Zelio® Timing Relays

Industrial single, dual, or multifunction relays, relay output, width 22.5 mm (0.9 in.)

Output 1 C/O and 2 C/O contacts
- *Multifunction, dual function, or single function*
- *Multiple timing ranges*
- *Multivoltage*
- *Transparent, hinged, and sealable flap on front panel*

RE7TM11BU

RE7MA11BU

RE7CV11BU

Catalog numbers

Timing ranges	Functions	No. of relay outputs	Voltages	Catalog number	Weight
			V		kg (lb)
0.05 s–300 h (10 ranges)	**A, Aw, At**	1	⎓ 24, ∿ 110–240, ⎓ 42–48	**RE7TM11BU**	0.150 (0.33)
	Ac	1	⎓ 24, ∿ 110–240, ⎓ 42–48	**RE7MA11BU**	0.150 (0.33)
		2	⎓ 24, ∿ 110–240, ⎓ 42–48	**RE7MA13BU** *(symmetrical)*	0.150 (0.33)
	Ak	1	⎓ 24, ∿ 110–240, ⎓ 42–48	**RE7MV11BU**	0.150 (0.33)
	C	1	⎓ 24, ∿ 110–240, ⎓ 42–48	**RE7RA11BU**	0.150 (0.33)
		1	⎓ 24, ∿ 110–240, ⎓ 42–48	**RE7RM11BU** *(low level contact)*	0.150 (0.33)
		2	⎓ 24, ∿ 110–240, ⎓ 42–48	**RE7RL13BU** *(low level contact)*	0.150 (0.33)
	Ht, W	1	⎓ 24, ∿ 110–240, ⎓ 42–48	**RE7PM11BU**	0.150 (0.33)
	L, Li, Lt	1	⎓ 24, ∿ 110–240, ⎓ 42–48	**RE7CV11BU**	0.150 (0.33)
	A, C, H, W, D, Di	1	⎓ 24, ∿ 110–240, ⎓ 42–48	**RE7ML11BU**	0.150 (0.33)
	A	1	⎓ 24, ∿ 110…240	**RE7TL11BU**	0.150 (0.33)
		2	⎓ 24, ∿ 110–240, ⎓ 42–48	**RE7TP13BU**	0.150 (0.33)
	H	1	⎓ 24, ∿ 110–240	**RE7PE11BU**	0.150 (0.33)
		2	⎓ 24, ∿ 110–240, ⎓ 42–48	**RE7PP13BU**	0.150 (0.33)
	D	1	⎓ 24, ∿ 110–240	**RE7CL11BU**	0.150 (0.33)
		2	⎓ 24, ∿ 110–240, ⎓ 42–48	**RE7CP13BU**	0.150 (0.33)
	W	2	⎓ 24, ∿ 110–240, ⎓ 42–48	**RE7PD13BU**	0.150 (0.33)
	Qt	2	⎓ 24, ∿ 110–240, ⎓ 42–48	**RE7YA12BU**	0.150 (0.33)
	Qg	2	⎓ 24, ∿ 110–240, ⎓ 42–48	**RE7YR12BU**	0.150 (0.33)
	A, C, H, W, D, Di, Qg, Qt	2	⎓ 24, ∿ 110–240, ⎓ 42–48	**RE7MY13BU**	0.150 (0.33)
		2	⎓ 24–240	**RE7MY13MW**	0.150 (0.33)
0.05 s–10 min (7 ranges)	**K**	1	⎓ 24–240	**RE7RB11MW**	0.150 (0.33)
		2	⎓ 24–240	**RE7RB13MW**	0.150 (0.33)

NOTE: Detailed function descriptions begin on page 10.
Dimensions and wiring diagrams begin on page 26.

Zelio® Timing Relays

DIN rail mounted relays

RE11

RE7, RE8, RE9

REXL

Panel mounted relays

RE48A

Introduction

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

There are two main families of timing relays:
■ DIN rail mounted relays (**RE7**, **RE8**, **RE9**, **RE11**, **REXL**…) designed for mounting on DIN rails in an enclosure,

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

These relays have one, two, or four outputs. Sometimes the second output can be timed or instantaneous.
If the power is switched off during the timing period, the relay reverts to its initial position.

Application examples:
■ opening automatic doors,
■ alarm,
■ lighting in toilets,
■ car park barriers

Definitions

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

There are three types of outputs:

□ **C/O**: changeover contact. When the relay is de-energized, the circuit between the common point C and N/C is closed. When the relay is operating (coil energized), the circuit between the common point C and N/O is closed.

□ **N/C**: a contact that is closed without being actuated is called a **Normally Closed (N/C)** contact.

□ **N/O**: a contact that closes when actuated is called a **Normally Open (N/O)** contact.

■ **Solid state output:**
These outputs are entirely electronic and involve no moving parts; service life is therefore increased.

■ **Breaking capacity:**
The current value that a contact is capable of breaking in specified conditions.

■ **Mechanical durability:**
The number of mechanical operating cycles of the contact or contacts.

■ **Minimum switching capacity** (or minimum breaking capacity):
The minimum required current which can flow through the contacts of a relay.

■ **G (Gate) Input:**
Gate input allows timing in progress to be interrupted without resetting it.

Selection table *(continued)*

Functions	Timing range	Supply voltage	Type of output	Rated current	Relay
B	1 s–100 h	⎓ 24 V, ∿ 24–240 V	1 C/O contact	8 A	RE11RB MU
C	0.1–10 s	∿/⎓ 24 V	1 C/O contact	8 A	RE8RA11BTQ
	0.3–30 s			8 A	RE8RA31BTQ
	3–300 s			8 A	RE8RA21BTQ
	1 s–100 h	⎓ 24 V, ∿ 24–240 V	1 C/O contact	8 A	RE11RCMU
	0.1–10 s	∿ 110–240 V	1 C/O contact	8 A	RE8RA11FUTQ
	0.3–30 s			8 A	RE8RA31FUTQ
	3–300 s			8 A	RE8RA21FUTQ
	20 s–30 min			8 A	RE8RA41FUTQ
	0.05 s–300 h	∿/⎓ 24 V, ∿ 110–240 V, ∿/⎓ 42–48 V	1 C/O contact	8 A	RE7RA11BU
				8 A	RE7RM11BU
			2 C/O contacts	8 A	RE7RL13BU
	0.1–10 s	∿ 24–240 V	1 solid state output	0.7 A	RE9RA11MW7
	0.3–30 s			0.7 A	RE9RA31MW7
	3–300 s			0.7 A	RE9RA21MW7
	40 s–60 min			0.7 A	RE9RA51MW7
	1 s–100 h			0.7 A	RE11LCBM
D	0.05 s–300 h	∿/⎓ 24 V, ∿ 110–240 V	1 C/O contact	8 A	RE7CL11BU
	0.1–10 s			8 A	RE8CL11BUTQ
	0.05 s–300 h	∿/⎓ 24 V, ∿ 110–240 V, ∿/⎓ 42–48 V	2 C/O contacts	8 A	RE7CP13BU
H	0.05 s–300 h	∿/⎓ 24 V, ∿ 110–240 V	1 C/O contact	8 A	RE7PE11BU
	0.1–10 s			8 A	RE8PE11BUTQ
	0.3–30 s			8 A	RE8PE31BUTQ
	3–300 s			8 A	RE8PE21BUTQ
	0.05 s–300 h	∿/⎓ 24 V, ∿ 110–240 V, ∿/⎓ 42–48 V	2 C/O contacts	8 A	RE7PP13BU
	1 s–100 h	∿ 24–240 V	1 solid state output	0. 7 A	RE11LHBM
H, Ht	1 s–100 h	⎓ 24 V, ∿ 24–240 V	1 C/O contact	8 A	RE11RHMU
He	0.05–0.5 s	∿/⎓ 24 V, ∿ 110–240 V	1 C/O contact	8 A	RE8PT01BUTQ
K	0.05 s–10 min	∿/⎓ 24–240 V	1 C/O contact	5 A	RE7RB11MW
	0.05–0.5 s	∿/⎓ 24 V, ∿ 110–240 V	1 C/O contact	8 A	RE8RB51BUTQ
	0.1–10 s			8 A	RE8RB11BUTQ
	0.3–30 s			8 A	RE8RB31BUTQ
	0.05 s–10 min	∿/⎓ 24–240 V	2 C/O contacts	5 A	RE7RB13MW
L, Li	1 s–100 h	⎓ 24 V, ∿ 24–240 V	1 C/O contact	8 A	RE11RLMU
	1 s–100 h	∿ 24–240 V	1 solid state output	0.7 A	RE11LLBM
	1 s–100 h	∿/⎓ 12 V	1 C/O contact	8 A	RE11RLJU
	0.02 s–300 h	∿/⎓ 24–240 V	2 timed C/O contacts	5 A	RE48ACV12MW
L, Li, Lt	0.05 s–300 h	∿ 110–240 V, ∿/⎓ 24 V, ∿/⎓ 42–48 V	1 C/O contact	8 A	RE7CV11BU
Qc	0.1–10 s	∿/⎓ 24 V, ∿ 110–240 V	1 C/O contact	8 A	RE8YG11BUTQ
	0.3–30 s			8 A	RE8YG31BUTQ
	3–300 s			8 A	RE8YG21BUTQ
Qe	0.3–30 s	∿/⎓ 24 V	1 N/O + 1 N/C	8 A	RE8YA32BTQ
	0.3–30 s	∿ 110–240 V	1 N/O + 1 N/C	8 A	RE8YA32FUTQ
	0.3–30 s	∿ 380–415 V	1 N/O + 1 N/C	8 A	RE8YA32QTQ
Qg	0.05 s–300 h	∿/⎓ 24 V, ∿ 110–240 V, ∿/⎓ 42–48 V	1 N/O + 1 N/C	8 A	RE7YR12BU
Qt	0.05 s–300 h	∿/⎓ 24 V, ∿ 110–240 V, ∿/⎓ 42–48 V	2 C/O contacts	8 A	RE7YA12BU
W	0.1–10 s	∿/⎓ 24 V	1 C/O contact	8 A	RE8PD11BTQ
	0.3–30 s			8 A	RE8PD31BTQ
	3–300 s			8 A	RE8PD21BTQ
	0.1–10 s	∿ 110–240 V	1 C/O contact	8 A	RE8PD11FUTQ
	0.3–30 s			8 A	RE8PD31FUTQ
	3–300 s			8 A	RE8PD21FUTQ
	0.05 s–300 h	∿/⎓ 24 V, ∿ 110–240 V, ∿/⎓ 42–48 V	2 C/O contacts	8 A	RE7PD13BU
W, Ht	0.05 s–300 h	∿/⎓ 24 V, ∿ 110–240 V, ∿/⎓ 42–48 V	1 C/O contact	8 A	RE7PM11BU

Zelio ® IEC Style—22.5 mm

RE7R

Table 23.128: RE7R Timers Off-Delay Timers

Functions	Supply Voltages	Relay Output	Catalog Number	$ Price
On De-energization, Adjustable from 0.05 s to 10 min, in 7 Ranges				
Off-Delay Timer (Times without power)	24–240 Vdc or Vac	1 C/O SPDT	RE7RB11MW▲	**233.00**
Off-Delay Timer Remote control possible for: • adjustment of time delay■	24–240 Vdc or Vac	2 C/O DPDT	RE7RB13MW▲	**264.00**
On Opening of External Control Contact, Adjustable from 0.05 s to 300 h, in 10 Ranges				
Off-Delay Timer External control possible for: • partial stop of time delay • adjustment of time delay ■	24 Vdc or Vac 42–48 Vdc or Vac 110–240 Vac	1 C/O SPDT	RE7RA11BU	**203.00**
On opening of Low Level External Control Contact, Adjustable from 0.05 s to 300 h, in 10 Ranges				
Off-Delay Timer External control possible for: • partial stop of time delay • adjustment of time delay ■	24 Vdc or Vac 42–48 Vdc or Vac 110–240 Vac	1 C/O SPDT	RE7RM11BU	**218.00**
Off-Delay Timer	24 Vdc or Vac 42–48 Vdc or Vac 110–240 Vac	2 C/O♦, DPDT	RE7RL13BU	**233.00**

▲ If the device has been stored de-energized for more than a month, it must be energized for about 15 seconds to activate it. Subsequently, a time of > 1 s is enough to activate the time delay.
Note: If this time is not complied with, the relay will remain energized indefinitely.

RE7P

Table 23.129: RE7P Interval Timers

Functions	Supply Voltages	Relay Output	Catalog Number	$ Price
Start on Energization				
Interval Timer	24 Vdc or Vac 110–240 Vac	1 C/O SPDT	RE7PE11BU	**186.00**
Interval Timer External control possible for: • adjustment of time delay ■	24 Vdc or Vac 42–48 Vdc or Vac 110–240 Vac	2 C/O ♦ DPDT	RE7PP13BU	**233.00**
Start on Opening of External Control Contact				
Interval Timer External control possible for: • partial stop of time delay • adjustment of time delay ■	24 Vdc or Vac 42–48 Vdc or Vac 110–240 Vac	1 C/O SPDT	RE7PM11BU	**186.00**
Interval Timer	24 Vdc or Vac 42–48 Vdc or Vac 110–240 Vac	2 C/O ♦ DPDT	RE7PD13BU	**233.00**

Table 23.130: RE7C Timers Symmetrical and Asymmetrical Relays

Functions	Supply Voltages	Relay Output	Catalog Number	$ Price
Symmetrical Relays with Start during Off Period				
Repeat Cycle Timer	24 Vdc or Vac 110–240 Vac	1 C/O SPDT	RE7CL11BU	**203.00**
Repeat Cycle Timer External control possible for: • adjustment of time delay ■	24 Vdc or Vac 42–48 Vdc or Vac 110–240 Vac	2 C/O ♦ DPDT	RE7CP13BU	**249.00**
Asymmetrical, with Separate Adjustment of On-Delay and Off-Delay				
Repeat Cycle Timer External control possible for: • start period • adjustment of time delays ■ • partial stop	24 Vdc or Vac 42–48 Vdc or Vac 110–240 Vac	1 C/O SPDT	RE7CV11BU	**264.00**

RE7C

■ By external potentiometer, to be ordered separately (see page 3 of Catalog **9050CT0001** for specifications). If external potentiometer is used, the internal potentiometer is automatically disconnected.
♦ A switch on the front face of the timer allows the second contact to be used in instantaneous mode.

For conformance to standards, see page 23-30

RoHS Compliant as of date code 0626

Zelio ® IEC Style—22.5 mm

RE7MY

These timers offer multi range timing from 0.05 to 300 hours, in 10 timing ranges.

Table 23.123: RE7M 6 Function and 8 Function Timers

Function	Supply Voltages	Relay Output	Catalog Number	$ Price
6 Function Timer				
On-Delay Timer Off-Delay Timer Interval Timer • start on energization • start on opening of remote control contact Repeat Cycle Timer with start during the OFF period. Repeat Cycle Timer with start during the ON period External control possible for: • start of time delay • partial stop of time delay • adjustment of time delay	24 Vdc or Vac 42–48 Vdc or Vac 110–240 Vac	1 C/O, SPDT	RE7ML11BU	**279.00**
8 Function Timer				
Same as 6 Function Timer ▲ plus Timer for star-delta starting • with double On-Delay timing • with changeover contact to star connection	24 Vdc or Vac 110–240 Vac	2 C/O, DPDT	RE7MY13BU	**311.00**
	24–240 Vdc or Vac	2 C/O, DPDT	RE7MY13MW	**342.00**

▲ Except control of partial stop of time delay for RE7MY13BU.

RE7T

Table 23.124: RE7T On-Delay Timers

Functions	Supply Voltages	Relay Output	Catalog Number	$ Price
On-Delay Timer	24 Vdc or Vac 110–240 Vac	1 C/O, SPDT	RE7TL11BU	**171.00**
On-Delay Timer External control possible for: • start of time delay • partial stop of time delay • adjustment of time delay ■	24 Vdc or Vac 42–48 Vdc or Vac 110-240 Vac	1 C/O, SPDT	RE7TM11BU	**218.00**
On-Delay Timer Remote control possible for: adjustment of time delay ■	24 Vdc or Vac 42–48 Vdc or Vac 110–240 Vac	2 C/O♦, DPDT	RE7TP13BU	**343.00**

RE7M

Table 23.125: RE7M Symmetrical and Asymmetrical Timers

Functions	Supply Voltages	Relay Output	Catalog Number	$ Price
Symmetrical Timers: On and Off delay times are equal.				
On-Delay and Off-Delay Timer External control possible for: • partial stop of time delay • adjustment of time delay ■ Start control via external contact only	24 Vdc or Vac 42–48 Vdc or Vac 110–240 Vac	1 C/O, SPDT	RE7MA11BU	**240.00**
On-Delay and Off-Delay Timer Start control via external contact only	24 Vdc or Vac 42–48 Vdc or Vac 110–240 Vac	2 C/O ♦, DPDT	RE7MA13BU	**257.00**
Asymmetrical Timers: On and Off delay times are adjusted separately.				
On-Delay and Off-Delay Timer External control possible for: • partial stop of time delay • adjustment of time delay ■ Start control via external contact only	24 Vdc or Vac 42–48 Vdc or Vac 110–240 Vac	1 C/O, SPDT	RE7MV11BU	**264.00**

■ By external potentiometer, to be ordered separately (see page 3 of Catalog **9050CT0001** for specifications). If external potentiometer is used, the internal potentiometer is automatically disconnected.

♦ A switch on the front face of the timer allows the second contact to be used in instantaneous mode.

Table 23.126: Output Circuit Specifications for RE7

Current Limit, Ith		8 A		
Rated Operational Limits at 70°C		24 V	115 V	250 V
Conforming to IEC60947-5-1/1991 and VDE 060	AC-15 N.C. contact	3 A	3 A	3 A
	AC-15 N.O. contact	5 A	5 A	5 A
	DC-13 N.O. contact	2 A	0.2 A	0.1A
UL and CSA Current	Resistive Rating	5A		
NEMA / UL B300	Inductive Rating	3600 VA Make, 360 VA Break, 5 A Carry		

Table 23.127: Output Circuit Specifications for RE8

Maximum Switching Voltage		250 Vac/Vdc		
Current Limit Ith		8 A		
Rated Operational Limits at 150°F (70°C)		24 V	115 V	250 V
Conforming to IEC 60947-5-1/1991 and VDE 0660	AC-15	3 A	3 A	3 A
	DC-13	2 A	0.2 A	0.1 A
UL and CSA Current Ratings (Resistive)		5 A		
NEMA / UL B300 Ratings (Inductive)		3600 VA Make, 360 VA Break. 5 A Carry		

RE7, RE8, and RE9 Timers comply to the following:

Conforming to Standards		IEC 61812-1, EN 61812-1
Product Approvals		c UL us LISTED File E164353 NKCR; CSA File 089150 Class 3211-07; CE IEC 61812-1
CE Marking		RE7, RE8, and RE9 Timers conform to European regulations relating to CE Marking
Ambient Air Temperature	**Storage**	-40°F to +185°F (-40°C to +85°C)
	Operation	-4°F to +140°F (-20°C to +60°C)