



Main

Range of product	Zelio Time
Product or component type	Industrial timing relay
Component name	RE7
Time delay type	Ak
Time delay range	0.05 s...300 h

Complementary

Discrete output type	Relay
Contacts material	90/10 silver nickel contacts
Width pitch dimension	0.89 in (22.5 mm)
[Us] rated supply voltage	110...240 V ACat 50/60 Hz 24 V AC/DC at 50/60 Hz 42...48 V AC/DCat 50/60 Hz
Voltage range	0.85...1.1 Us
Connections - terminals	Screw terminals, clamping capacity: 2 x 1.5 mm ² flexible with cable end Screw terminals, clamping capacity: 2 x 2.5 mm ² flexible without cable end
Tightening torque	5.31...9.73 lbf.in (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 Vat 158 °F (70 °C) conforming to IEC 60947-5-1/1991/VDE 0660 <= 3 A AC-15at 158 °F (70 °C) conforming to IEC 60947-5-1/1991/VDE 0660 <= 0.1 A DC-13 250 Vat 158 °F (70 °C) conforming to IEC 60947-5-1/1991/VDE 0660 <= 0.2 A DC-13 115 Vat 158 °F (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 50 m X1Z2 terminal(s) 3/4 wires sensors PNP/NPN without internal load 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
[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	0.7 VA 24 V 1.6 VA 48 V

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance 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.

	1.8 VA 110 V 8.5 VA 240 V
Power consumption in W	0.5 W 24 V 1.2 W 48 V
Terminal description	(15-16-18)OC_OFF (B1-A2)CO ALT
Height	3.07 in (78 mm)
Width	0.89 in (22.5 mm)
Depth	3.15 in (80 mm)
Product weight	0.33 lb(US) (0.15 kg)

Environment

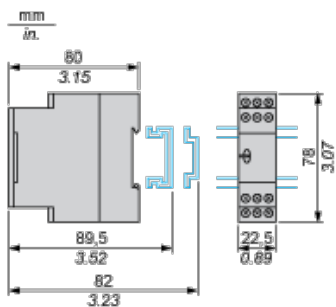
immunity to microbreaks	3 ms
standards	EN/IEC 61812-1
product certifications	CSA GL UL
ambient air temperature for storage	-40...185 °F (-40...85 °C)
ambient air temperature for operation	-4...140 °F (-20...60 °C)
relative humidity	15...85 % (3K3) conforming to IEC 60721-3-3
vibration resistance	0.35 mm (f = 10...55 Hz) conforming to IEC 60068-2-6
shock resistance	15 gn 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	9.14 V/yd (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	CISPR 11 group 1 - class A CISPR 22 - class A

Contractual warranty

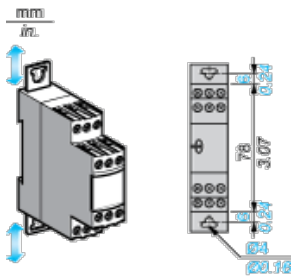
Warranty period	18 months
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Width 22.5 mm

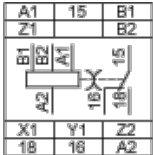
Rail Mounting



Screw Fixing

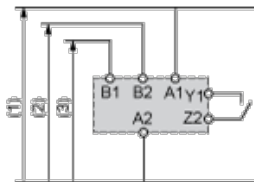


Internal Wiring Diagram



Recommended Application Wiring Diagram

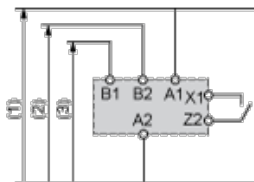
Start by External Control



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

Recommended Application Wiring Diagram

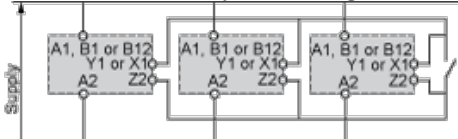
Start by External Control



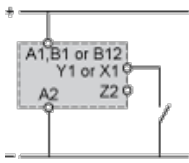
- 1 Supply
- 2 12...48 V
- 3 24 V

Control of Several Relays

Control of several relays with a single external control contact

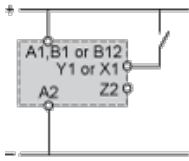


Connection of an External Control Contact Without Using Terminal Z2



Direct current supply only.

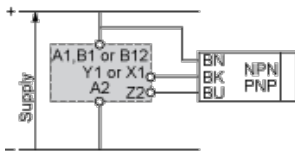
It is advisable to follow the recommended wiring schemes detailed above if the restrictions given are taken into account.



Direct current supply only.

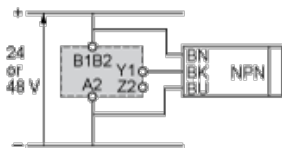
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Connection 3-Wire NPN or PNP Sensor



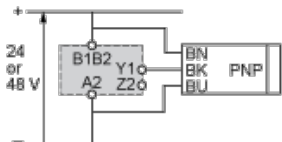
Connection 3-Wire NPN or PNP Sensor Without Using Terminal Z2

Connection NPN



It is advisable to follow the recommended wiring schemes detailed above if the restrictions given are taken into account.

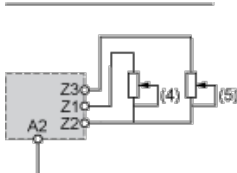
Connection PNP



It is advisable to follow the recommended wiring schemes detailed above if the restrictions given are taken into account.

Connection of Potentiometer

Potentiometers to Asymmetrical Timing Relays



4 Adjustment of the On-delay period.

5 Adjustment of the Off-delay period.

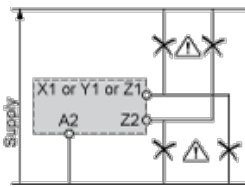
Connection Precautions

⚠ WARNING

UNEXPECTED EQUIPMENT OPERATION

No galvanic isolation between supply terminals and control inputs.

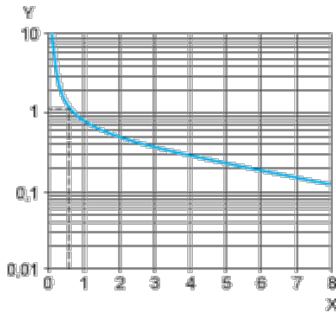
Failure to follow these instructions can result in death, serious injury, or equipment damage.



Performance Curves

A.C. Load Curve 1

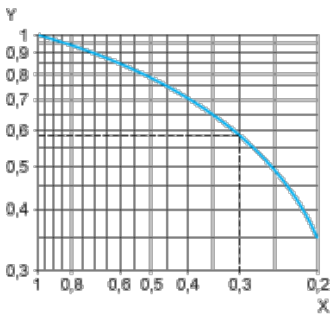
Electrical durability of contacts on resistive loading millions of operating cycles



- X Current broken in A
- Y Millions of operating cycles

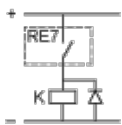
A.C. Load Curve 2

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

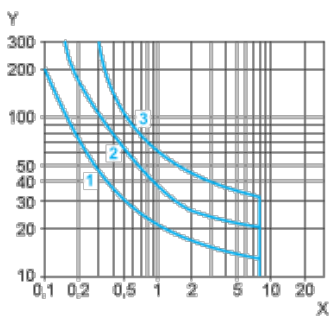


- X Power factor on breaking (cos φ)
- Y Reduction factor k

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

Function Ak: Asymmetrical On-delay and Off-delay with External Control

Description

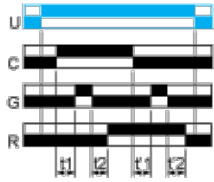
After power-up and closing of the control contact C, timing starts for a period T_a (timing can be interrupted by operating the Gate control contact G).

At the end of this timing period T_a , the output R closes.

Opening of control contact C causes a second timing period T_r to start (timing can be interrupted by operating the Gate control contact G).

At the end of this timing period T_r , the output R reverts to its initial state.





Function: 1 Output



$$T_a = t_1 + t_2 + \dots$$

$$T_r = t'_1 + t'_2 + \dots$$

Legend

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

C Control contact

G Gate

R Relay or solid state output

R1/R2 timed outputs

R2 The second output is instantaneous if the right position is selected **inst.**

T Timing period

T_a - Adjustable On-delay

T_r - Adjustable Off-delay

U Supply