

RE11LMBM

time delay relay 10 functions - 1 s..100 h -
24..240 V - solid state output

Main

Range of product	Zelio Time
Product or component type	Modular timing relay
Discrete output type	Solid state
Width pitch dimension	17.5 mm
Component name	RE11L
Time delay type	A Ac At B Bw C D Di H Ht
Time delay range	0.1...1 s 1...10 h 1...10 min 1...10 s 10...100 h 6...60 min 6...60 s
[Us] rated supply voltage	24...240 V AC 50/60 Hz

Complementary

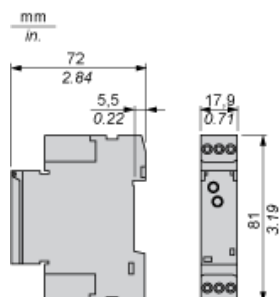
Control type	Selector switch on front panel
Voltage range	0.85...1.1 Us
Nominal output current	0.7 A
Connections - terminals	Screw terminals, clamping capacity: 2 x 2.5 mm ² without cable end Screw terminals, clamping capacity: 2 x 1.5 mm ² with cable end Screw terminals, clamping capacity: 1 x 4 mm ² without cable end
Housing material	Self-extinguishing
Repeat accuracy	+/- 0.5 % conforming to IEC 61812-1
Temperature drift	+/- 0.05 %/°C
Voltage drift	+/- 0.2 %/V
Setting accuracy of time delay	+/- 10 % of full scale at 25 °C conforming to IEC 61812-1
Minimum pulse duration	0.05 s
Reset time	<= 350 ms on de-energisation
On-load factor	100 %
Power consumption in VA	<= 32 VA 240 V
Breaking capacity	0.7 A AC/DC at 20 °C 0.5 A AC/DC conforming to UL
Maximum output current	20 A < 10 ms
Minimum switching current	10 mA
Leakage current	< 5 mA
Maximum switching voltage	250 V
Voltage drop	8 V 2-wire 4 V 3-wire
Electrical durability	100000000 cycles
Mechanical durability	100000000 cycles
Marking	CE
Creepage distance	4 kV/3 conforming to IEC 60664-1

Surge withstand	2 kV (common mode) conforming to IEC 61000-4-5 level 3 1 kV (differential mode) conforming to IEC 61000-4-5 level 3
Mounting support	35 mm symmetrical mounting rail conforming to EN 50022
Product weight	0.06 kg

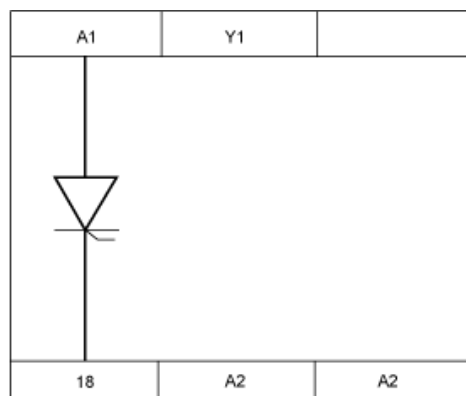
Environment

Immunity to microbreaks	> 10 ms
Derating factor	5 mA/°C
Dielectric strength	2.5 V 1 mA/1 minute conforming to IEC 60664 2.5 V 1 mA/1 minute conforming to IEC 60255-5
Standards	73/23/EEC 89/336/EEC 93/68/EEC EN 50081-1/2 EN 50082-1/2 IEC 60669-2-3 IEC 61812-1
Product certifications	CSA CULus
Ambient air temperature for storage	-30...60 °C
Ambient air temperature for operation	-20...60 °C
IP degree of protection	IP50 (front panel) conforming to IEC 60529 IP40 (housing) conforming to IEC 60529 IP20 (terminal block) conforming to IEC 60529
Vibration resistance	0.35 mm (f = 10...55 Hz) conforming to IEC 60068-2-6
Relative humidity	93 % without condensation conforming to IEC 60068-2-3
Resistance to electrostatic discharge	8 kV (in contact) conforming to IEC 61000-4-2 level 3 6 kV (in air) conforming to IEC 61000-4-2 level 3
Resistance to electromagnetic fields	10 V/m, 80 MHz to 1 GHz conforming to IEC 61000-4-3 level 3 10 V/m, 80 MHz to 1 GHz conforming to ENV 50140/204 level 3
Resistance to fast transients	2 kV, direct conforming to IEC 61000-4-4 level 3 1 kV, capacitive connecting clip conforming to IEC 61000-4-4 level 3
Immunity to radioelectric fields	10 V (0.15...80 MHz) conforming to ENV 50141 (IEC 61000-4-6 level 3)
Immunity to voltage dips	95 % / 5 s conforming to IEC 61000-4-11 60 % / 100 ms conforming to IEC 61000-4-11 30 % / 10 ms conforming to IEC 61000-4-11
Disturbance radiated/conducted	Class B conforming to EN 55022 (EN 55011 group 1)

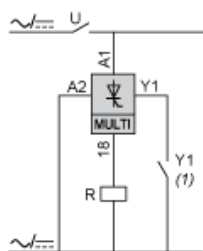
Width 17.5 mm



Internal Wiring Diagram



Wiring Diagram



(1) Contact Y1:

- Control for functions B, C, Ac, Bw.
- Partial stop for functions At, Ht.
- Function D if Di selected.
- Not used for functions A and H.

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 Ac : On- and Off-Delay Relay with Control Signal

Description

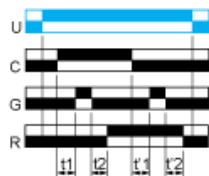
After power-up, closing of the control contact C causes the timing period T to start (timing can be interrupted by operating the Gate control contact G). At the end of this timing period, the relay closes.

When control contact C re-opens, the timing T starts.

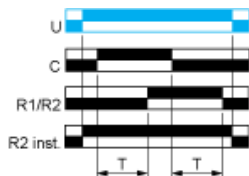
At the end of this timing period T, the output reverts to its initial position (timing can be interrupted by operating the Gate control contact G).

The second output can be either timed or instantaneous.

Function: 1 Output



Function: 2 Outputs



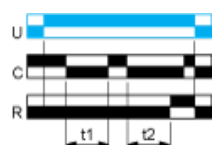
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.)

Function At : Power on Delay Relay (Summation) with Control Signal

Description

After power-up, the first opening of control contact C starts the timing. Timing can be interrupted each time control contact closes. When the cumulative total of time periods elapsed reaches the pre-set value T, the output relay closes.

Function: 1 Output



$$T = t_1 + t_2 + \dots$$

Function B : Interval Relay with Control Signal

Description

After power-up, pulsing or maintaining control contact C starts the timing T. The output R closes for the duration of the timing period T then reverts to its initial state.

Function: 1 Output



Function Bw : Double Interval Relay with Control Signal

Description

On closing and opening of control contact C, the output R closes for the duration of the timing period T.

Function: 1 Output



Function C : Off-Delay Relay with Control Signal

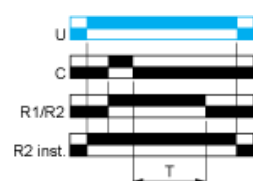
Description

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)

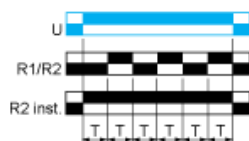
Description

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.)

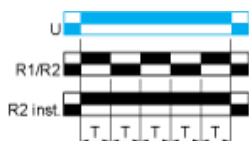
Function Di : Symmetrical Flasher Relay (Starting Pulse On)

Description

Function: 1 Output



Function: 2 Outputs



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

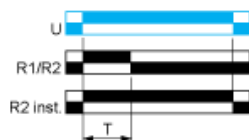
Function H : Interval Relay

Description

Function: 1 Output



Function: 2 Outputs



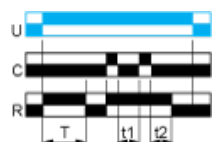
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.)

Function Ht : Interval Relay (Summation) with Control Signal

Description

The relay memorises the total, cumulative opening time of control contact C and, once the set time T is reached, the output R reverts to its initial state.

Function: 1 Output



$$T = t_1 + t_2 + \dots$$

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