Product data sheet
Characteristics

RENF22R2MMW
Zelio Timer Relay - Modular

Product availability: Stock - Normally stocked in distribution facility

Main

Range of product	Zelio Time
Product or component type	Modular timing relay
Device short name	RENF22
Supported OS	Android
Software version	V4.4 and above
App for product	Zelio NFC downloadable from Google Play store)

Complementary

Discrete output type	Relay
Nominal output current	8 A
Contacts type and composition	2 C/O timed contact, cadmium free 1 C/O timed and instantaneous contact, cadmium free
Time delay type	Tt Ak Ah Di Pt H At Dt Ad A Qt N Li L Qtt O Ht Lit C Lt W Tl P Ac Dit B D Bw
Time delay range	0.1 s...999 h
Product compatibility	NFC enabled mobile device
[Us] rated supply voltage	24...240 V AC/DC
Release input voltage	<= 2.4 V
Voltage range	0.85...1.1 Un
Maximum RF power transmitted	0.0002 mW
NFC operating frequency	13.56 MHz
Supply frequency	50...60 Hz +/- 5 %

Connections - terminals	Screw terminals, 1 x 0.5...1 x 3.3 mm² AWG 20...AWG 12) solid without cable end Screw terminals, 2 x 0.5...2 x 2.5 mm² AWG 20...AWG 14) solid without cable end Screw terminals, 1 x 0.2...1 x 2.5 mm² AWG 24...AWG 14) flexible with cable end Screw terminals, 2 x 0.2...2 x 1.5 mm² AWG 24...AWG 16) flexible with cable end
Tightening torque	5.31…8.85 Lbf.In (0.6…1 N.m) IEC 60947-1 0.60…0.99 N.m (5.3…8.8 lbf.in) IEC 60947-1
Housing material	Self-extinguishing
Repeat accuracy	+/- 0.2 % 10 s...999 h +/- 0.5 % 100 ms...10 s
Temperature drift	+/- 0.05 %/°C
Voltage drift	+/- 0.2 %/V
Setting accuracy of time delay	+/- 1 % 1...999 h 77 °F (25 °C) +/- 2 % 1 h 77 °F (25 °C) +/- 20 ms 100 ms...10 s 77 °F (25 °C)
Control signal pulse width	100 Ms with load in parallel 60 ms no-load
Insulation resistance	100 MOhm 500 V DC IEC 60664-1
Recovery time	120 ms on de-energisation
Power consumption in VA	3 VA 240 V AC
Power consumption in W	1.5 W 240 V DC 0.6 W 24 V DC
Switching capacity in VA	2000 VA
Minimum switching current	10 mA 5 V
Maximum switching current	8 A
Maximum switching voltage	250 V
Electrical durability	100000 cycles resistive, 8 A 250 V, AC
Mechanical durability	10000000 cycles
Rated impulse withstand voltage	5 kV 1.2/50 µs IEC 60664-1
Power on delay	100 ms
Creepage distance	4 kV/3 IEC 60664-1
Overvoltage category	III IEC 60664-1
Safety reliability data	MTTFd = 227.5 years 100 % duty cycle continuous operating condition at 30 °C
Mounting position	Any position
Mounting support	35 mm DIN rail EN/IEC 60715
Status LED	Un, green LED steady)power ON R1, amber LED steady)relay energised R2, amber LED steady)relay energised Pairing, green LED steady)communication status Un, green LED fast blinking)diagnosis mode R1, amber LED blinking)timing in progress R2, amber LED blinking)timing in progress
Maximum communication distance	10 mm
Response time	2 s
Width	0.89 in (22.5 mm)
Net weight	0.20 lb(US) (0.0904 kg)

Environment

Immunity to microbreaks	10 ms
Dielectric strength	2.5 KV 1 mA/1 minute 50 Hz between relay output and power supply with basic insulation Basic insulation
Standards	EN 61000-6-1 EN 61000-6-2 EN 61000-6-4 EN 61812-1 EN 61000-6-3
Directives	2014/35/EU - low voltage directive 2014/53/EU - radio equipment directive 2014/30/EU - electromagnetic compatibility
Product certifications	CE CSA KC UL CCC EAC DNV-GL
Ambient air temperature for operation	-4…140 °F (-20…60 °C)
Ambient air temperature for storage	-40…158 °F (-40…70 °C)
IP degree of protection	Housing IP40 IEC 60529 Front face IP40 IEC 60529 Terminals IP20 IEC 60529
Pollution degree	3 IEC 60664-1
Vibration resistance	20 m/s² 10…150 Hz)IEC 60068-2-6
Shock resistance	15 gn not operating 11 ms IEC 60068-2-27 5 gn in operation 11 ms IEC 60068-2-27
Relative humidity	95 % 77…131 °F (25…55 °C)
Electromagnetic compatibility	Electrostatic discharge immunity test 6 kV contact discharge)level 3 EN/IEC 61000-4-2 Electrostatic discharge immunity test 8 kV air discharge)level 3 EN/IEC 61000-4-2 Fast transients immunity test 1 kV capacitive connecting clip)level 3 IEC 61000-4-4 Fast transients immunity test 2 kV direct contact)level 3 IEC 61000-4-4 Surge immunity test 1 kV differential mode)level 3 IEC 61000-4-5 Surge immunity test 2 kV common mode)level 3 IEC 61000-4-5 Radiated radio-frequency electromagnetic field immunity test 10 V 0.15...80 MHz)level 3 IEC 61000-4-6 Electromagnetic field immunity test 10 V/m 80 MHz...1 GHz)level 3 IEC 61000-4-3 Immunity to microbreaks and voltage drops 30 % 500 ms) IEC 61000-4-11 Immunity to microbreaks and voltage drops 100 % 20 ms) IEC 61000-4-11 Radiated emissionclass B EN 55022 Conducted emissionclass A EN 55022 Electromagnetic field immunity test 3 V/m 1.4 GHz...2 GHz)level 2 IEC 61000-4-3 Electromagnetic field immunity test 1 V/m 2...2.7 GHz)level 1 IEC 61000-4-3

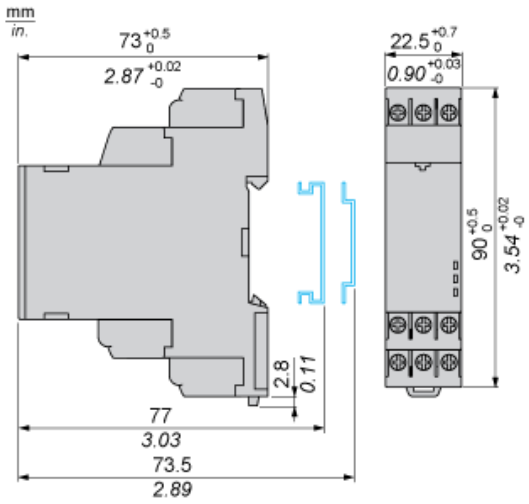
Ordering and shipping details

Category	22376 - RELAYS-MEASUREMENT(RM4)
Discount Schedule	CP2
GTIN	00785901006305
Package weight(Lbs)	0.10 kg (0.23 lb(US))
Returnability	Yes
Country of origin	ID

Offer Sustainability

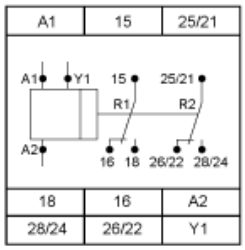
Sustainable offer status	Green Premium product
REACh Regulation	REACh Declaration
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	China RoHS Declaration
Environmental Disclosure	Product Environmental Profile
Circularity Profile	End Of Life Information

Dimensions

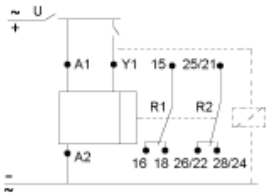

mm
in.
73 +0.5 0
2.87 +0.02 -0
22.5 +0.7 0
0.90 +0.03 -0
90 +0.5 0
3.54 +0.02 -0
2.8
0.11
77
3.03
73.5
2.89

RENF22R2MMW

Internal Wiring Diagram



Wiring Diagram

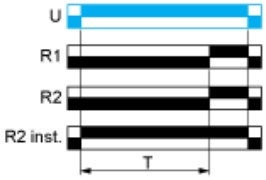


Function A: Power On-Delay Relay

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

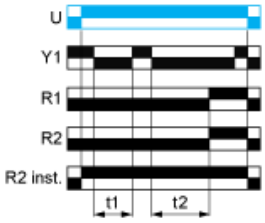


Function At: Power On-Delay Relay with Pause / Summation Control Signal

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 +…

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.

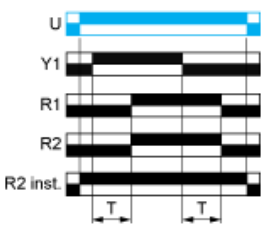
At the end of this timing period, the output(s) R close(s).

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

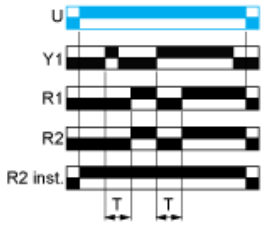
After energisation of power supply, pulsing or maintaining of energization of Y1 starts the timing T.

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

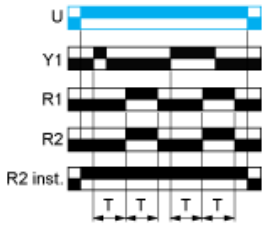
After energisation of power supply, pulsing or maintaining of energization of Y1 starts the timing T.

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.

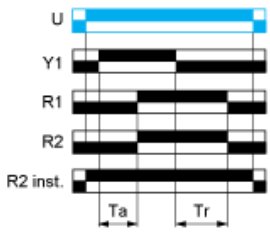
At the end of this timing period Ta, the output(s) R closes.

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

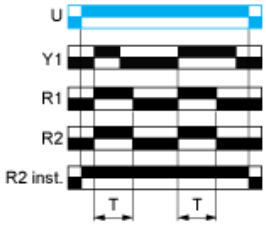
Description

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



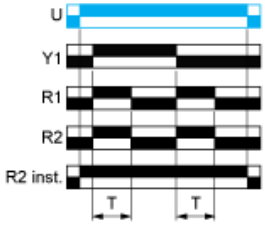
Function Bw : Double Interval Relay with Control Signal

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

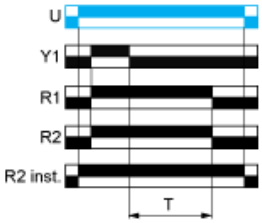


Function C: Off-Delay Relay with Control Signal

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

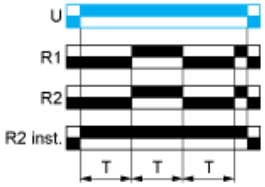


Function D: Symmetrical Flashing Relay (Starting Pulse-Off)

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

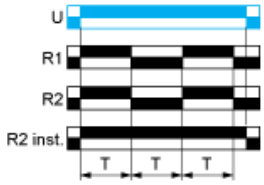


Function Di: Symmetrical Flashing Relay (Starting Pulse-On)

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 indefintely 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

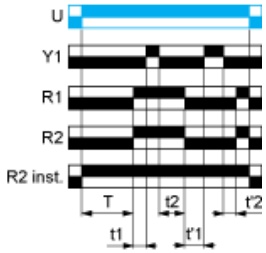


Function Dt: Symmetrical Flashing Relay (Starting Pulse-Off) With Pause / Summation Control Signal

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 indefintely 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



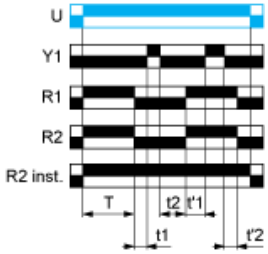
T = t1 + t2 +…
T = t'1 + t'2 +…

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



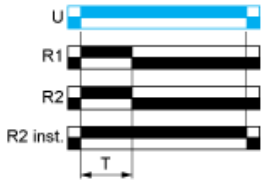
T = t1 + t2 +…
T = t'1 + t'2 +…

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

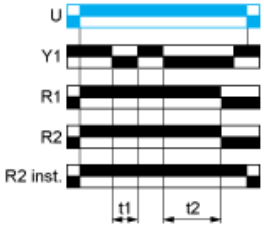


Function Ht: Interval Relay With Pause / Summation Control Signal

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 +…

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

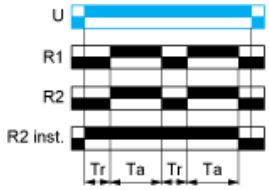
Description

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

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)

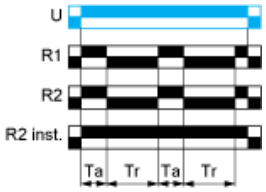
Description

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

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

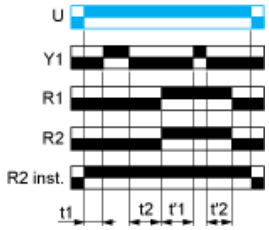
On energisation of power supply, output(s) R starts at its/their initial state for timing duration Tr and the timing can be interrupted / paused each time Y1 energizes. When the cumulative total of time periods elapsed reaches the pre-set value Tr, then changes to output(s) R close(s).

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



Tr = t1 + t2 +…
Ta = t'1 + t'2 +…

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

Description

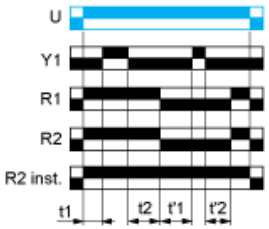
On energisation of power supply, output(s) R starts at output(s) R close(s) for timing duration Ta and the timing can be interrupted / paused each time Y1 energizes. When the cumulative total of time periods elapsed reaches the pre-set value Ta, the output(s) R revert(s) to its/their initial state.

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



Ta = t1 + t2 +…
Tr = t'1 + t'2 +…

Function N : Safe-Guard Relay

Description

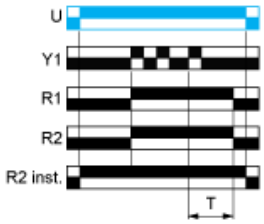
After energisation of power supply and on energization of Y1 cause the output(s) R close(s) and starts the timing T.

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).

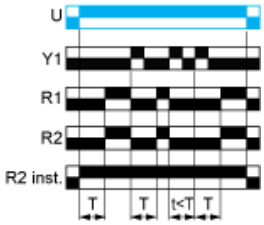
On energization of Y1, the output(s) R revert(s) to its/their initial state and the timing T restarts.

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

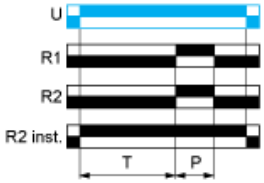
Description

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

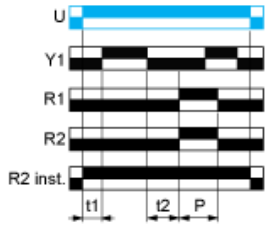
On energisation of power supply, the timing T starts.

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



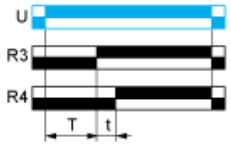
T = t1 + t2 + …
P = 500ms

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.

Function: 2 Output



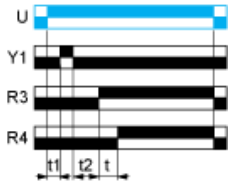
T = 50, 60... ms

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.

Function: 2 Output



T = t1 + t2 +...
t = 50, 60 ... ms

Function TL : Bistable Relay with Control Signal On

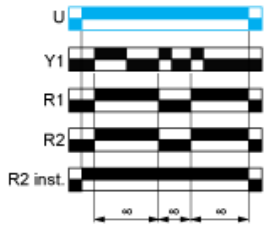
Description

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

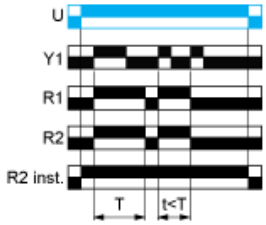
After energisation of power supply and on energization of Y1 cause the output(s) R close(s) and starts the timing T.

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

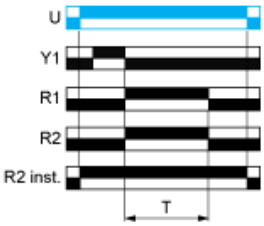


Function W: Interval Relay with Control Signal Off

Description

After energisation of power supply and on energization of Y1 following by denergization 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