

# Product data sheet

Specifications



Harmony, Modular timing relay, 8 A, 1 CO, 1 s..100 h, multifunction, spring terminals, 12...240 V AC/DC

RE17RMMWS

## 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<br>On-delay and off-delay<br>Interval<br>Off-delay<br>Symmetrical flashing |
| Time delay range          | 6...60 min<br>6...60 s<br>1...10 min<br>1...10 h<br>0.1...1 s<br>10...100 h<br>1...10 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     | 12...240 V AC/DC 50/60 Hz                                                                                                                                              |
| Voltage range                 | 0.85...1.1 Us                                                                                                                                                          |
| Supply frequency              | 50...60 Hz +/- 5 %                                                                                                                                                     |
| Release of input voltage      | 5 V                                                                                                                                                                    |
| Connections - terminals       | Spring terminals, 2 x 0.2...2 x 1.5 mm² (AWG 24...AWG 16) solid without cable end<br>Spring terminals, 2 x 0.2...2 x 1.5 mm² (AWG 24...AWG 16) flexible with 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                                                                                                                                                                                                           |
| Control signal pulse width             | 100 ms with load in parallel typical<br>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...3 VA at 240 V AC                                                                                                                                                                                                                                                |
| Maximum power consumption in W         | 1.5 W at 240 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<br>B10d = 270000                                                                                                                                                                                                                                |
| Mounting position                      | Any position in relation to normal vertical mounting plane                                                                                                                                                                                                          |
| Mounting support                       | 35 mm DIN rail conforming to EN/IEC 60715                                                                                                                                                                                                                           |
| Local signalling                       | LED indicator for on steady: relay energised, no timing in progress<br>LED indicator for flashing: timing in progress 80 % ON and 20 % OFF<br>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                                                                                                                                                                                                                                                             |
| 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<br>EN 61000-6-4<br>2004/108/EC<br>EN 61000-6-3<br>IEC 61812-1<br>EN 61000-6-2<br>EN 61000-6-1 |
| Product certifications                | GL<br>cULus<br>CSA                                                                                       |
| 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<br>IP40 (housing) conforming to IEC 60529                  |

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                               | IP50 (front panel) conforming to IEC 60529                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Vibration resistance          | 20 m/s² (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<br>Electrostatic discharge immunity test: (in air), level 3, 8 kV, conforming to IEC 61000-4-2<br>Susceptibility to electromagnetic fields: (80 MHz to 1 GHz), level 3, 10 V/m, conforming to IEC 61000-4-3<br>Electrical fast transient/burst immunity test: (capacitive connecting clip), level 3, 1 kV, conforming to IEC 61000-4-4<br>Electrical fast transient/burst immunity test: (direct), level 3, 2 kV, conforming to IEC 61000-4-4<br>1.2/50 µs shock waves immunity test: (differential mode), level 3, 1 kV, conforming to IEC 61000-4-5<br>1.2/50 µs shock waves immunity test: (common mode), level 3, 2 kV, conforming to IEC 61000-4-5<br>Conducted RF disturbances: (0.15...80 MHz), level 3, 10 V, conforming to IEC 61000-4-6<br>Voltage dips and interruptions immunity test: (1 cycle), 0 %, conforming to IEC 61000-4-11<br>Voltage dips and interruptions immunity test: (25/30 cycles), 70 %, conforming to IEC 61000-4-11<br>Conducted and radiated emissions: , class B, conforming to EN 55022 |

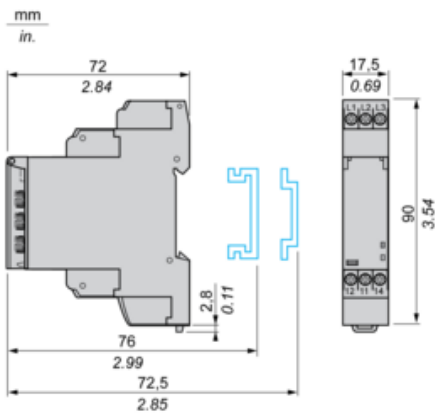
Packing Units

|                              |          |
|------------------------------|----------|
| Unit Type of Package 1       | PCE      |
| Number of Units in Package 1 | 1        |
| Package 1 Weight             | 72.0 g   |
| Package 1 Height             | 2.7 cm   |
| Package 1 width              | 7.8 cm   |
| Package 1 Length             | 9.5 cm   |
| Unit Type of Package 2       | S02      |
| Number of Units in Package 2 | 40       |
| Package 2 Weight             | 3.332 kg |
| Package 2 Height             | 15 cm    |
| Package 2 width              | 30 cm    |
| Package 2 Length             | 40 cm    |

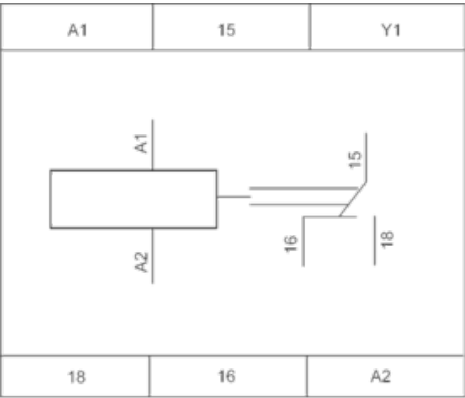
Offer Sustainability

|                            |                                                                                                                                                                                                                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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)<br><a href="#">EU RoHS Declaration</a>                                                                                                                                                                                           |
| Mercury free               | Yes                                                                                                                                                                                                                                                                                         |
| RoHS exemption information | <a href="#">Yes</a>                                                                                                                                                                                                                                                                         |
| China RoHS Regulation      | <a href="#">China RoHS declaration</a>                                                                                                                                                                                                                                                      |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>                                                                                                                                                                                                                                               |
| Circularity Profile        | <a href="#">End of Life Information</a>                                                                                                                                                                                                                                                     |
| California proposition 65  | WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |

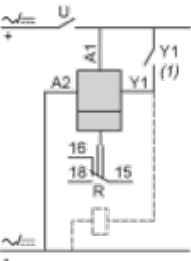
Width 17.5 mm



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

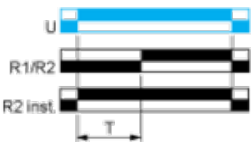
Description

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



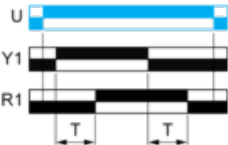
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.)

Function Ac: On-Delay & Off-Delay with Control Signal

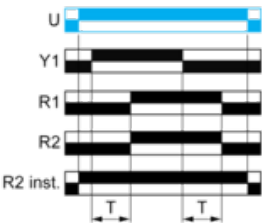
Description

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

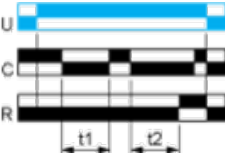


Function At : Power on Delay Relay (Summation) with Control Signal

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

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

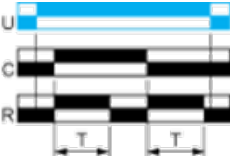


Function Bw : Double Interval Relay with Control Signal

Description

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

Function: 1 Output

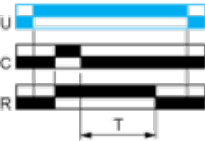


Function C : Off-Delay Relay with Control Signal

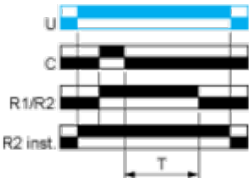
Description

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



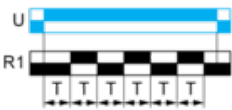
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.)

Function D: Symmetrical Flashing Relay (Starting Pulse Off)

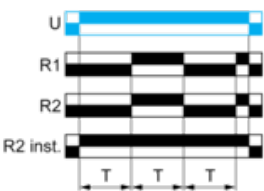
Description

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").

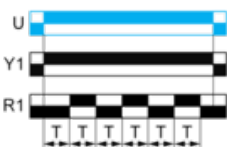
Function: 1 Output



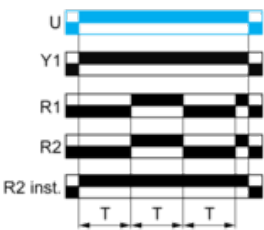
Function: 2 Outputs



Function: 1 Output with Retrigger / Restart Control



Function: 2 Output with Retrigger / Restart Control



Function Di : Symmetrical Flasher Relay (Starting Pulse On)

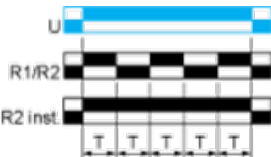
Description

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

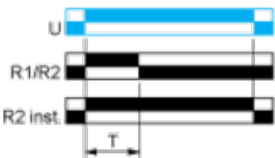
Description

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



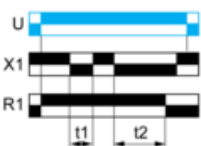
2 timed outputs (R1/R2) or 1 timed output (R1) and 1 instantaneous output (R2 inst.)

Function Ht: Interval Relay & With Pause / Summation Control

Description

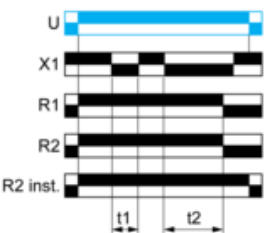
On energisation of power supply, output(s) R close(s) and timing period T starts.  
The timing can be interrupted / paused each time X1 energizes.  
When the cumulative total of time periods elapsed reaches the pre-set value T, the output(s) R revert(s) to its/their initial state  
Reenergization of 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



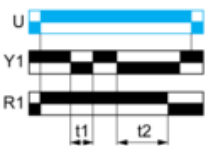
$T = t1 + t2 + \dots$

Function: 2 Outputs



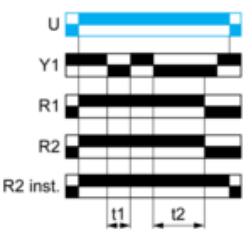
$T = t1 + t2 + \dots$

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                                                               |