

## Product data sheet

### Characteristics

# RE17RMJU

Harmony Timer Relays, Modular timing relay, 8A, 1CO, 0,1s..100h, multifunction, 12V AC DC



### Main

Range of product	Harmony Timer Relays
Product or component type	Multifunction relay
Discrete output type	Relay
Width	17.5 mm
Device short name	RE17R
Time delay type	Power on-delay On-delay and off-delay Interval Off-delay Symmetrical flashing
Time delay range	1...10 s 6...60 s 10...100 h 1...10 min 1...10 h 0.1...1 s 6...60 min
Nominal output current	8 A

### Complementary

Contacts type and composition	1 C/O
Contacts material	Cadmium free
Height	90 mm
Depth	72 mm
Control type	Selector switch front panel
[Us] rated supply voltage	12 V AC/DC 50/60 Hz
Voltage range	0.9...1.2 Us
Supply frequency	50...60 Hz +/- 5 %
Release of input voltage	5 V
Connections - terminals	Screw terminals, 1 x 0.5...1 x 3.3 mm <sup>2</sup> (AWG 20...AWG 12) solid without cable end Screw terminals, 2 x 0.5...2 x 2.5 mm <sup>2</sup> (AWG 20...AWG 14) solid without cable end Screw terminals, 1 x 0.2...1 x 2.5 mm <sup>2</sup> (AWG 24...AWG 14) flexible with cable end Screw terminals, 2 x 0.2...2 x 1.5 mm <sup>2</sup> (AWG 24...AWG 16) flexible with cable end
Tightening torque	0.6...1 N.m conforming to IEC 60947-1
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
Control signal pulse width	100 ms with load in parallel typical 30 ms typical
Insulation resistance	100 MOhm at 500 V DC conforming to IEC 60664-1
Reset time	120 ms on de-energisation typical
On-load factor	100 %
Power consumption in VA	0...0.7 VA at 12 V AC

Maximum power consumption in W	0.5 W at 12 V DC
Minimum switching current	10 mA at 5 V DC
Maximum switching current	8 A AC/DC
Maximum switching voltage	250 V AC
Breaking capacity	2000 VA
Operating frequency	10 Hz
Electrical durability	100000 cycles (8 A at 250 V AC maximum) for resistive load
Mechanical durability	10000000 cycles
Dielectric strength	2.5 kV 1 mA/1 minute 50 Hz conforming to IEC 61812-1
[Uimp] rated impulse withstand voltage	5 kV during 1.2/50 µs
Power on delay	100 ms
Marking	CE
Creepage distance	4 kV/3 conforming to IEC 60664-1
Safety reliability data	MTTFd = 296.8 years B10d = 270000
Mounting position	Any position in relation to normal vertical mounting plane
Mounting support	35 mm DIN rail conforming to IEC 60715
Local signalling	LED indicator for on steady: relay energised, no timing in progress LED indicator for flashing: timing in progress 80 % ON and 20 % OFF LED indicator for pulsing: relay de-energised, no timing in progress (except function Di-D, Li-L) 5 % ON and 95 % OFF
Net weight	0.07 kg
Number of functions	10
Time delay type	A, Ac, At, B, Bw, C, D, Di, H, Ht
Functionality	Multifunction
Compatibility code	RE17

## Environment

Immunity to microbreaks	20 ms
Standards	2006/95/EC 2004/108/EC IEC 61000-6-4 IEC 61000-6-1 IEC 61000-6-3 IEC 61812-1 IEC 61000-6-2
Product certifications	CSA[RETURN]GL[RETURN]cULus
Ambient air temperature for storage	-30...60 °C
Ambient air temperature for operation	-20...60 °C
IP degree of protection	IP20 (terminal block) conforming to IEC 60529 IP40 (housing) conforming to IEC 60529 IP50 (front panel) conforming to IEC 60529
Vibration resistance	20 m/s <sup>2</sup> (f= 10...150 Hz) conforming to IEC 60068-2-6
Shock resistance	15 gn for 11 ms conforming to IEC 60068-2-27
Relative humidity	93 % without condensation conforming to IEC 60068-2-30
Electromagnetic compatibility	Electrostatic discharge immunity test: (in contact), level 3, 6 kV, conforming to IEC 61000-4-2 Electrostatic discharge immunity test: (in air), level 3, 8 kV, conforming to IEC 61000-4-2 Susceptibility to electromagnetic fields: (80 MHz to 1 GHz), level 3, 10 V/m, conforming to IEC 61000-4-3 Electrical fast transient/burst immunity test: (capacitive connecting clip), level 3, 1 kV, conforming to IEC 61000-4-4 Electrical fast transient/burst immunity test: (direct), level 3, 2 kV, conforming to IEC 61000-4-4 1.2/50 µs shock waves immunity test: (differential mode), level 3, 1 kV, conforming to IEC 61000-4-5 1.2/50 µs shock waves immunity test: (common mode), level 3, 2 kV, conforming to IEC 61000-4-5 Conducted RF disturbances: (0.15...80 MHz), level 3, 10 V, conforming to IEC 61000-4-6 Voltage dips and interruptions immunity test: (1 cycle), 0 %, conforming to IEC 61000-4-11 Voltage dips and interruptions immunity test: (25/30 cycles), 70 %, conforming to IEC 61000-4-11 Conducted and radiated emissions: , class B, conforming to EN 55022

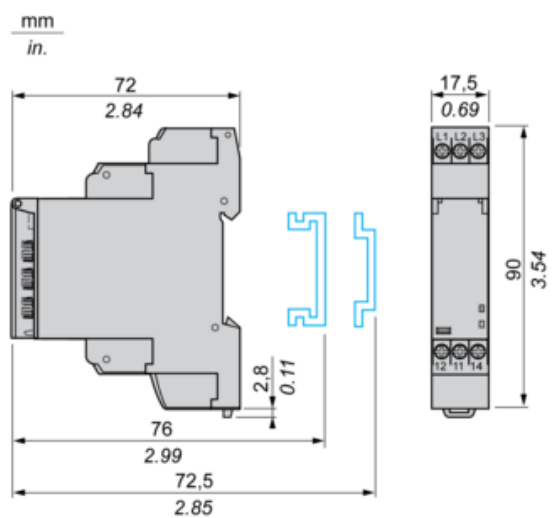
## Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	2.8 cm
Package 1 Width	8.0 cm
Package 1 Length	9.8 cm
Package 1 Weight	80.0 g
Unit Type of Package 2	S02
Number of Units in Package 2	40
Package 2 Height	15.0 cm
Package 2 Width	30.0 cm
Package 2 Length	40.0 cm
Package 2 Weight	3.475 kg

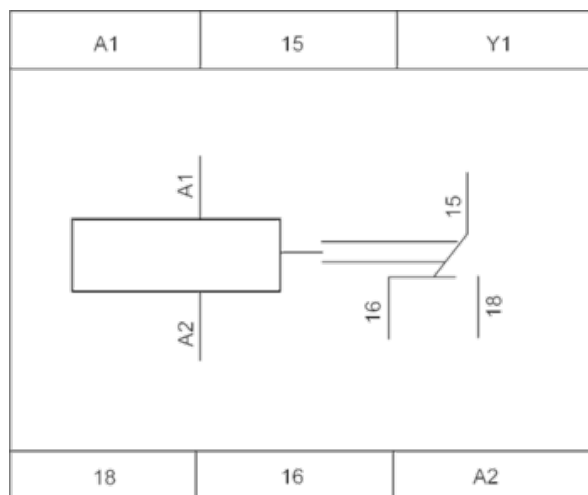
## Offer Sustainability

Sustainable offer status	Green Premium product
REACH Regulation	 <a href="#">REACH Declaration</a>
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
Mercury free	Yes
China RoHS Regulation	 <a href="#">China RoHS Declaration</a>
RoHS exemption information	 <a href="#">Yes</a>
Environmental Disclosure	 <a href="#">Product Environmental Profile</a>
Circularity Profile	 <a href="#">End Of Life Information</a>

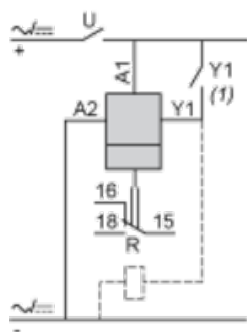
Width 17.5 mm



## Internal Wiring Diagram



## Wiring Diagram



### 1) Contact Y1:

- Control for functions B, C, Ac, Bw, Ad, Ah, N, O, W, T, Tt.
- Partial stop for functions At, Ht and Pt.
- Function D if Di selected.
- Not used for functions A, H and P.

## Function A : Power on Delay Relay

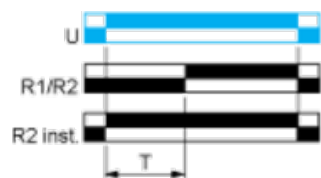
### Description

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-Delay & Off-Delay with Control Signal

### Description

After energisation of power supply and energization of Y1 causes the timing period T to start.

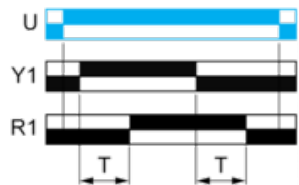
At the end of this timing period, the output(s) R close(s).

When deenergization of Y1, the timing T starts.

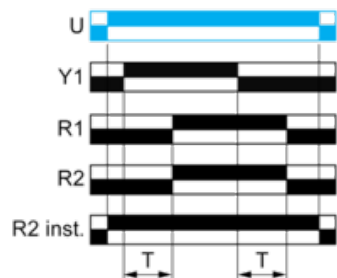
At the end of this timing period T, the output(s) R revert(s) to its/their initial position.

The second output (R2) can be either timed (when set to "TIMED") or instantaneous (when set to "INST").

#### Function: 1 Output



#### Function: 2 Outputs

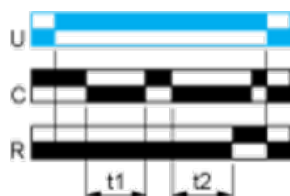


## Function At : Power on Delay Relay (Summation) with Control Signal

## 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



$$T = t1 + t2 + \dots$$

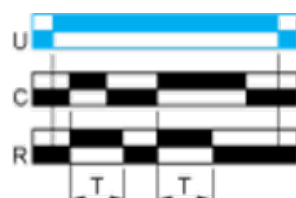
## Function B : Interval Relay with Control Signal

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## 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

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## Description

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

## Function: 1 Output



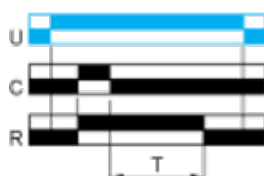
## Function C : Off-Delay Relay with Control Signal

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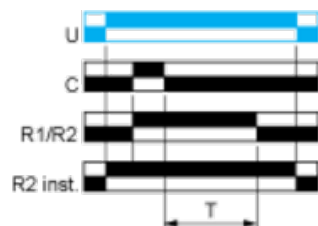
## Description

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



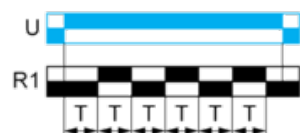
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.)

### Function D: Symmetrical Flashing Relay (Starting Pulse Off)

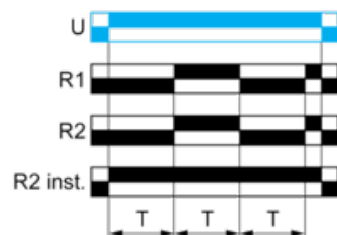
#### Description

On energisation of power supply, output(s) R starts at its/their initial state for timing duration T then change(s) to output(s) R close(s) for the same timing duration T. This cycle is repeated indefinitely until power supply removal. Specially for RE17\*, RE22R2AMU, RE22R2MMW, RE22R2MMU, RE22R2MJU, this D function can only be initiated by energizing Y1 permanently. The second output (R2) can be either timed (when set to "TIMED") or instantaneous (when set to "INST").

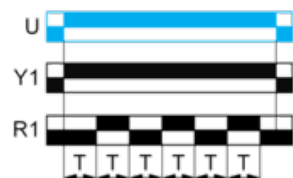
#### Function: 1 Output



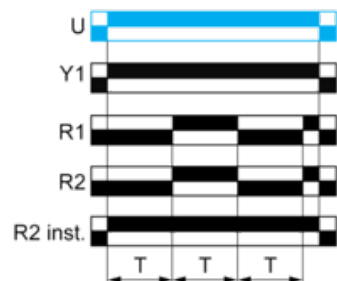
#### Function: 2 Outputs



#### Function: 1 Output with Retrigger / Restart Control



#### Function: 2 Output with Retrigger / Restart Control



### Function Di : Symmetrical Flasher Relay (Starting Pulse On)

#### Description

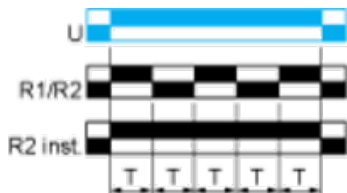
Repetitive cycle with two timing periods T of equal duration, with output(s) R changing state at the end of each timing period T. The second output can be either timed or instantaneous.



### 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

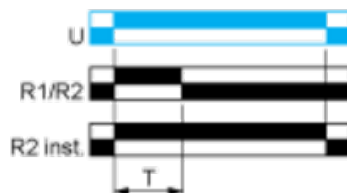
### Description

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 Ht: Interval Relay & With Pause / Summation Control

### Description

On energisation of power supply, output(s) R close(s) and timing period T starts.

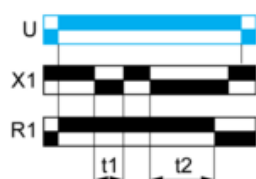
The timing can be interrupted / paused each time X1 energizes.

When the cumulative total of time periods elapsed reaches the pre-set value T, the output(s) R revert(s) to its/their initial state. Reenergization of X1 will also cause output(s) R close(s) if the time has elapsed and restart the same operation as described at the beginning.

Except for RE17\*, RE22R2MMW, RENF22R2MMW, RE22R2MMU and RE22R2MJU, timing can be interrupted / paused each time Y1 energizes.

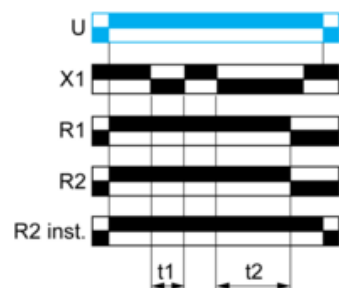
The second output (R2) can be either timed (when set to "TIMED" or instantaneous (when set to "INST").

### Function: 1 Output



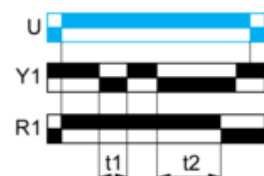
$T = t1 + t2 + \dots$

## Function: 2 Outputs



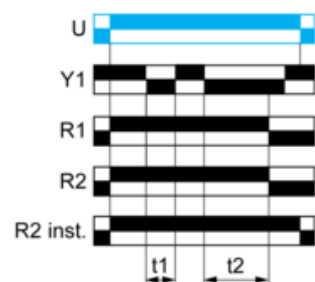
$$T = t1 + t2 + \dots$$

## Function: 1 Output with Retrigger / Restart Control



$$T = t1 + t2 + \dots$$

## Function: 2 Outputs with Retrigger / Restart Control



$$T = t1 + t2 + \dots$$

## 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