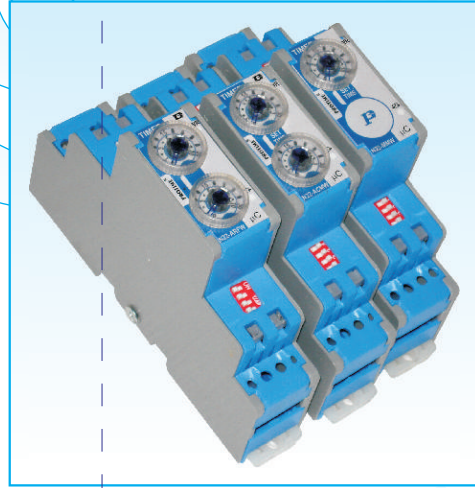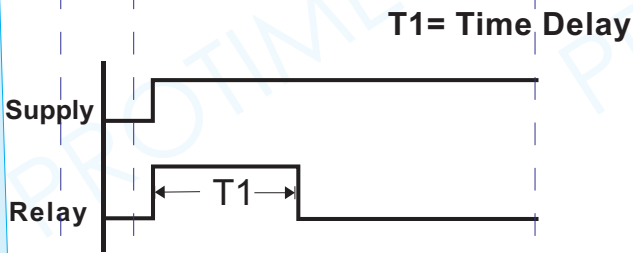PROTIME®

N22-X Series Timers

Special Features

- High Repeat accuracy & low tolerance in setting accuracy (>1%)
- Wide range of power supply from 90 to 270V AC/DC
- User friendly design with ON/IN delay selectable even in low cost versions
- 5 modes on Delay, interval, Equal cyclic (ON First) Equal cyclic (off first),Pulse O/P in one
- Timers for almost all applications

Technical Data

1)	Output contacts	-2 change over contacts or 1 changeover
2)	Switching duty	-6A Resistive at 240V AC or 24V DC
3)	Electrical life	-10^5 operations at switching duty
4)	Operating Voltage	- W= 90-270V AC/DC or 110V / 220V / 415V AC / 12/24V DC
		- d= 230V AC + 24V DC (any one)
5)	Permissible Voltage	-± 25% max
6)	Power Consumption	-10VA (max)
7)	Reset Time	-100 ms max
8)	Repeat Accuracy	-± 0.5% full scale
9)	Setting Accuracy	-± 1% of full scale.
10)	LED Indications	-a) Power ON b) Relay ON
11)	Mounting	-Standard DIN mounting channel or Wall mounting
12)	Dimensions	-22.5mm(W) x110mm(H) x 74mm(D)
	Panel cutout	-45mm x 23mm(If required)
13)	Enclosure	- PE/EN/N22/092K8
14)	Operating Temp.	- -10°C, +55°C up to 80% RH
15)	Storing temp.	- -22°C, +55°C up to 95% RH
16)	Weight	- 0.115Kg

Operations:

T1= Time Delay

Supply

Relay |← T1 →|

*** Delay available in N22 M1d, N22S1d, & N22 MX**

ON Delay:-

On applying operating supply voltage at respective terminals, the time delay starts as selected on dial. After time delay relay will get energized and remains continuously ON.

Supply

Relay1 (Star) |← T1 →|

|→ |←T2

T1= STAR ON timeDelay
T2= C/O Time

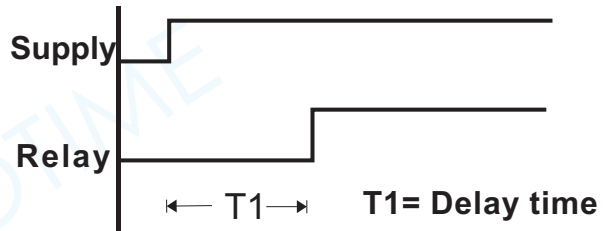***delay available in N22 SD**

In Delay:-

On applying operating Supply voltage at respective terminals, relay shall energize and time delay starts as per selection on dial. After the delay relay shall get de-energized and remains OFF till re-started (by removing & giving the power supply).
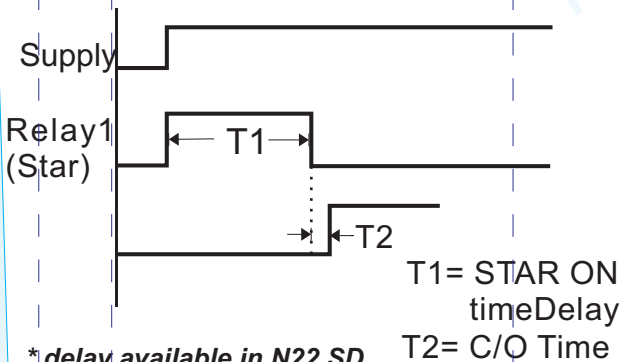
Supply

Relay |← T1 →| **T1= Delay time**

*** Delay available in N22 M1d, N22S1d,N22 S2, & N22 MX**
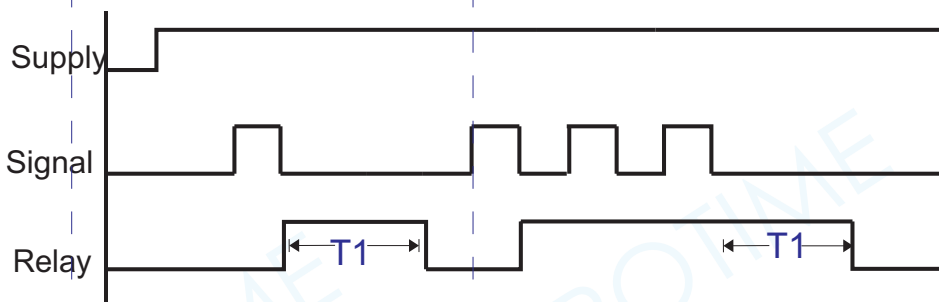
Star Delta:-

On applying operating voltage at supply terminals, STAR relay (RL1) shall energize instantly while Delta relay (RL2) remains OFF. After the delay RL1 shall de-energize. RL2 shall energize after the changeover time delay selected (m. Secs.) and then remains ON continuously.

Signal In Delay:-

After applying power supply, if active pulse is given across terminal 2 and 3, the relay energizes instantly and time delay starts as set on dial. After time delay, relay de-energizes. If during the time delay another active pulse is applied, shall reset the delay. Operation can be reset by power ON-OFF also.
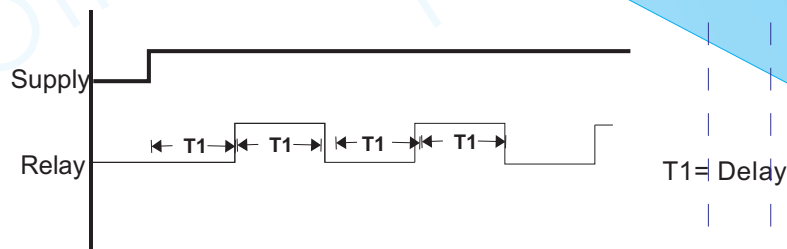
Supply

Signal

Relay |← T1 →| |←T1→|

*** Delay available in N22 SID**

Note:- Design & specifications may change due to our continuous developmental efforts.

Operations(Contd):
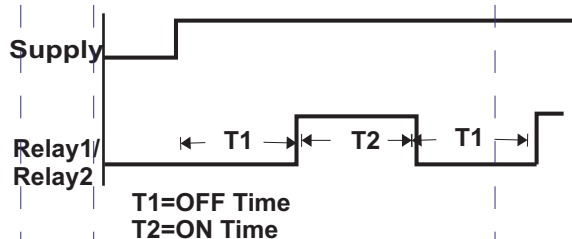
Equal Cyclic (OFF First):-

In this mode relay remains OFF first for the set time delay, and then becomes ON for time delay same as that for OFF time. The operation continues in cyclic manner till power supply is active.

Supply

Relay

T1 → ← T1 → ← T1 → ← T1 →   T1= Delay

* Delay available in N22 MX

Supply

Relay1/
Relay2

← T1 → ← T2 → ← T1 →

T1=OFF Time
T2=ON Time

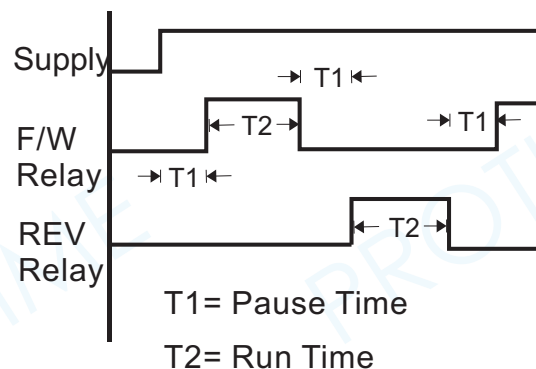** Delay available in N22 ACM*

Adjustable Cyclic Mode:-

On applying operating voltage at supply terminals, relay shall remain OFF first for time delay selected on "OFF time" dial , then it shall get ON for time delay selected by "ON time" dial, thus relay shall get OFF and ON for selected time delay and operation continues in cyclic manner till power supply is active.
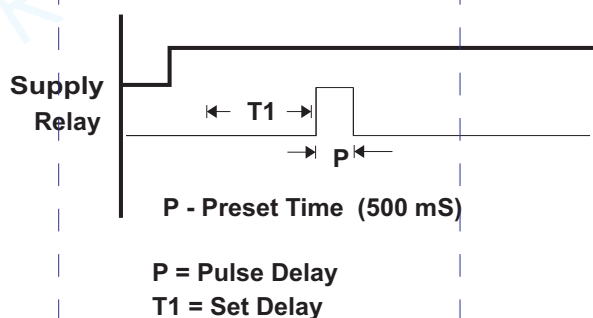
Adjustable Reverse Forward Relay:-

There are two time Delays. Pause Time & Run Time. When Pause Time is active, both the relays i.e. F/W relay & REV relay are OFF. After Pause Time, Run Time starts. In Run mode F/W relay & REV relay energized alternately. As soon as power gets ON Pause Time starts & then Run time after it. The cycle continues till power supply is active.Re-starting of power supply RESETS the operation.

Supply

F/W
Relay

REV
Relay

→ T1 ←
← T2 →   → T1 ←
→ T1 ←
← T2 →

T1= Pause Time

T2= Run Time

* Delay available in N22 ARF

Pulse Delay:-

In Pulse delay mode pulses of fixed time delay is generated after the set delay on dial. As soon as Power supply is applied the time delay starts, after time delay relay shall becomes ON for preset time i.e. 500ms only once. Removing input voltage resets the time delay & gives another pulse.

Supply
Relay

← T1 →

→ P ←

P - Preset Time (500 mS)

P = Pulse Delay
T1 = Set Delay

* Delay available in N22 MX

Note:- Design & specifications may change due to our continuous developmental efforts.

Connection Details:

for N22 M1d & N22 S1D

```
        5   6   7   8
        A2  NC  C   NO
                 Relay
N(-)

Source:
A1-A2= 230V AC
A3-A2= 24V  DC
                 A1  S1  S2  A3
                 1   2   3   4
P
                           24V DC
                            +
Potential free input for
In/On Delay Selection
```
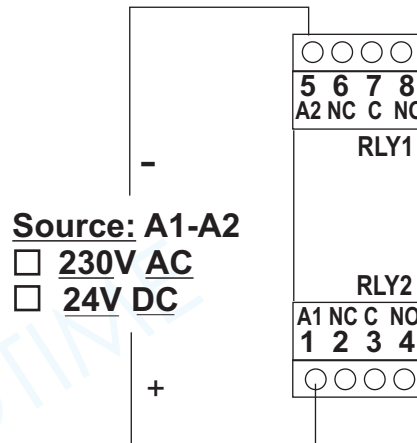
for N22 S2 & N22 SD

```
        5   6   7   8
        A2  NC  C   NO
                 RLY1
  –
Source: A1-A2
  ☐ 230V AC
  ☐ 24V DC
                 RLY2
                 A1  NC  C   NO
                 1   2   3   4
  +
```

For N22 MX/MXW/ACM/ARF

```
        5   6   7   8
        A2  NC  C   NO
                 RLY1
  +
90 TO 270 VAC/DC
230 VAC
24 V DC
                 RLY2
                 A1  NC  C   NO
                 1   2   3   4
```

for N22 SID

```
        5   6   7   8
        A2  NC  C   NO
                 RLY1
  +
Source: A1-A2
  ☐ 230V AC
  ☐ 24V DC
                 A1  S1  S2
                 1   2   3   4
  –
                    Potential free
                    Input (Signal)
```

Note:- Design & specifications may change due to our continuous developmental efforts.

How TO Order

N22   **M**   **d**
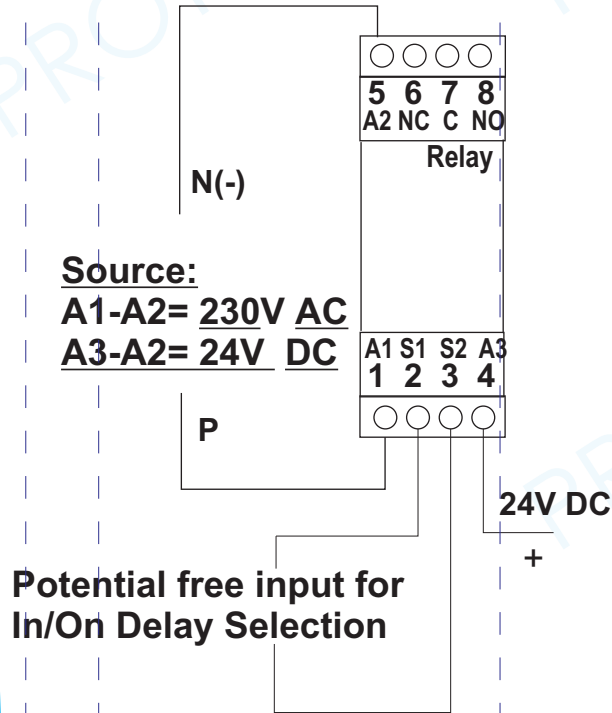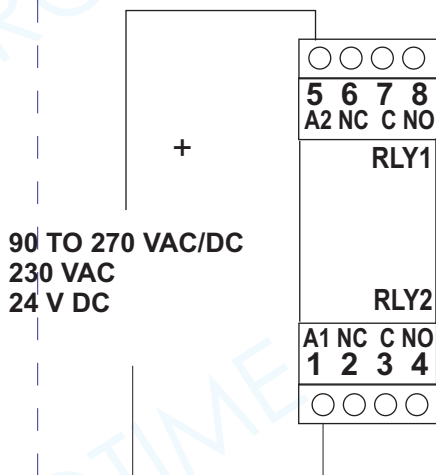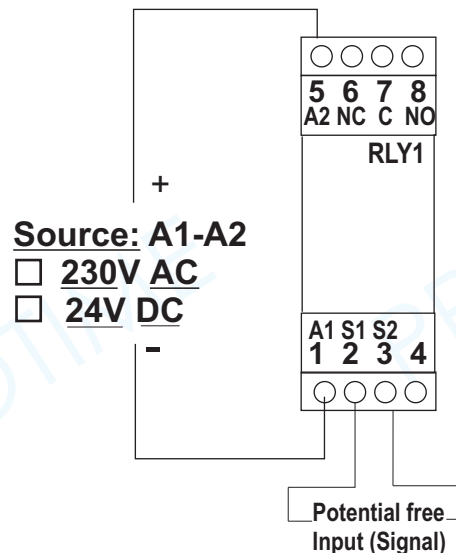
Series
in N22
Enclosure
(22.5mm width)

Supply
1 = 110V AC
2 = 230V AC
3 = 380V AC
4 = 415V AC
5 = 12V DC
6 = 24V DC
d = Dual Power Supply, 230V AC & 24V DC
W = 90-270V AC/DC

Models
(Time Range
& Modes)

Model	Mode	Range	Time Range				Output
S1	In/On	Single Range	10S/30S/60S/120S/180S/300S/600S				1 C/O
M1d	In/On	Multi Range	1S,10S,60S,10M,60M,10H,100H				1 C/O
S2	On	Multi Range	10S/30S/60S/120S/180S/300S/600S				2 C/O
SD	STAR-Delta	Multi Range	30S/40mS,60S/40mS,30S/100mS,60S/100mS				2 C/O
MX	In/On/cyclic/pulse	Multi Range	3/15/30/60 S/M/H				2 C/O
SID	Signal In Delay	Single Range	10S/30S/60S/120S/180S/300S/600S				1 C/O
ACM	Adjustable Cyclic	Multi Range	3 to 30 Sec/M/H				2 C/O
ARF	Run/Mode	Multi Range	10S/20S/40S/80S & 10M/20M/40M/80M				2 C/O

Note:- Design & specifications may change due to our continuous developmental efforts.