Product data sheet
Characteristics

RE7ML11BU
time delay relay 6 functions - 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	W C D H Di A
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	110...240 V AC at 50/60 Hz 24 V AC/DC at 50/60 Hz 42...48 V AC/DC at 50/60 Hz
Voltage range	0.85...1.1 Us
Connections - terminals	Screw terminals, clamping capacity: 2 x 1.5 mm² flexible with cable end Screw terminals, clamping capacity: 2 x 2.5 mm² 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 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 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	(Z1)UNUSED (15-16-18)OC (Z2)UNUSED (B1-A2)CO (Y1)UNUSED ALT (X1)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	GL UL CSA
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	CISPR 22 - class A CISPR 11 group 1 - class A

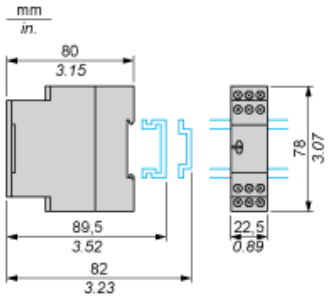
Contractual warranty

Warranty period	18 months

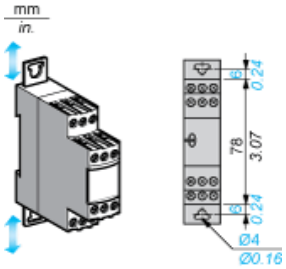
RE7ML11BU

Width 22.5 mm

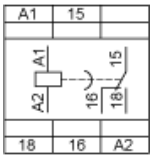
Rail Mounting



Screw Fixing

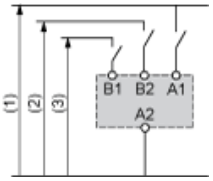


Internal Wiring Diagram



Recommended Application Wiring Diagram

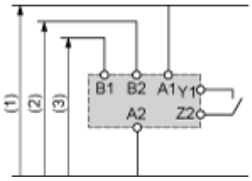
Start on Energisation



1	Supply
2	12…48 V
3	24 V

Recommended Application Wiring Diagram

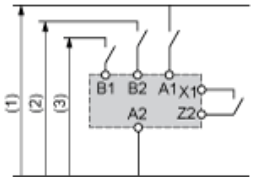
Start by External Control



1	Supply
2	12…48 V
3	24 V

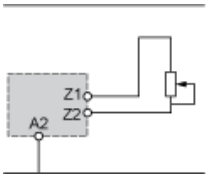
Recommended Application Wiring Diagram

External Control of Partial Stop



1	Supply
2	12…48 V
3	24 V

Connection of Potentiometer



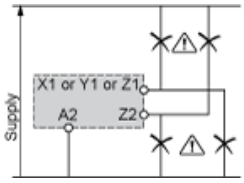
Connection Precautions

WARNING

UNEXPECTED EQUIPMENT OPERATION

No galvanic isolation between supply terminals and control inputs.

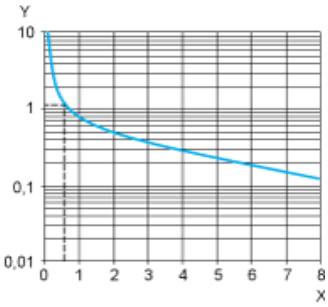
Failure to follow these instructions can result in death, serious injury, or equipment damage.



Performance Curves

A.C. Load Curve 1

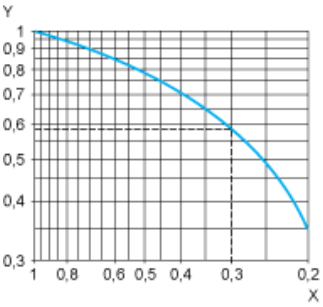
Electrical durability of contacts on resistive loading millions of operating cycles



X Current broken in A
Y Millions of operating cycles

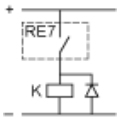
A.C. Load Curve 2

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

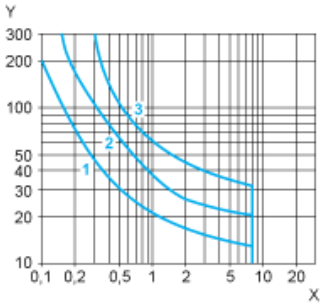


X Power factor on breaking (cos ϕ)
Y Reduction factor k

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 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 A : Power on Delay Relay

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

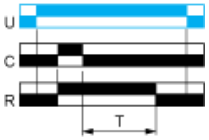
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.)

Function C : Off-Delay Relay with Control Signal

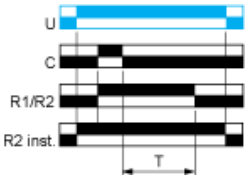
Description

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.)

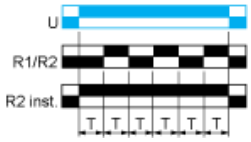
Function D : Symmetrical Flasher Relay (Starting Pulse Off)

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.)

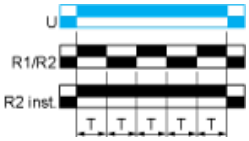
Function Di : Symmetrical Flasher Relay (Starting Pulse On)

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.)

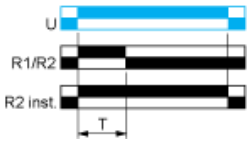
Function H : Interval Relay

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.)

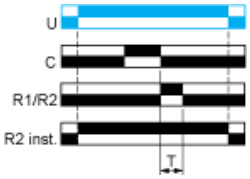
Function W : Interval Relay with Control Signal Off

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/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

RE7ML11BU is replaced by:

Relay Output RE22R1MYMR

Multi-function Timing Relay - 0.05s…300h - 24…240V AC/DC - 1C/O

Qty 1

Reason for Substitution: End of life | Substitution date: 18 August 2016