

Quick Start Manual and Installation Guide

The compact instrument is a modern measurement device with innovative design made for both 3 phase and 1 phase applications.
3-P Model: is 3 Phase variant and is designed for 3-phase application for voltage measurement from 10V to 600V (L-L) and current measurement from 5mA to 120 mA using easy error free RJ-12 connection.

1-P 30/60A Model: is 1-Phase variant and is designed for 1 Phase application for voltage measurement from 5.7V to 360V (L-N) and inbuilt CT for current measurement from 1A to 36A and 1A to 72A respectively.

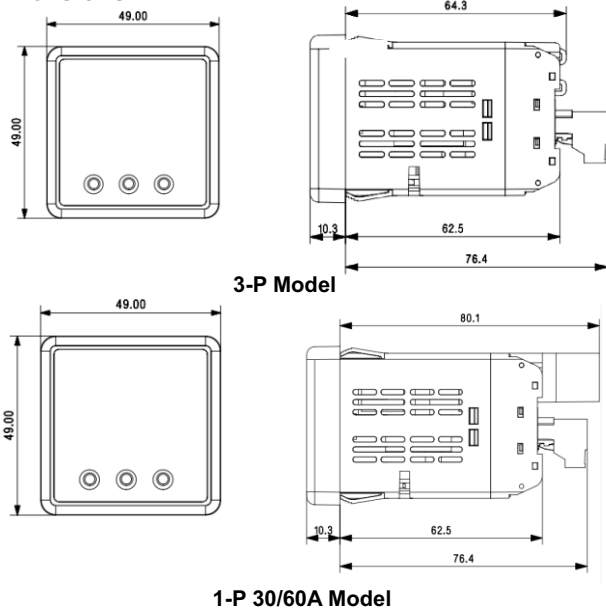


Installation:

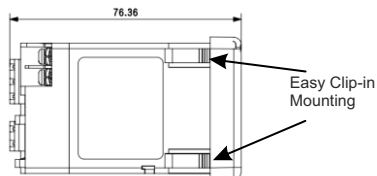


Installation to be carried out by qualified person along with life protecting equipment to prevent hazardous shock. Isolate incoming supply before connection. Do not expose device to Rain, Dust environment. Keep at least 10-15 mm distance on both sides of device. Do not install near Vibrating environment. Do not install near Heat source. Install Fuses of 1 Amp in series with supply.

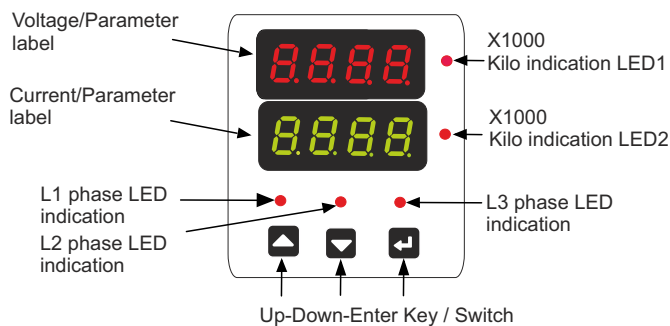
Dimensions:



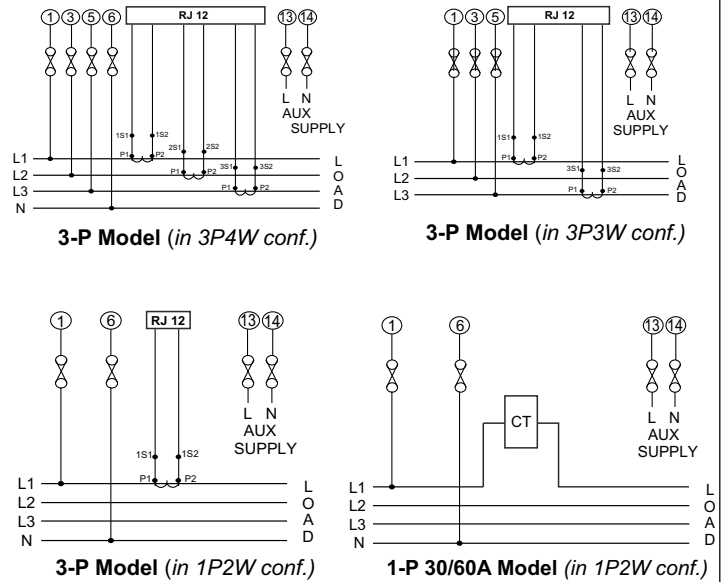
Mounting:



Ultra-bright LED Display:



Connection diagram:



Parameter Settings:

The parameters are on-site programmable using three front keys or using the MODBUS Communication in defined range.

	3-P Model	1-P 30/60A Model
System PT primary	100-7999k VLL	57-4618k VLN
System PT Secondary	100-500 VLL	57-300 VLN
System CT primary	1-9999 A	30/60A (Fixed)
System Network type	3P4W/3P3W/1P2W	1P2W

Technical Specifications:

	3-P Model	1-P 30A Model	1-P 60A Model
Operating Measuring Ranges:			
Voltage Range	10-600 VLL	5.77-360 VLN	5.77-360 VLN
Current Range	5-120 mA	1-36 A	1-72 A
Frequency	45...65 Hz	45...65 Hz	45...65 Hz
Input Nominal Voltage:			
Nominal voltage (AC RMS)	100-500 VLL	57.7-300 VLN	57.7-300 VLN
Max cont. voltage (% of Nom.)	120%	120%	120%
Nominal voltage burden (per ph)	0.3 VA	0.3 VA	0.3 VA
Input Nominal Current:			
Nominal current (AC RMS)	100mA	30 A	60 A
Max cont current (% of Nom.)	120%	120%	120%
Nominal current burden (Per ph)	0.1 VA	0.1 VA	0.1 VA
Auxiliary Supply:			
Higher AC-DC External Aux.	60-280V AC-DC		
Lower AC-DC External Aux.	20-60V AC/DC		
Frequency range	45 to 65 Hz		
VA burden	5 VA Approx.		
Accuracy:			
Voltage	± 0.5 % (20... 100% of Nominal value)		
Current	± 0.5 % (10... 100% of Nominal value)		
Frequency	± 0.2 % of mid frequency		
%THD Accuracy	± 4%		

Influence of Variations:

Temperature coefficient :	0.025 % /°C for Voltage and Frequency
(For nominal value range of use -20°C to 60°C)	0.05 % /°C for Current

Applicable Standards:

EMC
 Safety
 IEC 61326-1: 2012, Table 2
 IEC 61010-1-2010, Permanently connected use
 IEC 60529

Environment and Safety:

Operating temperature
 Storage temperature
 Relative humidity
 Pollution degree
 Installation category

Enclosure:

Front IP 54
 Back IP 20

Measurement Screens:

The Voltage (Top red row) and Current (Bottom green row) values are displayed directly. Phase values/line values are indicated by the phase LED below the segment. If values are in Kilo i.e. value x1000 it is indicated by LED adjacent to the display segments. Other special measurement screens are as shown below. For these screens the label and values are displayed alternatively:



System average voltage, current



Maximum average voltage, current value



Voltage, current THD value



Relay 1 configured as limit relay and off



Relay 1 cfg. as timer, blinking indicates option to on/off using enter key



Frequency and rpm



Minimum average voltage, current value



Relay 1 configured as limit relay and on



Relay 1 cfg. as timer, blinking indicates option to on/off, using enter key



Relay 1 configured as timer relay and shows cycle count / remaining cycle



On-site programming:

After entering in setup as mention above, using **▲/▼** keys and map shown above the screen for desired parameter configuration can be obtained. Upon display of desired parameter label and its value press **▶** key to edit that parameter. Editing has started is indicated by blinking of decimal point (DP) or blinking of leftmost digit or blinking of entire menu, whichever is applicable for the parameter. Again using **▲/▼** scroll the DP position, Numeric value or entire Value label in all possible values as desired. Using **▶** confirm and set the DP position, Numeric value or Value label. When parameter is finally set, the blinking stops. After editing completed using **▶** key next menu parameter will be displayed, using **▶** key previous menu parameter will be displayed, using **▶** key parameter value can be edited and set again.

Using front keys:

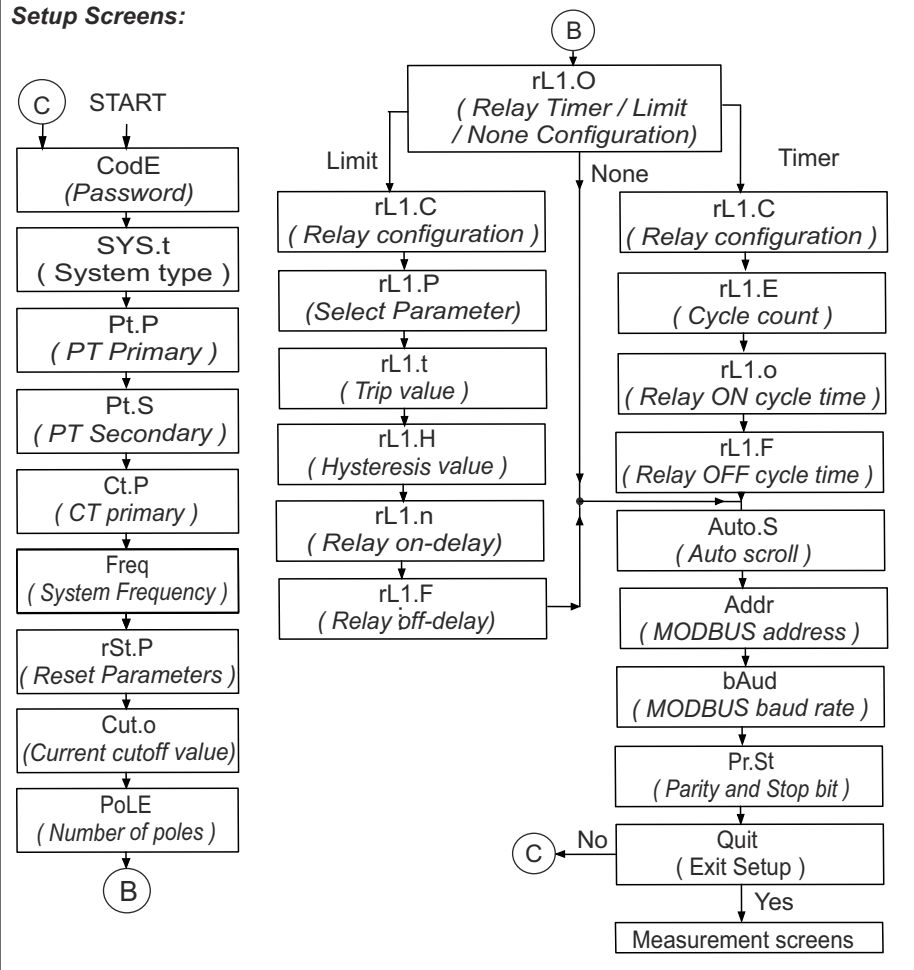
Meter after powered, first shows the VEr (label for Version) in upper row and meter software version in second row. After 3 seconds the measurement screens are shown one by one automatically if auto scroll is enabled. If auto scrolling is disabled then use UP and DOWN key to scroll through all measurement screens.

Keys : 3 Keys are provide for easy setting and scrolling of parameters

- The **▶** key function as UP key
- The **▼** key function as DOWN key
- The **▶** key function as ENTER key

Upon pressing enter key for 2 sec "CodE" screen is displayed.

Setup Screens:



Model Parameters:

3-P Model

Sr. No.	Parameters	System Type		
		3P 4W	3P 3W	1P 2W
1.	L-N Voltage	✓	✗	✓
2.	L-L Voltage	✓	✓	✗
3.	Current	✓	✓	✓
4.	System average Voltage/Current	✓	✓	✓
5.	Max System Voltage/Current	✓	✓	✓
6.	Min System Voltage/Current	✓	✓	✓
7.	Frequency / RPM	✓	✓	✓
8.	Phase Voltage and Current THD	✓	✓	✗
9.	System Voltage and Current THD	✓	✓	✓
10.	Relay Limit	✓	✓	✓
11.	Timer no. of cycles	✓	✓	✓

1-P 30/60A Model

Sr. No.	Parameters	1 P 2W
1.	System Voltage/Current	✓
2.	Max System Voltage/Current	✓
3.	Min System Voltage/Current	✓
4.	System Frequency	✓
5.	RPM	✓
6.	System Voltage and Current THD	✓