Zelio Time - industrial timing relays

Optimum single-function relays, 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.

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 60068-2-6, 10 to 55 Hz		a = 0.35 ms
Shock resistance	Conforming to IEC 60068-2-27		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	**mm²**	2 x 2.5
	Flexible cable with cable end	**mm²**	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			~						⎓
			24 V	110 V	240 V	380 V	415 V		24 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

References : pages 2/44 to 2/47
Dimensions : pages 2/44 and 2/46
Schemes : page 2/45

Zelio Time - industrial timing relays

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

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 Conforming to IEC 60947-5-1/1991 and VDE 0660			24 V	115 V	250 V
	AC-15	**A**	3	3	3
	DC-13	**A**	2	0.2	0.1
Minimum switching capacity			12 V/10 mA		
Contact material			90/10 nickel silver		

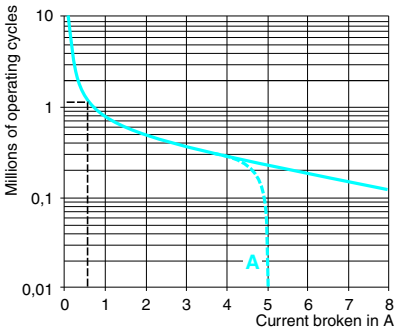
Remote control input characteristics

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

a.c. load

Curve 1

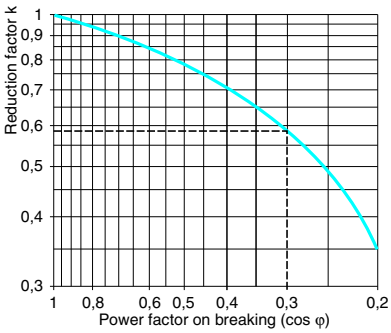
Electrical durability of contacts on resistive load in millions of operating cycles



A **RE8-RB●●BUTQ**

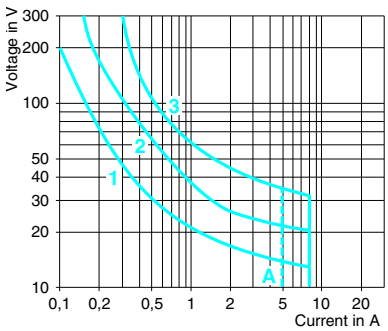
Curve 2

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



d.c. load

Load limit curve

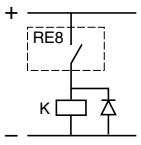


A **RE8-RB●●BUTQ**
1 L/R = 20 ms
2 L/R with load protection diode
3 Resistive load

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 φ = 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 φ = 0.3: k = 0.6
The electrical durability therefore becomes:
1.5 10^6 operating cycles x 0.6 = 900 000 operating cycles.



References : pages 2/44 to 2/47
Dimensions : pages 2/44 and 2/46
Schemes : page 2/45

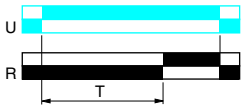
Zelio Time - industrial timing relays

Single-function relays, optimum, relay output, width 22.5 mm

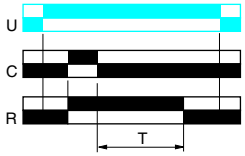
Output 1 C/O contact
Single timing range

Function diagrams

Function A
Delay on energisation



Function C
Timing after opening of control contact



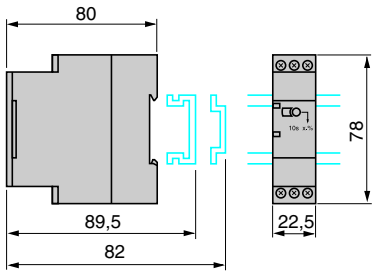
Unit references (Sold in packs of 10)

Functions		A	C	
Voltages	⎓ or ∿ 24 V	●	●	–
	∿ 110…240 V	●	–	●
	∿ 380…415 V	–	–	–
Timing ranges	0.05 s…0.5 s	–	–	–
	0.1 s…3 s	**RE8 TA61BUTQ**	–	–
	0.1 s…10 s	**RE8 TA11BUTQ**	**RE8 RA11BTQ**	**RE8 RA11FUTQ**
	0.3 s…30 s	**RE8 TA31BUTQ**	**RE8 RA31BTQ**	**RE8 RA31FUTQ**
	3 s…300 s	**RE8 TA21BUTQ**	**RE8 RA21BTQ**	**RE8 RA21FUTQ**
	20 s…30 min	**RE8 TA41BUTQ**	–	**RE8 RA41FUTQ**
Weight (kg)		0.110	0.110	0.110

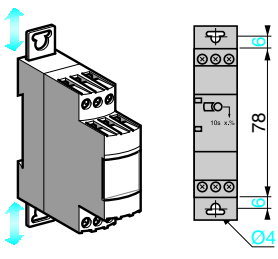
Dimensions

Dimensions

Rail mounting



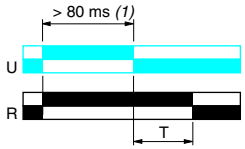
Screw fixing



Characteristics : pages 2/42 and 2/43
Schemes : page 2/45

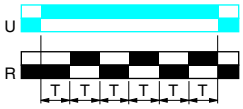
Function K

Delay on de-energisation (without auxiliary supply)



Function D

Symmetrical flashing, start with output in rest position



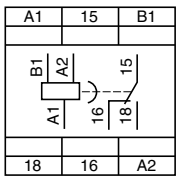
(1) If the device has been stored, de-energised, for more than a month, it must be energised for about 15 seconds in order to activate it. Subsequently, it only takes 80 ms to start the time delay. ⚠ If this time is not complied with, the relay remains energised indefinitely.

K	D
●	●
●	●
–	–
RE8 RB51BUTQ	–
–	–
RE8 RB11BUTQ	**RE8 CL11BUTQ**
RE8 RB31BUTQ	–
–	–
–	–
0.110	0.110

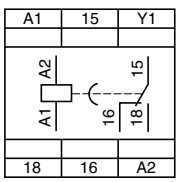
Schemes

Connection schemes

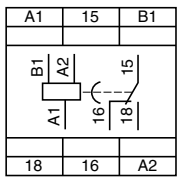
RE8 TA, CL



RE8 RA

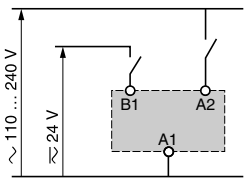


RE8 RB

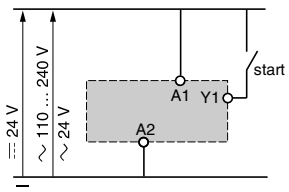


Recommended application schemes

RE8 TA, CL

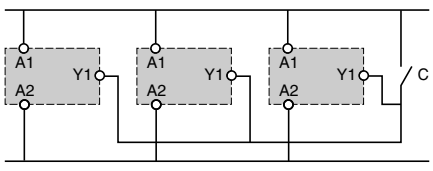


RE8 RA



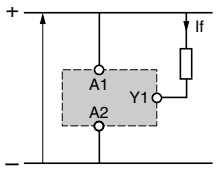
Control of several relays with a single external control contact

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.

Characteristics : pages 2/42 and 2/43
Dimensions : page 2/44