OP538-V02

# selec XC2200/XC3200,XC2200-C/XC3200-C

## Operating Instructions



72 x 72 96 x 96

## SPECIFICATIONS

| | |
|---|---|
| Display | 6 (Red) + 4 (Green) digits, 0.43'' height, 7 seg LED LED's : 2(Red) +2(Green) |
| No. of keys | 3 |
| Supply Voltage | 90 to 270 VAC, 50/60Hz |
| Sensor Supply | 12VDC, 30mA (±10%) (Short circuit protected) |
| Range | **Total :** Least count 0.0001, 0.001, 0.01, 0.1,1 **Rate :** Auto ranging. RPS, RPM or RPH mode user selectable (minimum frequency for rate mode is 4 RPM) |
| Set Points | Two set points, each programmable from 0.0001 to 999999 |
| Rate (Rt) / Batch(Bt) Selection | User selectable Rate / Batch at lower display |
| Relay 2 operation modes | User selectable Relay 2 operation 1) Operate on Set2 2) Operate on Set Batch (SPBT) |
| Operating modes | On delay, Interval, Time pulse repeat, Auto reset |
| Counting modes | Unidirectional, Quadrature, Bi - directional |
| | Directional (Up / Down) |
| Accuracy | Rate : 0.05% ± 2 counts |
| Count Inputs | 5 to 30VDC from proximity switches, encoders, solid state devices, potential free contacts like limit switches, relays |
| Maximum Input Frequency | 30Hz, 5000Hz |
| Scale Factor | Programmable form 0.00001 to 9.99999 x $10^n$ Where n = -5, -4, -3, -2, -1, 0, 1, 2 |
| Reset Input | 1) Front panel (user selectable) 2) Remote reset Minimum reset time for remote reset is 10ms |
| Relay Output | 2 relays, 1C/O each rated 5 A @ 230 VAC / 24 VDC |
| Memory Retention | 10 years |
| Configuration Lock | Via rear terminals to avoid inadvertent change in configured parameters |
| Housing | Flame retardant plastic |

## ORDER CODE INFORMATION

| Product | RS485 Communication | Certification | |
|---|---|---|---|
| | | CE | cULus LISTED |
| XC2200 | — | — | — |
| XC2200-C | ■ | — | — |
| XC3200 | — | — | — |
| XC3200-C | ■ | — | — |
| XC2200-CE | — | ■ | — |
| XC2200-C-CE | ■ | ■ | — |
| XC3200-CE | — | ■ | — |
| XC3200-C-CE | ■ | ■ | — |

## ENVIRONMENTAL CONDITIONS

| | |
|---|---|
| Temperature | Operating : 0 - 50°C, Storage : -20 - 75°C. |
| Humidity | 95% RH |
| Mounting | Panel Mounted |
| Weight | XC2200/XC2200-C : 228gms XC3200/XC3200-C : 263gms |

## COMMUNICATION (Only applicable to XC2200-C & XC3200-C)

| | |
|---|---|
| Communication port | RS 485 Slave |
| Communication Protocol | MODBUS RTU |
| Baud Rate | 9600,19200, 38400, 57600,115200 (User configurable via software and hardware) Default= 19200 |
| Default setting | Baud Rate : 19200 Parity : None Stop bit : 2 |

## ⚠ SAFETY PRECAUTIONS

This manual is meant for personnel involved in wiring, installation, operation and routine maintenance of the equipment. All safety related conditions, symbols and instructions that appear in this operating manual or on the equipment must be strictly followed to ensure operator and instrument safety. Any misuse may impair the protection provided by the equipment.

⚠ **CAUTION :** Read complete instructions prior to installation and operation of the unit.

⚠ **CAUTION :** Risk of electric shock.

## INSTALLATION INSTRUCTIONS

1. This equipment, being built-in-type, normally becomes a part of the main control panel and the terminals do not remain accessible to the user after installation.
2. Conductors must not come in contact with the internal circuitry of the equipment else it may lead to a safety hazard that may endanger life or cause electrical shock to the operator.
3. Circuit breaker or mains switch must be installed between the power source and supply terminals to facilitate power 'ON' or 'OFF' function.
4. The equipment shall not be installed in environmental conditions other than those specified in this manual.
5. Since this equipment forms part of the main control panel, its output terminals get connected to the host equipment. Such equipment shall also comply to EMI / EMC and safety requirements like CE standard procedure.
7. Thermal dissipation of equipment is met through ventilation holes provided on housing of equipment. Obstruction of these ventilation holes may lead to a safety hazard.
8. The output terminals shall be loaded strictly as per the values / range specified by the manufacturer.

## ELECTRICAL PRECAUTIONS DURING USE

Electrical noise generated by switching of inductive loads can create momentary disruption, erratic display, latch up, data loss or permanent damage to the instrument.

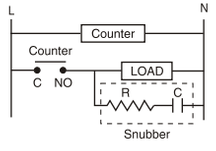
**To reduce noise :**

Use of Selec make Snubber across load is recommended.

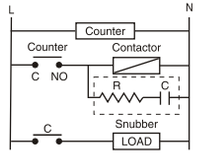
**NOTE :** Below mentioned diagram is applicable only for 230V relay outputs.

### TYPICAL CONNECTIONS FOR LOADS

For load current < than 0.5A



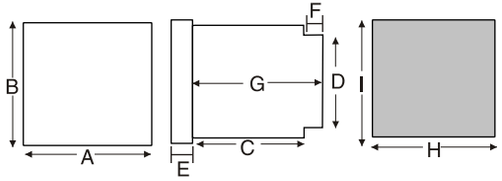

For higher loads use interposing relay / contactor




NOTE : a)Use snubber as shown above to increase life of internal relay
b)Use separate shielded wires for inputs.

## MECHANICAL INSTALLATION

Outline Dimensions (in mm) | Panel Cutout (in mm)




| MODELS \ DIM | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|
| XC2200/XC2200-C | 72 | 72 | 74 | 61 | 5.5 | 3 | 91 | 67 | 67 |
| XC3200/XC3200-C | 96 | 96 | 45.5 | 90.5 | 3 | 13 | 55 | 90.5 | 90.5 |

For installing the controller

1. Prepare the panel cutout with proper dimensions as shown above.
2. Fix the unit into the cutout. Insert the clamp from both sides and tighten the screws.

⚠ **CAUTION**

The equipment in its installed state must not come in close proximity to any heating sources, caustic vapors, Oils, steam, or other unwanted process by products.

### EMC Guidelines :

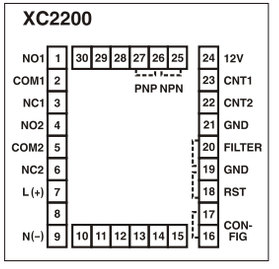
1. Use proper input power cables with shortest connections and twisted type.
2. Layout of connecting cables shall be away from any internal EMI source.

### MAINTENANCE :

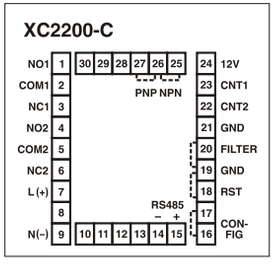
1. To avoid blockage of ventilation holes, clean the equipment regularly using a soft cloth.
2. Do not use Isopropyl alcohol or any other organic Solvents for cleaning.

## TERMINAL CONNECTIONS

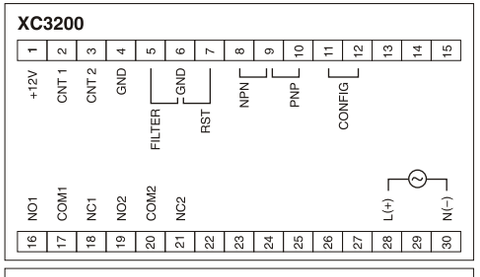
**XC2200**



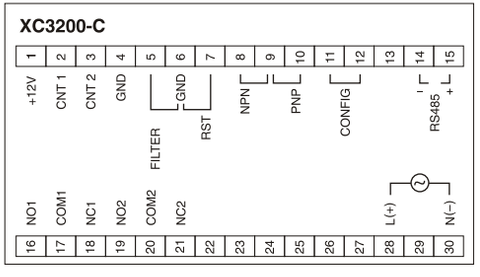

**XC2200-C**




**XC3200**




**XC3200-C**

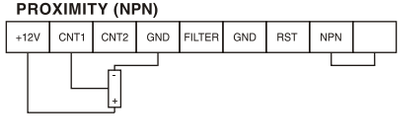


| Product | | Terminals |
|---|---|---|
| XC2200/ XC2200-C | XC3200/ XC3200-C | |
| 24 | 1 | +12VDC (sensor supply) |
| 23 | 2 | CNT1 |
| 22 | 3 | CNT2 |
| 21 | 4 | GND |
| 19 - 20 | 5 - 6 | RST |
| 18 - 19 | 6 - 7 | FILTER |
| 25 - 26 | 8 - 9 | NPN |
| 26 - 27 | 9 - 10 | PNP |
| 16 - 17 | 11 - 12 | CONFIG |
| 14 - 15* | 14 - 15* | RS485 (- & +) *Only applicable to XC2200-C & XC3200-C |
| 1 - 2 - 3 | 16 - 17 - 18 | NO1 - COM1 - NC1 |
| 4 - 5 - 6 | 19 - 20 - 21 | NO2 - COM2 - NC2 |
| 7 - 9 | 28 - 30 | L (+) & N (-) |

## WIRING DIAGRAM FOR COUNT INPUT

(**Sensor color codes :-**
Red = +12V, Green = CNT, Black = GND
Brown = +12V, Black = CNT, Blue = GND)

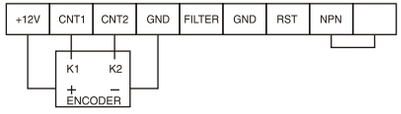
**PROXIMITY (NPN)**




**CONTACT / SWITCH**



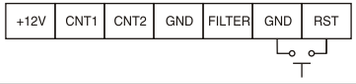

**ENCODER (NPN)**




**NOTE :**
1. For PNP sensors, connect 1kohm resistor between CNT and GND terminals
2. If the sensors (Proximity / Encoder) require more than 30mA current, use external power supply to power the sensors.

## RESETTING

**By front key** : Press RST key continuously for 3 sec. The counter resets and starts counting again, and the display shows the rate or total as per selection.
**Remote reset :** The unit can be reset from a remote push button as per connections shown in the figure :




## CONFIGURATION SCHEME (Parameter setting)

1) Short terminal [CONFIG] no 16, 17 for XC2200 / XC2200-C &11, 12 for XC3200 / XC3200-C
2) Turn power on
3) Program settings as per instructions given below :
4) Value of parameter is stored after pressing Rst ▣ key.

| Config. Parameter | Display | Description |
|---|---|---|
| **Scale factor mantissa** | Factory setting : 1.00000<br>*Blinking digit<br>1.00000<br>SCL | **Key :** Increments the blinking digit after every key press and rolls over from 0 to 9.<br>**Key :** Shifts the blinking to next digit (right) for every key press.<br>**Range :** 0.00001 to 9.99999 |
| **Scale factor exponent** | Factory setting : 0<br>*Blinking digit<br>0<br>EPn | *Blinking digit<br>**Press** 0 Exponent = 0 i.e $10^0$<br>*<br>**Range :** 0 to 2, -5 to -1 |
| **Resolution** | Factory setting : 1<br>Blinking<br>000000<br>rESL | Blinking<br>**Press** 000000 Least count = 1<br>**Range :** 0.0001 to 1 |
| **Counting mode** | Factory setting : Unidirectional<br>Blinking<br>Un Id IF<br>CntN | Blinking<br>**Press** Un Id IF Uni direction<br>Range **:** Unidirection, Bidirection, Quadrature<br>NOTE **:** Quadrature mode maximum speed - 2kHz |

| Config. Parameter | Display | Description |
|---|---|---|
| **Count direction** | Factory setting : Up<br>Blinking<br>UP<br>dIr | Blinking<br>**Press** UP Up count<br>Range **:** UP count, Down count |
| **Relay Operating mode** | Factory setting : On delay<br>Blinking<br>On<br>rLy | Blinking<br>**Press** On On delay<br>Range **:** On delay, Interval |
| **Reset mode** | Factory setting : None<br>Blinking<br>nonE<br>rStn | Blinking<br>**Press** nonE. None (no Autoreset, no time pulse repeat)<br>Range **:** None, Autoreset, Time pulse repeat. |
| **Input frequency** | Factory setting : 5000Hz<br>Blinking<br>5000<br>FrEq | Blinking<br>**Press** 5000 5000Hz<br>Range **:** 5000 Hz, 30 Hz |
| **Rate unit** | Factory setting : RPS<br>Blinking<br>rPS<br>rAtE | Blinking<br>**Press** rPS RPS, Rate per second<br>**Range :** Rate per second, Rate per minute, Rate per hour |
| **Overrun / non overrun** | Factory setting : Over run<br>Blinking<br>Ovr<br>orNr | Blinking<br>**Press** Ovr Over run<br>**Range :** Overrun, Non over run |
| **Rate / Batch Selection** | Factory setting : Rate<br>Blinking<br>rAtE<br>LdSP | Blinking<br>**Press** rAtE Lower display Rate value<br>Blinking<br>**Range :** Rate, Batch |
| **Relay 2 Operation Selection** | Factory setting : SET2<br>Blinking<br>SEt2<br>rLy2 | Blinking<br>**Press** SEt2 Operation based on Set2<br>**Range :** Operation based on SET2, Operation based on Set Batch |
| **Communication setting** | Factory setting : BR19K2 &1<br>Blinking<br>br 19t2<br>1 | Blinking<br>**Press** br 19t2 Baud Rate<br>Blinking<br>**Range :** 9600, 19200, 38400, 57600, 115200<br>Key : Increments the blinking digit after every key. press and rolls over from 0 to 9<br>Key : Shift the blinking to next digit (right) for every key<br>*Blinking digit<br>**Press** ▣ 001 Slave Id from 0 to 255<br>**Note : Only applicable to XC2200-C & XC3200-C** |
| **Front panel reset** | Factory setting : enabled<br>Blinking<br>YES<br>FPr | Blinking<br>**Press** YES Reset key enabled<br>**Range :** Yes, No |

| Config. Parameter | Display | Description |
|---|---|---|
| **Reset cumulative total** | Factory setting : Rtot 0<br>Blinking<br>rtot 0<br>rtot | Blinking<br>**Press** rtot 0 No action from rtot 0 - 4<br>**Range :** R tot 0, R tot 1, R tot 2, R tot 3, R tot 4, R tot 5<br>Note : R tot 5 reset count, cumulative total and Batch total. |
| **Reset all (Initialisation)** | Factory setting : Rst 0<br>Blinking<br>rSt 0<br>FACt | Note : At Rst 5 reset all, all parameters reset to factory settings.<br>Blinking<br>**Press** rSt 0 No reset from Rst 0 - 4<br>**Range :** Rst 0, Rst 1, Rst 2,Rst 3, Rst 4, Rst 5 |

**NOTE :** . To quit configuration mode :
1) Turn power off
2) Remove link between terminal [CONFIG] no 16, 17 for XC2200 / XC2200-C & 11, 12 for XC3200 / XC3200-C
3) Turn power on

| Config. Parameter | Display | Description |
|---|---|---|
| **To program SET 1, SET 2 / SPBT & AR / TPR time:** | | |

**Key :**Press for 3 sec. From count mode.
**Key :**Increments the blinking digit after every key press and rolls over from 0 to 9
**Key :**Shifts the blinking to next digit (right) for every key press
**Key :**To complete programming

| | | |
|---|---|---|
| **Set points** | Factory setting : 100<br>*Blinking digit<br>000100<br>SEt 1<br>Factory setting : 90<br>*Blinking digit<br>000090<br>SEt2<br>OR<br>Factory setting : 1<br>*Blinking digit<br>000001<br>SPbt | *Blinking digit<br>000100 #Set value 1<br>**Press** *Blinking digit<br>000090 #Set value 2<br>OR<br>**Press** *Blinking digit<br>000001 #Set Batch |
| **AR / TPR time** | * Blinking digit<br>00.0<br>t inE | *Blinking digit<br>**Press** 00.0 #Pulse time Maximum pulse time = 99.9sec |

**Note:**
1) Time parameter is valid for AR and TPR modes.
2) SET1 should always be greater than SET2

| Count & Rate or Count & Batch display | | |
|---|---|---|
| **Count & Rate** | **When Rate selected in LDSP** | Factory setting : Count & Rate<br>0 # Current Count value<br>0.00 # Rate value with Rt (Led 3) on |
| | | OR |
| **Count & Batch** | **When Batch selected in LDSP** | 0 # Current Count value<br>0 # Batch value with Bt (Led 4) on |

| To Read SET 1, SET 2/ SPBT & PULSE TIME VALUES | | | | |
|---|---|---|---|---|
| **SET1** | | **Press** | 100<br>SEt 1 | #Set value 1 |
| **SET2** | **When SET2 is selected for Relay2 operation** | **Press** | 90<br>SEt2 | #Set value 2 |
| | | OR | | |
| **SPBT** | **When SPBT is selected for Relay2 operation** | **Press** | 000001<br>SPbt | #Set Batch |
| **TIME** | | **Press** | 0.0<br>t inE | #Pulse time |

#Automatically skips after 1 sec

**TO READ VALUES OF CONFIGURED PARAMETERS :**

**Key :**Read configured parameter when momentary press. # Automatically skips to value after 3 sec

| Parameters | Display Description | Parameters | Display Description |
|---|---|---|---|
| Cumulative total Batch total | **Press** (momentary) 0 0 # Cumulative total # Batch total with Bt(Led 4)on<br>OR<br>**Press** (momentary) 0 0.00 # Cumulative total # Rate value with Rt(Led 3)on | Relay operating mode | **Press** (momentary) ON rLY # Relay operating mode |
| OR Cumulative total Rate | | Reset mode | **Press** (momentary) nonE rStn # Reset mode |
| Scale factor mantissa | **Press** (momentary) 1.00000 SCL # Scale factor mantissa | Input Frequency | **Press** (momentary) 5000 FrE9 # Input Frequency |
| Scale factor exponent | **Press** (momentary) 0 EPn # Scale factor exponent | Rate unit | **Press** (momentary) rPS rAtE # Rate unit |
| Resolution (least count) | **Press** (momentary) 000000 rESL # Resolution | Overrun / non overrun mode | **Press** (momentary) 0_r ornr # Overrun |
| Counting mode | **Press** (momentary) UnidIr CntN # Counting mode | Communication setting | Note : Only applicable for XC2200-C & XC3200-C<br>**Press** (momentary) bri 9t2 # Baud Rate<br>1 # Slave Id |
| Counting direction | **Press** (momentary) UP dIr # Counting direction | Front panel reset | **Press** (momentary) YES FPr # Front panel reset |

**MODBUS REGISTER ADDRESS LIST**

| S.NO | Modbus Address | Hex Address | Parameters | Length (Bits) | Data type | R/W | Description Selection : Data |
|---|---|---|---|---|---|---|---|
| **FSC,FMC,RCS** | | | | | | | |
| 1 | 00004 | 0 X 04 | Relay Operating Mode | 1 | Bool | R/W | On delay : 0, Interval : 1 |
| 2 | 00005 | 0 X 05 | Count direction | 1 | Bool | R/W | Up : 0, Down : 1 |
| 3 | 00006 | 0 X 06 | Count Overflow Mode | 1 | Bool | R/W | Over run : 0, Non over run : 1 |
| 4 | 00007 | 0 X 07 | Input Frequency | 1 | Bool | R/W | 5000 : 0, 30Hz : 1 |
| 5 | 00008 | 0 X 08 | Lower Display selection | 1 | Bool | R/W | Rate : 0, Batch : 1 |
| 6 | 00009 | 0 X 09 | Relay 2 Operation | 1 | Bool | R/W | Set 2 : 0, Set Batch : 1 |
| 7 | 00010 | 0 X 0A | Front panel reset(FPR) | 1 | Bool | R/W | Yes : 0, No: 1 |
| 8 | 00011 | 0 X 0B | Reset all | 1 | Bool | R/W | Set all parameters to factory Default |
| 9 | 00012 | 0 X 0C | Reset Batch Count | 1 | Bool | R/W | Reset Batch Count, Cumulative total,Count Value |
| 10 | 00013 | 0 X 0D | Reset Count Value | 1 | Bool | R/W | Set Count Value to 0 |

| S.NO | Modbus Address | Hex Address | Parameters | Length (Bytes) | Data type | R/W | Description Selection : Data |
|---|---|---|---|---|---|---|---|
| **PSR, PMR, RHR** | | | | | | | |
| 1 | 40001 | 0 X 01 | Rate unit | 1 | USINT | R/W | Reset per second (RPS) : 0<br>Rate per Minute (RPM) : 1<br>Rate per Hour (RPH) : 2 |
| 2 | 40002 | 0 X 02 | Counting mode | 1 | USINT | R/W | Unidirectional : 0<br>Bidirectional : 1, Quad : 2 |
| 3 | 40003 | 0 X 03 | Resolution | 1 | USINT | R/W | 1 : 0 \| 0.1: 4 \| 0.01 : 3<br>0.001 : 2 \| 0.0001: 1 |
| 4 | 40004 | 0 X 04 | Relay Repeat Mode | 1 | USINT | R/W | None :0, AR : 1, TPR : 2 |
| 5 | 40005 | 0 X 05 | Scale FactorExponent | 1 | USINT | R/W | 0 : 0 \| 1 : 1 \| 2 : 2 \| -5 : 3 \| -4 : 4<br>-3 : 5 \| -2 : 6 \| -1 : 7 |
| 6 | 40006 | 0 X 06 | Slave Id | | USINT | R/W | Range : 0 To 255 |
| 7 | 40007 | 0 X 07 | Baud Rate | 1 | USINT | R/W | 9600 : 2, \| 19K2 : 3, \| 38K4 : 4<br>57K6 : 5, \| 115K : 6 |

| S.NO | Modbus Address | Hex Address | Parameters | Length (Bytes) | Data type | R/W | Description |
|---|---|---|---|---|---|---|---|
| **PMR, RHR** | | | | | | | |
| 1 | 40054 | 0 X 36 | SCL | 4 | UDINT | R/W | Data Format : LSB- MSB<br>For setting Scale factor= 1.23456, send 123456<br>(Do not consider decimal point) |
| 2 | 40056 | 0 X 38 | SPBT | 4 | UDINT | R/W | Data Format : LSB- MSB<br>For SPBT = 1,<br>response will be: 00 01 00 00 |
| 3 | 40058 | 0 X 3A | Time(Set time value) | 4 | TIME | R/W | Data Format : LSB- MSB<br>For time = 1.2 sec, send 1200<br>Data in decimal (set time in ms) |
| 4 | 40072 | 0 X 48 | Set1 | 8 | LREAL | R/W | Data Format : MSB-LSB<br>For Set1 = 100.0, response will be: 0000 4059 0000 0000H |
| 5 | 40076 | 0 X 4C | Set2 | 8 | LREAL | R/W | Data Format : MSB-LSB |

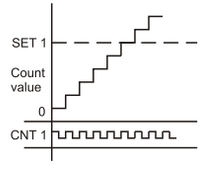
| S.NO | Modbus Address | Hex Address | Parameters | Length (Bytes) | Data type | R/W | Description |
|---|---|---|---|---|---|---|---|
| **RIR** | | | | | | | |
| 1 | 30014 | 0 X 0E | Batch Total | 4 | UDINT | R | Data Format : LSB- MSB |
| 2 | 30016 | 0 X 10 | Time( Run time value) | 4 | TIME | R | Data Format : LSB- MSB |
| 3 | 30020 | 0 X 14 | Count Total | 8 | LREAL | R | Data Format : MSB -LSB |
| 4 | 30024 | 0 X 18 | Cumulative Total | 8 | LREAL | R | Data Format : MSB-LSB |
| 5 | 30028 | 0 X 1C | Rate | 8 | LREAL | R | Data Format : MSB-LSB |

## USER GUIDE

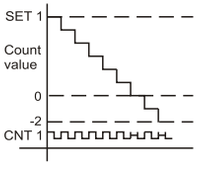
### 1. COUNTING DIRECTION

**a. Unidirectional :** The unit counts the number of pulses received at the CNT1 input and can be programmed to count upwards from zero towards the set point (***Up counting***), or to count downwards from the set point to zero (***down counting***).

Up counting (Overrun)




Down counting (Overrun)

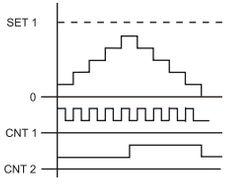



In Overrun mode, the unit continues to count above the set point.

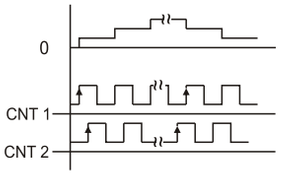
**b. Bi-directional :**

In the Bi-directional mode of counting, the CNT2 input determines the count direction. If the CNT2 input is at level 1 (10V to 30V) XC200-NX counts up (increments) - open terminals 3 & 4.

If the CNT2 input is at level 0 (0V to 1V) the XC200-NX counts down (decrements) - short terminals 3 & 4.




**C. Quadrature :** The Quadrature mode is suitable for using with sensors which generate 2 channels of output in quadrature (phase shift) e.g. Rotary encoders. The unit counts up (increments), if the CNT1 input transitions precede the CNT2 input transitions and counts down, if the CNT2 input transitions precede the CNT1 input transitions.



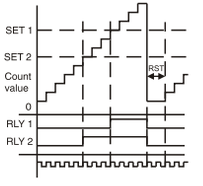

### 2. MODES OF OPERATION

**a) On delay :**

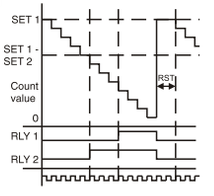
The output is energised at the end of the counting cycle (i.e. count value = set value) & remains on till unit is reset.

When the number of pulses received is equal to SET2, relay 2 is switched ON, and when the number of pulses received equals Set1, relay 1 is switched ON. Both the outputs remain ON till the unit is reset.

Up counting (overrun mode)




Down counting

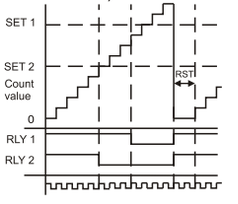



**b) Interval:**

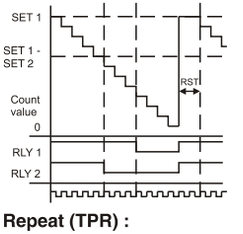
The output is energised at the start of the counting cycle and de-energised on its completion.

When the number of pulses received equal to SET2, relay2 is switched OFF, and when the number of pulses received equal to Set1, relay 1 is switched OFF. These relays remain OFF till the unit is reset.

Up counting (overrun mode)



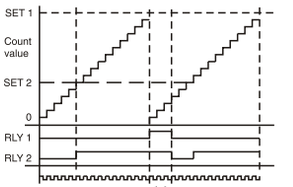

Down counting




**c) Time Pulse Repeat (TPR) :**

The output changes state (according to the On delay or Interval mode selected) for a programmed pulse time (t), at the end of the count cycle. After the set pulse time, the count resets automatically & count cycle repeats. Counting continues uninterrupted during the pulse time.

Time Pulse Repeat (Up Counting, On Delay)

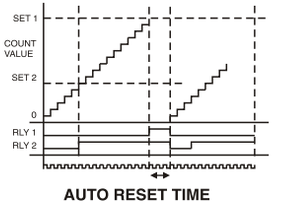



**d) Auto-reset mode :**

The output energises (according to the On delay or Interval delay mode selected) at the end of the count cycle for the programmed Auto reset time, after which the counter automatically resets and begins the next count cycle.

The unit remains reset for the Auto reset time and ignores count pulses received during this duration. It resumes operation only after this period has elapsed.

**Auto Reset Mode** (Up Counting, On Delay )




**Overrun / Non Overrun feature:**

**Overrun:** In overrun mode, the counter continues counting, after the SET1 value has been crossed.

**Non overrun:** In non overrun mode, the counter stops counting, after the SET1 value is reached and restarts counting only after reset.

**SCALE FACTOR**

The user programmable scale factor facilitates the direct reading in desired engineering unit.

The counter multiplies the number of pulses received at the count input with the scale factor, and displays the result.

**Count display = No. of pulses received x scale factor**

**Rate display = Number of pulses received per minute x scale factor or No. of pulses received per hour x scale factor.**

The scale factor consists of two parts, mantissa and exponent.

The mantissa can be set from 0.00001 to 9.99999 and the exponent can be set from -5 to +2. The scale factor is arrived at as:

**Scale factor = Mantissa X $10^{Exponent}$**

(Specifications are subject to change, since development is a continuous process.)


**Selec Controls Pvt. Ltd., India**

Factory Address :
EL-27/1, Electronic Zone, TTC Industrial Area, MIDC, Mahape, Navi Mumbai - 400 710, INDIA.
Tel. No. : +91-22-41 418 419/430 I Fax No. : +91-22-28471733
Toll free : 1800 227 353 (BSNL/MTNL Subscribers only)
Website : www.selec.com I Email : sales@selec.com