



## Parametry podstawowe

Gama produktów	Harmony Timer Relays
Typ produktu lub komponentu	Multifunction relay
Skrócona nazwa urządzenia	RENF22
Supported OS	Android
Wersja oprogramowania	V4.4 and above
App for product	Zelio NFC (downloadable from Google Play store)

## Parametry uzupełniające

Typ wyjścia dyskretnego	Przekaźnik
Znamionowy prąd wyjściowy	8 A
Typ i ułożenie styków	2 ZAŁ/WYŁ zestyk czasowy, bez kadmu 1 ZAŁ/WYŁ timed and instantaneous contact, bez kadmu
Rodzaj opóźnienia	Power on-delay On-delay and off-delay Pulse delay Asymmetrical on-delay and off-delay Interval Opóźnienie wyłączenia Symmetrical flashing Safe-guard Star-delta Asymmetrical flashing Bistable
Time delay range	0.05 s...999 h
Zgodność produktu	NFC enabled mobile device
Znamionowe napięcie zasilania [Us]	24...240 V AC/DC
Release input voltage	<= 2.4 V
Zakres napięcia	0.85...1.1 Un
Maximum RF power transmitted	0,0002 mW
NFC operating frequency	13.56 MHz
Częstotliwość zasilania	50...60 Hz +/- 5 %
Przyłącza - zaciski	Zaciski śrubowe, 1 x 0.5...1 x 3.3 mm <sup>2</sup> (AWG 20...AWG 12) stały bez końcówki kablowej Zaciski śrubowe, 2 x 0,5...2 x 2,5 mm <sup>2</sup> (AWG 20...AWG 14) stały bez końcówki kablowej Zaciski śrubowe, 1 x 0.2...1 x 2.5 mm <sup>2</sup> (AWG 24...AWG 14) elastyczny z końcówką kablową Zaciski śrubowe, 2 x 0.2...2 x 1.5 mm <sup>2</sup> (AWG 24...AWG 16) elastyczny z końcówką kablową
Moment dokręcania	0,6...1 N.M zgodnie z IEC 60947-1 0,60...0,99 N.m zgodnie z IEC 60947-1
Materiał obudowy	Samogasnące
Powtarzalna dokładność	+/- 0,2 % dla 10 s...999 h zakres opóźnienia czasowego +/- 0,5 % dla 100 ms...10 s zakres opóźnienia czasowego +/- 0,7 % dla 50...100 ms zakres opóźnienia czasowego
Dryf temperaturowy	+/- 0,05 %/°C
Dryf napięciowy	+/- 0,2 %/V

Informacje dostarczone w niniejszej dokumentacji zawierają ogólne opisy i/lub parametrów technicznych przedstawianych produktów. Dokumentacja ta nie jest przeznaczona do spełniania roli substytucyjnej i nie może być również stosowana do określenia przydatności i niezawodności tych produktów dla konkretnych aplikacji użytkownika. Każdy użytkownik lub integrator musi wykonać odpowiednią i pełną analizę ryzyka, ocenę a także testy produktów w odniesieniu do odpowiedniego, określonego zastosowania lub użycia. Schneider Electric Industries SAS ani żadna z jego firm stowarzyszonych lub zależnych nie ponosi odpowiedzialności za niewłaściwe użycie przedstawionych tutaj informacji.

Nastawianie dokładności opóźnienia czasowego	+/- 1 % dla 1...999 h zakres opóźnienia czasowego w 25 °C +/- 2 % dla 1...3600 s zakres opóźnienia czasowego w 25 °C +/- 20 ms dla 100 ms...10 s zakres opóźnienia czasowego w 25 °C +/- 30 ms dla 50...100 ms zakres opóźnienia czasowego w 25 °C
Control signal pulse width	100 Ms z obciążeniem równoległym 60 ms brak obciążenia
Rezystancja izolacji	100 MΩ w 500 V DC zgodnie z IEC 60664-1
Recovery time	120 ms podczas wyłączenia
Pobór mocy w VA	3 VA w 240 V AC
Pobór mocy w [W]	1,5 W w 240 V prąd stały (DC) 0,6 W w 24 V prąd stały (DC)
Zdolność łączeniowa w VA	2000 VA
Minimalny prąd łączeniowy	10 mA w 5 V
Maksymalny prąd łączeniowy	8 A
Maksymalne napięcie łączeniowe	250 V
Trwałość elektryczna	100000 cykl dla rezystancyjne obciążenie, 8 A w 250 V, AC
Trwałość mechaniczna	10000000 cykl
Rated impulse withstand voltage	5 kV 1.2/50 μs zgodnie z IEC 60664-1
Power on delay	100 ms
Odległość strony pełzającej	4 kV/3 zgodnie z IEC 60664-1
Kategoria przepięć	III zgodnie z IEC 60664-1
Bezpieczeństwo niezawodności danych	MTTFd = 227.5 years 100 % duty cycle continuous operating condition at 30 °C
Miejsce montażu	Każda pozycja
Pomoc do montażu	35 mm szyna DIN zgodnie z IEC 60715
Status LED	Un, zielony LED: (Stały) dla załączony R1, bursztyn LED: (Stały) dla przekaźnik pod napięciem R2, bursztyn LED: (Stały) dla przekaźnik pod napięciem Pairing, zielony LED: (Stały) dla status komunikacji Un, zielony LED: (fast blinking) dla diagnosis mode R1, bursztyn LED: (światło migające) dla trwa taktowanie R2, bursztyn LED: (światło migające) dla trwa taktowanie
Maximum communication distance	10 mm
Funkcja dostępna	A- Power on-delay relay-2 ZAŁ/WYŁ Ac- On-delay and off-delay relay w/ control signal-2 ZAŁ/WYŁ Ad- Pulse delayed relay w/ control signal-2 ZAŁ/WYŁ Ah- Pulse delayed relay (single cycle) w/ control signal-2 ZAŁ/WYŁ Ak- Asymmetrical on-delay and off -delay relay w/ control signal-2 ZAŁ/WYŁ At- Power on-delay relay w/ pause/summation (Y1)-2 ZAŁ/WYŁ B- Single interval relay w/ control signal-2 ZAŁ/WYŁ Bw- Double interval relay w/ control signal-2 ZAŁ/WYŁ C- Off-delay relay w/ control signal-2 ZAŁ/WYŁ D- Symmetrical flashing relay (starting pulse-off)-2 ZAŁ/WYŁ Di- Symmetrical flashing relay (starting pulse-on)-2 ZAŁ/WYŁ Dt- Symmetrical flashing relay (starting pulse-off) w/ pause/summation (Y1)-2 ZAŁ/WYŁ Dit- Symmetrical flashing relay (starting pulse-on) w/ pause/summation (Y1)-2 ZAŁ/WYŁ H- Interval relay-2 ZAŁ/WYŁ Ht- Interval relay w/ pause/summation (Y1)-2 ZAŁ/WYŁ Li- Asymmetrical flashing relay (starting pulse-on)-2 ZAŁ/WYŁ Lt- Asymmetrical flashing relay (starting pulse-off) w/ pause/summation (Y1)-2 ZAŁ/WYŁ Lit- Asymmetrical flashing relay (starting pulse-on) w/ pause/summation (Y1)-2 ZAŁ/WYŁ N- Safe-guard relay-2 ZAŁ/WYŁ O- Delayed Safe-guard relay-2 ZAŁ/WYŁ P- Pulse delayed relay w/ fixed pulse length-2 ZAŁ/WYŁ Pt- Pulse delayed relay w/ fixed pulse length and pause/summation-2 ZAŁ/WYŁ Qt- Star-delta relay (2 CO outputs w/ split common)-2 ZAŁ/WYŁ Qtt- Star-delta relay (2 CO outputs w/ split common) w/ pause/summation (Y1)-2 ZAŁ/WYŁ TI- Bistable relay w/ control signal on-2 ZAŁ/WYŁ Tt- Retriggerable bistable relay w/ control signal on-2 ZAŁ/WYŁ W- Interval relay w/ control signal off-2 ZAŁ/WYŁ L- Asymmetrical flashing relay (starting pulse-off)-2 ZAŁ/WYŁ
Szerokość	22,5 mm
Masa produktu	0,0904 kg

## Środowisko pracy

Odporność na krótkie zaniki zasilania	10 ms
Wytrzymałość dielektryczna	2,5 KV dla 1 mA/1 minuta w 50 Hz z between relay output and power supply with basic insulation Z podstawowej izolacji
Normy	IEC 61000-6-1 IEC 61000-6-2 IEC 61000-6-4 EN 61812-1 IEC 61000-6-3
Wytyczne	2014/35/EU - low voltage directive 2014/53/EU - radio equipment directive 2014/30/EU - electromagnetic compatibility
Certyfikaty produktu	CE[RETURN]CSA[RETURN]KC[RETURN]UL[RETURN]CCC[RETURN]EAC[RETURN]DNV-GL
Temperatura otoczenia dla pracy urządzenia	-20...60 °C
Temperatura otoczenia dla przechowywania	-40...70 °C
Stopień ochrony IP	Obudowa: IP40 zgodnie z IEC 60529 Płyta czołowa: IP40 zgodnie z IEC 60529 Zaciski: IP20 zgodnie z IEC 60529
Stopień zanieczyszczenia	3 zgodnie z IEC 60664-1
Odporność na wibracje	20 m/s <sup>2</sup> (f= 10...150 Hz) zgodnie z IEC 60068-2-6
Odporność na wstrząsy	15 gn nieczynny dla 11 ms zgodnie z IEC 60068-2-27 5 gn pracujący dla 11 ms zgodnie z IEC 60068-2-27
Wilgotność względna	95 % w 25...55 °C
Kompatybilność elektromagnetyczna	Badanie odporności na wyładowanie elektrostatyczne - test level: 6 kV poziom 3 (rozładowanie styku) conforming to IEC 61000-4-2 Badanie odporności na wyładowanie elektrostatyczne - test level: 8 kV poziom 3 (rozładowanie powietrza) conforming to IEC 61000-4-2 Test odporności na szybkie stany przejściowe - test level: 1 kV poziom 3 (zatrask łączący pojemność) conforming to IEC 61000-4-4 Test odporności na szybkie stany przejściowe - test level: 2 kV poziom 3 (styk bezpośredni) conforming to IEC 61000-4-4 Badania odporności na udary - test level: 1 kV poziom 3 (tryb różnicowy) conforming to IEC 61000-4-5 Badania odporności na udary - test level: 2 kV poziom 3 (tryb wspólny) conforming to IEC 61000-4-5 Badanie odporności na pola elektromagnetyczne o częstotliwościach radiowych - test level: 10 V poziom 3 (0,15...80 MHz) conforming to IEC 61000-4-6 Test odporności pola elektromagnetycznego - test level: 10 V/m poziom 3 (80 MHz...1 GHz) conforming to IEC 61000-4-3 Odporność na krótkie zaniki zasilania i spadki napięcia - test level: 30 % (500 ms) conforming to IEC 61000-4-11 Odporność na krótkie zaniki zasilania i spadki napięcia - test level: 100 % (20 ms) conforming to IEC 61000-4-11 Promieniowanie klasa B conforming to EN 55022 Przewodzona emisja klasa A conforming to EN 55022 Test odporności pola elektromagnetycznego - test level: 3 V/m level 2 (1.4 GHz...2 GHz) conforming to IEC 61000-4-3 Test odporności pola elektromagnetycznego - test level: 1 V/m level 1 (2...2,7 GHz) conforming to IEC 61000-4-3

## Jednostka opakowania

Jednostka miary opakowania 1	PCE
Ilość jednostek w opakowaniu 1	1
Wysokość opakowania 1	2,4 cm
Szerokość opakowania 1	8,05 cm
Długość opakowania 1	9,45 cm
Waga opakowania 1	103,635 g
Jednostka miary opakowania 2	S02
Ilość jednostek w opakowaniu 2	40
Wysokość opakowania 2	15,0 cm
Szerokość opakowania 2	30,0 cm
Długość opakowania 2	40,0 cm
Waga opakowania 2	4,616 kg
Jednostka miary opakowania 3	P06

Ilość jednostek w opakowaniu 3	640
Wysokość opakowania 3	70,0 cm
Szerokość opakowania 3	60,0 cm
Długość opakowania 3	80,0 cm
Waga opakowania 3	84,13 kg

### Oferta zrównoważonego rozwoju

Stan trwałej oferty	Produkt Green Premium
Rozporządzenie REACH	<a href="#">Deklaracja REACH</a>
Europejska dyrektywa RoHS	Zgodność z pro-active (produkt poza zakresem obowiązywania dyrektywy UE RoHS)
Bez rtęci	Tak
Norma RoHS Chiny	<a href="#">Dyrektywa RoHS Chiny</a>
Informacje na temat zwolnienia z RoHS	<a href="#">Tak</a>
Ujawnienie informacji o wpływie na środowisko	<a href="#">Środowiskowy Profil Produktu</a>
Kulistość – profil	<a href="#">Informacja O Żywotności</a>

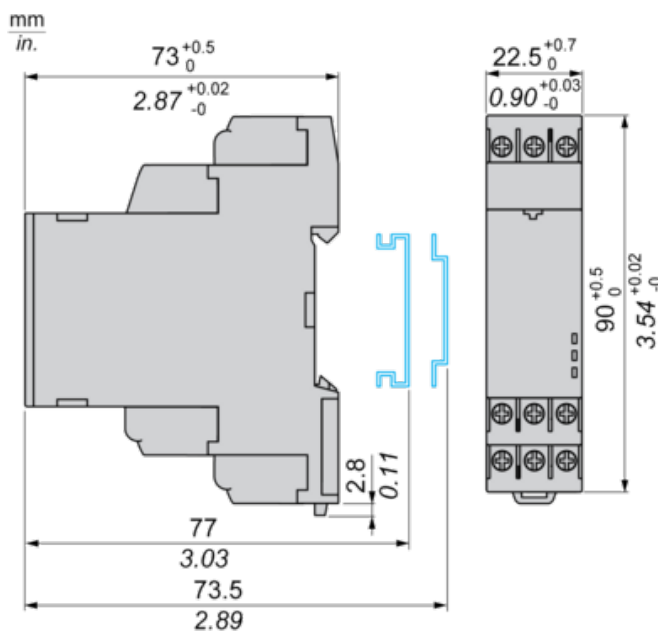
### Warunki gwarancji

Gwarancja	18 miesięcy
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# Karta danych technicznych produktu

## Dimensions Drawings

### Dimensions



# Karta danych technicznych produktu

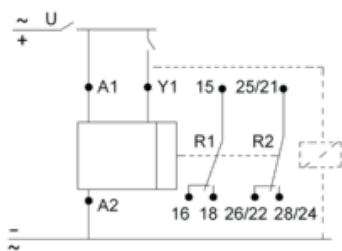
## RENF22R2MMW

### Connections and Schema

#### Internal Wiring Diagram



#### Wiring Diagram



# Karta danych technicznych produktu

## RENF22R2MMW

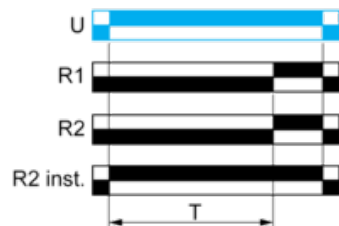
### Technical Description

#### Function A: Power On-Delay Relay

##### Description

On energisation of power supply, the timing period T starts. After timing, the output(s) R close(s). The second output (R2) can be either timed (when set to "TIMED") or instantaneous (when set to "INST").

##### Function: 2 Output

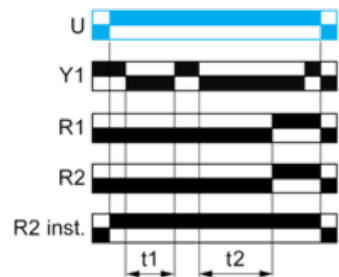


#### Function At: Power On-Delay Relay with Pause / Summation Control Signal

##### Description

On energisation of power supply, the timing period T starts. Timing can be interrupted / paused each time Y1 energizes. When the cumulative total of time periods elapsed reaches the pre-set value T, the output(s) R close(s). The second output (R2) can be either timed (when set to "TIMED") or instantaneous (when set to "INST").

##### Function: 2 Output



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

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

##### Description

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

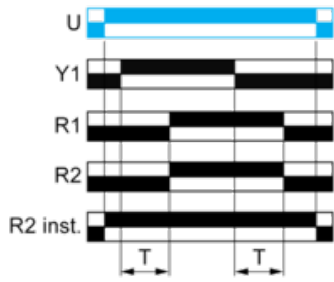
At the end of this timing period, the output(s) R close(s).

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: 2 Output

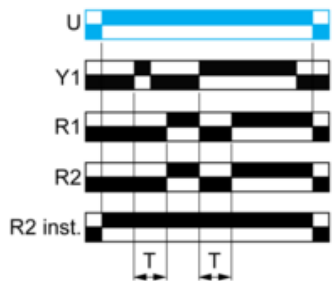


Function Ad : Pulse Delayed Relay with Control Signal

Description

After energisation of power supply, pulsing or maintaining of energization of Y1 starts the timing T.  
 At the end of this timing period T, the output(s) R close(s).  
 The output(s) R reverts to its initial position the next time Y1 is energized in pulsation or permanent energized manner.  
 The second output (R2) can be either timed (when set to "TIMED") or instantaneous (when set to "INST").

Function: 2 Output

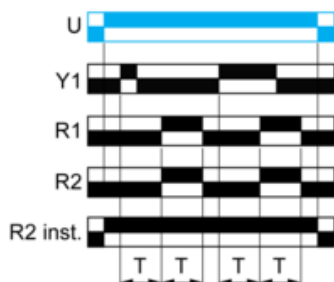


Function Ah : Pulse Delayed Relay (Single Cycle) with Control Signal

Description

After energisation of power supply, pulsing or maintaining of energization of Y1 starts the timing T.  
 A single flashing cycle then starts with 2 timing periods T of equal duration (start with output(s) R in initial position). Output(s) R closes at the end of the first timing period T and reverts to its initial position at the end of the second timing period T.  
 Re-energizing of Y1, either in pulsation or permanent energized manner, will re-start the single flashing cycle again.  
 The second output (R2) can be either timed (when set to "TIMED") or instantaneous (when set to "INST").

Function: 2 Output



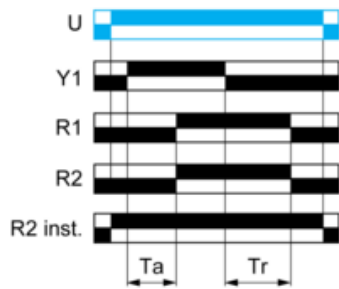
Function Ak: Asymmetrical On-Delay and Off-Delay Relay With Control Signal

Description

After energisation of power supply and energization of Y1, timing starts for a period Ta.  
 At the end of this timing period Ta, the output(s) R closes.  
 Deenergization of Y1 causes a second timing period Tr to start.  
 At the end of this timing period Tr, the output(s) R reverts to its initial state.  
 The second output (R2) can be either timed (when set to "TIMED") or instantaneous (when set to "INST").



### Function: 2 Output



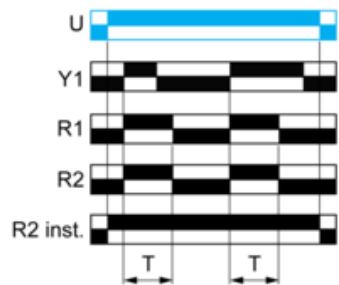
### Function B: Single Interval Relay with Control Signal

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#### Description

After energisation of power supply, pulsing or maintaining of energization of Y1 starts the timing T. The output(s) R close(s) for the duration of the timing period T then revert(s) to its/their initial state. The second output (R2) can be either timed (when set to "TIMED") or instantaneous (when set to "INST").

### Function: 2 Output



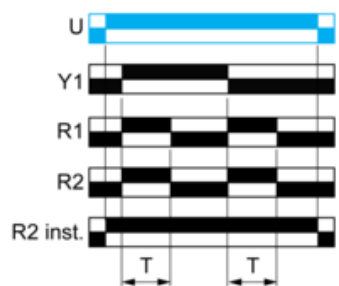
### Function Bw : Double Interval Relay with Control Signal

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#### Description

After energisation of power supply, transition of Y1 (either from energization to deenergization or vice-versa) will cause the output(s) R close(s) for the duration of the timing period T then revert(s) to its/their initial state. The second output (R2) can be either timed (when set to "TIMED") or instantaneous (when set to "INST").

### Function: 2 Output



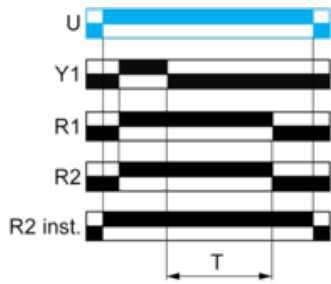
### Function C: Off-Delay Relay with Control Signal

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#### Description

After energisation of power supply and energization of Y1 causes output(s) R close(s). When Y1 deenergizes, 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: 2 Output



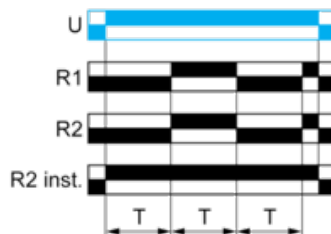
### Function D: Symmetrical Flashing Relay (Starting Pulse-Off)

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

### Function: 2 Output



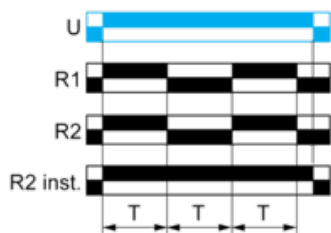
### Function Di: Symmetrical Flashing Relay (Starting Pulse-On)

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#### Description

On energisation of power supply, output(s) R starts at output(s) R close(s) for timing duration T then revert(s) to its/their initial state for the same timing duration T. This cycle is repeated indefinitely until power supply removal. The second output (R2) can be either timed (when set to "TIMED") or instantaneous (when set to "INST").

### Function: 2 Output



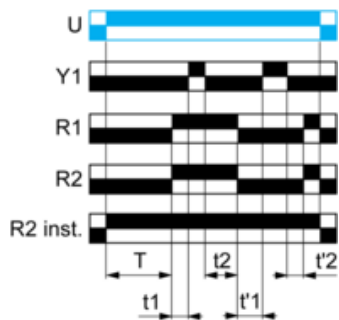
### Function Dt: Symmetrical Flashing Relay (Starting Pulse-Off) With Pause / Summation Control Signal

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#### Description

On energisation of power supply, output(s) R starts at its/their initial state for timing duration T and the timing can be interrupted / paused each time Y1 energizes. When the cumulative total of time periods elapsed reaches the pre-set value T, then changes to output(s) R close(s). The output(s) R close state will remain for the same timing duration T and the timing can be interrupted / paused each time Y1 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. This cycle is repeated indefinitely until power supply removal. The second output (R2) can be either timed (when set to "TIMED") or instantaneous (when set to "INST").

### Function: 2 Output



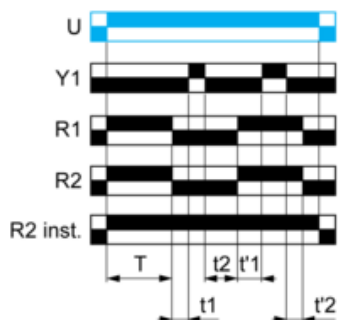
$T = t_1 + t_2 + \dots$   
 $T = t'_1 + t'_2 + \dots$

### Function Dit: Symmetrical Flashing Relay (Starting Pulse-On) With Pause / Summation Control Signal

#### Description

On energisation of power supply, output(s) R starts at output(s) R close(s) for timing duration T and the timing can be interrupted / paused each time Y1 energizes. When the cumulative total of time periods elapsed reaches the pre-set value T, then revert(s) to its/their initial state. The output(s) R at initial state will remain for the same timing duration T and the timing can be interrupted / paused each time Y1 energizes. When the cumulative total of time periods elapsed reaches the pre-set value T, the output(s) R change(s) to close state. This cycle is repeated indefinitely until power supply removal. The second output (R2) can be either timed (when set to "TIMED") or instantaneous (when set to "INST").

### Function: 2 Output



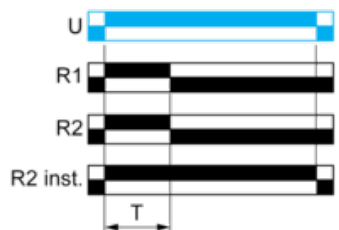
$T = t_1 + t_2 + \dots$   
 $T = t'_1 + t'_2 + \dots$

### Function H: Interval Relay

#### Description

On energisation of power supply, output(s) R close(s) and timing period T starts. At the end of the timing period T, the output(s) R revert(s) to its/their initial state. The second output (R2) can be either timed (when set to "TIMED") or instantaneous (when set to "INST").

### Function: 2 Output

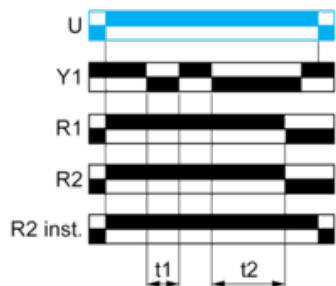


### Function Ht: Interval Relay With Pause / Summation Control Signal

#### Description

On energisation of power supply, output(s) R close(s) and timing period T starts. The timing can be interrupted / paused each time Y1 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. The second output (R2) can be either timed (when set to "TIMED") or instantaneous (when set to "INST").

### Function: 2 Output



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

### Function L: Asymmetrical Flashing Relay (Starting Pulse-Off)

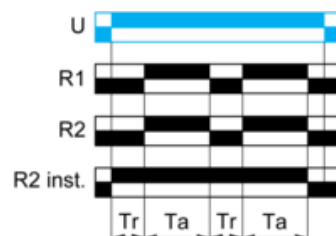
#### Description

On energisation of power supply, output(s) R starts at its/their initial state for timing duration  $T_r$  then change(s) to output(s) R close(s) for the another timing duration  $T_a$ .

This cycle is repeated indefinitely until power supply removal.

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

### Function: 2 Output



### Function Li: Asymmetrical Flashing Relay (Starting Pulse-On)

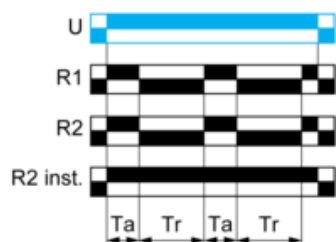
#### Description

On energisation of power supply, output(s) R starts at output(s) R close(s) for timing duration  $T_a$  then change(s) to its/their initial state for timing duration  $T_r$ .

This cycle is repeated indefinitely until power supply removal.

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

### Function: 2 Output



### Function Lt: Asymmetrical Flashing Relay (Starting Pulse-Off) With Pause / Summation Control Signal

#### Description

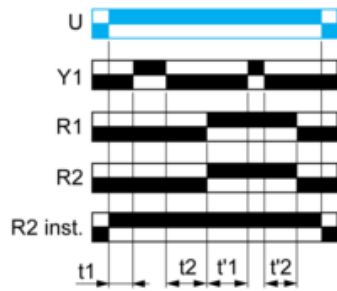
On energisation of power supply, output(s) R starts at its/their initial state for timing duration  $T_r$  and the timing can be interrupted / paused each time Y1 energizes. When the cumulative total of time periods elapsed reaches the pre-set value  $T_r$ , then changes to output(s) R close(s).

The output(s) R close state will remain for the same timing duration  $T_a$  and the timing can be interrupted / paused each time Y1 energizes. When the cumulative total of time periods elapsed reaches the pre-set value  $T_a$ , the output(s) R revert(s) to its/their initial state.

This cycle is repeated indefinitely until power supply removal.

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

### Function: 2 Output



$$T_r = t_1 + t_2 + \dots$$

$$T_a = t'_1 + t'_2 + \dots$$

### Function Lit: Asymmetrical Flashing Relay (Starting Pulse-On) With Pause / Summation Control Signal

#### Description

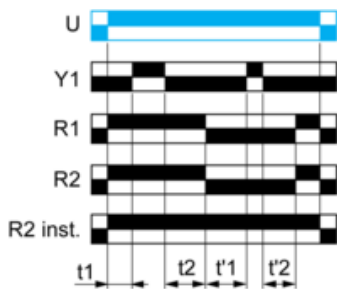
On energisation of power supply, output(s) R starts at output(s) R close(s) for timing duration  $T_a$  and the timing can be interrupted / paused each time Y1 energizes. When the cumulative total of time periods elapsed reaches the pre-set value  $T_a$ , the output(s) R revert(s) to its/their initial state.

The output(s) R at initial state will remain for timing duration  $T_r$  the timing can be interrupted / paused each time Y1 energizes. When the cumulative total of time periods elapsed reaches the pre-set value  $T_r$ , then changes to output(s) R close(s)

This cycle is repeated indefinitely until power supply removal.

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

### Function: 2 Output



$$T_a = t_1 + t_2 + \dots$$

$$T_r = t'_1 + t'_2 + \dots$$

### Function N : Safe-Guard Relay

#### Description

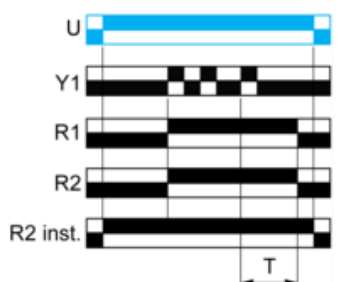
After energisation of power supply and on energization of Y1 cause the output(s) R close(s) and starts the timing T.

If the duration interval between 2 consecutive energization of Y1 is greater than the pre-set value T, the output(s) R close(s) at the end of the timing period.

If the duration interval between 2 consecutive energization of Y1 is less than the pre-set value T, the output(s) R remain(s) closed and timing restarted base on the last energization of Y1.

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

### Function: 2 Output



### Function O : Delayed Safe-Guard Relay

### Description

On energisation of power supply, the timing T starts.

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

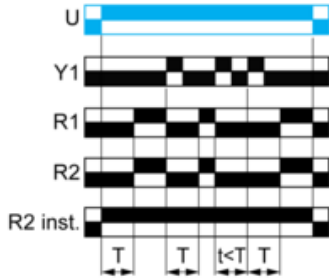
On energisation of Y1, the output(s) R revert(s) to its/their initial state and the timing T restarts.

If the duration interval between 2 consecutive energization of Y1 is greater than the pre-set value T, the output(s) R close(s) at the end of the timing period.

If the duration interval between 2 consecutive energization of Y1 is less than the pre-set value T, the output(s) R remain(s) at its/their initial state and timing restarted base on the last energization of Y1.

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

### Function: 2 Output



### Function P : Pulse Delayed Relay with Fixed Pulse Length

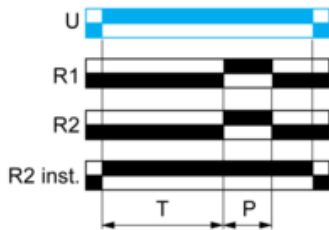
#### Description

On energisation of power supply, the timing T starts.

At the end of this period, the output(s) R close(s) for a fixed time P then revert(s) to its/their initial state.

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

### Function: 2 Output



P = 500ms

### Function Pt : Pulse Delayed Relay With Fixed Pulse Length and Pause / Summation Control Signal

#### Description

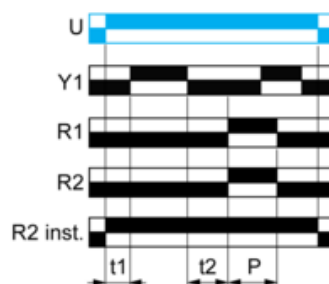
On energisation of power supply, the timing T starts.

The timing can be interrupted / paused each time Y1 energizes.

When the cumulative total of time periods elapsed reaches the pre-set value T, the output(s) R close(s) for a fixed time P then revert(s) to its/their initial state.

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

### Function: 2 Output



T = t1 + t2 + ...

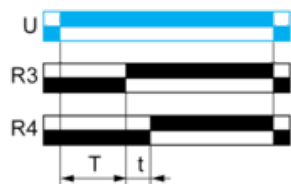
P = 500ms

## Function Qt: Star-Delta Relay (2 CO Outputs with Split Common)

### Description

On energisation of power supply, the output R3 & R4 initializes at its initial state such that energizes STAR CONTACTOR + MAIN CONTACTOR and the timing T starts (STAR connection time duration starts). At the end of the timing period T, the output R3 closes such that deenergizes STAR CONTACTOR and causes t transition time starts. At the end of the transition time, the output R4 closes such that energizes DELTA CONTACTOR. Diagnostic feature not available.

### Function: 2 Output



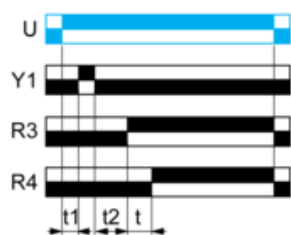
$T = 50, 60 \dots \text{ms}$

## Function Qtt: Star-Delta Relay (2 CO Outputs With Split Common) with Pause / Summation Control Signal

### Description

On energisation of power supply, the output R3 & R4 initializes at its initial state such that energizes STAR CONTACTOR + MAIN CONTACTOR and the timing T starts (STAR connection time duration starts). During STAR connection time, the timing can be interrupted / paused each time Y1 energizes. When the cumulative total of time periods elapsed reaches the pre-set value T, the output R3 closes such that deenergizes STAR CONTACTOR and causes t transition time starts. At the end of the transition time, the output R4 closes such that energizes DELTA CONTACTOR. Diagnostic feature not available.

### Function: 2 Output



$T = t_1 + t_2 + \dots$

$t = 50, 60 \dots \text{ms}$

## Function TL : Bistable Relay with Control Signal On

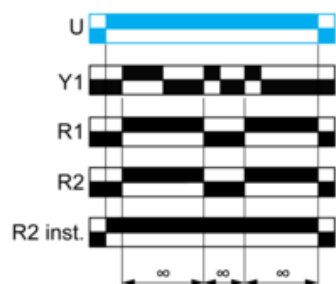
### Description

After energisation of power supply and on energization of Y1 cause the output(s) R close(s). The subsequent on energization of Y1 cause the output(s) R revert(s) to its/their initial state.

This cycle is repeated indefinitely until power supply removal.

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

### Function: 2 Output



## Function Tt : Retriggerable Bistable Relay with Control Signal On

### Description

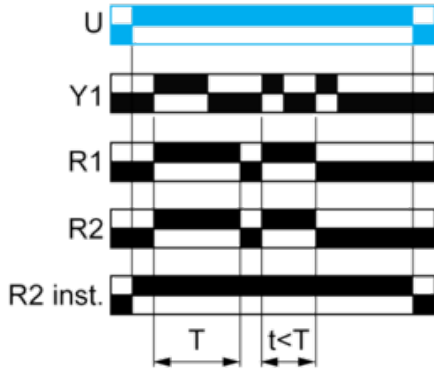
After energisation of power supply and on energization of Y1 cause the output(s) R close(s) and starts the timing T.

If the duration interval between 2 consecutive energization of Y1 is greater than the pre-set value T, the output(s) R will toggle from its/their present status the end of the timing period.

If the duration interval between 2 consecutive energization of Y1 is less than the pre-set value T, the output(s) R toggle from its/their present status as soon as Y1 energizes without completing T duration.

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

### Function: 2 Output

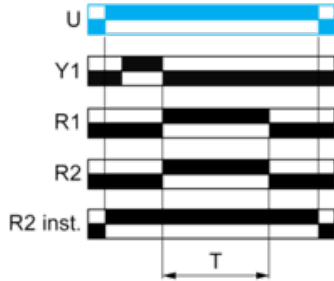


### Function W: Interval Relay with Control Signal Off

### Description

After energisation of power supply and on energization of Y1 following by deenergization of Y1, the output(s) R close(s) and starts the timing T. At the end of the timing period, the output(s) R revert(s) to its/their initial state. The second output (R2) can be either timed (when set to "TIMED") or instantaneous (when set to "INST").

### Function: 2 Output



### Legend

Relay de-energised

Relay energised

Output open

Output closed

U -	Supply
R1/R2 -	2 timed outputs
Ta -	Adjustable On-delay
Tr -	Adjustable Off-delay
Y1 -	Retrigger / Restart control
R2 inst. -	The second output is instantaneous if the right position is selected
T -	Timing period
R4 -	Delta contact output
t -	Delay to switch ON Delta contact output
R3 -	Star-Delta contact output