

17.5mm DIN RAIL TIMERS

642 Series

- Slim, space saving design
- Din rail / screw mounting
- Finger guards for safety



642UX



642SQ



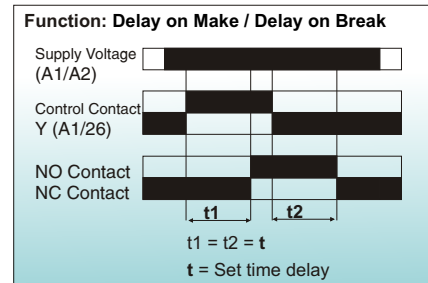
642VTR-3

Description	13 functions, 8 ranges Universal voltage	Low cost, 4 ranges, 2 voltages	Under voltage time relay
Modes⁺¹	13 functions (ON delay, Interval delay, Pulse output, Repeat cycle equal(OFF first), Repeat cycle equal(ON first), delay on break,Delay on Make with Totalize Delay on make / Delay on break, Interval after break, Interval with Totalize, Interval on Make / Interval on Break, Single shot, Retriggerable single shot)	ON delay / Interval	Under voltage time relay (ON delay) (refer pg 10 for timing diagrams)
Time Ranges	3 / 10 / 30 sec / min, 3 / 10 hr	15 / 60 sec, 7.5 / 60 min	5 to 15 min
Accuracy	Setting: ± 5% of full scale ; Repeat: ±0.5% or 50 ms	Setting: ± 5% of full scale ; Repeat: ±0.5% or 50 ms	Setting: ± 5% of full scale ; Repeat: ±0.5% or 50 ms
Reset	On interruption of power ; Reset time < 100 ms	On interruption of power ; Reset time < 100 ms	On interruption of power ; Reset time < 200 ms
LED Indications	Power ON, Relay ON	Power ON, Relay ON	Power ON, Relay ON
Output contacts	1 C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)
Relay rating	5 A @230 VAC / 24 VDC resistive	5 A @230 VAC / 24 VDC resistive	5 A @230 VAC / 24 VDC resistive
Supply voltage <small>AC: 50 or 60 Hz</small>	20 to 240 VAC 12 to 240 VDC	230 VAC & 24 VAC/DC 110 VAC & 24 VAC/DC	3 Ø / 4 w 380-415 VAC, P-P (50/60Hz)
Temperature	Operating: 0 to 50°C Storage: -20 to 75°C	Operating: 0 to 50°C Storage: -20 to 75°C	Operating: 0 to 50°C Storage: -20 to 75°C
Humidity (non-condensing)	95% RH	95% RH	95% RH
Weight	80 gms	50 gms	60 gms
Certifications			
Dimensions	Refer to diagram E on page 11		
Terminal Connections			
Ordering Code	642 UX	642 SQ-230 Supply Voltage 230 VAC & 24 VAC/DC 642 SQ-110 Supply Voltage 110 VAC & 24 VAC/DC	642 VTR-3 Supply Voltage 415 VAC (phase to phase)

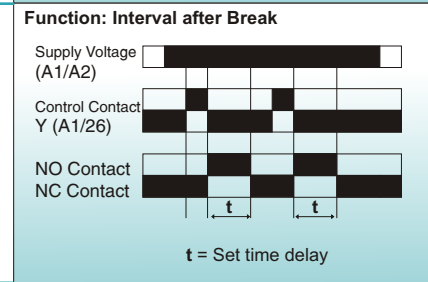
TIMING DIAGRAM

FOR 800 / 642 SERIES

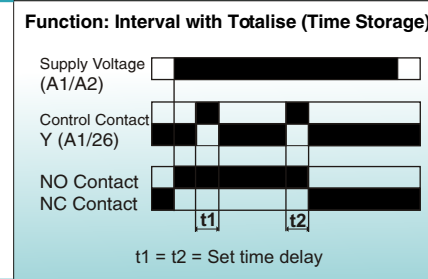
- **Delay on Make / Delay on Break:** Delay on Make time delay t_1 and delay on break time delay t_2 are same i.e. t . Upon application of input voltage and the closure of 'Y', t_1 begins and the output remains de-energized. At the end of t_1 , the output energizes. Upon the opening of 'Y' t_2 begins. At the end of t_2 , the output de-energizes.
- **Reset:** If 'Y' is opened during t_1 , then t_1 is reset and the output remains de-energized. And if 'Y' is closed during t_2 then t_2 is reset and the output remains energized. Removing input voltage resets the time delay and output



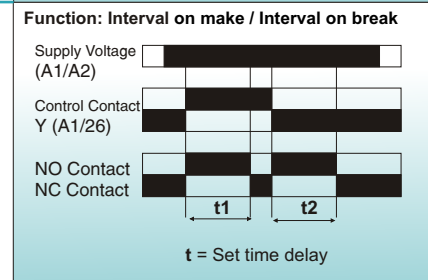
- **Interval after Break:** Input voltage must be applied before and during timing. Upon application of input voltage, the output remains de-energized. On opening (after a closure), the control contact 'Y' the output energizes and time delay begins. The output remains energized during timing. At the end of the time delay the output de-energizes.
- **Reset:** Opening (by closing and then opening) the 'Y' contact during timing resets the time delay. Removing input voltage resets the Time delay and output.



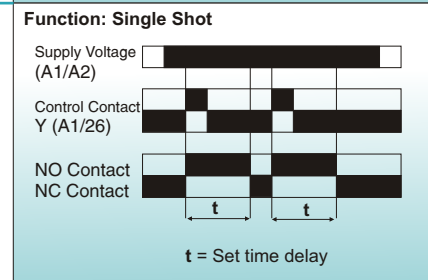
- **Interval with Totalize (Time Storage):** Input voltage must be applied before and during timing. The output is energized before and during the time delay. Each time the 'Y' contact is closed, the time delay progresses; when it opens, timing stops. When the amount of time 'Y' is closed equals the full time delay, the output de-energizes and remains de-energized until reset.
- **Reset:** Removing input voltage resets the time delay and output.



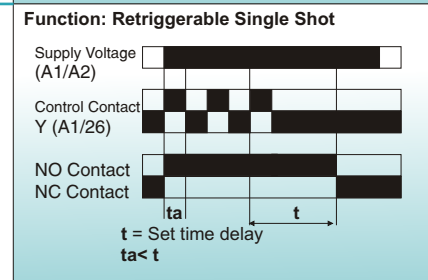
- **Interval on Make / Interval on Break:** Interval on Make time delay t_1 and Interval on break time delay t_2 are same i.e. t . Upon application of input voltage and the closure of 'Y', t_1 begins and the output energizes. At the end of t_1 , the output de-energizes. Upon the opening of 'Y' t_2 begins and the output energizes again. At the end of t_2 , the output de-energizes.
- **Reset:** If 'Y' is opened during t_1 , then t_1 is reset and the output remains energized. And if 'Y' is closed during t_2 then t_2 is reset and the output remains energized. Removing input voltage resets the time delay and output



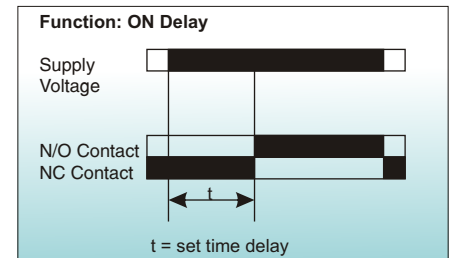
- **Single Shot:** Input voltage must be applied before and during timing. Upon momentary or maintained closure of the control contact 'Y' the output energizes and the time delay begins. At the end of the delay the output de-energizes. Opening or re-closing the 'Y' contact during timing has no effect on the time delay.
- **Reset:** Reset occurs when the time delay is complete and the 'Y' contact is open. Removing input voltage resets the time delay and output.



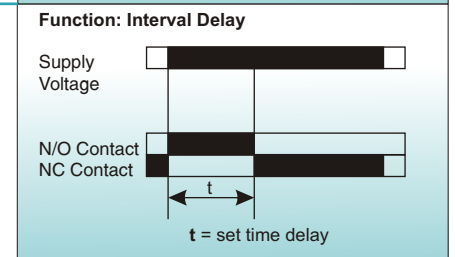
- **Retriggerable Single Shot:** Input voltage must be applied before and during timing. Upon momentary or maintained closure of the control contact 'Y' the output energizes and the time delay begins. At the end of the delay the output de-energizes.
- **Reset:** Re-closing 'Y' contact resets the time delay and restarts timing. Removing input voltage resets the time delay and output.



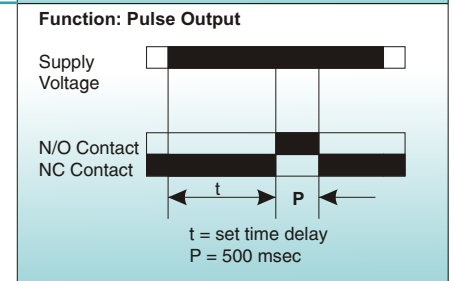
- **ON Delay:** When input power is applied timing (t) begins, during which the output relay remains de-energized. At the end of the preselected time (t), relay energizes. The output relay is de-energized when power is removed, thus resetting the timer for the next cycle.
- **Reset:** Removing input voltage resets the time delay and output relay.



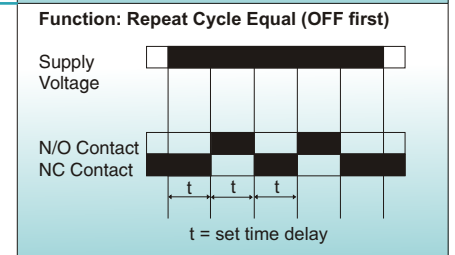
- **Interval Delay:** Applying the power supply starts the time delay & the output relay gets energized. At the end of the preset time, the contact gets de-energised. The timer is reset when the input power is removed.
- **Reset:** Removing input voltage resets the time delay and output relay.



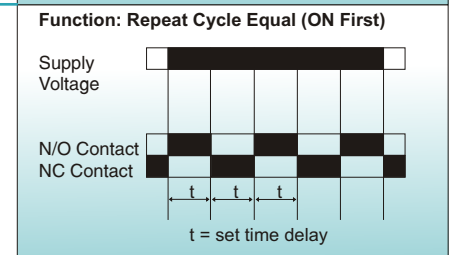
- **Pulse Output:** Applying the power supply starts the time delay, during which the output relay remains de-energized. At the end of the preset period, the relay gets energized for a preset time P ($P=500$ ms). At the end of time P again relay de-energizes.
- **Reset:** Removing input voltage resets the time delay, output relay and the sequence.



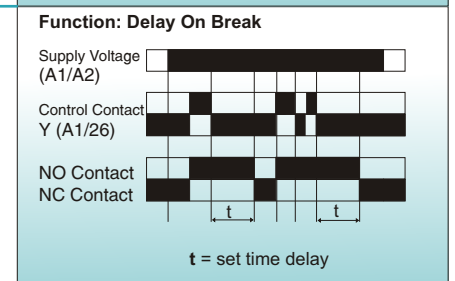
- **Repeat Cycle Equal (OFF First):** Upon application of input voltage, the output relay remains de-energized and time t begins. At the end of the time t , output relay energizes for set time t . At the end of time t again relay de-energizes and this cycle continues until input voltage is removed.
- **Reset:** Removing input voltage resets the time delay, output relay and the sequence.



- **Repeat Cycle Equal (ON First):** Upon application of input voltage, the output relay energizes and Time t begins. At the end of the time t , output relay de-energizes for set time t . At the end of time t again relay energizes and this cycle continues until input voltage is removed.
- **Reset:** Removing input voltage resets the time delay, output relay and the sequence.



- **Delay on Break:** Input voltage must be applied before and during timing. Upon application of input voltage, the output remains de-energized. On closing the control contact 'Y' the output energizes. The time delay begins when 'Y' is opened. The output remains energized during timing. At the end of the time delay the output de-energizes. The output will energize if 'Y' is closed when input voltage is applied.
- **Reset:** Re-closing the 'Y' contact during timing resets the time delay. Removing input voltage resets the Time delay and output.



- **Delay on Make with Totalize (Time Storage):** Input voltage must be applied before and during timing. The output is de-energized before and during the time delay. Each time the 'Y' contact is closed, the time delay progresses; when it opens, timing stops. When the amount of time 'Y' is closed equals the full time delay, the output energizes and remains energized until reset.
- **Reset:** Removing input voltage resets the time delay and output.

