# Product data sheet
## Characteristics

# RE7RM11BU
## off-delay timing relay with control contact - 0.05..1 s - 24 V AC DC - 1OC

### Main

| | |
|---|---|
| Commercial Status | Commercialised |
| Range of product | Zelio Time |
| Product or component type | Industrial timing relay |
| Component name | RE7 |
| Time delay type | C |
| Time delay range | 0.05 s...300 h |
| [Us] rated supply voltage | 42...48 V AC/DC 50/60 Hz<br>24 V AC/DC 50/60 Hz<br>110...240 V AC 50/60 Hz |

### Complementary

| | |
|---|---|
| Discrete output type | Relay |
| Contacts material | 90/10 silver nickel contacts |
| Width pitch dimension | 22.5 mm |
| Voltage range | 0.85...1.1 Us |
| Connections - terminals | Screw terminals, clamping capacity: 2 x 2.5 mm² flexible without cable end<br>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 | <= 0.2 A DC-13 115 V at 70 °C conforming to IEC 60947-5-1/1991/VDE 0660<br><= 0.1 A DC-13 250 V at 70 °C conforming to IEC 60947-5-1/1991/VDE 0660<br><= 3 A AC-15 at 70 °C conforming to IEC 60947-5-1/1991/VDE 0660<br><= 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 Y1Z2 terminal(s)<br>< 60 V X1Z2 terminal(s) |
| Maximum switching current | 1 mA Y1Z2 terminal(s)<br>1 mA X1Z2 terminal(s) |
| Input compatibility | 3/4 wires sensors PNP/NPN without internal load, cable length: <= 50 m Y1Z2 terminal(s)<br>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<br>300 V between contact circuit and control inputs CSA certified<br>250 V between contact circuit and power supply IEC certified<br>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<br>1.8 VA 110 V<br>1.6 VA 48 V<br>0.7 VA 24 V |
| Power consumption in W | 1.2 W 48 V<br>0.5 W 24 V |
| Terminal description | (15-16-18)OC_OFF<br>(B1-A2)CO<br>(X1)UNUSED<br>(Y1)UNUSED<br>(Z1)UNUSED<br>(Z2)UNUSED<br>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<br>GL<br>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)<br>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<br>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<br>CISPR 22 - class A |

## Contractual warranty

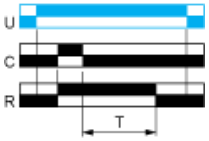
| | |
|---|---|
| Period | 18 months |

## Function C : Off-Delay Relay with Control Signal

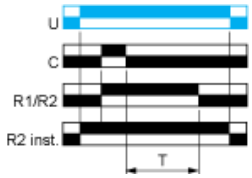
### Description

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.)

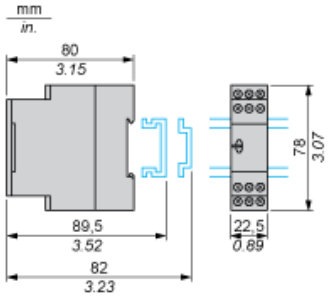
## Legend

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

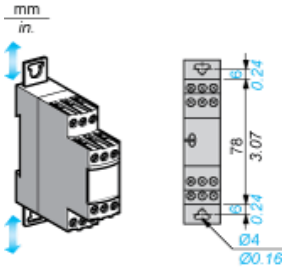
C Control contact
G Gate
R Relay or solid state output
R1/R2 2 timed outputs
R2 inst. The second output is instantaneous if the right position is selected
T Timing period
Ta Adjustable On-delay
Tr Adjustable Off-delay
U Supply

## Width 22.5 mm

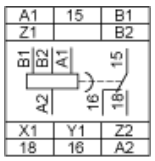
### Rail Mounting




### Screw Fixing

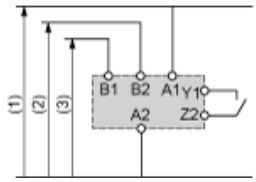


## Internal Wiring Diagram




## Recommended Application Wiring Diagram

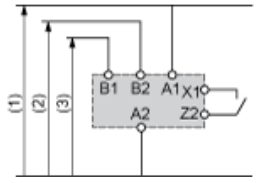
Start by External Control




1 Supply
2 12…48 V
3 24 V

## Recommended Application Wiring Diagram

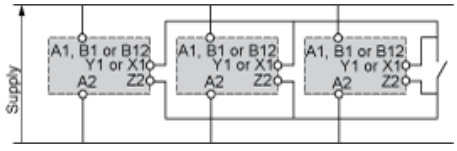
Start by External Control



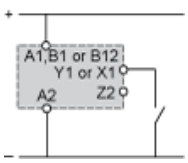

1 Supply
2 12…48 V
3 24 V

## Control of Several Relays

Control of several relays with a single external control contact

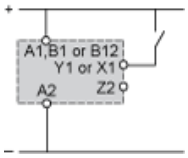



## Connection of an External Control Contact Without Using Terminal Z2




Direct current supply only.

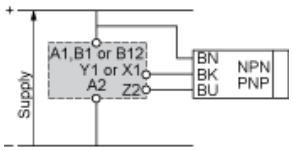
It is advisable to follow the recommended wiring schemes detailed above if the restrictions given are taken into account.




Direct current supply only.

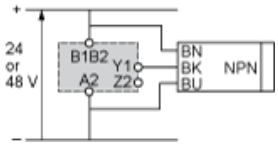
It is advisable to follow the recommended wiring schemes detailed above if the restrictions given are taken into account.

## Connection 3-Wire NPN or PNP Sensor



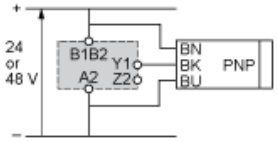

## Connection 3-Wire NPN or PNP Sensor Without Using Terminal Z2

### Connection NPN



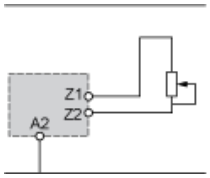

It is advisable to follow the recommended wiring schemes detailed above if the restrictions given are taken into account.

### Connection PNP




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

## Connection of Potentiometer



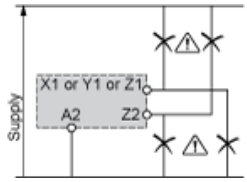

## Connection Precautions

**⚠ WARNING**

UNEXPECTED EQUIPMENT OPERATION

No galvanic isolation between supply terminals and control inputs.

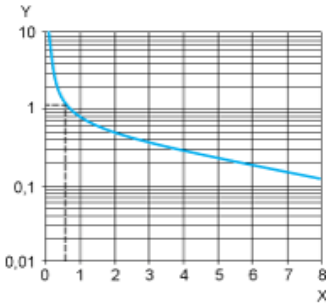
Failure to follow these instructions can result in death, serious injury, or equipment damage.



## Performance Curves

### A.C. Load Curve 1

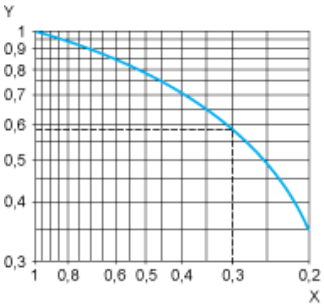
Electrical durability of contacts on resistive loading millions of operating cycles




X Current broken in A
Y Millions of operating cycles

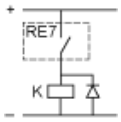
### A.C. Load Curve 2

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

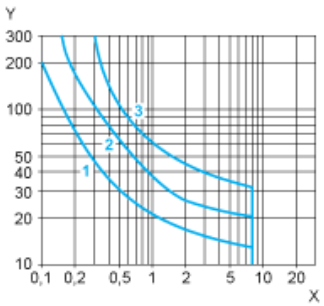



X Power factor on breaking (cos ϕ)
Y Reduction factor k

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