



VERITEK

DIN MULTIFUNCTION METER / DIN POWER ANALYZER



VIPS 70LD

TEST CERTIFICATE

Type : **DIN POWER ANALYZER**

Accuracy : Class 0.5% for V & A
0.1% of FS for Hz

Accuracy Test :

VOLTAGE		CURRENT		FREQUENCY
10%	100%	10%	100%	100%
+/- 0.5%	+/- 0.5%	+/- 0.5%	+/- 0.5%	+/- 0.1%
OK	OK	OK	OK	OK

Power Factor		Watts		kVA
10%	100%	10%	100%	100%
+/- 0.5%	+/- 0.5%	+/- 0.5%	+/- 0.5%	+/- 0.5%
OK	OK	OK	OK	OK

Note :

A) For Digital Readouts the error is Computed in Counts.

- Class 0.5 = $\pm 1\%$ of Full Scale ± 1 Count
- Class 0.5 = $\pm 0.5\%$ of Full Scale ± 1 Count

Tested By : Akshaya

Date :

VERITEK ENGINEERING PVT. LTD.

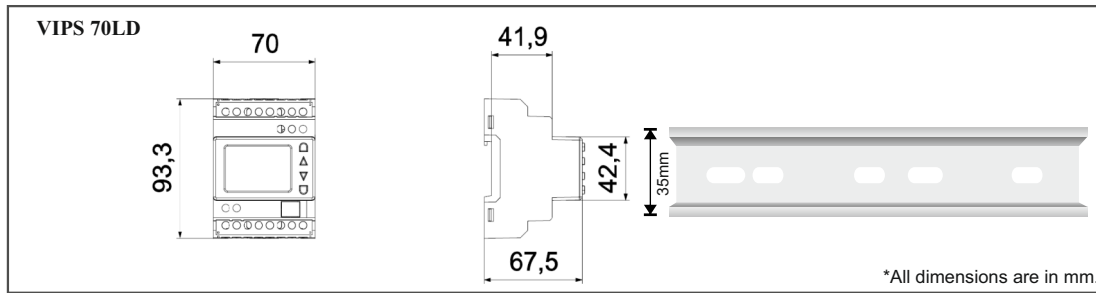
Plot No.222, Electronic Zone, MIDC, TTC Industrial Area,

Mahape, Navi Mumbai - 400710, India

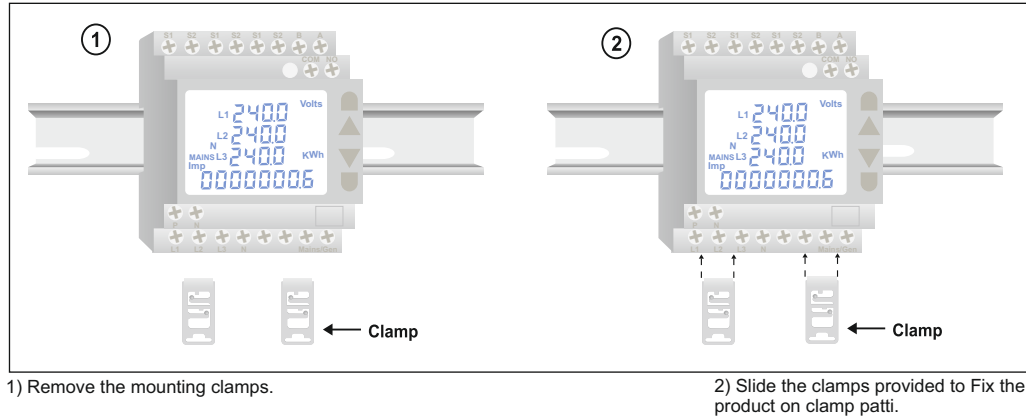
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MECHANICAL DIMENSION :



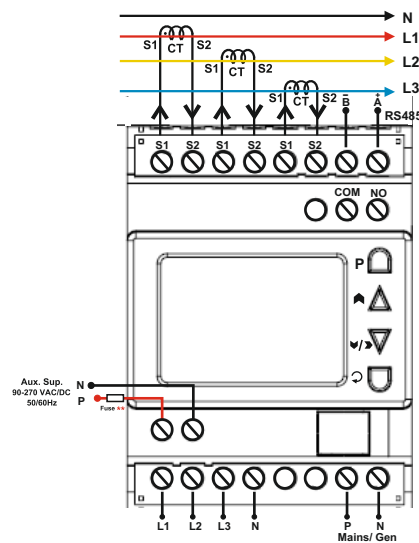
MOUNTING ARRANGEMENT :



CONNECTION DETAILS :

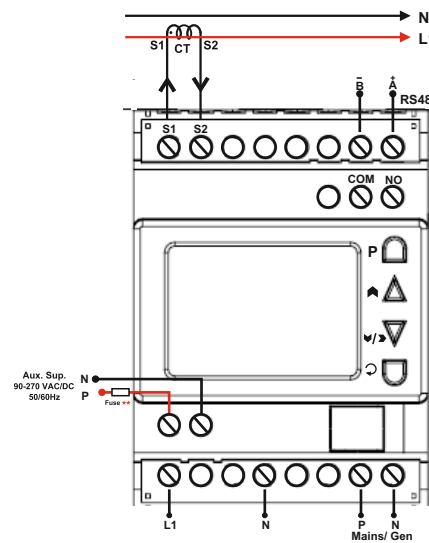
Electrical Wiring / Connection Diagram

3 Phase 4 Wire - VIPS 70LD



Electrical Wiring / Connection Diagram

1 Phase 2 Wire - VIPS 70LD



FEATURES :

- (1) State of Art Micro Controller Based Design
- (2) 4x3 Line, 8x1 Line LCD Display
- (3) Site Programmable CT and PT ratio
- (4) True RMS Measurement
- (5) Password Protection
- (6) Optional Features
 - RS 485 computer interface
 - 60A direct current CT module available
 - Maximum demand with relay contact (COM / NO)
- (7) Harmonic Measurement (THDV, THDI)
- (8) Auto Ranging
- (9) Universal Aux. Supply

SPECIFICATION :

Input	: 3 Phase 4 Wire / 1 Phase 2 Wire/ 3 Phase 3 Wire : Volts - Range 1 - 300 Volts (L-N) : Volts - Range 1 - 500 Volts (L-L) : Amps - Range 0.005 - 6.00 Amp Direct 60 ampere optional
Burden	: 3VA Max. for Aux. Supply, 0.2VA for Voltage & Current input
Aux. Supply	: 90 - 270 VAC / DC, 50/60 Hz
Display	: 4X3 Line, 8X1 Line LCD Display
Computation	: True RMS
Relay Contact	: 1 Potential free Contact (NO & COM) (Optional)
Contact Rating	: 5Amp/230VAC/28VDC
Frequency	: 45 Hz - 65 Hz
Ambient	: -10 to 55°C
Storage	: -20 to 75°C
Humidity	: < 95% Non-Condensing
Weight	: 225 gms
Dimension	: 70 x 92.5 x 65.5 mm (L x W x D)
Mounting	: DIN Rail Mounting Type (35 mm)
Protection	
Degree	: IP20 (Terminals), IP54(Front of housing)

MEASUREMENT RANGES :

Volts	: 1 - 300VAC L-N 1 - 500VAC L-L
Amp	: 0.005 - 6.00Amp AC Direct 60 Amps optional
Display Update	: 1 Sec
Hz	: 45 to 65 Hz
Resolution	: 0.1 for Energy, auto ranging for other parameter.
Accuracy	Current $\pm 0.5\%$ of F.S. Power Factor $\pm 0.5\%$ of F.S. Frequency $\pm 0.1\%$ of F.S. Power (Active & Apparent) Class - 0.5 Power (Reactive) class - 2.0 Energy (Active & Apparent) Class 0.5s (Class 0.5s as per IEC 62053-22 at 5A nominal (for 1A nominal when I > 0.15A)) Energy (Reactive) Class 2 (Class 2 as per IEC 62053-23 at 5A nominal (for 1A nominal when I > 0.15 A))

PARAMETERS :

V L-L & V L-N (Individual),

Current (Individual / Neutral),

Frequency,

Power Factor (Individual),

Active / Reactive / Apparent Power (Individual),

Maximum Demand (kW or kVA),

Peak Maximum Demand,

Active Energy (Import/Export),

Reactive Inductive Energy (Import/Export),

Reactive Capacitive Energy (Import/Export),

Apparent Energy (Import & Export),

Run Hour (Import / Export & Total),

THD V (Phase wise),

THD I (Phase wise),

Phasor Angle.

DISPLAY PAGES :

Page	Symbol	Parameters
1	V L-L	Voltage (L-L) RY, YB, BR
2	V L-N	Voltage (L-N) RN, YN, BN
3	Amp	Amps R, Y, B
4	PH-°	Phasor Angle
5	I nEU	Neutral Current
6	Hz	Frequency
7	Watt	Watts (Active Power) R, Y, B
8	VAr	VAr (Reactive Power) R, Y, B
9	VA	VA (Apparent Power) R, Y, B
10	PF	Power Factor R, Y, B
11	I ṁd	Import Maximum Demand
12	I Pṁd	Import Peak Maximum Demand
13	E ṁd	Export Maximum Demand
14	EPṁd	Export Peak Maximum Demand
15	I RE	Import Active Energy
16	I rLE	Import Reactive - Inductive Energy
17	I rCE	Import Reactive - Capacitive Energy
18	I APE	Import Apparent Energy
19	E RE	Export Active Energy
20	E rLE	Export Reactive - Inductive Energy
21	E rCE	Export Reactive - Capacitive Energy
22	E APE	Export Apparent Energy
23	i thd	Harmonics-Voltage-THDV Phase wise
24	i thd	Harmonics-Current-THDI Phase wise
25	Onht	ON Hour (Duration for which the meter is ON with/without load)
26	LdtI	Load Hour (Timer) - Import
27	LdtE	Load Hour (Timer) - Export
28	Generator	Generator ON

PROGRAMMING :

USr
PASS
0000

PROG
PROG

Press Programming
Set 2000

Rddr
Pt-Pt
Pt-Sct
Ct-Pr
Ct-Sct
Clr-I
Clr-E
nPASS
MDTY
MDIt
MD-I

Unit Address
PT Primary
PT Secondary
CT Primary
CT Secondary
Clear Import Energy
Clear Export Energy
New Password
MD Type
MD Integration me
MD Threshold for Import

MD-E
CPdI
CPdE
bAUD
COnk
CLtI
CLtE
SCrL

MD Threshold for Export
Clear Peak MD Import
Clear Peak MD Export
Baud Rate
Reset ON Timer
Reset Import Timer
Reset Export Timer
Auto / Manual Scroll

Rddr
00I

PROG
PROG

To enter into address
To change value of address (Default value 001)
To Save

PtP
0000
000I

PROG
PROG

To enter into PT Primary
To change value of PT Primary (Default PTP 0001)
To Save

PtS
0000
000I

PROG
PROG

To enter into PT Secondary
To change value of PT Secondary (Default PTS 0001)
To Save

CtP
0000
000I

PROG
PROG

To enter into CT Primary
To change value of CT Primary (Default CTP 0001)
To Save

CtS
0000
000I

PROG
PROG

To enter into CT Secondary
To change value of CT Secondary (Default CTS 0001)
To Save

rU
SUrE
CLrI

PROG
ESC

To Clear Import Energy
To Come out of Menu

rU
SUrE
CLrE

PROG
ESC

To Clear Export Energy
To Come out of Menu

CHG
PASS
0000

PROG
PROG

To enter into Change Password
To edit new password
To Save

MD
MDTY
Act

PROG
PROG

To enter into MD Type
To select Active or Apparent MD Type
To Save

MD
MDIt
IS

PROG
PROG

To enter into MD Integration Time
To enter desired Integration Time (Between 0-30 min.)
To Save

MD-I
9999
9999

PROG
PROG

To enter into MD Threshold for import
To enter desired Import MD value (kW/kVA; Once this threshold crosses relay will energise for 30sec.)
To Save

MD-E
9999
9999

PROG
PROG

To enter into MD Threshold for Export
To enter desired Export MD value (kW/kVA; Once this threshold crosses relay will energise for 30sec.)
To Save

rU
SUrE
CPdI

PROG
ESC

To Clear Import Maximum Demand
To Come out of Menu

rU
SUrE
CPdE

PROG
ESC

To Clear Export Maximum Demand
To Come out of Menu

bAUD
9600
EvEn

PROG
PROG

To enter into Baud Rate
To set baud rate (19200 MAX)
To set parity (Even, Odd, None)
To Save

rU
SUrE
COnk

PROG
ESC

To Clear ON Timer
To Come out of Menu

rU
SUrE
CLtI

PROG
ESC

To Clear Import Timer
To Come out of Menu

rU
SUrE
CLtE

PROG
ESC

To Clear Export Timer
To Come out of Menu

AUTO
SCrL
d.S

PROG
PROG

To enter into Select Auto / Manual Scroll
To Disable / Enable Scrolling
To Save

ESC

To come out of program mode

Press ESC Key to display following Energy Parameter VIPS 70LD		
1	KWh IMP	Import Active Energy
2	KVAh IMP	Import Apparent Energy
3	KVArh IMP LAG	Import Reactive - Inductive Energy
4	KVArh IMP LEAD	Import Reactive - Capacitive Energy
5	KWh EXP	Export Active Energy
6	KVAh EXP	Export Apparent Energy
7	KVArh IMP LAG	Export Reactive - Inductive Energy
8	KVArh IMP LEAD	Export Reactive - Capacitive Energy

NOTE :

- MD Relay will come On for 30 secs once the set threshold is crossed.
- 230VAC input has to be given across terminal marked M/G to put the meter in Export / DG mode for dual source operators.
- Ensure S1, S2, CT connectors & R, Y, B sequence is correct. In case S1, S2 is reverse watt reading will appear with a negative sign.
- When M/G input is available Generator will Flash to indicate now DG / Export mode is active.
- The meter can also be put in DG / Export mode by sending a broadcast command on RS485 Bus (See protocol details).

In this case 230VAC need not be applied on the M/G terminals.

SAFETY PRECAUTIONS :

All safety related conditions, symbols and instructions that appear in this operating manual or on the equipment must be strictly followed to ensure the safety of the operating personnel as well as the instrument.

If the equipment is not used in a manner specified by the manufacturer it might impair the protection provided by the equipment.

If there is physical damage to the unit then do not use it.

Read complete instruction prior to installation and operation of the unit.

WIRING GUIDELINES :

Warning

- To Prevent the risk of electric shock power supply to the equipment must be kept OFF while doing the wiring arrangement.
- Wiring shall be done strictly according to the terminal layout with shortest connection. Confirm that all connection are correct.

CAUTION :



- To ensure the safe operation of unit, check the wiring and connections.

The Document are subject to change without Notification