

RE7PM11BU

pulse on energisation relay - 0.05..1 s - 24 V AC DC
- 10C



Main

Range of product	Zelio Time
Product or component type	Industrial timing relay
Component name	RE7
Time delay type	Ht W
Time delay range	0.05 s...300 h
[Us] rated supply voltage	110...240 V AC 50/60 Hz 24 V AC/DC 50/60 Hz 42...48 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 ² flexible with cable end Screw terminals, clamping capacity: 2 x 2.5 mm ² 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
[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 (X1)UNUSED (Y1)UNUSED (Z1)UNUSED (Z2)UNUSED ALT
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

Function Ht: Timing on Energisation with Memory

Description

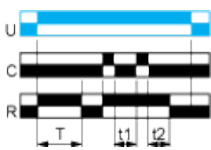
On energisation, the output R closes for the duration of a timing period T then reverts to its initial state.

Pulsing or maintaining control contact C will again close the output R.

Timing T is only active when control contact C is released and so the output R will not revert to its initial state until after a time $t_1 + t_2 + \dots$

The relay memorises the total, cumulative opening time of control contact C and, once the set time T is reached, the output R reverts to its initial state.

Function: 1 Output



$$T = t_1 + t_2 + \dots$$

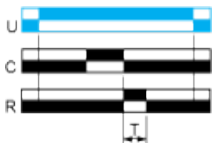
Function W: On-Delay After Opening of Control Contact

Description

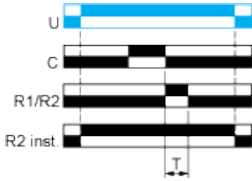
After power-up and opening of the control contact, the output(s) close(s) for a timing period T.

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/R22 timed outputs

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

T Timing period

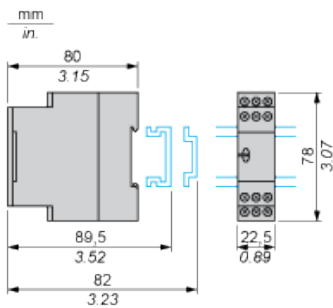
Ta Adjustable On-delay

Tr Adjustable Off-delay

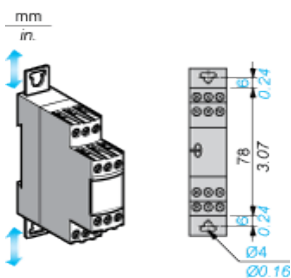
U Supply

Width 22.5 mm

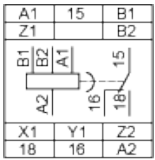
Rail Mounting



Screw Fixing

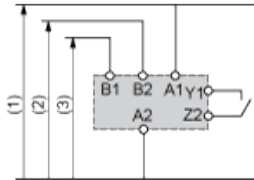


Internal Wiring Diagram



Recommended Application Wiring Diagram

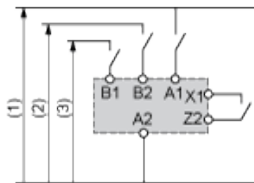
Start by External Control



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

Recommended Application Wiring Diagram

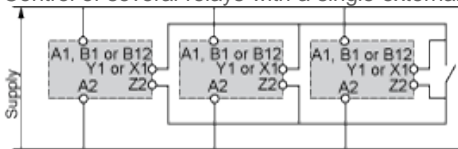
External Control of Partial Stop



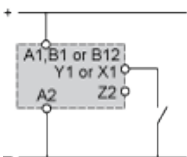
- 1 Supply
- 2 12...48 V
- 3 24 V

Control of Several Relays

Control of several relays with a single external control contact

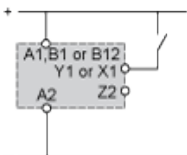


Connection of an External Control Contact Without Using Terminal Z2



Direct current supply only.

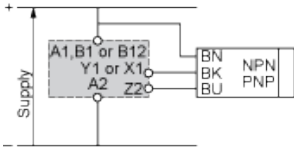
It is advisable to follow the recommended wiring schemes detailed above if the restrictions given are taken into account.



Direct current supply only.

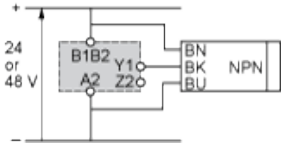
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Connection 3-Wire NPN or PNP Sensor



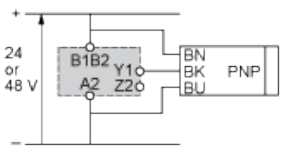
Connection 3-Wire NPN or PNP Sensor Without Using Terminal Z2

Connection NPN



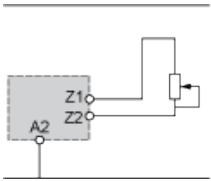
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Connection PNP



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Connection of Potentiometer



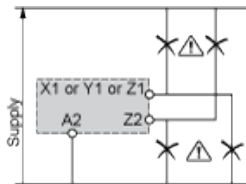
Connection Precautions

⚠ WARNING

UNEXPECTED EQUIPMENT OPERATION

No galvanic isolation between supply terminals and control inputs.

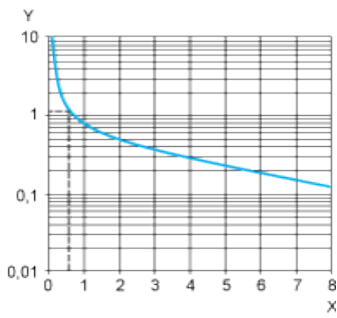
Failure to follow these instructions can result in death, serious injury, or equipment damage.



Performance Curves

A.C. Load Curve 1

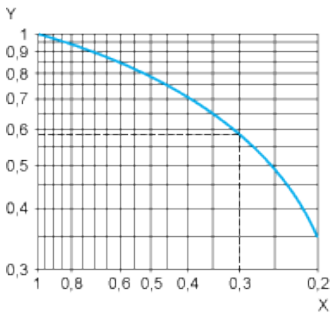
Electrical durability of contacts on resistive loading millions of operating cycles



X Current broken in A
Y Millions of operating cycles

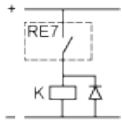
A.C. Load Curve 2

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

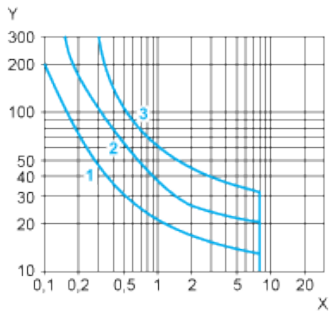


X Power factor on breaking ($\cos \phi$)
Y Reduction factor k

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