

# Product data sheet

## Characteristics

# RE7MY13BU

time delay relay 8 functions - 0.05..1 s - 24 V AC  
DC - 20C

Product availability: Stock - Normally stocked in distribution facility

Price\*: 252.00 USD



## Main

Commercial Status	Commercialised
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	A C D Di H Qg Qt W
Time delay range	0.05 s...300 h

## Complementary

Discrete output type	Relay
Contacts material	90/10 silver nickel contacts
Width pitch dimension	0.89 in (22.5 mm)
[Us] rated supply voltage	42...48 V AC/DCat 50/60 Hz 24 V AC/DC at 50/60 Hz 110...240 V ACat 50/60 Hz
Voltage range	0.85...1.1 Us
Connections - terminals	Screw terminals, clamping capacity: 2 x 2.5 mm <sup>2</sup> flexible without cable end Screw terminals, clamping capacity: 2 x 1.5 mm <sup>2</sup> flexible with cable end
Tightening torque	5.31...9.73 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
[Ie] rated operational current	<= 3 A AC-15at 158 °F (70 °C) conforming to IEC 60947-5-1/1991/VDE 0660 <= 0.2 A DC-13 115 Vat 158 °F (70 °C) conforming to IEC 60947-5-1/1991/VDE 0660 <= 0.1 A DC-13 250 Vat 158 °F (70 °C) conforming to IEC 60947-5-1/1991/VDE 0660 <= 2 A DC-13 24 Vat 158 °F (70 °C) conforming to IEC 60947-5-1/1991/VDE 0660
Minimum switching capacity	12 V / 10 mA
Input voltage	< 60 V Y1Z2 terminal(s)
Maximum switching current	1 mA Y1Z2 terminal(s)
Input compatibility	3/4 wires sensors PNP/NPN without internal load, cable length: <= 164.04 ft (50 m) Y1Z2 terminal(s)
Potentiometer characteristic	Linear 47 kOhm (+/- 20 %), 0.2 W, cable length: <= 82.02 ft (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	2.8 VA 110 V 12.5 VA 240 V 1.2 VA 24 V 2 VA 48 V
Power consumption in W	1.6 W 48 V 0.8 W 24 V
Terminal description	(15-16-18)OC (25-26-28)OC (B1-A2)CO (Y1)UNUSED (Z1)UNUSED (Z2)UNUSED ALT
Height	3.07 in (78 mm)
Width	0.89 in (22.5 mm)
Depth	3.15 in (80 mm)
Product 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) 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 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	9.14 V/yd (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

## Ordering and shipping details

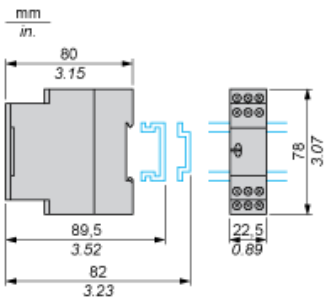
Category	22376 - RELAYS-MEASUREMENT(RM4)
Discount Schedule	CP2
GTIN	00785901708902
Nbr. of units in pkg.	1
Product availability	Stock - Normally stocked in distribution facility
Returnability	Y
Country of origin	ID

## Contractual warranty

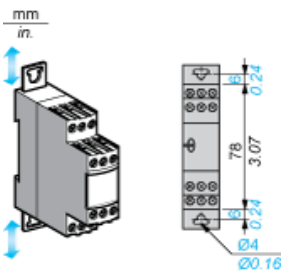
Warranty period	18 months
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Width 22.5 mm

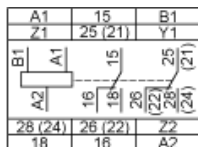
Rail Mounting



Screw Fixing

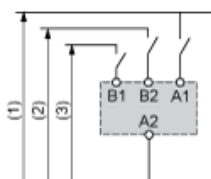


## Internal Wiring Diagram



## Recommended Application Wiring Diagram

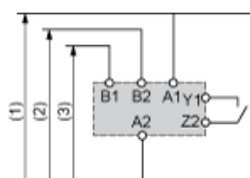
### Start on Energisation



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

## Recommended Application Wiring Diagram

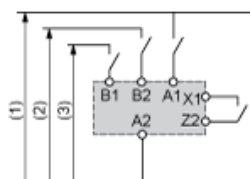
### Start by External Control



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

## Recommended Application Wiring Diagram

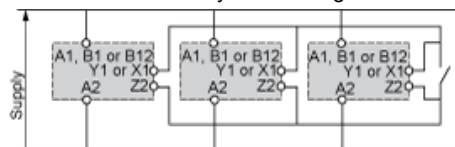
### External Control of Partial Stop



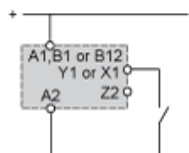
- 1 Supply
- 2 12...48 V
- 3 24 V

## Control of Several Relays

Control of several relays with a single external control contact

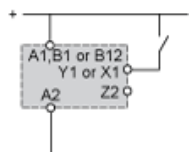


## Connection of an External Control Contact Without Using Terminal Z2



Direct current supply only.

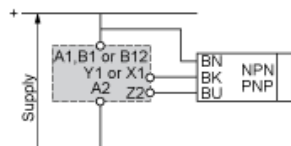
It is advisable to follow the recommended wiring schemes detailed above if the restrictions given are taken into account.



Direct current supply only.

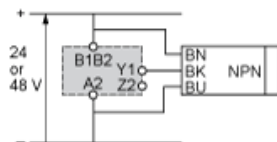
It is advisable to follow the recommended wiring schemes detailed above if the restrictions given are taken into account.

## Connection 3-Wire NPN or PNP Sensor



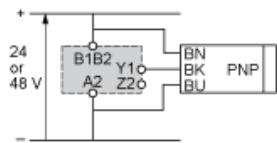
## Connection 3-Wire NPN or PNP Sensor Without Using Terminal Z2

### Connection NPN



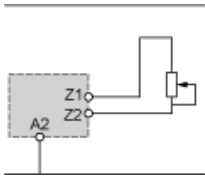
It is advisable to follow the recommended wiring schemes detailed above if the restrictions given are taken into account.

### Connection PNP



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

## Connection of Potentiometer



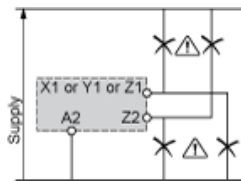
## Connection Precautions

### ⚠ WARNING

#### UNEXPECTED EQUIPMENT OPERATION

No galvanic isolation between supply terminals and control inputs.

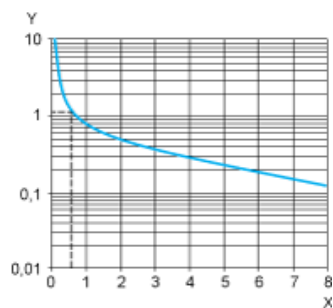
Failure to follow these instructions can result in death, serious injury, or equipment damage.



## Performance Curves

### A.C. Load Curve 1

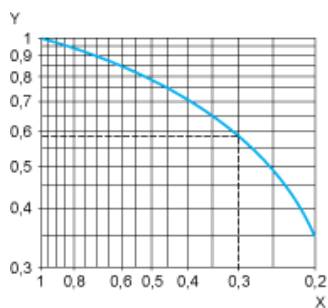
Electrical durability of contacts on resistive loading millions of operating cycles



X Current broken in A  
Y Millions of operating cycles

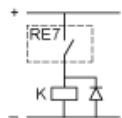
### A.C. Load Curve 2

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



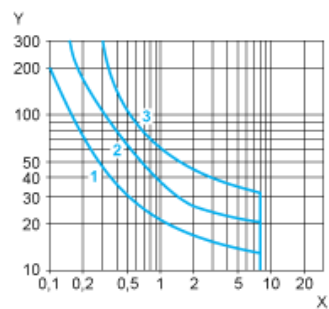
X Power factor on breaking ( $\cos \phi$ )  
Y Reduction factor k

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

## Function A : Power on Delay Relay

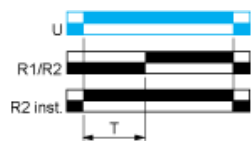
### Description

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

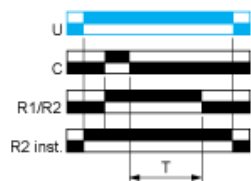
### Description

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



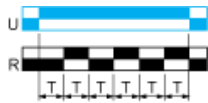
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.)

## Function D : Symmetrical Flasher Relay (Starting Pulse Off)

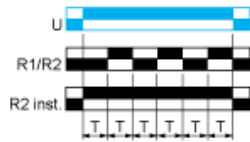
### Description

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)

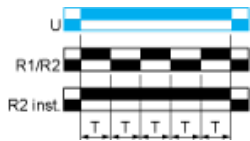
### Description

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

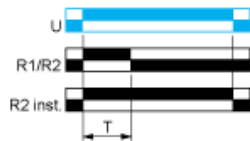
### Description

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



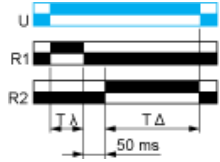
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.)

## Function Qg: Star-Delta Timing

## Description

Timing for star-delta starter with contact for switching to star connection.

## Function: 1 Output

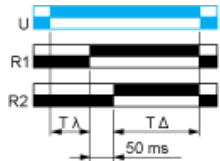


## Function Qt: Star-Delta Timing

## Description

Timing for star-delta starter with double On-delay period.

## Function: 1 Output



## Function W : Interval Relay with Control Signal Off

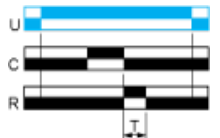
## Description

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

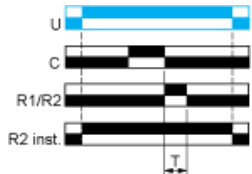
At the end of this timing period the output(s) revert(s) to its/their initial state.

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