



## Main

Range of product	Zelio Time
Product or component type	Industrial timing relay
Contacts type and composition	2 C/O
Component name	RE7
Time delay type	A C D Di H Qg Qt W
Time delay range	0.05 s...300 h
[Us] rated supply voltage	24...240 V AC/DC 50/60 Hz

## Complementary

Discrete output type	Relay
Contacts material	90/10 silver nickel contacts
Width pitch dimension	22.5 mm
Voltage range	0.85...1.1 Us
Connections - terminals	Screw terminals, clamping capacity: 2 x 1.5 mm <sup>2</sup> flexible with cable end Screw terminals, clamping capacity: 2 x 2.5 mm <sup>2</sup> flexible without cable end
Tightening torque	0.6...1.1 N.m
Setting accuracy of time delay	+/- 10 % of full scale
Repeat accuracy	+/- 0.2 %
Temperature drift	< 0.07 %/°C
Voltage drift	< 0.2 %/V
Minimum pulse duration	20 ms
Reset time	50 ms
Maximum switching voltage	250 V AC/DC
Mechanical durability	20000000 cycles
[Ith] conventional free air thermal current	8 A
[Ie] rated operational current	<= 2 A DC-13 24 V at 70 °C conforming to IEC 60947-5-1/1991/VDE 0660 <= 3 A AC-15 at 70 °C conforming to IEC 60947-5-1/1991/VDE 0660 <= 0.1 A DC-13 250 V at 70 °C conforming to IEC 60947-5-1/1991/VDE 0660 <= 0.2 A DC-13 115 V at 70 °C conforming to IEC 60947-5-1/1991/VDE 0660
Minimum switching capacity	12 V/10 mA
Input voltage	< 60 V X1Z2 terminal(s) < 60 V Y1Z2 terminal(s)
Maximum switching current	1 mA X1Z2 terminal(s) 1 mA Y1Z2 terminal(s)
Input compatibility	3/4 wires sensors PNP/NPN without internal load, cable length: <= 50 m X1Z2 terminal(s) 3/4 wires sensors PNP/NPN without internal load, cable length: <= 50 m Y1Z2 terminal(s)
Potentiometer characteristic	Linear 47 kOhm (+/- 20 %), 0.2 W, cable length: <= 25 m Z1Z2terminal(s)
Marking	CE
Overvoltage category	III conforming to IEC 60664-1

The information provided in this documentation contains general descriptions and/or technical characteristics of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

[Ui] rated insulation voltage	250 V between contact circuit and control inputs IEC certified 250 V between contact circuit and power supply IEC certified 300 V between contact circuit and control inputs CSA certified 300 V between contact circuit and power supply CSA certified
Supply disconnection value	> 0.1 Uc
Operating position	Any position without derating
Surge withstand	2 kV conforming to IEC 61000-4-5 level 3
Power consumption in VA	2 VA 24 V 6 VA 240 V 2.5 VA 48 V 3.2 VA 110 V
Power consumption in W	1 W 48 V 2 W 24 V 2 W 240 V 3.2 W 110 V
Peak current	0.001 kA for 30 s on energisation
Terminal description	(15-16-18)OC_OFF (25-26-28)OC_OFF (A1-A2)CO (X1)UNUSED (Y1)UNUSED (Z1)UNUSED (Z2)UNUSED
Height	78 mm
Width	22.5 mm
Depth	80 mm
Product weight	0.15 kg

## Environment

Immunity to microbreaks	3 ms
Standards	EN/IEC 61812-1
Product certifications	CSA GL UL
Ambient air temperature for storage	-40...85 °C
Ambient air temperature for operation	-20...60 °C
Relative humidity	15...85 % (3K3) conforming to IEC 60721-3-3
Vibration resistance	0.35 mm (f = 10...55 Hz) conforming to IEC 60068-2-6
Shock resistance	15 gn for 11 ms conforming to IEC 60068-2-27
IP degree of protection	IP20 (terminals) IP50 (housing)
Pollution degree	3 conforming to IEC 60664-1
Dielectric strength	2.5 kV
Non-dissipating shock wave	4.8 kV
Resistance to electrostatic discharge	6 kV (in contact) conforming to IEC 61000-4-2 level 3 8 kV (in air) conforming to IEC 61000-4-2 level 3
Resistance to electromagnetic fields	10 V/m conforming to IEC 61000-4-3 level 3
Resistance to fast transients	2 kV conforming to IEC 61000-4-4 level 3
Disturbance radiated/conducted	CISPR11 group 1- class A CISPR22 - class A
RoHS EUR status	Compliant
RoHS EUR conformity date	0624

## Function A: Delay on Energisation

### Description

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

#### Function: 1 Output



#### Function: 2 Outputs



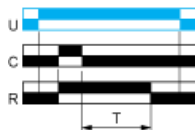
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.)

## Function C: Timing After Opening of Control Contact

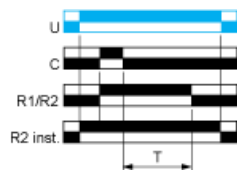
### Description

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

#### Function: 1 Output



#### Function: 2 Outputs



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

## Function D: Symmetrical Flashing, Start with Output in Rest Position

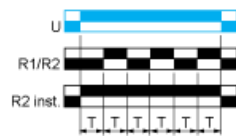
### Description

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

#### Function: 1 Output



### Function: 2 Outputs



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

### Function Di: Symmetrical Flashing, Start with Output in Operating Position

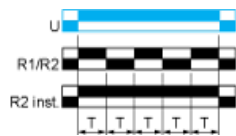
#### Description

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

### Function: 1 Output



### Function: 2 Outputs



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

### Function H: Timing on Energisation

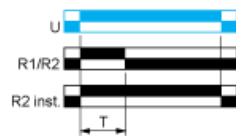
#### Description

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

### Function: 1 Output



### Function: 2 Outputs



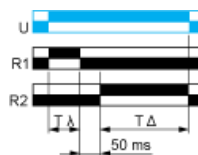
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.)

### Function Qg: Star-Delta Timing

#### Description

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

### Function: 1 Output

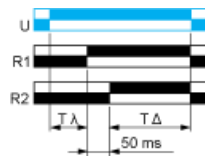


## Function Qt: Star-Delta Timing

### Description

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

### Function: 1 Output



## Function W: On-Delay After Opening of Control Contact

### Description

After power-up and opening of the control contact, the output(s) close(s) for a timing period T.

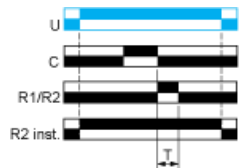
At the end of this timing period the output(s) revert(s) to its/their initial state.

The second output can be either timed or instantaneous.

### Function: 1 Output







### Function: 2 Outputs



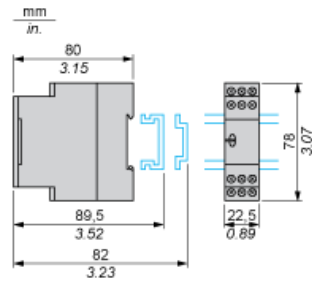
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.).

## Legend

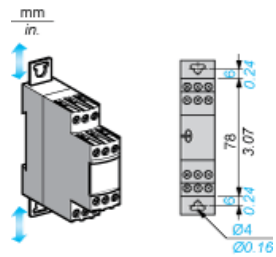
-  Relay de-energised
-  Relay energised
-  Output open
-  Output closed
- C Control contact
- G Gate
- R Relay or solid state output
- R1/ 2 timed outputs
- R2
- R2 The second output is instantaneous if the right position is selected inst.
- T Timing period
- Ta Adjustable On-delay
- Tr Adjustable Off-delay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

Width 22.5 mm

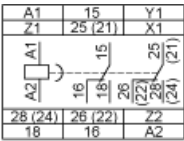
### Rail Mounting



### Screw Fixing

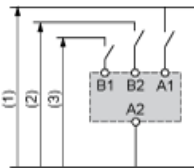


Internal Wiring Diagram



Recommended Application Wiring Diagram

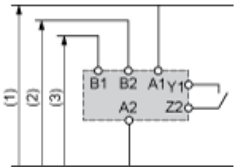
Start on Energisation



- 1 Supply
- 2 12...48 V
- 3 24 V

Recommended Application Wiring Diagram

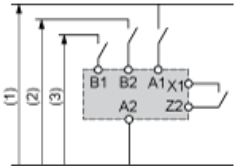
Start by External Control



- 1 Supply
- 2 12...48 V
- 3 24 V

Recommended Application Wiring Diagram

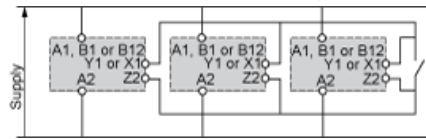
External Control of Partial Stop



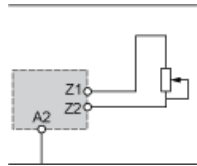
- 1 Supply
- 2 12...48 V
- 3 24 V

Control of Several Relays

Control of several relays with a single external control contact



## Connection of Potentiometer



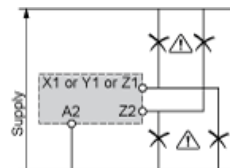
## Connection Precautions

### ⚠ WARNING

#### UNEXPECTED EQUIPMENT OPERATION

No galvanic isolation between supply terminals and control inputs.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

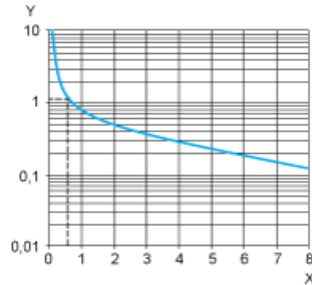




## Performance Curves

### A.C. Load Curve 1

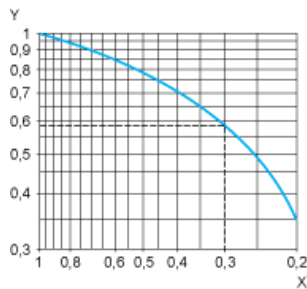
Electrical durability of contacts on resistive loading millions of operating cycles



X Current broken in A  
Y Millions of operating cycles

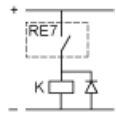
### A.C. Load Curve 2

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

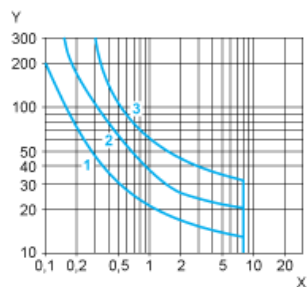


X Power factor on breaking (cos φ)  
Y Reduction factor k

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.



### D. C. Load Limit Curve



X Current in A  
Y Voltage in V  
1 L/R = 20 ms  
2 L/R with load protection diode  
3 Resistive load