Product data sheet

Specifications

on-delay timing relay with control contact - 0.05..1 s - 24 V AC DC - 1OC

RE7TM11BU

Discontinued on: Jun 1, 2016

Discontinued

Main

Range of Product	Zelio Time
Product or Component Type	Industrial timing relay
Component name	RE7
Time delay type	Aw A At
Time delay range	0.05 s...300 h

Complementary

Discrete output type	Relay
Contacts material	90/10 silver nickel contacts
Width pitch dimension	0.9 in (22.5 mm)
[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
Voltage range	0.85...1.1 Us
Connections - terminals	Screw terminals, 2 x 1.5 mm² flexible with cable end Screw terminals, 2 x 2.5 mm² flexible without cable end
Tightening torque	5.3…9.7 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
Maximum [Ie] rated operational current	2 A DC-13 24 V 158 °F (70 °C) IEC 60947-5-1/1991/VDE 0660 0.1 A DC-13 250 V 158 °F (70 °C) IEC 60947-5-1/1991/VDE 0660 0.2 A DC-13 115 V 158 °F (70 °C) IEC 60947-5-1/1991/VDE 0660 3 A AC-15 158 °F (70 °C) IEC 60947-5-1/1991/VDE 0660
Minimum switching capacity	10 mA 12 V

Price is “List Price” and may be subject to a trade discount – check with your local distributor or retailer for actual price.

Input voltage	< 60 V X1Z2 < 60 V Y1Z2
Maximum switching current	1 mA X1Z2) 1 mA Y1Z2)
Input compatibility	3/4 wires sensors PNP/NPN without internal load <164.04 ft (50 m) X1Z2 3/4 wires sensors PNP/NPN without internal load <164.04 ft (50 m) Y1Z2
Potentiometer characteristic	Linear 47 kOhm +/- 20 %), 0.2 W 82.02 ft (25 m) Z1Z2
Marking	CE
Overvoltage category	III IEC 60664-1
[Ui] rated insulation voltage	250 V between contact circuit and control inputs IEC 250 V between contact circuit and power supply IEC 300 V between contact circuit and control inputs CSA 300 V between contact circuit and power supply CSA
Supply disconnection value	> 0.1 Uc
Operating position	Any position without derating
Surge withstand	2 kV 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
Maximum power consumption in W	0.5 W 24 V 1.2 W 48 V
Terminal description	ALT (X1)UNUSED (B1-A2)CO (15-16-18)OC_OFF (Z2)UNUSED (Y1)UNUSED (Z1)UNUSED
Height	3.07 in (78 mm)
Width	0.9 in (22.5 mm)
Depth	3.1 in (80 mm)
Net 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 IEC 60721-3-3
Vibration resistance	0.35 mm 10…55 Hz)IEC 60068-2-6
Shock resistance	15 gn 11 ms IEC 60068-2-27
IP degree of protection	IP20 terminals) IP50 housing)
Pollution degree	3 IEC 60664-1
Dielectric strength	2.5 kV
Non-dissipating shock wave	4.8 kV

Resistance to electrostatic discharge	6 kV in contact IEC 61000-4-2 level 3 8 kV in air IEC 61000-4-2 level 3
Resistance to electromagnetic fields	9.1 V/m (10 V/m) IEC 61000-4-3 level 3
Resistance to fast transients	2 kV IEC 61000-4-4 level 3
Disturbance radiated/conducted	CISPR 11 group 1 - class A CISPR 22 - class A

Ordering and shipping details

Category	22376-RELAYS-MEASUREMENT(RM4)
Discount Schedule	CP2
GTIN	00785901481492
Returnability	No
Country of origin	ID

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1

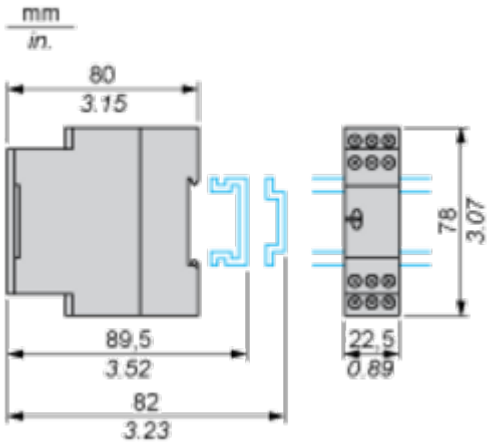
Contractual warranty

Warranty	18 months

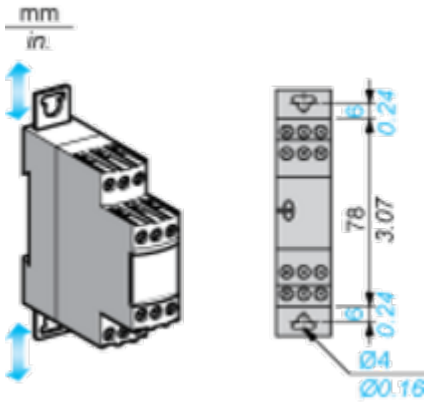
Dimensions Drawings

Width 22.5 mm

Rail Mounting

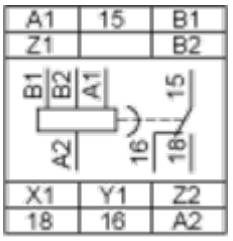


Screw Fixing



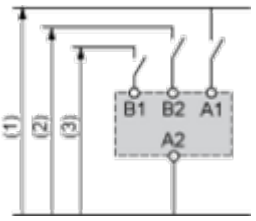
Connections and Schema

Internal Wiring Diagram



Recommended Application Wiring Diagram

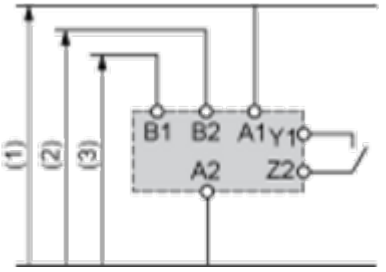
Start on Energisation



1 Supply
2 12…48 V
3 24 V

Recommended Application Wiring Diagram

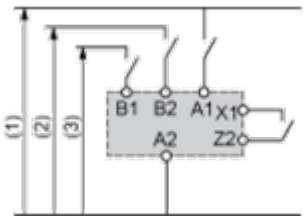
Start by External Control



1 Supply
2 12…48 V
3 24 V

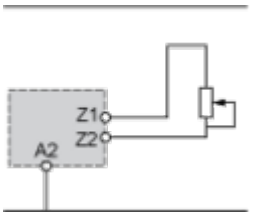
Recommended Application Wiring Diagram

External Control of Partial Stop



1 Supply
2 12…48 V
3 24 V

Connection of Potentiometer



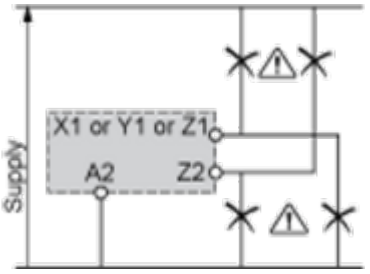
Connection Precautions

⚠ 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.

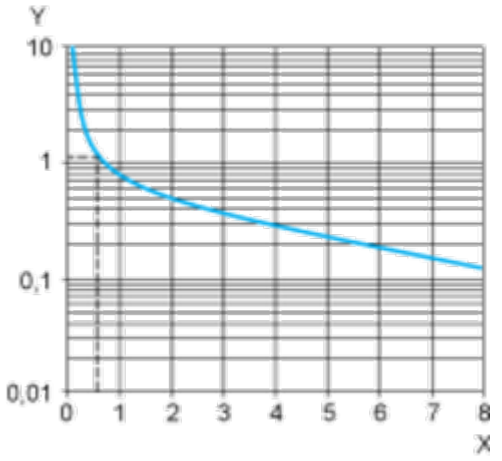


Performance Curves

Performance Curves

A.C. Load Curve 1

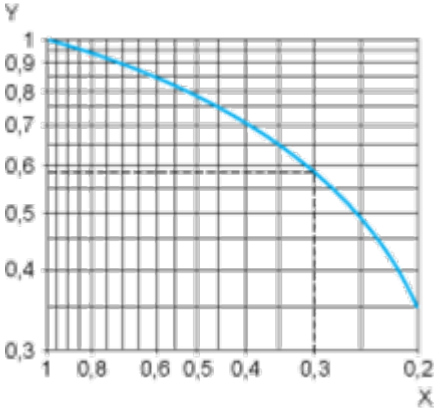
Electrical durability of contacts on resistive loading millions of operating cycles



X Current broken in A
Y Millions of operating cycles

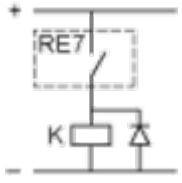
A.C. Load Curve 2

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

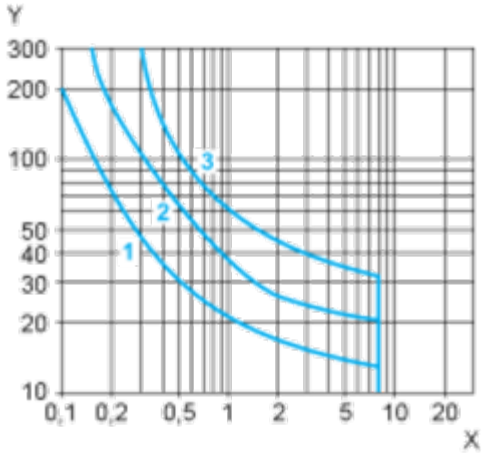


X Power factor on breaking (cos ϕ)
Y Reduction factor k
Example: An LC1-F185 contactor supplied with 115 V/50 Hz for a consumption of 55 VA or a current consumption equal to 0.1 A and cos ϕ = 0.3. For 0.1 A, curve 1 indicates a durability of approximately 1.5 million operating cycles. As the load is 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

Technical Description

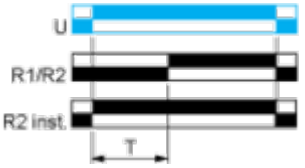
Function A : Power on Delay Relay

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



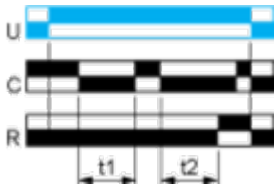
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.)

Function At : Power on Delay Relay (Summation) with Control Signal

Description

After power-up, the first opening of control contact C starts the timing. Timing can be interrupted each time control contact closes. When the cumulative total of time periods elapsed reaches the pre-set value T, the output relay closes.

Function: 1 Output



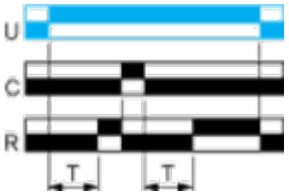
T = t1 + t2 +...

Function Aw: Off-delay on Energisation or Opening of Control Contact

Description

The timing period T starts on energisation.
At the end of the timing period T, the output R closes.
Closing of control contact C restarts timing period T.
At the end of timing period T, the output R closes.

Function: 1 Output



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