



### Principales

|                               |                                         |
|-------------------------------|-----------------------------------------|
| Gamme de produit              | Zelio Time                              |
| Type de produit ou équipement | Relais de temporisation industriel      |
| Description des contacts      | 2 "O/F"                                 |
| Nom de composant              | RE7                                     |
| Type de temporisation         | D<br>A<br>Di<br>Qt<br>W<br>Qg<br>H<br>C |
| Plage de temporisation        | 0,05 s...300 H                          |

### Complémentaires

|                                       |                                                                                                                                                                                                                                                                                   |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type de sortie logique                | Relais                                                                                                                                                                                                                                                                            |
| Matière des contacts                  | Contacts nickel argent 90/10                                                                                                                                                                                                                                                      |
| Dimension du pas en largeur           | 22,5 mm                                                                                                                                                                                                                                                                           |
| [Us] tension d'alimentation           | 24...240 V CA/CC 50/60 Hz                                                                                                                                                                                                                                                         |
| Plage d'utilisation en tension        | 0,85 à 1,1 Us                                                                                                                                                                                                                                                                     |
| Mode de raccordement                  | Bornes à vis, 2 x 1,5 mm <sup>2</sup> souple avec embout<br>Bornes à vis, 2 x 2,5 mm <sup>2</sup> souple sans embout                                                                                                                                                              |
| Couple de serrage                     | 0,6...1,1 N.m                                                                                                                                                                                                                                                                     |
| Réglage exact du temps de retard      | +/- 10 % pleine échelle                                                                                                                                                                                                                                                           |
| Précision de répétition               | +/- 0,2 %                                                                                                                                                                                                                                                                         |
| Dérive en température                 | < 0,07 %/°C                                                                                                                                                                                                                                                                       |
| Dérive en tension                     | < 0,2 %/V                                                                                                                                                                                                                                                                         |
| Durée minimale de l'impulsion         | 20 ms                                                                                                                                                                                                                                                                             |
| Temps de réinitialisation             | 50 ms                                                                                                                                                                                                                                                                             |
| Tension de coupure maximale           | 250 V CA/CC                                                                                                                                                                                                                                                                       |
| Endurance mécanique                   | 20000000 cycle                                                                                                                                                                                                                                                                    |
| [Ith] courant thermique conventionnel | 8 A                                                                                                                                                                                                                                                                               |
| [Ie] courant assigné d'emploi maximal | 2 A DC-13 24 V à 70 °C se conformer à CEI 60947-5-1/1991/VDE 0660<br>0,1 A DC-13 250 V à 70 °C se conformer à CEI 60947-5-1/1991/VDE 0660<br>0,2 A DC-13 115 V à 70 °C se conformer à CEI 60947-5-1/1991/VDE 0660<br>3 A AC-15 à 70 °C se conformer à CEI 60947-5-1/1991/VDE 0660 |
| Capacité de commutation minimum       | 10 mA à 12 V                                                                                                                                                                                                                                                                      |
| Tension d'entrée                      | < 60 V X1Z2 terminal(s)<br>< 60 V Y1Z2 terminal(s)                                                                                                                                                                                                                                |
| Courant commuté maximum               | 1 MA (X1Z2)<br>1 mA (Y1Z2)                                                                                                                                                                                                                                                        |
| Compatibilité de l'entrée numérique   | Détecteurs à 3/4 fils PNP/NPN sans charge interne <50 m X1Z2 terminal(s)<br>Détecteurs à 3/4 fils PNP/NPN sans charge interne <50 m Y1Z2 terminal(s)                                                                                                                              |
| Caractéristiques du potentiomètre     | Linéaire 47 kOhm (+/- 20 %), 0,2 W, longueur de câble <25 m Z1Z2<br>raccordement(s)                                                                                                                                                                                               |
| Marquage                              | CE                                                                                                                                                                                                                                                                                |
| Catégorie de surtension               | III se conformer à CEI 60664-1                                                                                                                                                                                                                                                    |
| [Ui] tension assignée d'isolement     | 250 V entre circuit de contact et entrées de commande CEI certifié<br>250 V entre circuit de contact et alimentation CEI certifié<br>300 V entre circuit de contact et entrées de commande CSA certifié<br>300 V entre circuit de contact et alimentation CSA certifié            |

|                                   |                                                                                                           |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------|
| Valeur de désengagement           | > 0,1 Uc                                                                                                  |
| Position de montage               | Toutes positions sans déclassement                                                                        |
| Tenue aux ondes de choc           | 2 kV se conformer à CEI 61000-4-5 niveau 3                                                                |
| Puissance consommée en VA         | 2 VA à 24 V<br>6 VA à 240 V<br>2,5 VA à 48 V<br>3,2 VA à 110 V                                            |
| Puissance consommée maximale en W | 1 W à 48 V<br>2 W à 24 V<br>2 W à 240 V<br>3,2 W à 110 V                                                  |
| Courant de crête                  | 0,001 kA pour 30 s sur excitation                                                                         |
| Description des bornes            | (25-26-28)OC_OFF<br>(15-16-18)OC_OFF<br>(Z1)UNUSED<br>(X1)UNUSED<br>(Y1)UNUSED<br>(Z2)UNUSED<br>(A1-A2)CO |
| Hauteur                           | 78 mm                                                                                                     |
| Largeur                           | 22,5 mm                                                                                                   |
| Profondeur                        | 80 mm                                                                                                     |
| Poids du produit                  | 0,15 kg                                                                                                   |

## Environnement

|                                              |                                                                                                                |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Immunité aux micro-coupures                  | 3 ms                                                                                                           |
| Normes                                       | EN/CEI 61812-1                                                                                                 |
| Certifications du produit                    | GL[RETURN]UL[RETURN]CSA                                                                                        |
| Température ambiante de stockage             | -40...85 °C                                                                                                    |
| Température ambiante de fonctionnement       | -20...60 °C                                                                                                    |
| Humidité relative                            | 15...85 % 3K3 se conformer à CEI 60721-3-3                                                                     |
| Tenue aux vibrations                         | 0,35 mm (f= 10...55 Hz) se conformer à CEI 60068-2-6                                                           |
| Tenue aux chocs mécaniques                   | 15 gn pour 11 ms se conformer à CEI 60068-2-27                                                                 |
| Degré de protection IP                       | IP20 (bornes)<br>IP50 (enveloppe)                                                                              |
| Degré de pollution                           | 3 se conformer à CEI 60664-1                                                                                   |
| Tenue diélectrique                           | 2,5 kV                                                                                                         |
| Onde de choc non-dissipative                 | 4,8 kV                                                                                                         |
| Tenue aux décharges électrostatiques         | 6 kV en contact se conformer à CEI 61000-4-2 niveau 3<br>8 kV dans l'air se conformer à CEI 61000-4-2 niveau 3 |
| Tenue aux champs électromagnétiques rayonnés | 10 V/m se conformer à CEI 61000-4-3 niveau 3                                                                   |
| Tenue aux transitoires rapides               | 2 kV se conformer à CEI 61000-4-4 niveau 3                                                                     |
| Perturbation radiée/conduite                 | CISPR22 - classe A<br>Groupe 1 CISPR11 - Classe A                                                              |

## Emballage

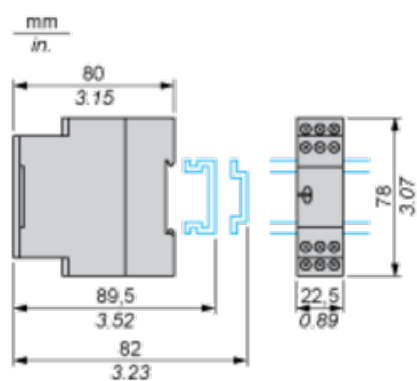
|                                |     |
|--------------------------------|-----|
| Type d'emballage 1             | PCE |
| Nb produits dans l'emballage 1 | 1   |

## Garantie contractuelle

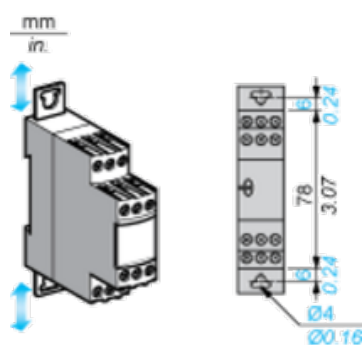
|          |           |
|----------|-----------|
| Garantie | 18 months |
|----------|-----------|

Width 22.5 mm

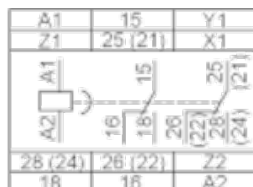
## Rail Mounting



## Screw Fixing

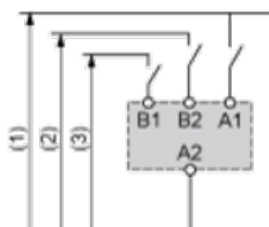


## Internal Wiring Diagram



## Recommended Application Wiring Diagram

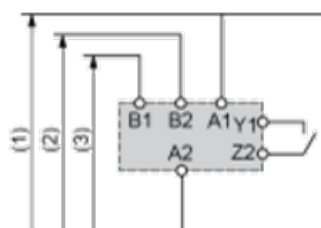
### Start on Energisation



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

## Recommended Application Wiring Diagram

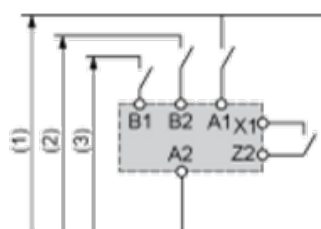
### Start by External Control



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

## Recommended Application Wiring Diagram

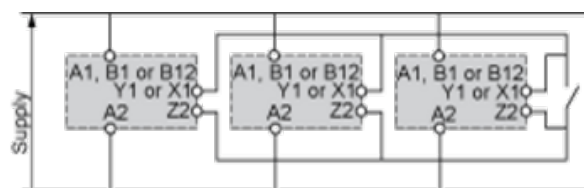
### External Control of Partial Stop



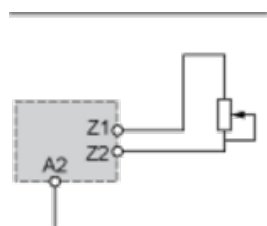
- 1 Supply
- 2 12...48 V
- 3 24 V

## Control of Several Relays

Control of several relays with a single external control contact



## Connection of Potentiometer



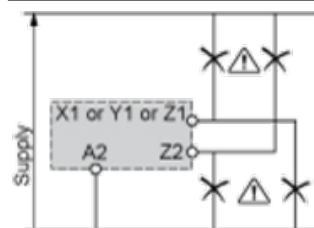
## Connection Precautions

### ⚠ WARNING

#### UNEXPECTED EQUIPMENT OPERATION

No galvanic isolation between supply terminals and control inputs.

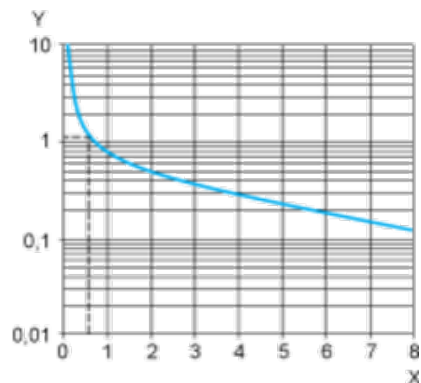
Failure to follow these instructions can result in death, serious injury, or equipment damage.



## Performance Curves

### A.C. Load Curve 1

Electrical durability of contacts on resistive loading millions of operating cycles

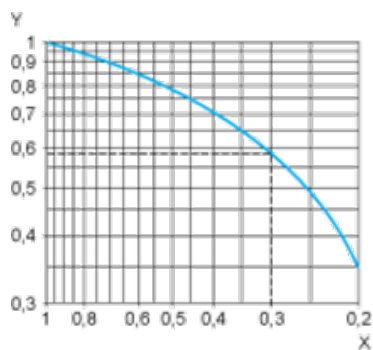


X Current broken in A

Y Millions of operating cycles

### A.C. Load Curve 2

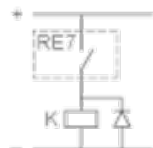
Reduction factor k for inductive loads (applies to values taken from durability curve 1).



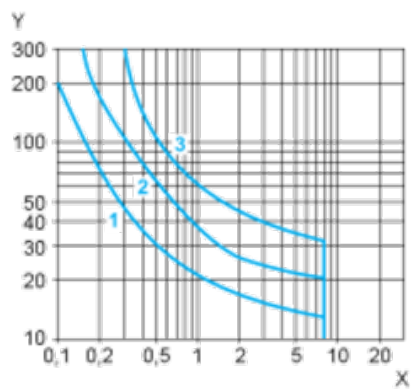
X Power factor on breaking ( $\cos \phi$ )

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

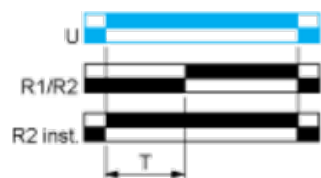
### Description

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



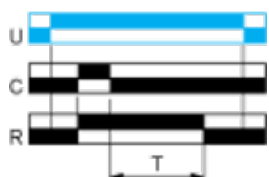
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.)

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

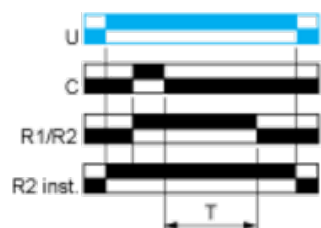
### Description

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

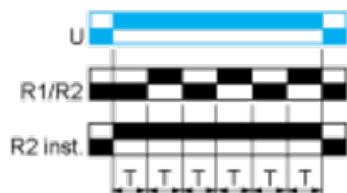
Repetitive cycle with two timing periods T of equal duration, with output(s) R changing state at the end of each timing period T.

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)

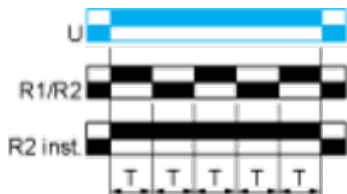
### Description

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

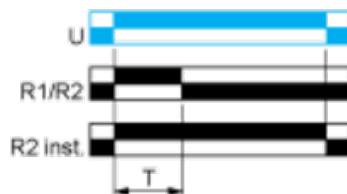
### Description

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.)

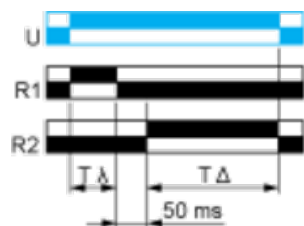
## Function Qg: Star-Delta Timing

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### Description

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

### Function: 1 Output



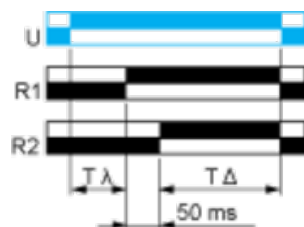
## Function Qt: Star-Delta Timing

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### Description

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

### Function: 1 Output



## Function W : Interval Relay with Control Signal Off

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### Description

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

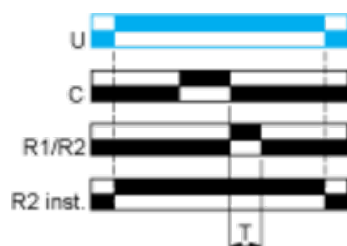
At the end of this timing period the output(s) revert(s) to its/their initial state.

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

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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                                                               |