

# Product data sheet

Specifications



## Harmony, Modular timing relay, 8 A, 1 CO, 1 s..100 h, multifunction, 24 V DC / 24...240 V AC/DC

RE17RMMU

### 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	6...60 min 1...10 h 0.1...1 s 1...10 s 1...10 min 10...100 h 6...60 s
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	24...240 V AC 50/60 Hz 24 V DC
Voltage range	0.85...1.1 Us
Supply frequency	50...60 Hz +/- 5 %
Release of input voltage	10 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

<b>Temperature drift</b>	+/- 0.05 %/°C
<b>Voltage drift</b>	+/- 0.2 %/V
<b>Setting accuracy of time delay</b>	+/- 10 % of full scale at 25 °C conforming to IEC 61812-1
<b>Control signal pulse width</b>	100 ms with load in parallel typical 30 ms typical
<b>Insulation resistance</b>	100 MOhm at 500 V DC conforming to IEC 60664-1
<b>Reset time</b>	120 ms on de-energisation typical
<b>On-load factor</b>	100 %
<b>Power consumption in VA</b>	0...32 VA at 240 V AC
<b>Maximum power consumption in W</b>	0.6 W at 24 V DC
<b>Minimum switching current</b>	10 mA at 5 V DC
<b>Maximum switching current</b>	8 A AC/DC
<b>Maximum switching voltage</b>	250 V AC
<b>Breaking capacity</b>	2000 VA
<b>Operating frequency</b>	10 Hz
<b>Electrical durability</b>	100000 cycles (8 A at 250 V AC maximum) for resistive load
<b>Mechanical durability</b>	10000000 cycles
<b>Dielectric strength</b>	2.5 kV 1 mA/1 minute 50 Hz conforming to IEC 61812-1
<b>[Uimp] rated impulse withstand voltage</b>	5 kV during 1.2/50 µs
<b>Power on delay</b>	100 ms
<b>Marking</b>	CE
<b>Creepage distance</b>	4 kV/3 conforming to IEC 60664-1
<b>Safety reliability data</b>	B10d = 270000 MTTFd = 296.8 years
<b>Mounting position</b>	Any position in relation to normal vertical mounting plane
<b>Mounting support</b>	35 mm DIN rail conforming to EN/IEC 60715
<b>Local signalling</b>	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
<b>Net weight</b>	0.07 kg  A, Ac, At, B, Bw, C, D, Di, H, Ht
<b>Functionality</b>	Multifunction
<b>Compatibility code</b>	RE17
<b>Environment</b>	
<b>Immunity to microbreaks</b>	20 ms
<b>Standards</b>	2006/95/EC 2004/108/EC IEC 61812-1 EN 61000-6-2 EN 61000-6-3 EN 61000-6-4 EN 61000-6-1
<b>Product certifications</b>	CSA GL cULus
<b>Ambient air temperature for storage</b>	-30...60 °C

<b>Ambient air temperature for operation</b>	-20...60 °C
<b>IP degree of protection</b>	IP20 (terminal block) conforming to IEC 60529 IP40 (housing) conforming to IEC 60529 IP50 (front panel) conforming to IEC 60529
<b>Vibration resistance</b>	20 m/s <sup>2</sup> (f= 10...150 Hz) conforming to IEC 60068-2-6
<b>Shock resistance</b>	15 gn for 11 ms conforming to IEC 60068-2-27
<b>Relative humidity</b>	93 % without condensation conforming to IEC 60068-2-30
<b>Electromagnetic compatibility</b>	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

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Height</b>	2.600 cm
<b>Package 1 Width</b>	7.800 cm
<b>Package 1 Length</b>	9.500 cm
<b>Package 1 Weight</b>	80.000 g
<b>Unit Type of Package 2</b>	S02
<b>Number of Units in Package 2</b>	40
<b>Package 2 Height</b>	15.000 cm
<b>Package 2 Width</b>	30.000 cm
<b>Package 2 Length</b>	40.000 cm
<b>Package 2 Weight</b>	3.690 kg
<b>Unit Type of Package 3</b>	P06
<b>Number of Units in Package 3</b>	640
<b>Package 3 Height</b>	75.000 cm
<b>Package 3 Width</b>	60.000 cm
<b>Package 3 Length</b>	80.000 cm
<b>Package 3 Weight</b>	65.700 kg

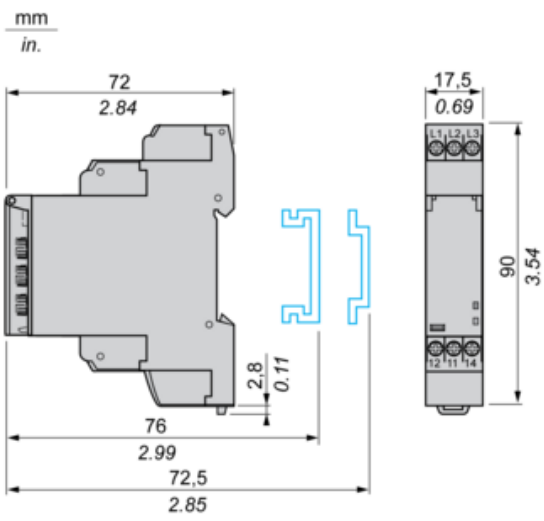
## Offer Sustainability

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

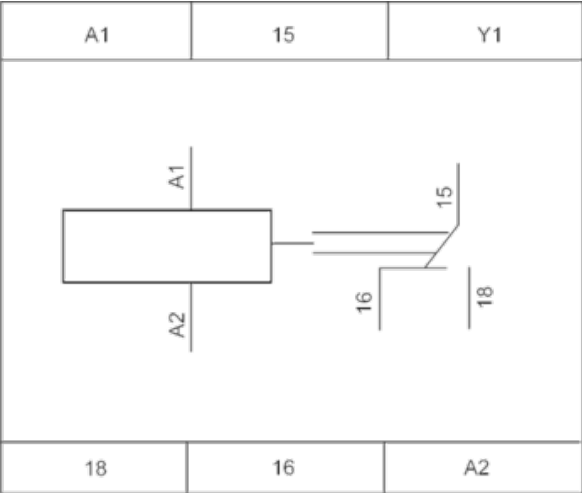


Width 17.5 mm

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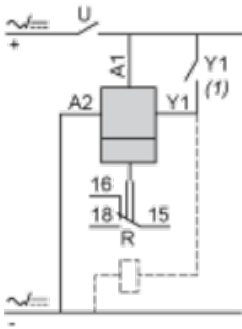


Internal Wiring Diagram



## Wiring Diagram

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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

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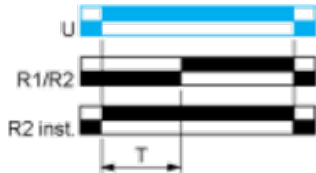
**Description**

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

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### Description

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

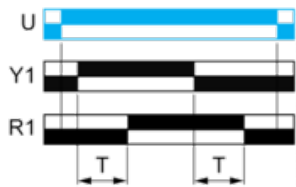
At the end of this timing period, the output(s) R close(s).

When deenergization of Y1, the timing T starts.

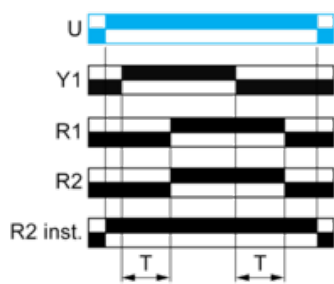
At the end of this timing period T, the output(s) R revert(s) to its/their initial position.

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

### Function: 1 Output



### Function: 2 Outputs



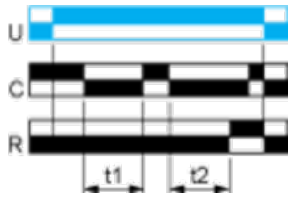
## Function At : Power on Delay Relay (Summation) with Control Signal

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### 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



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

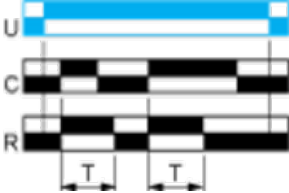
Function B : Interval Relay with Control Signal

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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



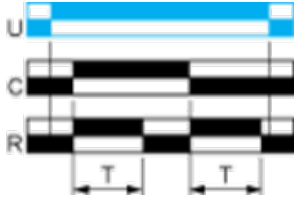
## Function Bw : Double Interval Relay with Control Signal

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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



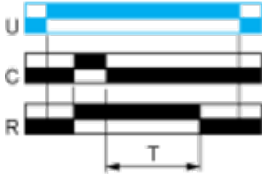
## Function C : Off-Delay Relay with Control Signal

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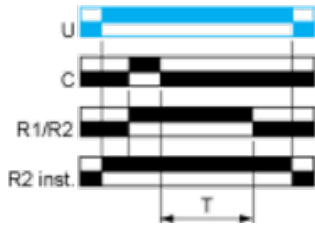
### Description

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



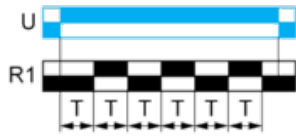
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.)

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

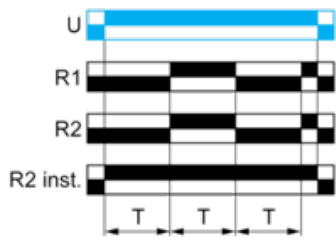
**Description**

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").

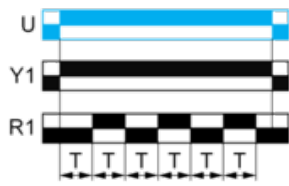
**Function: 1 Output**



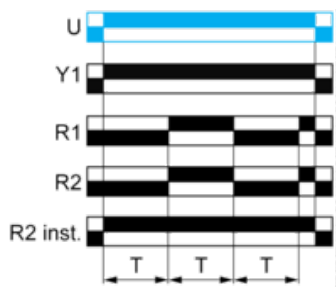
**Function: 2 Outputs**



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



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



Function Di : Symmetrical Flasher Relay (Starting Pulse On)

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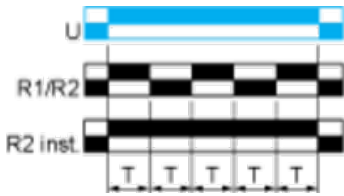
**Description**

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**

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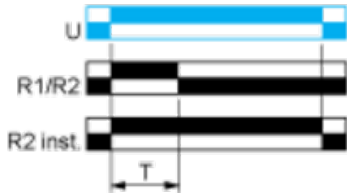
**Description**

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.

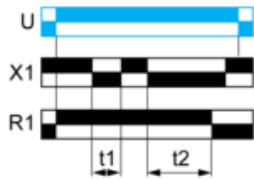
The timing can be interrupted / paused each time X1 energizes.

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.

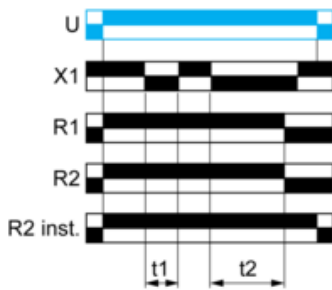
The second output (R2) can be either timed (when set to "TIMED") or instantaneous (when set to "INST").

**Function: 1 Output**



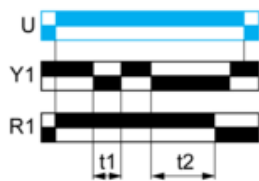
$T = t1 + t2 + \dots$

**Function: 2 Outputs**



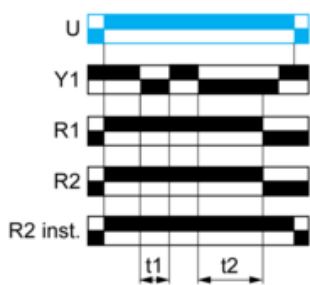
$T = t1 + t2 + \dots$

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



$T = t1 + t2 + \dots$





**Function: 2 Outputs with Retrigger / Restart Control**



$T = t1 + t2 + \dots$

**Legend**

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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

**Recommended replacement(s)**