Product data sheet
Characteristics

RE7CV11BU
asymmetrical flashing relay - 0.05..1 s - 24 V AC DC - 1OC

Main

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

Complementary

Discrete output type	Relay
Contacts material	90/10 silver nickel contacts
Width pitch dimension	22.5 mm
[Us] rated supply voltage	42...48 V AC/DC at 50/60 Hz 24 V AC/DC at 50/60 Hz 110...240 V AC at 50/60 Hz
Voltage range	0.85...1.1 Us
Connections - terminals	Screw terminals, clamping capacity: 2 x 2.5 mm² flexible without cable end Screw terminals, clamping capacity: 2 x 1.5 mm² flexible with 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	<= 3 A AC-15 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 <= 0.1 A DC-13 250 V at 70 °C conforming to IEC 60947-5-1/1991/VDE 0660 <= 2 A DC-13 24 V at 70 °C conforming to IEC 60947-5-1/1991/VDE 0660
Minimum switching capacity	12 V / 10 mA
Input voltage	< 60 V X2Z2 terminal(s) < 60 V X1Z2 terminal(s)
Maximum switching current	1 mA X2Z2 terminal(s) 1 mA X1Z2 terminal(s)
Input compatibility	3/4 wires sensors PNP/NPN without internal load, cable length: <= 50 m X2Z2 terminal(s) 3/4 wires sensors PNP/NPN without internal load, cable length: <= 50 m X1Z2 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	300 V between contact circuit and power supply CSA certified 300 V between contact circuit and control inputs CSA certified 250 V between contact circuit and power supply IEC certified 250 V between contact circuit and control inputs IEC 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	8.5 VA 240 V 1.8 VA 110 V 1.6 VA 48 V 0.7 VA 24 V
Power consumption in W	1.2 W 48 V 0.5 W 24 V
Terminal description	(15-16-18)OC_OFF (B1-A2)CO ALT
Height	78 mm
Width	22.5 mm
Depth	80 mm
Product weight	0.15 kg

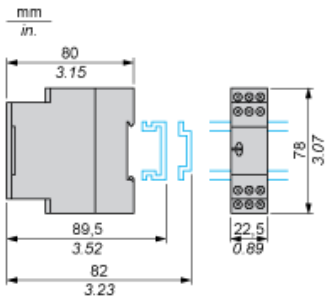
Environment

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	IP50 (housing) IP20 (terminals)
Pollution degree	3 conforming to IEC 60664-1
Dielectric strength	2.5 kV
Non-dissipating shock wave	4.8 kV
Resistance to electrostatic discharge	8 kV (in air) conforming to IEC 61000-4-2 level 3 6 kV (in contact) 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	CISPR 11 group 1 - class A CISPR 22 - class A

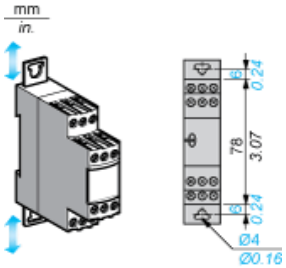
RE7CV11BU

Width 22.5 mm

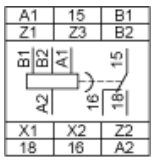
Rail Mounting



Screw Fixing

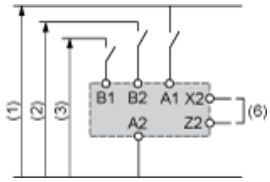


Internal Wiring Diagram



Recommended Application Wiring Diagram

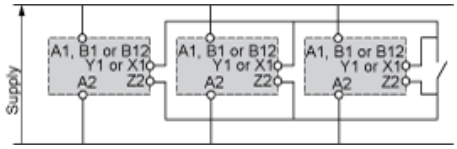
Selection of Starting Phase



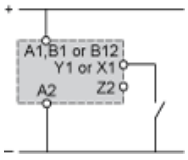
1 Supply
2 12…48 V
3 24 V
6 Start during the On-delay period: X2, Z2 linked.Start during the Off-delay period: X2, Z2 not linked.

Control of Several Relays

Control of several relays with a single external control contact

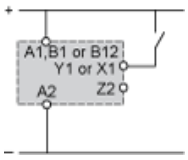


Connection of an External Control Contact Without Using Terminal Z2



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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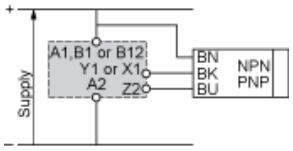
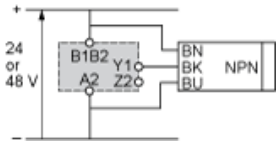
Connection 3-Wire NPN or PNP Sensor



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

Connection NPN



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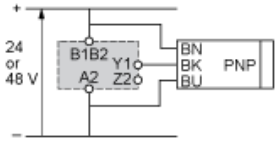
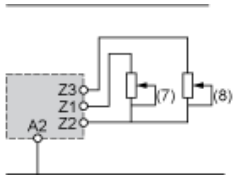
Connection PNP



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

Connection of Potentiometer



7 Off-delay adjustment (tr) (contact 15/16 closed).
8 On-delay adjustment (ta) (contact 15/18 closed).

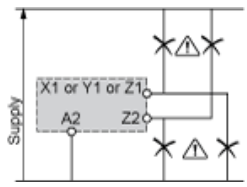
Connection Precautions

⚠ WARNING

UNEXPECTED EQUIPMENT OPERATION

No galvanic isolation between supply terminals and control inputs.

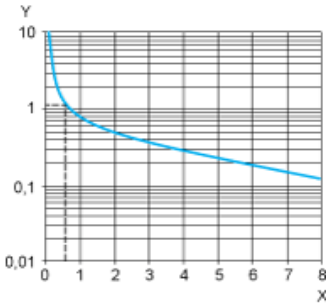
Failure to follow these instructions can result in death, serious injury, or equipment damage.



Performance Curves

A.C. Load Curve 1

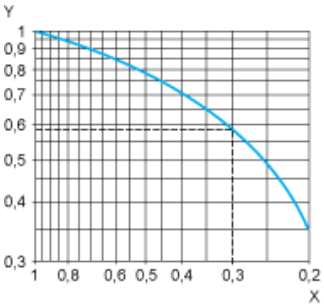
Electrical durability of contacts on resistive loading millions of operating cycles



X Current broken in A
Y Millions of operating cycles

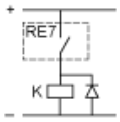
A.C. Load Curve 2

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

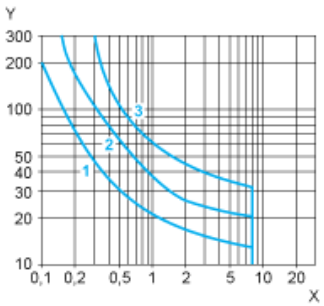


X Power factor on breaking (cos ϕ)
Y Reduction factor k

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 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.



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 L : Asymmetrical Flasher Relay (Starting Pulse Off)

Description

Repetitive cycle comprises of two, independently adjustable timing periods Ta and Tr. Each timing period corresponds to a different state of the output R.

Function: 1 Output

Function Li : Asymmetrical Flasher Relay (Starting Pulse On)

Description

Repetitive cycle comprises of two, independently adjustable timing periods Ta and Tr. Each timing period corresponds to a different state of the output R.

Function: 1 Output

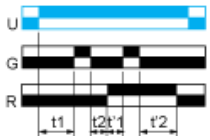
Function Lt: Asymmetrical Flashing with Partial Stop of Timing

Description

Repetitive cycle comprises of two, independently adjustable timing periods Ta and Tr. Each timing period corresponds to a different state of the output R.

Gate control contact G can be operated to partially stop timing periods Ta and Tr.

Function: 1 Output



Tr = t1 + t2 + ...

Ta = t'1 + t'2 +...

Legend

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

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