



REX Series-Multifunction Din Rail Meter



Installation Guide  
Rev.-01

## **1.0 Introduction :**

REX series meters are compact digital power meter, equipped with customized 6 digit, 1 row alphanumeric display. Three navigator keys & alphanumeric digits simplifies Display & configuration of meter. REX series are available with accuracy class of 1.0 IEC 62053-21/(Optional 0.5,0.2 IEC- 62053-22) Modbus Communication On RS 485 or Rs232.

## **2.0 Features :**

- Simultaneous Display of Measured Quantity & Parameter
- Multi color LED(Red,Yellow,Blue) for indication of types of lines on display.
- Auto scaling of Kilo Giga, Mega and decimal Point
- Password protection for user programmable parameters
- Modbus Communication on RS - 485
- Meter / Wiring configuration is field programmable as Three Phase / Single Phase connection.
- Accuracy Class 1.0 IEC 62053 - 21/ (Optional 0.5;0.2 IEC 62053-22)
- Selectable auto & manual scroll of display
- Poly carbonate body
- IP 65 from front

### 3.0 Model Selection :

| Measurements    | Parameters          | REX 1100 | REX 1200 | REX 1300 | REX 1400 | REX 1500 | REX 1900 |
|-----------------|---------------------|----------|----------|----------|----------|----------|----------|
| Voltage         | VLL,VLN             | ✓        | ✓        | ✓        | ✓        | ✓        |          |
| Current         | IR,IY,IB            | ✓        | ✓        | ✓        | ✓        | ✓        |          |
| Frequency       | HZ                  | ✓        | ✓        | ✓        | ✓        | ✓        |          |
| Average         | I                   |          | ✓        | ✓        | ✓        | ✓        |          |
| Neutral Current | IN                  |          | ✓        | ✓        | ✓        | ✓        |          |
| Unbalance       | %1 %V               |          |          |          |          | ✓        |          |
| Phase Angle     | PA                  |          |          |          |          | ✓        |          |
| Apparent Power  | VA,VA1,VA2,VA3      |          | ✓        | ✓        | ✓        | ✓        | ✓        |
| Active Power    | W,W1,W2, W3         |          | ✓        |          | ✓        | ✓        | ✓        |
| Power Factor    | PF                  |          |          | ✓        | ✓        | ✓        | ✓        |
| Reactive Power  | VAR,VAR1, VAR2,VAR3 |          |          |          |          | ✓        | ✓        |
| Active Energy   | Wh                  |          |          |          |          |          |          |
| Reactive Energy | ± Varh              |          |          |          |          |          |          |
| Power Energy    | Vah                 |          |          |          |          |          |          |
| Run Hour        | RnHr                |          |          |          |          |          |          |
| Load Hour       | LdHr                |          |          |          |          |          |          |
| Interrupts      | Nos.                |          |          |          |          |          |          |
| <b>OLD</b>      |                     |          |          |          |          |          |          |
| Active Energy   | Wh                  |          |          |          |          |          |          |
| Reactive Energy | ± Varh              |          |          |          |          |          |          |
| Power Energy    | Vah                 |          |          |          |          |          |          |
| Run Hour        | RnHr                |          |          |          |          |          |          |
| Load Hour       | LdHr                |          |          |          |          |          |          |
| Interrupts      | Nos.                |          |          |          |          |          |          |

| Measurements    | Parameters             | REX<br>2140 | REX<br>2330 | REX<br>2440 | REX<br>2411 | REX<br>2550 | REX<br>2551 |
|-----------------|------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Voltage         | VLL,VLN                | ✓           | ✓           | ✓           | ✓           | ✓           | ✓           |
| Current         | IR,IY,IB               | ✓           | ✓           | ✓           | ✓           | ✓           | ✓           |
| Frequency       | HZ                     | ✓           | ✓           | ✓           | ✓           | ✓           | ✓           |
| Average         | I                      |             | ✓           | ✓           | ✓           | ✓           | ✓           |
| Neutral Current | IN                     |             | ✓           | ✓           | ✓           | ✓           | ✓           |
| Unbalance       | %1 %V                  |             | ✓           | ✓           | ✓           | ✓           | ✓           |
| Phase Angle     | PA                     |             | ✓           | ✓           | ✓           | ✓           | ✓           |
| Apparent Power  | VA,VA1,VA2,VA3         |             | ✓           | ✓           | ✓           | ✓           | ✓           |
| Active Power    | W,W1,W2, W3            |             |             | ✓           | ✓           | ✓           | ✓           |
| Power Factor    | PF                     |             | ✓           | ✓           | ✓           | ✓           | ✓           |
| Reactive Power  | VAR,VAR1,<br>VAR2,VAR3 |             |             |             |             | ✓           | ✓           |
| Active Energy   | Wh                     | ✓           |             | ✓           | ✓           | ✓           | ✓           |
| Reactive Energy | ± Varh                 |             | ✓           |             |             | ✓           | ✓           |
| Power Energy    | Vah                    | ✓           |             | ✓           |             | ✓           | ✓           |
| Run Hour        | RnHr                   | ✓           |             | ✓           | ✓           | ✓           | ✓           |
| Load Hour       | LdHr                   | ✓           |             | ✓           | ✓           | ✓           | ✓           |
| Interrupts      | Nos.                   |             |             | ✓           | ✓           | ✓           | ✓           |
| <b>OLD</b>      |                        |             |             |             |             |             |             |
| Active Energy   | Wh                     |             |             |             | ✓           |             | ✓           |
| Reactive Energy | ± Varh                 |             |             |             |             |             | ✓           |
| Power Energy    | Vah                    |             |             |             |             |             | ✓           |
| Run Hour        | RnHr                   |             |             |             | ✓           |             | ✓           |
| Load Hour       | LdHr                   |             |             |             | ✓           |             | ✓           |
| Interrupts      | Nos.                   |             |             |             | ✓           |             | ✓           |

#### 4.0 Specification :

|                             |  |
|-----------------------------|--|
| Accuracy                    | : Class 1.0 IEC 62053 - 21/<br>(Optional 0.5;0.2 IEC 62053-22) |
| Input Voltage               | : Vr, Vy, Vb, Vn   |
| Input Voltage Range         | : 18-520V (L-L) / 10V-300V (L-N)                               |
| Isolation Voltage           | : 2000V  |
| Input Current               | : Ir, Iy, Ib   |
| Input Current               | : 50mA-6A (Accuracy range)                                     |
| Starting Current            | : 1-200mA (programmable)                                       |
| CT Burden                   | : 0.2VA max. per phase   |
| Current with stand          | : 10A continuous, 50A for 1 Second                             |
| Input Frequency             | : 40 to 70Hz   |
| Auxiliary Supply            | : 35-300V AC/DC  |
| Auxiliary supply burden     | : <4VA   |
| Display                     | : 1Row 6 Digit (LED)   |
| Display Scrolling           | : Automatic/Manual   |
| Pulse Output Contact Rating | : 50mA(Optional,Max. Pulse width 250+-50ms<br>24VDC            |
| Communication               | : Modbus Comm. on RS-485                                       |
| CT Primary setting          | : 1A to 999kA  |
| CT Secondary setting        | : 1A to 10A  |
| PT Primary setting          | : 50V to 999kV   |
| PT Secondary setting        | : 50V to 999 V   |

## 5.0 Integer flow :

| V.PRIxA.PRI<br>x1.732 | Max<br>Reading | Max Time to<br>Reset the<br>Integrator in<br>Run Hours | Max Time to Overflow<br>Energy at Full Scale |
|-----------------------|----------------|--|--|
| 1VA to 100KVA         | 999999.999K    | 100 Years  | 1.3 Years                                    |
| 100KVA to 100MVA      | 999999.999M    | 100 Years  | 1.3 Years                                    |
| >100MVA               | 999999.999G    | 100 Years  | Depends Upon Setting                         |

## 6.0 Auxiliary Supply :

SMPS Supply with input range 35-300V AC/DC. Burden on auxiliary supply is less than 4VA.

## 7.0 PT Supply :

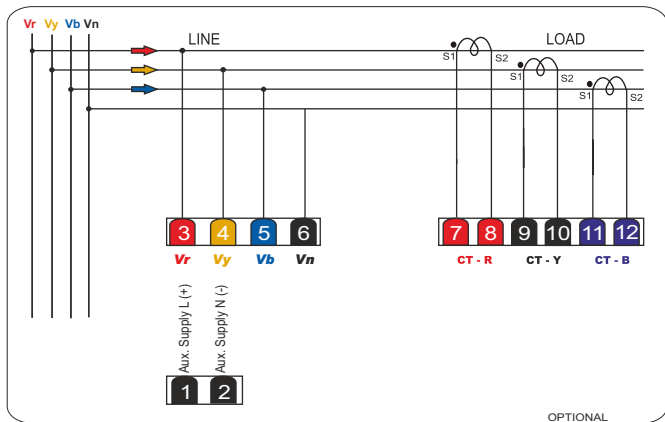
REX can withstand maximum voltage of upto 1000V. Meter can be configured for 3P-4Wire/1Phase connection. Maximum Burden on PT is Less than 0.1VA.

## 8.0 CT Connection :

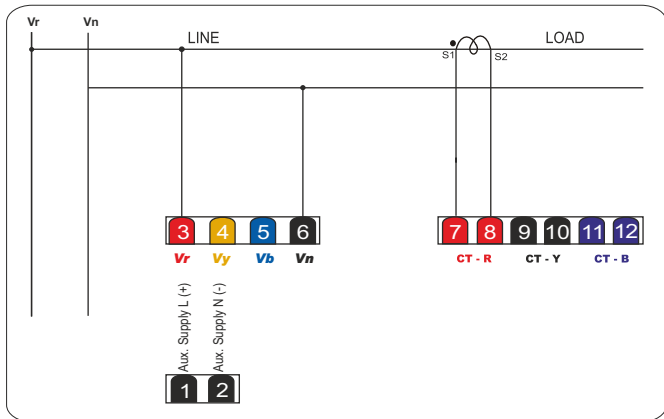
Nominal Current of REX Meter is 6 Amp. Maximum Continuous Current is 10Amp & Current with stand is 50A for 1 Second. Burden on ct less than 0.2VA.

## 9.0 Wiring Diagrams :




### 9.1 3-Phase 4-wire connection



### 9.2 Single Phase Connection



## 10.0 Key Functions :

| KEY  | In EDIT Mode                                 | In Measurement Mode                                  |
|--|--|--|
| <br>Increment | Increment the value of selected parameters.  | Long push (for 3sec approx for Scroll ON/OFF         |
| <br>Decrement | Decrement the value of selected parameters.  | -----  |
| <br>Next      | Scrolling to the next parameter in EDIT mode | Scrolling between different measurements parameters. |

## 11. Meter Measurement Scrolling :

Display can be set as auto scroll/Manual scroll Scrolling mode can be changes from auto to manual & vice versa by long press ( for 3 sec) of increment key.

In auto scroll the measurement display changes to next page automatically while in manual mode (scroll) measurement page can be selected by pressing Next key.

## 12.0 KVA Measurement Method :

**3d** :Recommended method of measurement in case of distorted/unbalance load condition.

**Arthematic** :Conventional method of measurement.



### 13.0 Edit Mode :

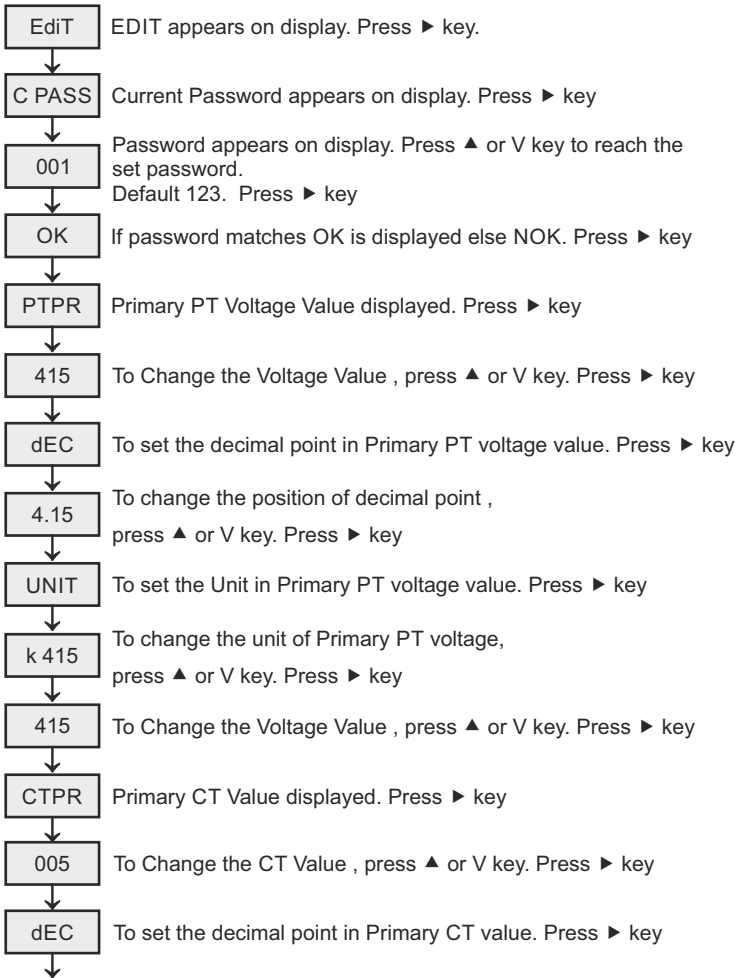
| Parameter | Description         | Min Value                       | Max Value | Default Value |
|-----------|---------------------|---------------------------------|-----------|---------------|
| PTPR      | PT Primary          | 50                              | 999       | 415           |
| DEC       | PT Decimal          | 415                             | 4.15      | 415           |
| UNIT      | PT Unit             | 415                             | K 415     | 415           |
| PTSR      | PT Secondary        | 50                              | 999       | 415           |
| CTPR      | CT Primary          | 1                               | 999       | 5             |
| DEC       | CT Decimal          | 415                             | 4.15      | 415           |
| UNIT      | CT Unit             | 415                             | K 415     | 415           |
| SYS       | Sytem configuration | 3P4W,1P,3P3W                    |           | 3P4W          |
| KVA       | KVA Type            | 3D, ARTH                        |           | 3D            |
| STRT      | Starting Current    | 1                               | 200       | 5             |
| DEV       | Device ID           | 1                               | 247       | 1             |
| BAUD      | Baud Rate           | 1200, 2400, 4800,<br>9600,19200 |           | 9600          |
| PARI      | Parity              | NONE, EVEN,<br>ODD              |           | NONE          |
| STOP      | Stop Bit            | 1, 2                            |           | 2             |
| ENDI      | Endian Type         | LIT, BIG                        |           | BIG           |

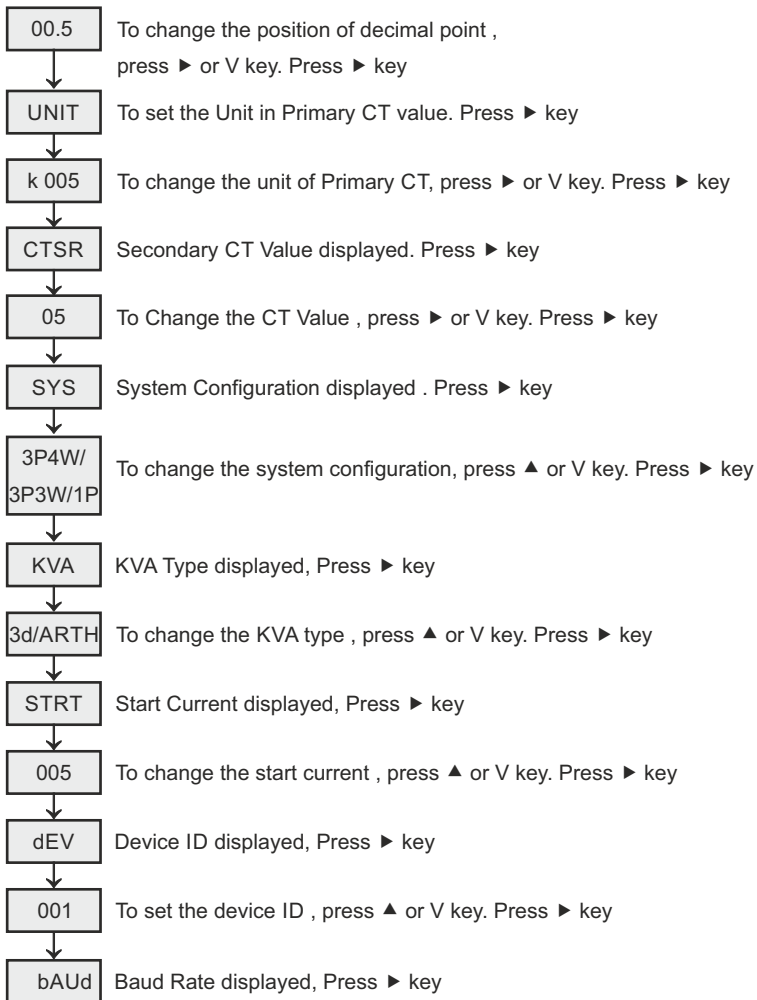
### 14.0 Setting/Configuration Modes

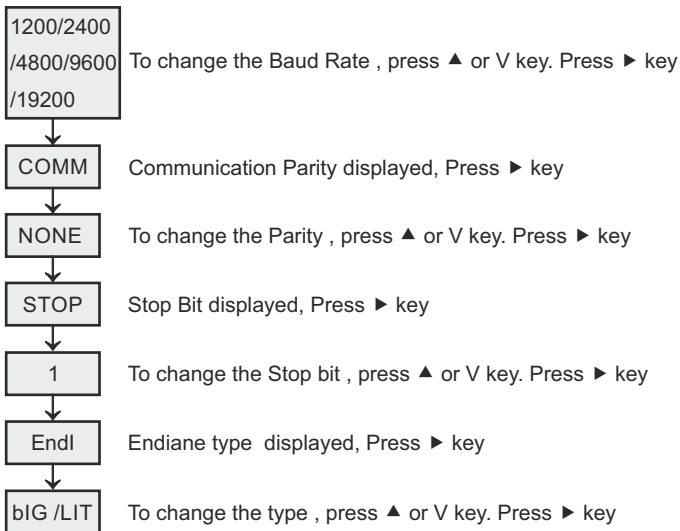
#### 14.1 EDIT Mode :

Parameter values can be changed in 'EDIT' mode, 'EDIT' mode is password protected both in communication and on Device. In communication the password is valid for 30 seconds, after that we need to re-enter the password to modify the edit parameters.

## Press V and > Keys Together

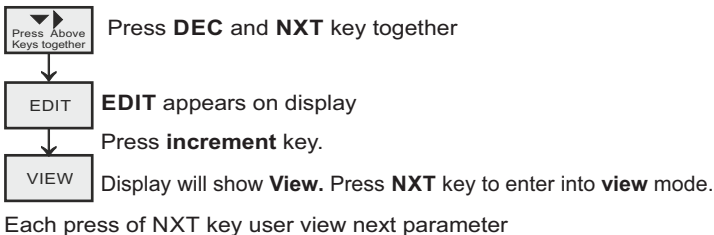






## 14.2 VIEW Mode:

User can view all set values in this mode without entering password Change of values is not permitted in this mode.



### 14.3 View Old Mode :



Press **DEC** and **NXT** key together



**EdIT** appears on display

Press **increment** key.



Display will show **View**

Press **increment** key



Display will show **OLd** Press **NXT** key to enter the **OLD** mode.

Each press of **NXT** key. To view old integrated parameter i.e KWH, KVAH, run hour, load hour, interruption which is model dependent

### 14.4 RST Password :



Press **DEC** and **NXT** key together



EdIT appears on screen

Press increment key



Display will show view

Press increment key



Display will show VIEW OLD

Press increment key



Display will show PASS

Press increment key



Current Password appears on display. Press ► key

Press increment key



Password appears on display. Press ▲ or V key to reach the set password. Default 123. Press ► key

Press increment key



If password matches OK is displayed else NOK. Press ► key

Press increment key



Set New Password displayed. Press ► key

001

Press ▲ or V key to set password. Press ► key

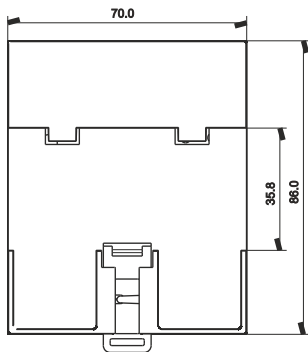
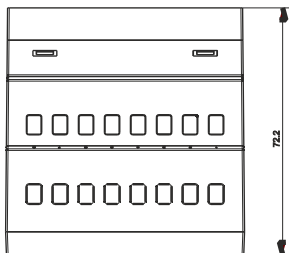
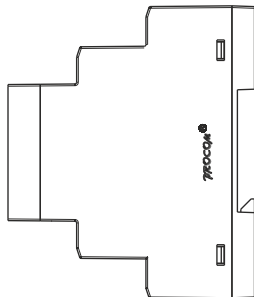
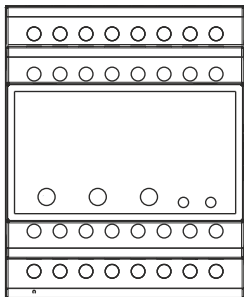


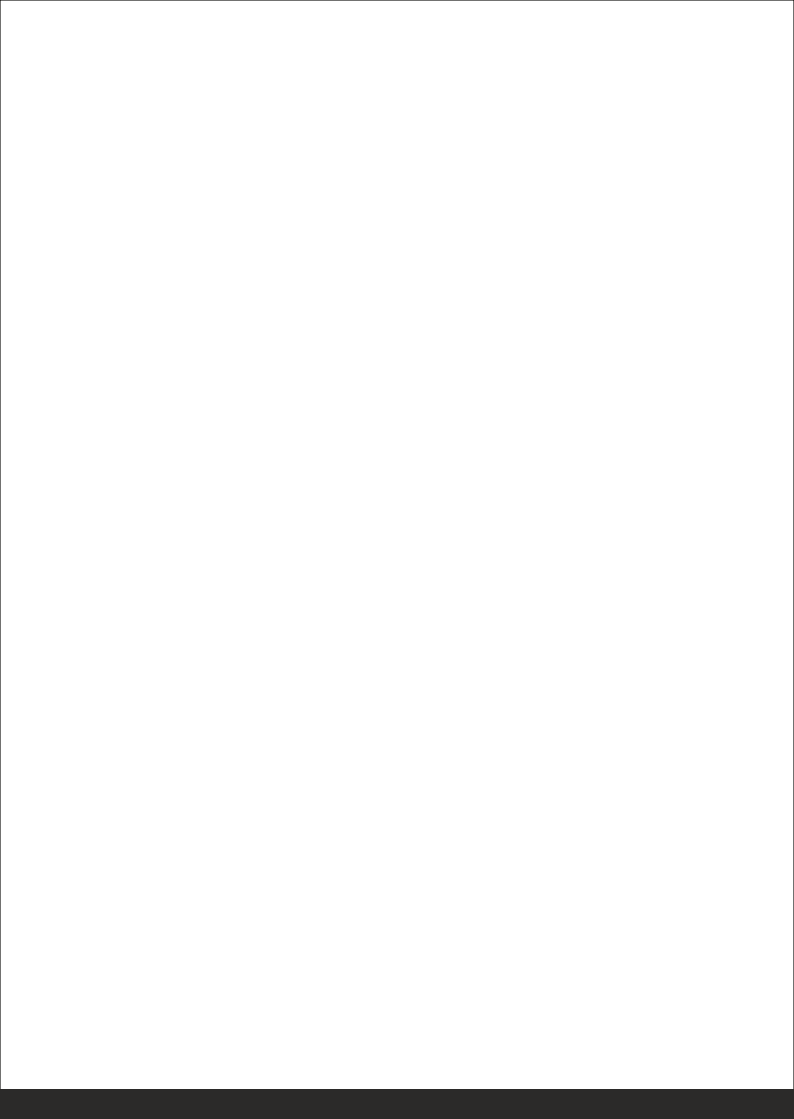
UpdT

Press increment key

Password updated displayed. Press ► key

## 15.0 Dimensions details:





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