



## Main

|                               |                                 |
|-------------------------------|---------------------------------|
| Range of product              | Zelio Time                      |
| Product or component type     | Optimum industrial timing relay |
| Component name                | RE8                             |
| Time delay type               | C                               |
| Time delay range              | 0.1...10 s                      |
| Sale per indivisible quantity | 10                              |

## Complementary

|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Discrete output type                        | Relay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Contacts material                           | 90/10 silver nickel contacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Width pitch dimension                       | 22.5 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| [Us] rated supply voltage                   | 24 V AC/DC at 50/60 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Voltage range                               | 0.9...1.1 Us                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Connections - terminals                     | Screw terminals 2 x 2.5 mm <sup>2</sup> , flexible cable without cable end<br>Screw terminals 2 x 1.5 mm <sup>2</sup> , flexible cable with cable end                                                                                                                                                                                                                                                                                                                                                                            |
| Tightening torque                           | 0.6...1.1 N.m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Setting accuracy of time delay              | +/- 20 % of full scale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Repeat accuracy                             | < 1 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Voltage drift                               | < 2.5 %/V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Temperature drift                           | < 0.2 %/°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Minimum pulse duration                      | 26 ms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Reset time                                  | 50 ms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Maximum switching voltage                   | 250 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Mechanical durability                       | 20000000 cycles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| [Ith] conventional free air thermal current | 8 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| [Ie] rated operational current              | <= 0.2 A at 115 V, DC-13 for 70 °C conforming to VDE 0660<br><= 0.2 A at 115 V, DC-13 for 70 °C conforming to IEC 60947-5-1/1991<br><= 0.1 A at 250 V, DC-13 for 70 °C conforming to VDE 0660<br><= 0.1 A at 250 V, DC-13 for 70 °C conforming to IEC 60947-5-1/1991<br><= 3 A at 24 V, AC-15 for 70 °C conforming to VDE 0660<br><= 3 A at 24 V, AC-15 for 70 °C conforming to IEC 60947-5-1/1991<br><= 2 A at 24 V, DC-13 for 70 °C conforming to VDE 0660<br><= 2 A at 24 V, DC-13 for 70 °C conforming to IEC 60947-5-1/1991 |
| Minimum switching capacity                  | 10 mA at 12 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Input voltage                               | 24 V (Y1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Maximum switching current                   | 10 mA (Y1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Input compatibility                         | 2-wire sensors DC with leakage current < 1 mA, cable length: <= 50 m (Y1)                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Marking                                     | CE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Overvoltage category                        | III conforming to IEC 60664-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| [Ui] rated insulation voltage               | 300 V conforming to CSA<br>250 V conforming to IEC                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Supply disconnection value                  | > 0.1 Uc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Operating position                          | Any position without derating factor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Surge withstand                             | 2 kV conforming to IEC 61000-4-5 level 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Power consumption in VA                     | 0.7 VA at 24 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

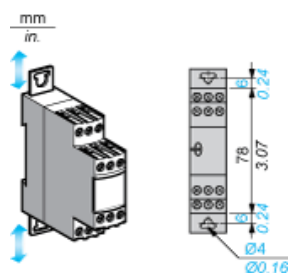
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|                        |                                            |
|------------------------|--------------------------------------------|
| Power consumption in W | 0.5 W at 24 V                              |
| Terminal description   | (15-16-18)OC_ON<br>(A1-A2)CO<br>(Y1)UNUSED |
| Height                 | 78 mm                                      |
| Width                  | 22.5 mm                                    |
| Depth                  | 80 mm                                      |
| Product weight         | 0.11 kg                                    |

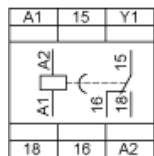
## Environment

|                                       |                                                                                                        |
|---------------------------------------|--------------------------------------------------------------------------------------------------------|
| 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 10...55 Hz conforming to IEC 60068-2-6                                                         |
| IP degree of protection               | IP50 (casing)<br>IP20 (terminals)                                                                      |
| Pollution degree                      | 3 conforming to IEC 60664-1                                                                            |
| Dielectric test voltage               | 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                                                       |

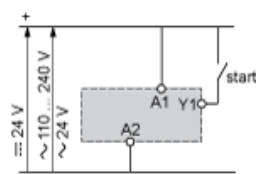
## Rail Mounting



## Internal Wiring Diagram

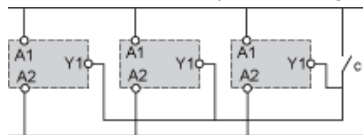


## Recommended Application Wiring Diagram



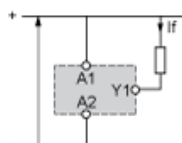
## Control of Several Relays

Control of several relays with a single external control contact



The external control contact C may be an electronic control device, for example a true-wire sensor. In this case A1-A2= 24 Vdc and the control device can only control-up to a maximum of 4 relays.

## Connection of a 2-Wire Sensor

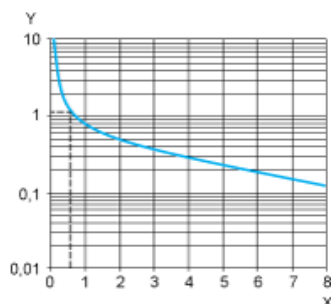


Leakage current (open state) if < 1 mA.

## Performance Curves

### A.C. Load Curve 1

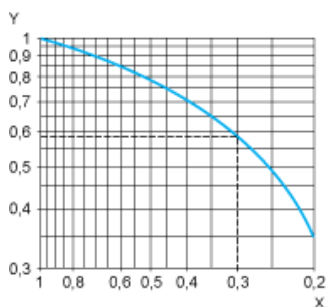
Electrical durability of contacts on resistive loading millions of operating cycles



X Current broken in A  
Y Millions of operating cycles

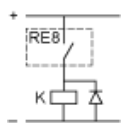
### A.C. Load Curve 2

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

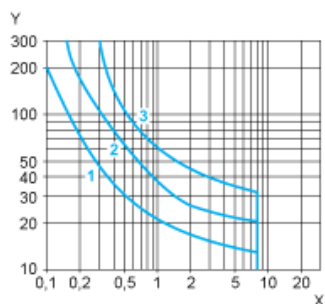


X Power factor on breaking (cos φ)  
Y Reduction factor k

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<sup>6</sup> operating cycles x 0.6 = 900 000 operating cycles.



### D. C. Load Limit Curve



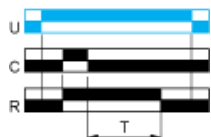
X Current in A  
Y Voltage in V  
1 L/R = 20 ms  
2 L/R with load protection diode  
3 Resistive load

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

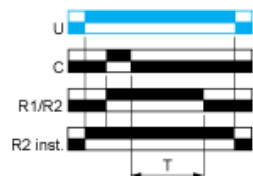
### Description

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/ 2 timed outputs

R2

R2 The second output is instantaneous if the right position is selected

inst.

T Timing period

Ta Adjustable On-delay

-

Tr Adjustable Off-delay

-

U Supply