 s...3 s
0.1 s...10 s
0.3 s...30 s
3 s...300 s
20 s...30 min

Weight (kg)

A

●

●

—

—

—

RE8 TA61BUTQ

RE8 TA11BUTQ

RE8 TA31BUTQ

RE8 TA21BUTQ

RE8 TA41BUTQ

0.110

C

●

—

—

—

—

RE8 RA11BTQ

RE8 RA31BTQ

RE8 RA21BTQ

0.110

—

●

—

—

—

RE8 RA11FUTQ

RE8 RA31FUTQ

RE8 RA21FUTQ

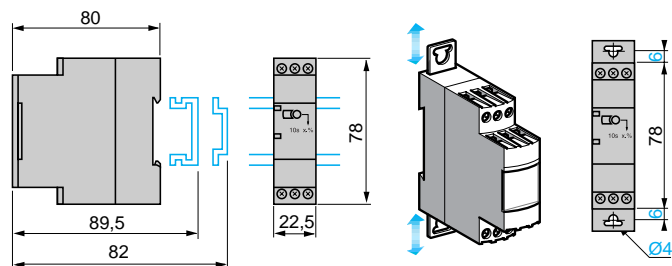
0.110

Dimensions

Dimensions

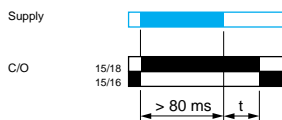
Rail mounting

Screw fixing



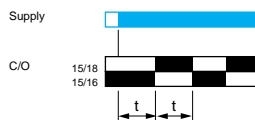
Function K

Off-delay



Function D

Symmetrical



K

•
•
-
RE8 RB51BUTQ
-
RE8 RB11BUTQ
RE8 RB31BUTQ
-
-
0.110

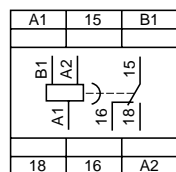
D

•
•
-
RE8 CL11BUTQ
-
-
-
0.110

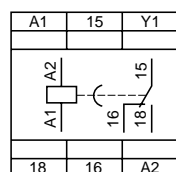
Schemes

Connection schemes

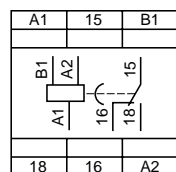
RE8 TA, CL



RE8 RA

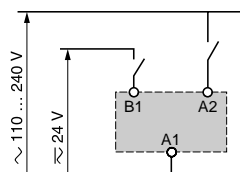


RE8 RB

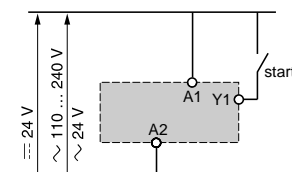


Recommended application schemes

RE8 TA, CL

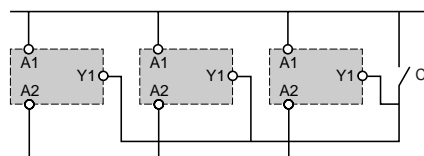


RE8 RA



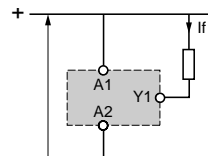
Control of several relays with a single external control contact

RE8 RA, RE8 PD



The external control contact C may be an electronic control device, for example a 2-wire sensor. In this case A1-A2 = ~ 24 V and the control device can only control up to a maximum of 4 relays.

Connection of a ~ 2-wire sensor



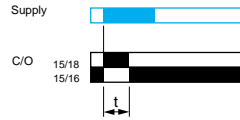
Leakage current (open state) If < 1 mA.

Relay output, 1 C/O contact
Single timing range

Function diagrams

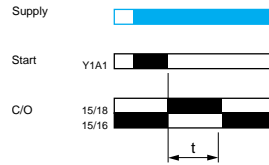
Function H

Pulse-on energisation



Function W

Start on opening of external control contact



References (sold in packs of 10)



3

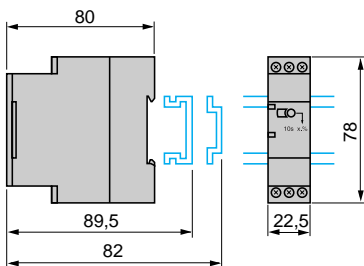
Functions

	H	W	
Voltagess	--- or ~ 24 V ~ 110...240 V ~ 380...415 V	●	—
Timing ranges	0.05 s...0.5 s 0.1 s...3 s 0.1 s...10 s 0.3 s...30 s 3 s...300 s 20 s...30 min	—	—
Weight (kg)	0.110	0.110	0.110

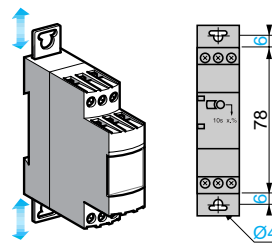
Dimensions, schemes

Dimensions

Rail mounting

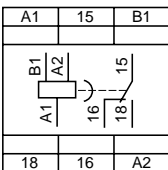


Screw fixing

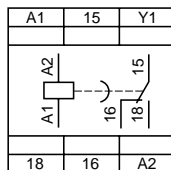


Connection schemes (terminal blocks)

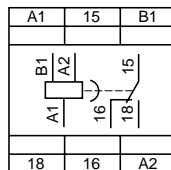
RE8 PE



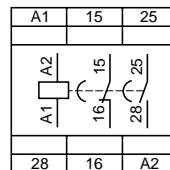
RE8 PD



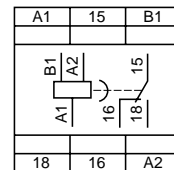
RE8 PT



RE8 YA

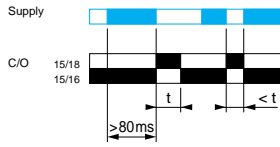


RE8 YG



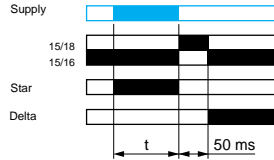
Function He

Pulse-on energisation, start on de-energisation



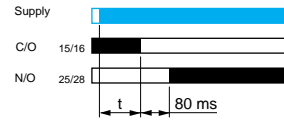
Function Qc

Timing relay for star-delta starters



Function Qe

Timing relay for star-delta starters

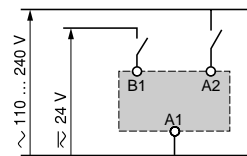


He	Qc	Qe
●	●	-
●	●	-
-	-	●
-	-	-
-	-	-
RE8 PT01BUTQ	-	-
-	-	-
-	RE8 YG11BUTQ	-
-	RE8 YG31BUTQ	-
-	RE8 YG21BUTQ	-
-	-	-
-	-	RE8 YA32BTQ
-	-	RE8 YA32FUTQ
-	-	RE8 YA32QTQ
-	-	-
0.110	0.110	0.110

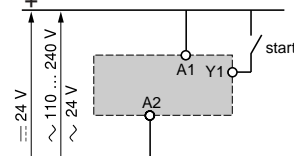
Recommended application schemes

Pulse-on energisation relays

RE8 PE, RE8 PT

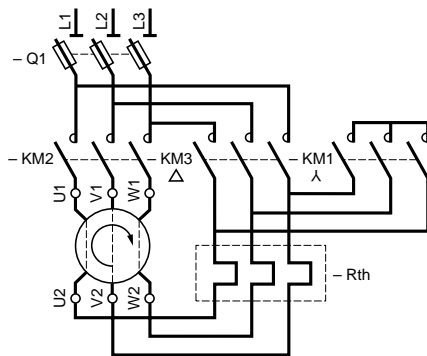


RE8 PD

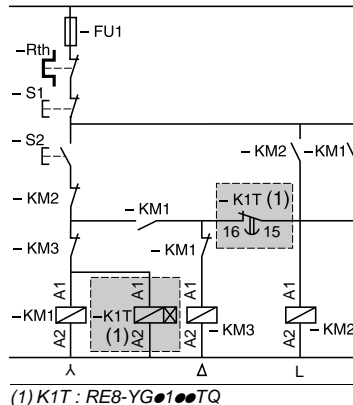


Timing relays for star-delta starters

RE8 YG, RE8 YA

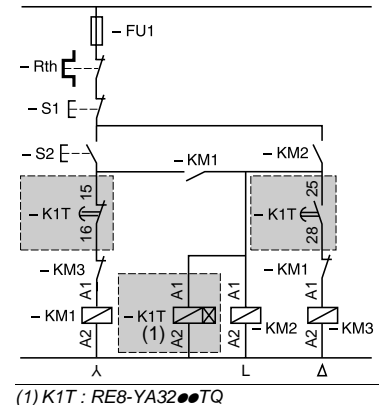


RE8 YG



(1) K1T : RE8-YG●1●●TQ

RE8 YA



(1) K1T : RE8-YA32●●TQ

Note : Correct operation of the star-delta starter associated with the RE8 YG is only possible if the wiring scheme is strictly complied with.

Zelio Time - timing relays

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

3

Timing characteristics

Repeat accuracy (with constant parameters)	Conforming to IEC 1812-1		± 0.5 %
Drift	Temperature		± 0.05 % / °C
	Voltage		± 0.2 % / V
Full scale setting accuracy	Conforming to IEC 1812-1		± 10 % at 25 °C
Minimum duration of control impulse	Typical	ms	30
	Typical under load	ms	100
Maximum reset time by de-energisation	Typical	ms	100
Immunity time to microbreaks	Typical	ms	> 10

Supply characteristics

Multivoltage supply	Depending on version, see pages 3/40 and 3/41		
Frequency		Hz	50/60
Operating range	85...110 Un % (85...120 Un for ~/- 12 V)		
On-load factor	100 %		
Maximum power consumption	Depending on model	≡ 24 V	W 0.6
		≡ 240 V	W 1.5
		~ 240 V	VA 32

Output characteristics

Output type	Relay, 1 or 2 C/O contacts, AgNi (cadmium -free)		
Breaking capacity	~ 2000 VA, ≡ 80 W		
Maximum breaking current	A	~ 8, ≡ 8	
Minimum breaking current	mA	10/≡ 5 V	
Maximum switching voltage	V	~/- 250	
Electrical life	10 ⁵ operations 8 A 250 V resistive		
Mechanical life	5 x 10 ⁶ operations		
Dielectric strength	Conforming to IEC 1812-1	kV	2.5/1 min/1 mA/50 Hz
Impulse voltage	Conforming to IEC 664-1, IEC 1812-1	kV	5, wave 1.2/50 μs

Display characteristics

State indication by 1 LED	Green		<p>Operating status indication</p> <p>▬▬▬▬ Pulsing: relay energised, no timing in progress (except Di-D and Li-L)</p> <p>▬▬▬▬ Flashing: timing in progress</p> <p>▬▬▬▬ On steady: relay energised, no timing in progress</p>
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Input characteristics

Input type	V	<p>Volt-free contact (no potential)</p> <p>Control possible by 3-wire sensor with PNP output, maximum residual voltage: 0.4 V whatever the supply voltage of the timer</p>
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General characteristics				
Conforming to standards			IEC 1812-1, EN 50081-1/2, EN 50082-1/2, LV directives (73/23/EEC + 93/68/EEC (CE marking) + EMC (89/336/EEC + IEC 669-2-3)	
Product certifications			c UR us, CSA, GL	
Temperature limits	Operation	°C	- 20...+ 60	
	Storage	°C	- 30...+ 60	
Creepage distance and clearance	Conforming to IEC 60664-1	kV	4 kV/3	
Degree of protection conforming to IEC 529	Terminal block		IP 20	
	Enclosure		IP 40	
	Front panel		IP 50	
Vibration resistance			f = 10...55 Hz A = 0.35 mm	
Relative humidity without condensation	Conforming to IEC 68-2-3		93 %	
Electromagnetic compatibility	Immunity to electrostatic discharge, conforming to IEC 1000-42		Level III (Air 8 kV/Contact 6 kV)	
	Immunity to electromagnetic fields, conforming to ENV 50140/204 (IEC 1000-4-3)		Level III 10 V/m : (80 MHz...1 GHz)	
	Immunity to fast transients in bursts conforming to IEC 1000-4-4		Level III (direct 2 kV / capacitive connecting clip 1 kV)	
	Immunity to surges on the power supply, conforming to IEC 1000-4-5		Level III (common mode 2 kV / differential mode 1 kV)	
	Immunity to radio frequency interference in common mode conforming to ENV 50141 (IEC 1000-4-6)		Level III (10 V rms : 0.15...80 MHz)	
	Immunity to voltage dips and breaks conforming to IEC 1000-4-11			30 % / 10 ms
				60 % / 100 ms >
			95 % / 5 s	
Radiated and mains conducted disturbance conforming to EN 55022 (EN 55011 Group 1)			Class B	
Fixing	Plug-in socket		8-pin	
Enclosure material			Self-extinguishing	

Zelio Time - timing relays

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

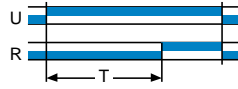
Relay output, 1 or 2 C/O contacts

- Multifunction of single function
- Multi-range (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

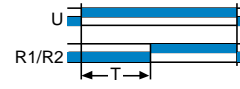
Function diagrams

Function A

Delay on energisation
1 contact

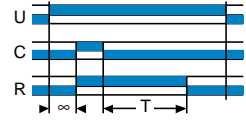


2 timed contacts



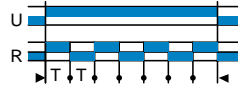
Function C

Off-delay
1 timed contact



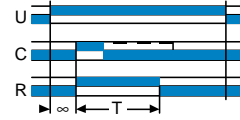
Function Di

Flashing relay
Pulse start



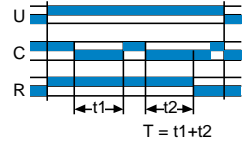
Function B

Timing on impulse, one shot



Function Ht

Delay on energisation with memory



References

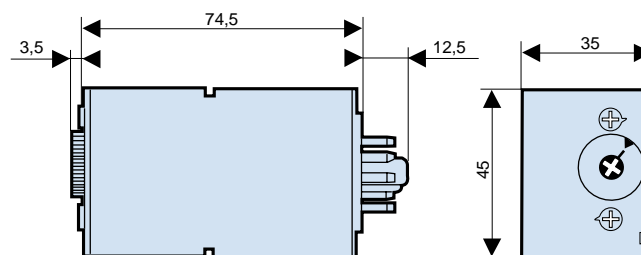


Connection	Plug-in sub-base	●	●	●
Functions		Multifunction A - At - B - C - H - Ht - Di - D Ac - Bw	Single function A	Single function C
Timing ranges	7 ranges	1 s - 10 s - 1 min - 10 min - 1 h - 10 h - 100 h		
Relay output		1 timed contact	2 timed contacts	1 timed contact
Rated current		8 A	8 A	8 A
Voltages	$\overline{\sim}$ 24 V / \sim 24...240 V	RE 88 867 105	RE 88 867 215	RE 88 867 135
	$\sim/\overline{\sim}$ 12 V	-	-	-
	$\sim/\overline{\sim}$ 12...240 V	-	-	-
Weight (kg)		0.080	0.080	0.080
Socket (1)	8-pin	RUZ 1D	RUZ 1D	RUZ 1D
	Weight (kg)	0.067	0.067	0.067

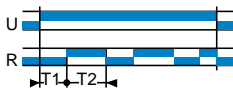
(1) These products are sold in packs of 10

Dimensions and connection schemes

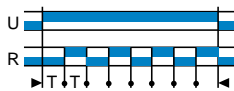
Dimensions



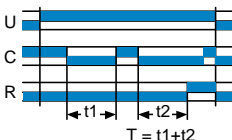
Function L
Asymmetrical recycler
Start after pause



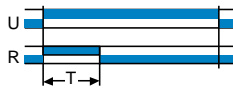
Function D
Flashing relay
Start after pause



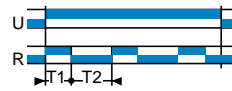
Function At
Timing on energisation
with memory



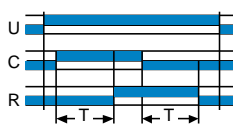
Function H
Timing on energisation



Function Li
Asymmetrical recycler
Pulse start



Function Ac
Timing after closing/opening
of control contact



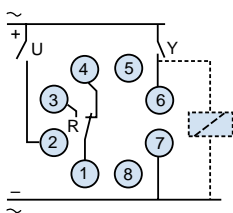
Function Bw
Pulse output (adjustable)



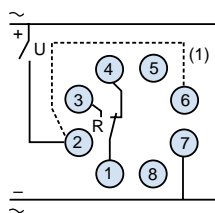
Dual function	Multifunction	Multifunction
Li - L	A - At - B - C - H - Ht - Di - D - Ac - Bw	A - At - B - C - H - Ht - Di - D - Ac - Bw
1 s - 10 s - 1 min - 10 min - 1 h - 10 h - 100 h		
1 timed contact	1 timed contact	1 timed contact
8 A	8 A	8 A
RE 88 867 155	-	-
-	RE 88 867 100	-
-	-	RE 88 867 103
0.080	0.080	0.080
RUZ 1D	RUZ 1D	RUZ 1D
0.067	0.067	0.067

Connection schemes

Timing relays with 1 relay output
All functions except L and Li

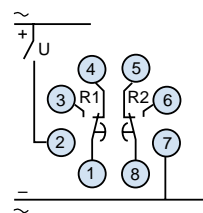


Functions L and Li



(1) Link between pins 2 and 6 for function L only.

Timing relays with 2 relay outputs
Function A



Zelio Time - timing relays

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

3

Timing characteristics

Repeat accuracy (with constant parameters)	Conforming to IEC 1812-1		± 0.5 %
Drift	Temperature		± 0.05 % / °C
	Voltage		± 0.2 % / V
Full scale setting accuracy	Conforming to IEC 1812-1		± 10 % at 25 °C
Minimum duration of control impulse	Typical	ms	30
	Typical under load	ms	100
Maximum reset time by de-energisation	Typical	ms	100
Immunity time to microbreaks	Typical	ms	> 10




Supply characteristics

Multivoltage supply			Depending on version, see pages 3/44 and 3/45
Frequency		Hz	50/60
Operating range			85...110 % Un (85...120 Un for $\sim/\text{---}$ 12 V)
On-load factor			100 %
Maximum power consumption	Depending on model	--- 24 V	W 0.6
		--- 240 V	W 1.5
		\sim 240 V	VA 32

Output characteristics

Output type			Relay, C/O contacts, AgNi (cadmium free)
Breaking capacity			\sim 2000 VA, --- 80 W
Maximum breaking current		A	\sim 8, --- 8
Minimum breaking current		mA	10 / --- 5 V
Maximum switching voltage		V	$\sim/\text{---}$ 250
Electrical life			10 ⁵ operations 8 A 250 V resistive
Mechanical life			5 x 10 ⁶ operations
Dielectric strength	Conforming to IEC 1812-1	kV	2.5/1min/1 mA/50 Hz
Impulse voltage	Conforming to IEC 664-1, IEC 1812-1	kV	5, wave 1.2/50 μ s

Display characteristics

State indication by 1 LED	Green		Operating status indication  Pulsing: relay energised, no timing in progress (except Di-D and Li-L)  Flashing: timing in progress  On steady: relay energised, no timing in progress
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Input characteristics

Input type		V	Volt-free contact (no potential) Control possible by 3-wire sensor with PNP output, maximum residual voltage: 0.4 V whatever the supply voltage of the timer
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General characteristics

Conforming to standards			IEC 1812-1, EN 50081-1/2, EN 50082-1/2, LV directives (73/23/EEC + 93/68/EEC (CE marking) + EMC (89/336/EEC + IEC 669-2-3)	
Product certifications			c UR us, CSA, GL	
Temperature limits	Operation	°C	- 20...+ 60	
	Storage	°C	- 30...+ 60	
Creepage distance and clearance	Conforming to IEC 60664-1	kV	4 kV/3	
Degree of protection conforming to IEC 529	Terminal block		IP 20	
	Enclosure		IP 40	
	Front panel		IP 50	
Vibration resistance	Conforming to IEC 68-2-6		f = 10...55 Hz A = 0.35 mm	
Relative humidity without condensation	Conforming to IEC 68-2-3		93 %	
Electromagnetic compatibility	Immunity to electrostatic discharge, conforming to IEC 1000-42		Level III (Air 8 kV/Contact 6 kV)	
	Immunity to electromagnetic fields, conforming to ENV 50140/204 (IEC 1000-4-3)		Level III 10 V/m : (80 MHz...1 GHz)	
	Immunity to fast transients in bursts, conforming to IEC 1000-4-4		Level III (direct 2 kV / capacitive connecting clip 1 kV)	
	Immunity to surges on the power supply, conforming to IEC 1000-4-5		Level III (common mode 2 kV / differential mode 1 kV)	
	Immunity to radio frequency interference in common mode conforming to ENV 50141 (IEC 1000-4-6)		Level III (10 V rms : 0.15...80 MHz)	
	Immunity to voltage dips and breaks, conforming to IEC 1000-4-11			30 % / 10 ms
				60 % / 100 ms >
			95 % / 5 s	
Radiated and mains conducted disturbance, conforming to EN 55022 (EN 55011 Group 1)			Class B	
Fixing	Plug-in socket		11-pin	
Enclosure material			Self-extinguishing	

Zelio Time - timing relays

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

Relay output, 2 C/O contacts

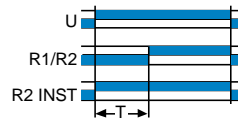
- Multifunction or single function
- Multi-range (7 switchable ranges)
- Multivoltage
- 2 relay outputs: 8 A - 250 V (10 A UL)
- Plug-in
- State indication by 1 LED
- Option of supplying a load in parallel
- 3-wire sensor control possible

3

Function diagrams

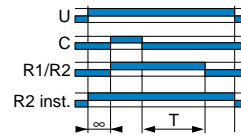
Function A

Delay on energisation
2 timed contacts or
2 timed contacts, 1 of which
convertible to instantaneous



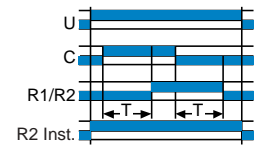
Function C

Off-delay
2 timed contacts or
2 timed contacts, 1 of which
convertible to instantaneous



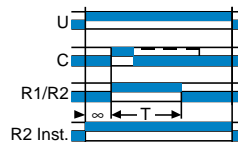
Function Ac

Timing after closing/opening
of control contact
2 timed contacts or
2 timed contacts, 1 of which
convertible to instantaneous



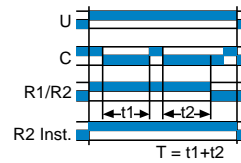
Function B

Timing on impulse, one shot
2 timed contacts or
2 timed contacts, 1 of which
convertible to instantaneous



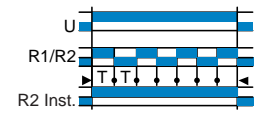
Function Ht

Delay on energisation with
memory
2 timed contacts or
2 timed contacts, 1 of which
convertible to instantaneous



Function Di

Flashing relay
Pulse start
2 timed contacts or
2 timed contacts, 1 of which
convertible to instantaneous



References

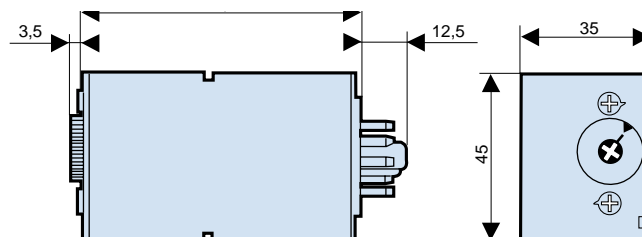


Connection	Plug-in sub-base	●	●	●
Functions		Multifunction A - At - B - C - H - Ht - Di - D Ac - Bw	Dual function A - At	Single function C
Timing ranges	7 ranges	1 s - 10 s - 1 min - 10 min - 1 h - 10 h - 100 h		
Relay output		2 timed contacts, 1 convertible to instantaneous	2 timed contacts	2 timed contacts
Rated current		8 A	8 A	8 A
Voltages	$\overline{\sim}$ 24 V / \sim 24...240 V	RE 88 867 305	RE 88 867 415	RE 88 867 435
	\sim 12 V	-	-	-
	\sim 12...240 V	-	-	-
Weight (kg)		0.080	0.080	0.080
Socket (1)	11-pin,	RUZ 1A	RUZ 1A	RUZ 1A
	Weight (kg)	0.067	0.067	0.067

(1) These products are sold in packs of 10

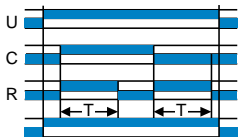
Dimensions and connection schemes

Dimensions



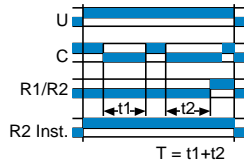
Function Bw

Pulse output (adjustable)
2 timed contacts or
2 timed contacts, 1 of which
convertible to instantaneous



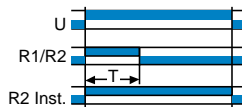
Function At

Timing on energisation with
memory
2 timed contacts or
2 timed contacts, 1 of which
convertible to instantaneous



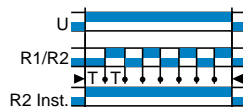
Function H

Timing on energisation
2 timed contacts or
2 timed contacts, 1 of which
convertible to instantaneous



Function D

Flashing relay
Start after pause
2 timed contacts or
2 timed contacts, 1 of which
convertible to instantaneous



Function L

Asymmetrical recycler
Start after pause
2 timed contacts



Function Li

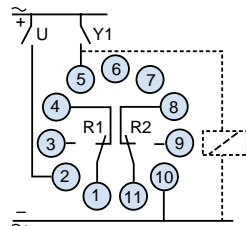
Asymmetrical recycler
Pulse start
2 timed contacts



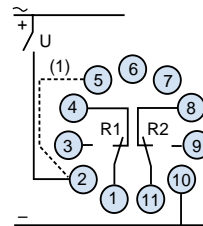
Dual function	Multifunction	Multifunction
Li - L	A - At - B - C - H - Ht - Di - D - Ac - Bw	A - At - B - C - H - Ht - Di - D - Ac - Bw
1 s - 10 s - 1 min - 10 min - 1 h - 10 h - 100 h		
2 timed contacts	2 timed contacts, 1 convertible to instantaneous	2 timed contacts, 1 convertible to instantaneous
8 A	8 A	8 A
RE 88 867 455	-	-
-	RE 88 867 300	-
-	-	RE 88 867 303
0.080	0.080	0.080
RUZ 1A	RUZ 1A	RUZ 1A
0.067	0.067	0.067

Connection schemes

All functions except L and Li



Functions L and Li



(1) Link between pins 2 and 5 for function L only.