## SETTING OF TIMER FUNCTIONS :

| Upper Display | Lower Display | Description |
|---|---|---|
| Press ↵ key to enter programming for Time range. | | |
| Time range | | *Default : 999.9 sec* |
| SEC | 99.99 → 999.9 → 9999 → 99.59 → 999.9 → 9999 → 99.59 → 999.9 → 9999 | **Time ranges :** 99.99sec, 999.9sec, 9999sec, 99:59min:sec , 999.9min, 9999min, 99:59hr:min, 999.9hr, 9999hr. |
| M.SEC | | |
| MIN | | |
| HR.MIN | | |
| HOUR | | |
| Press ↵ key to enter programming for Relay 1 operating mode | | |
| Relay 1 operating mode. | | *Default : ON Delay* |
| RLY1 | ON → INt → CY.ON → CY.OF | **Relay1 operating mode :** ON Delay / Interval / Cyclic ON first / Cyclic OFF first. *NOTE :* Refer waveforms for details. |
| Press ↵ key to enter programming for Relay 2 operating mode | | |
| Relay 2 operating mode. | | *Default : ON Delay* |
| RLY2 | ON → INt → CY.ON → CY.OF → bTCH | **Relay2 operating mode:** ON Delay / Interval / Cyclic ON first / Cyclic OFF first / Batch. *NOTE :* Refer waveforms for details. |

| Upper Display | Lower Display | Description |
|---|---|---|
| Press ↵ key to enter programming for front panel batch reset | | |
| Front panel batch reset. | | *Default : Yes* |
| FPbR | YES → NO | **Front panel batch reset :** Yes / No. **Yes :** Batch value can be reset from front panel. **No :** Batch value cannot be reset from front panel |
| Press ↵ key to enter programming for Batch reset | | |
| Batch reset<br>NOTE : Prompted only if Front panel batch reset is No. | | *Default : No* |
| brSt | YES → NO | **Batch reset :** Yes and No. **Yes :** Batch value is reset immediately. **No :** Batch value is not reset. |
| Press ↵ key to enter programming for Front panel reset | | |
| Front panel reset | | *Default : Yes* |
| FPn | YES → NO | **Front panel reset :** Yes / No. **Yes :** Unit can be reset from the front panel. **No :** Unit cannot be reset from the front panel. |
| Press ↵ key to enter programming for Power on reset | | |
| Power on reset | | *Default : No* |
| POn | NO → YES | **Power on reset ranges :** Yes / No. **Yes :** Unit is reset on power interruption. **No :** Unit is not reset on power interruption. |
| Press ↵ key to enter programming for Reset all | | |
| Reset all parameters to default | | *Default : No* |
| dFLt | NO → YES | **Reset all parameters to default :** Yes / No **Yes :** All parameters are set to factory set values. All set points are set to 0. |

### PROGRAMMING - TIMER

[ ] → **Temporary display :** Lower display shows parameter name for 1sec. and then its value.

Enter programming as per the given procedure.

**To program set points :**

Press ▶ to select the digit.

The selected digit blinks. Press ♥ / ▲ key to change its value. Press ↵ key to go to the next parameter (if applicable). If the edited parameter is the last parameter, the unit will quit programming.

**To select lower display options :**

Press ♥ / ▲ key to select particular option and then press ↵ key to quit programming.

**To select reset option :**

Press ♥ / ▲ key to select particular option and then press ↵ key for 1.5 sec to quit programming.

### 1. Programming for Set point1 :

| Press Key | Lower Display |
|---|---|
| ▶ for 1.5 sec to Enter Set1 programming. (Auto program out after 2min) | Applicable when Relay1 in On delay / Interval mode. |
| | Set point 1 → SEt 1 → 1234 * |
| *Default : 10sec.* | Applicable when Relay1 in Cyclic mode. |
| | Start Time → 1-St → 1234 * ; ON Time → 1-On → 1234 * ; OFF Time → 1-OF → 1234 * ; Exit Set point 1 programming |

### 2. Programming for Set point2 :

| Press Key | Lower Display |
|---|---|
| ♥ for 1.5 sec to Enter Set2 programming. (Auto program out after 2min) | Applicable when Relay2 in On delay / Interval mode. |
| | Set point 2 → SEt2 → 1234 * |
| *Default : 9sec.* | Applicable when Set2 in Cyclic mode. |
| | Start Time → 2-St → 1234 * ; ON Time → 2-On → 1234 * ; OFF Time → 2-OF → 1234 * ; Exit Set point 2 programming |
| | Applicable when Set2 in Batch mode. |
| | Set point 2 → SEt2 → 1234 * |

### 3. Programming for Lower display options :

| Press Key | Lower Display |
|---|---|
| ▲ for 1.5 sec to Enter programming for Lower display options (Auto program out after 2min) | Batch → bTCH * Exit programming ; Set point 1 → SEt 1 * Exit programming |

### 4. Programming for Reset :

| Press Key | Lower Display |
|---|---|
| ↵ for 1.5sec. to Enter / Exit programming for reset | Reset → rSt ; Batch reset → brSt |

**NOTE** : * sign indicates that the display blinks.

### Read Function

[ ] → **Temporary display :** Lower display shows parameter name for 1sec and then its value.

**1. Reading of set1 parameters**

| Press Key | Lower Display |
|---|---|
| ▶ momentarily each time to read set 1 value. Auto exit from Read function if key is not pressed within 3 sec. | Applicable when Set1 in On delay / Interval mode. |
| | Set point 1 → SEt 1 → 1234 |
| | Applicable when Set1 in Cyclic mode. |
| | Start time → 1-St ▶ ON time → 1-On ▶ OFF time → 1-OF ; 1234 1234 1234 ▶ |

**2. Reading of set2 parameters**

| Press Key | Lower Display |
|---|---|
| ♥ momentarily each time to read set 2 value. Auto exit from Read function if key is not pressed within 3 sec. | Applicable when Set2 in On delay / Interval mode. |
| | Set point 2 → SEt2 → 1234 |
| | Applicable when Set2 in Cyclic mode. |
| | Start time → 2-St ▶ ON time → 2-On ▶ OFF time → 2-OF ; 1234 1234 1234 ▶ |
| | Applicable when Set2 in Batch mode. |
| | Set point 2 → SEt2 → 1234 |

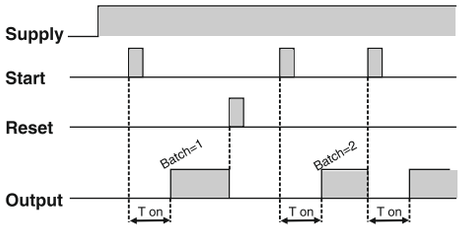
**3. Reading Batch**

| Press Key | Lower Display |
|---|---|
| ▲ momentarily to read batch value. Auto exit from Read function if key is not pressed within 3 sec. | 4 digit Batch 1234 ; bTCH ; 6 digit Batch → Upper Display 12 ; Lower Display 3456 |
| | 6 digit batch can be read with 2MSDs on the upper display. |

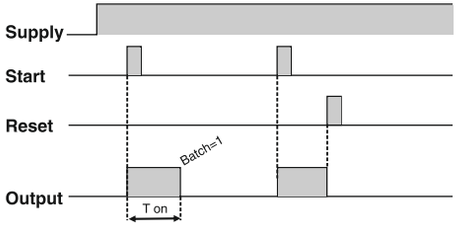
**NOTE :** When viewing 6 digit batch value, lower display LSD dp blinks and batch value is displayed for 3 sec.
If lower display is selected as batch and batch value exceeds 4 digits, the lower display LSD dp is on continuously indicating that the batch value has exceeded 4 digits.

## TIMER MODE

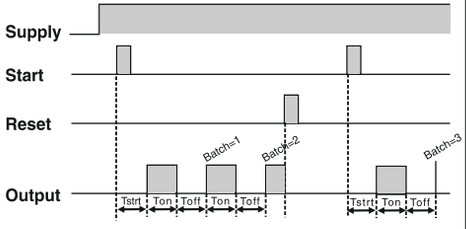
### 1. On delay



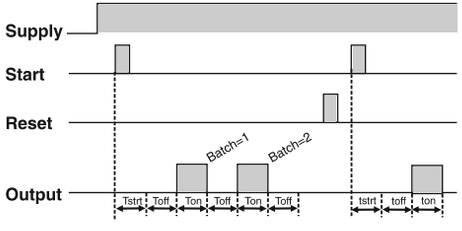

### 2. Interval



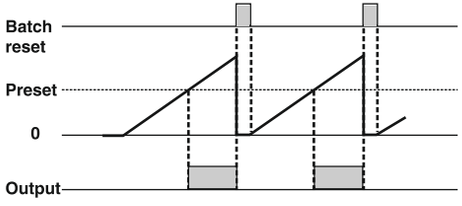

### 3. Cyclic ON - First




### 4. Cyclic OFF - First




### 5. Batch mode




## SETTING OF COUNTER FUNCTIONS :

| Upper Display | Lower Display | Description |
|---|---|---|
| Press ↵ key to enter programming for Scale factor mantissa | | |
| Scale factor mantissa | | *Default : 1.000* |
| SCL | 1.000 * | |
| Press ↵ key to enter programming for Scale factor Exponent | | |
| Scale factor Exponent | | *Default : 0* |
| EPn | 0 * / 1 * / 2 * / -3 * / -2 * / -1 * | **Scale factor Exponent :** 0 / 1 / 2 / -3 / -2 / -1. |
| Press ↵ key to enter programming for Resolution | | |
| Resolution | | *Default : 1* |
| rESL | 1 / 0.1 / 0.01 / 0.001 | **Resolution :** 1 / 0.1 / 0.01 / 0.001. |
| Press ↵ key to enter programming for Maximum input speed. | | |
| Maximum input speed. | | *Default : 30Hz* |
| SPd | 5000 / 3 / 30 | **Speed :** 3Hz / 30Hz / 5KHz. |

| Upper Display | Lower Display | Description |
|---|---|---|
| Press ↵ key to enter programming for Counting Direction | | |
| Counting Direction | | *Default : UP* |
| dIRn | UP / doWn | **Direction :** Up and Down **Up :** Counting starts from 0 and proceeds towards set point. **Down :** Counting starts from set point and proceeds down to 0. |
| Press ↵ key to enter programming for Relay 1 operating mode | | |
| Relay 1 operating mode | | *Default : ON Delay* |
| rLY1 | ON / INt | **Relay1 operating mode :** ON delay / Interval. *NOTE :* Refer waveforms for details. |
| Press ↵ key to enter programming for Relay 2 operating mode | | |
| Relay 2 operating mode | | *Default : ON Delay* |
| rLY2 | ON / INt / btCH | **Relay2 mode ranges :** ON delay / Interval / Batch. |
| Press ↵ key to enter programming for Run mode | | |
| Run mode | | *Default : Over run* |
| run | Or / nOr | **Run mode ranges :** Overrun / Non overrun. **Overrun :** Counter continues counting above the set point. **Non Overrun :** Counter does not count any pulses received after reaching the set point. |
| Press ↵ key to enter programming for Operating mode | | |
| Operating mode | | *Default : Delay* |
| nodE | dLY / AP / tPn | **Operating mode ranges:** Delay / Auto reset / Time pulse repeat. *NOTE :* Refer waveforms for details. |

| Upper Display | Lower Display | Description |
|---|---|---|
| Press ↵ key to enter programming for Front panel batch reset | | |
| Front panel batch reset | | *Default : Yes* |
| FPbr | YES / NO | **Front panel batch reset :** Yes / No. **Yes :** Batch value can be reset from front panel. **No :** Batch value cannot be reset from front panel |
| Press ↵ key to enter programming for Batch reset | | |
| Batch reset | | *Default : No* |
| **NOTE** : Prompted only if Front panel batch reset is No. | | |
| brSt | NO / YES | **Batch reset :** Yes and No. **Yes :** Batch value is reset immediately **No :** Batch value not is reset |
| Press ↵ key to enter programming for Front panel reset. | | |
| Front panel reset. | | *Default : Yes* |
| FPr | YES / NO | **Front panel reset :** Yes / No. **Yes :** Unit can be reset from the front panel **No :** Unit cannot be reset from the front panel |
| Press ↵ key to enter programming for Power on reset. | | |
| Power on reset. | | *Default : No* |
| Por | NO / YES | **Power on reset ranges :** Yes / No. **Yes :** unit is reset at power ON. **No :** Unit is not reset at power ON. |
| Press ↵ key to enter programming for Reset all. | | |
| Reset all parameters to default | | *Default : No* |
| dFLt | NO / YES | **Reset all parameters to default :** Yes & No **Yes :** All parameters are set to factory set values. All set points are set to 0. |

**NOTE** : * sign indicates that the display blinks.

## PROGRAMMING - COUNTER

⟶ **Temporary display :**
Lower display shows parameter name for 1sec. and then its value.

Enter programming as per the given procedure.

**To program set points :**

Press ▶ to select the digit. The selected digit blinks. Press ▼ / ▲ key to change its value. Press ↵ key to go to the next parameter (if applicable). If the edited parameter is the last parameter, the unit will quit programming.

**To select lower display options :**

Press ▼ / ▲ key to select particular option and then press ↵ key to quit programming.

**To select reset option :**

Press ▼ / ▲ key to select particular option and then press ↵ key for 1.5 sec to quit programming.

### 1. Programming for Set point 1 :

| Press Key | Lower Display |
|---|---|
| ▶ for 1.5 sec to Enter / Exit online programming for Set1. (Auto program out after 2min) | Applicable when Set1 in On delay / Interval mode. |
| | Set point 1 → SEt 1 → 1234 * |
| | Applicable when Set1 in On delay / Interval mode + Auto reset mode. |
| | Set point 1 SEt 1 → Auto reset time AR → 1234 * 1234 * Autoreset time range : 0 to 999.9 sec. Exit Set point1 programming |
| *Default : 100 AR / TPR time = 10sec* | Applicable when Set1 in On delay / Interval mode + Time Pulse Repeat. |
| | Set point 1 SEt 1 → Time pulse repeat tPR → 1234 * 1234 * TPR time range : 0 to 999.9 sec. Exit Set point1 programming |

### 2. Programming for Set point 2 :

**Note :** Set2 should always be less than Set1, except when Set 2 is in Batch mode.

| Press Key | Lower Display |
|---|---|
| ▼ for 1.5 sec to Enter / Exit online programming for Set2. (Auto program out after 2min) | Applicable when Set2 in On delay / Interval mode. |
| | Set point 2 → SEt2 → 1234 * |
| | Applicable when Set2 in Batch mode. |
| *Default : 90.* | Set point 2 → SEt2 → 1234 * |

**NOTE** : * sign indicates that the display blinks.

### 3. Programming for Lower display options.

| Press Key | Lower Display |
|---|---|
| ▲ for 1.5sec to Enter programming for lower display. (Auto program out after 2min) | Batch → btCH * Exit programming ; Set point 1 → SEt 1 * Exit programming ; ▲ |

### 4. Programming for Reset.

| Press Key | Lower Display |
|---|---|
| ↵ for 1.5sec to Enter / Exit online programming for reset | Reset → rSt ; Batch Reset → brSt ; ▲ |

### Read Function

⟶ **Temporary display :**
Lower display shows parameter name for 1sec and then its value

### 1. Reading of set1 parameters

| Press Key | Lower Display |
|---|---|
| ▶ momentarily each time to read Set1 value. Auto exit from Read function if key is not pressed within 3 sec. | Applicable when Set1 in On delay / Interval mode. |
| | Set point 1 → SEt 1 → 1234 |
| | Applicable when Set1 in On delay / Interval mode + Autoreset mode. |
| | Set point 1 SEt 1 ▶ Autoreset time AR → 1234 1234 ▶ |
| | Applicable when Set1 in On delay / Interval mode + Time Pulse Repeat. |
| | Set point 1 SEt 1 ▶ Time pulse repeat tPR → 1234 1234 ▶ |

### 2. Reading of set2 parameters

| Press Key | Lower Display |
|---|---|
| ▼ momentarily each time to read Set 2 value. Auto exit from Read function if key is not pressed within 3 sec. | Applicable when Set2 in On delay / Interval mode. |
| | Set point 2 → SEt2 → 1234 |

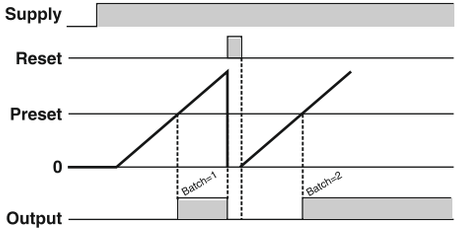
### 3. Reading Batch

| Press Key | Lower Display |
|---|---|
| ▲ momentarily each time read Set 2 value. Auto exit from Read function if key is not pressed within 3 sec. | 4 digit Batch 1234 ; btCH ; 6 digit Batch 12 Upper Display ; 3456 Lower Display ; 6 digit batch can be read with 2MSDs on the upper display. |

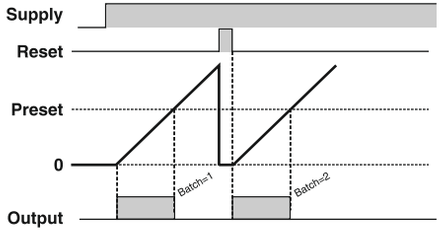
**NOTE :** When viewing 6 digit batch value, lower display LSD dp blinks and batch value is displayed for 3 sec. If lower display is selected as batch, and batch value exceeds 4 digits, the lower display LSD dp is on continuously indicating that the batch value has exceeded 4 digits.

## COUNTER MODE

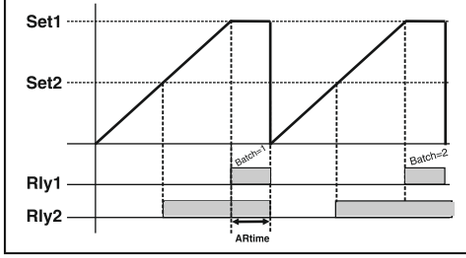
### 1. ON Delay ( Overrun mode )



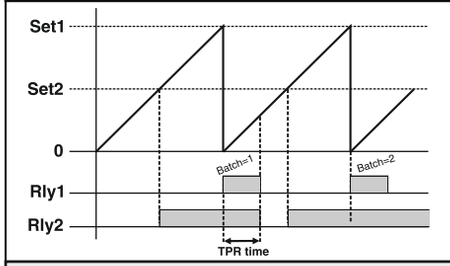

### 2. Interval ( Overrun mode )



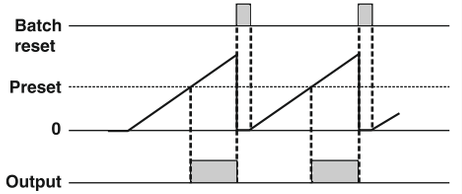

### 3. Auto Reset ( Non Overrun mode )




### 4. Time Pulse Reset ( Non Overrun mode )




### 5. Batch mode




(Specifications subject to change as development is a continuous process.)


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