

RE8RA21BTQ

industrial timing relay - 3..300 s - type C - 24 V
AC/DC - 1 C/O



Main

Range of product	Zelio Time
Product or component type	Optimum industrial timing relay
Component name	RE8
Time delay type	C
Time delay range	3...300 s
[Us] rated supply voltage	24 V AC/DC, 50/60 Hz
Sale per indivisible quantity	10

Complementary

Discrete output type	Relay
Contacts material	90/10 silver nickel contacts
Width pitch dimension	22.5 mm
Voltage range	0.9...1.1 Us
Connections - terminals	Screw terminals 2 x 1.5 mm ² , flexible cablewith cable end Screw terminals 2 x 2.5 mm ² , flexible cablewithout 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	<= 2 A at 24 V, DC-13 for 70 °C conforming to IEC 60947-5-1/1991 <= 2 A at 24 V, DC-13 for 70 °C conforming to VDE 0660 <= 3 A at 24 V, AC-15 for 70 °C conforming to IEC 60947-5-1/1991 <= 3 A at 24 V, AC-15 for 70 °C conforming to VDE 0660 <= 0.1 A at 250 V, DC-13 for 70 °C conforming to IEC 60947-5-1/1991 <= 0.1 A at 250 V, DC-13 for 70 °C conforming to VDE 0660 <= 0.2 A at 115 V, DC-13 for 70 °C conforming to IEC 60947-5-1/1991 <= 0.2 A at 115 V, DC-13 for 70 °C conforming to VDE 0660
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	250 V conforming to IEC 300 V conforming to CSA
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
Power consumption in W	0.5 W at 24 V

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. 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. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

Terminal description	(15-16-18)OC_ON (A1-A2)CO (Y1)UNUSED
Height	78 mm
Width	22.5 mm
Depth	80 mm
Product weight	0.11 kg

Environment

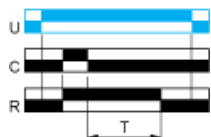
Immunity to microbreaks	3 ms
Standards	EN/IEC 61812-1
Product certifications	CSA GL UL
Ambient air temperature for storage	-40...85 °C
Ambient air temperature for operation	-20...60 °C
Relative humidity	15...85 % 3K3 conforming to IEC 60721-3-3
Vibration resistance	0.35 mm 10...55 Hz conforming to IEC 60068-2-6
Shock resistance	15 gn (duration = 11 ms conforming to IEC 60068-2-27)
IP degree of protection	IP20 (terminals) IP50 (casing)
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	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	CISPR11 group 1- class A CISPR22 - class A
RoHS EUR status	Compliant
RoHS EUR conformity date	0623

Function C: Timing After Opening of Control Contact

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

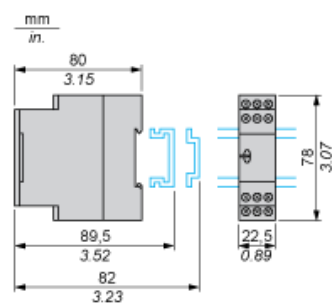
Ta Adjustable On-delay

Tr Adjustable Off-delay

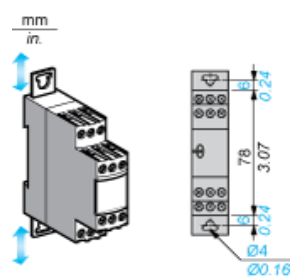
U Supply

Width 22.5 mm

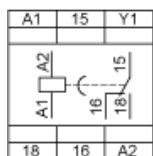
Rail Mounting



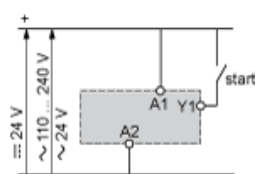
Screw Fixing



Internal Wiring Diagram

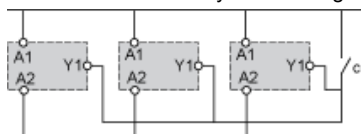


Recommended Application Wiring Diagram



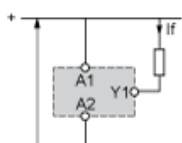
Control of Several Relays

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

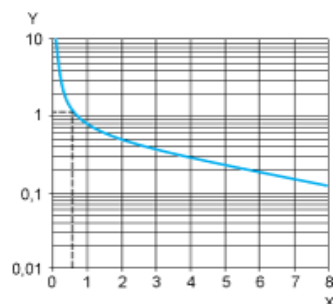


Leakage current (open state) if < 1 mA.

Performance Curves

A.C. Load Curve 1

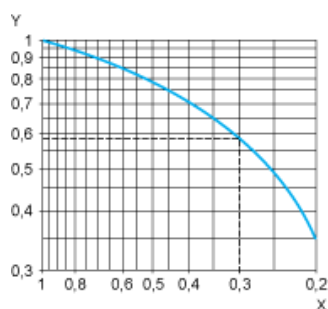
Electrical durability of contacts on resistive loading millions of operating cycles



X Current broken in A
Y Millions of operating cycles

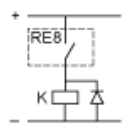
A.C. Load Curve 2

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

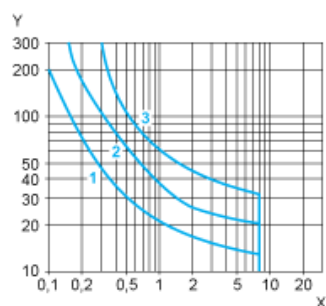


X Power factor on breaking ($\cos \phi$)
Y Reduction factor k

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: 1.5×10^6 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