Product datasheet

Specifications

symmetrical on and off-delay timing relay - 0.05..1 s - 24 V AC DC - 2OC

RE7MA13BU

Discontinued on: 1 Jun 2016

EAN Code: 3389110311792

Discontinued

Main

Range Of Product	Zelio Time
Product Or Component Type	Industrial timing relay
Contacts Type And Composition	2 C/O
Component Name	RE7
Time Delay Type	Ac
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 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	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 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 3 A AC-15 at 70 °C conforming to IEC 60947-5-1/1991/VDE 0660
Minimum Switching Capacity	at 12 V 10 mA
Input Voltage	< 60 V Y1Z2 terminal(s)

Disclaimer: 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

Maximum Switching Current	1 mA (Y1Z2)
Input Compatibility	3/4 wires sensors PNP/NPN without internal load <50 m Y1Z2 terminal(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	2 VA at 48 V 1.2 VA at 24 V 12.5 VA at 240 V 2.8 VA at 110 V
Maximum Power Consumption In W	0.8 W at 24 V 1.6 W at 48 V
Terminal Description	(25-26-28)OC_ON_OFF ALT (B1-A2)CO (15-16-18)OC_ON_OFF (Z2)UNUSED (Y1)UNUSED
Height	78 mm
Width	22.5 mm
Depth	80 mm
Net Weight	0.15 kg

Environment

Immunity To Microbreaks	3 ms
Standards	EN/IEC 61812-1
Product Certifications	GL CSA 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	CISPR 22 - class A CISPR 11 group 1 - class A

Packing Units

Unit Type Of Package 1	PCE
Number Of Units In Package 1	1

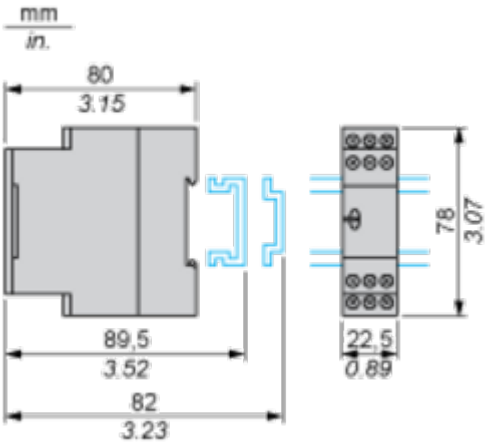
Contractual warranty

Warranty	18 months

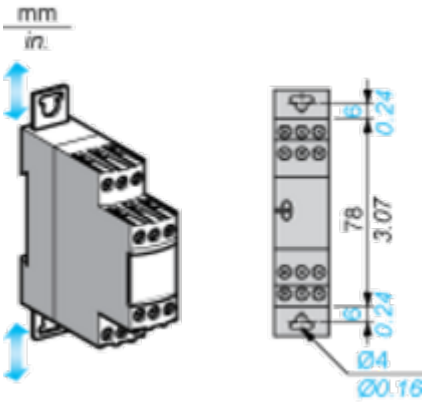
Dimensions Drawings

Width 22.5 mm

Rail Mounting



Screw Fixing

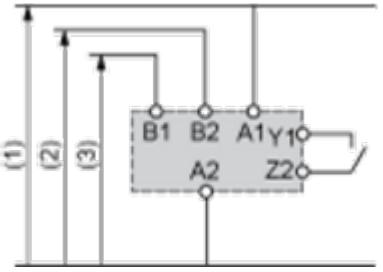


Connections and Schema

Internal Wiring Diagram

Recommended Application Wiring Diagram

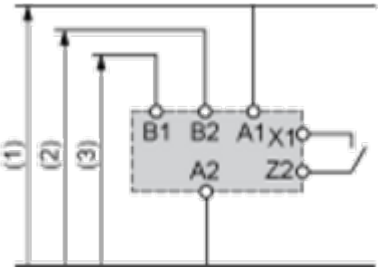
Start by External Control



1 Supply
2 12…48 V
3 24 V

Recommended Application Wiring Diagram

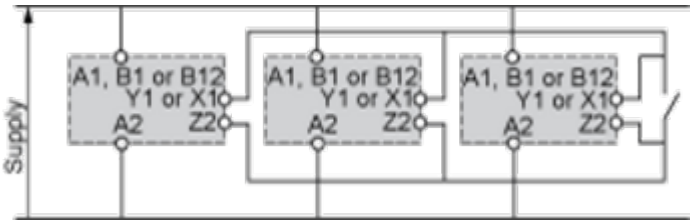
Start by External Control



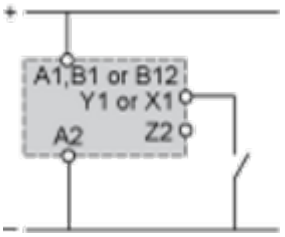
1 Supply
2 12…48 V
3 24 V

Control of Several Relays

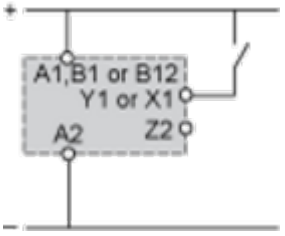
Control of several relays with a single external control contact



Connection of an External Control Contact Without Using Terminal Z2

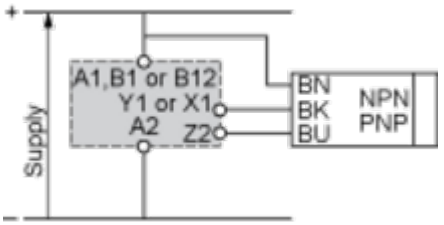


Direct current supply only.
It is advisable to follow the recommended wiring schemes detailed above if the restrictions given are taken into account.



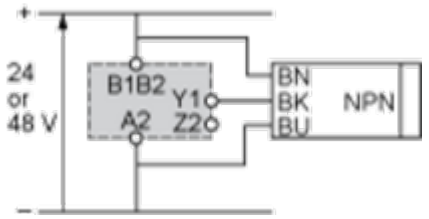
Direct current supply only.
It is advisable to follow the recommended wiring schemes detailed above if the restrictions given are taken into account.

Connection 3-Wire NPN or PNP Sensor



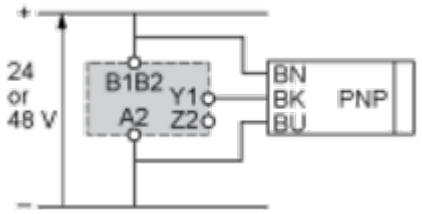
Connection 3-Wire NPN or PNP Sensor Without Using Terminal Z2

Connection NPN



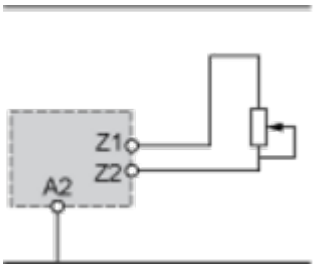
It is advisable to follow the recommended wiring schemes detailed above if the restrictions given are taken into account.

Connection PNP



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

Connection of Potentiometer



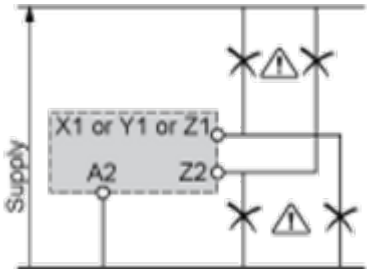
Connection Precautions

⚠ 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.

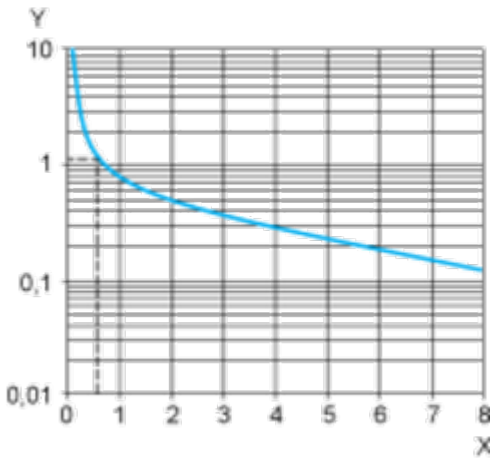


Performance Curves

Performance Curves

A.C. Load Curve 1

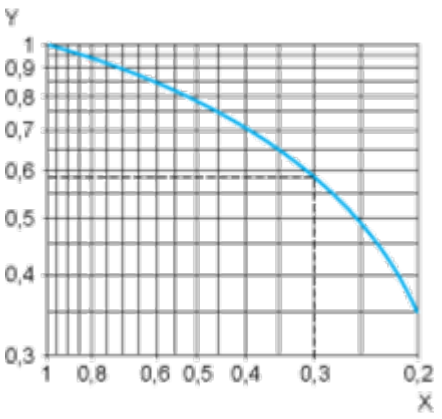
Electrical durability of contacts on resistive loading millions of operating cycles



X Current broken in A
Y Millions of operating cycles

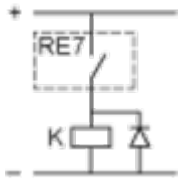
A.C. Load Curve 2

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

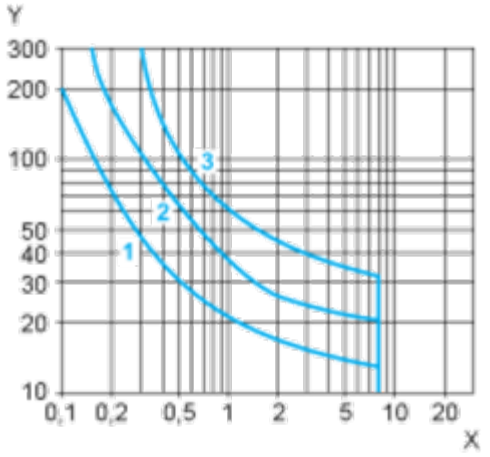


X Power factor on breaking (cos ϕ)
Y Reduction factor k
Example: An LC1-F185 contactor supplied with 115 V/50 Hz for a consumption of 55 VA or a current consumption equal to 0.1 A and cos ϕ = 0.3. For 0.1 A, curve 1 indicates a durability of approximately 1.5 million operating cycles. As the load is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

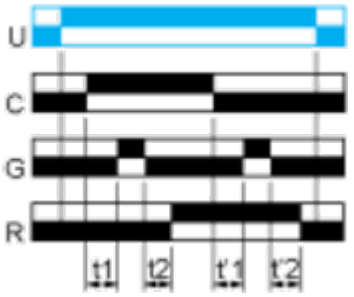
Technical Description

Function Ac : On- and Off-Delay Relay with Control Signal

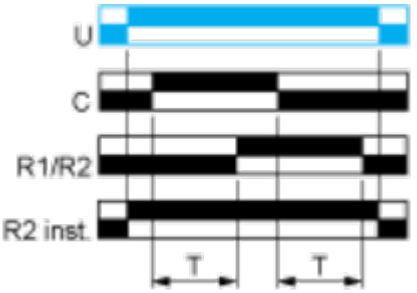
Description

After power-up, closing of the control contact C causes the timing period T to start (timing can be interrupted by operating the Gate control contact G). At the end of this timing period, the relay closes.
When control contact C re-opens, the timing T starts.
At the end of this timing period T, the output reverts to its initial position (timing can be interrupted by operating the Gate control contact G).
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