VERITEK

POWER ANALYZER

VIPS 70L

VIPS 70

TEST CERTIFICATE

Type : **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 = ± 1% of Full Scale ± 1 Count
- Class 0.5 = ± 0.5% of Full Scale ± 1 Count

Tested By : Akshaya

Date :

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MECHANICAL DIMENSION

Front View

Tolerance: 92^{+2}_{-0} x 92^{+2}_{-0}
Panel Cutout

Side View
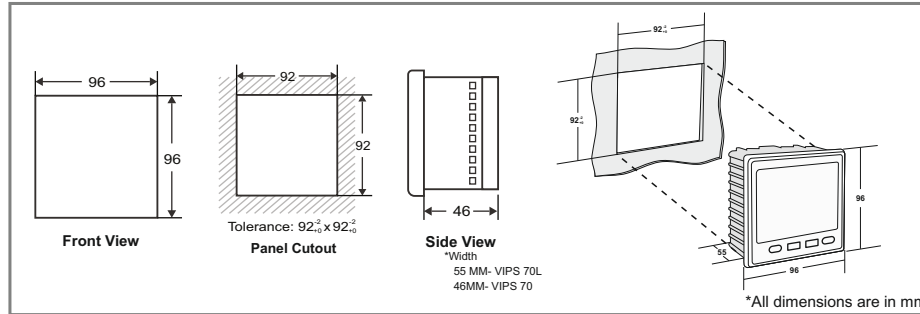*Width
55 MM- VIPS 70L
46MM- VIPS 70

*All dimensions are in mm.
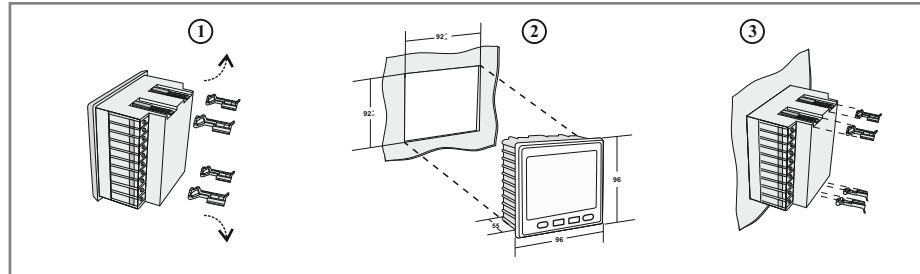
MOUNTING ARRANGEMENT

1) Remove the mounting clamps   2) Gently slide the Meter through the cut-out.   3) Put the mounting clamps back in the Meter.

FEATURES

(1) State of Art Micro controller Based Design

(2) 4X4 Line, 8X1 Line LCD Display with Bar Graph For VIPS 70L

   4 Line 4 Digit Ultra Bright LED Display Module For VIPS 70

(3) Site Programmable CT ratio (Primary & Secondary)
    Site Programmable PT ratio (Primary & Secondary)

(4) True RMS Measurement

(5) Password Protection

(6) Maximum Demand (kW or kVA)

(7) RS485 Computer Interface (optional)

(8) Harmonics THDV,THDI

(9) Auto Ranging

(10) Universal Aux. Supply

(11) Relay contact for maximum Demand (Optional)

CONNECTION DIAGRAM

Electrical Wiring / Connection Diagram
Power Analyzer
Relay Output (Optional)
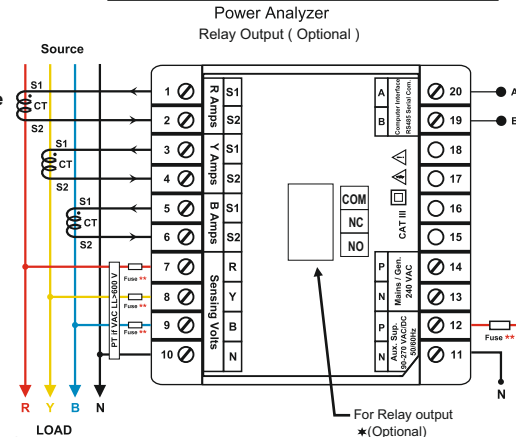
** Connect Fuse = 0.25 A

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	: 4X4 Line, 8X1 Line LCD Display with Bar Graph For VIPS 70L
	: 4 Line 4 Digit Ultra Bright LED Display Module For VIPS 70
Computation	: True RMS
Relay Contact	: 1 Potential free Contact (NO, C & NC) (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	: 380 gms- VIPS 70L
	: 317 gms- VIPS 70
Dimesions	: 96 x 96 x 46 mm (L x W x D)For VIPS 70
	: 96 x 96 x 55 mm (L x W x D)For VIPS 70L
Panel Cutout	: (92^{+8}_{-2})mm x (92^{+8}_{-2})mm
Mounting	: Flush Mounting with Side Clamps.
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 ±0.5% of F.S. Power Factor ±0.5% of F.S. Frequency ±0.1% of F.S. Power (Active & Apparent) Class - 0.5 Power (Reactive) class - 2.0 Energy (Active & Apparent) Class0.5s (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 / Average),

Current (Individual / Average / Neutral),

Frequency,

Power Factor (Individual / Average),

Active / Reactive / Apparent Power (Individual / Average),

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 vise),

THD I (Phase vise),

Phasor Angle.

DISPLAY PAGES

Page	Symbol	Parameters
1	V L-L	Voltage (L-L) RY, YB, BR & Average
2	V L-N	Voltage (L-N) RN, YN, BN & Average
3	Amp	Amps R, Y, B ,& Neutral, Average
4	PHrᵒ	Phasor Angle
5	I nEU	Neutral Current
6	Hz	Frequency
7	Watt	Watts (Active Power) R, Y, B & Total
8	VAr	VAr (Reactive Power) R, Y, B & Total
9	VA	VA (Apparent Power) R, Y, B & Total
10	PF	Power Factor R, Y, B & System
11	I n̄d	Import Maximum Demand
12	I Pn̄d	Import Peak Maximum Demand
13	E n̄d	Export Maximum Demand
14	EPn̄d	Export Peak Maximum Demand
15	I AE	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 AE	Export Active Energy
20	ErLE	Export Reactive - Inductive Energy
21	ErCE	Export Reactive - Capacitive Energy
22	EAPE	Export Apparent Energy
23	uthd	Harmonics-Voltage-THDV Phase vise
24	ı thd	Harmonics-Current-THDI Phase vise
25	Onht	ON Hour (Duration for which the meter is ON with/without load)
26	Ldtl	Load Hour (Timer) - Import
27	LdtE	Load Hour (Timer) - Export
28	●	Generation ON For VIPS 70
28	Generator	Generator ON For VIPS 70L
29	K	Indication For **Kilo**
30	M / ●	Indication For **Mega**
31	K & M /●	Indication For **Giga**

PROGRAMMING

USr PRSS / 0000	PROG / ESC	Press Programming / Set 2000

Addr	Unit Address	n̄d-E	MD Threshold for Export
Pt-r	PT Primary & Secondary	CPd I	Clear Peak MD Import
Ct-r	CT Primary & Secondary	CPdE	Clear Peak MD Export
Ctrl	Clear Import Energy	bAUd	Baud Rate
CLrE	Clear Export Energy	COnt	Reset ON Timer
nPRS	New Password	CLt I	Reset Import Timer
n̄dtY	MD Type	CLtE	Reset Export Timer
n̄d It	MD Integration me	SCrL	Auto / Manual Scroll
n̄d-I	MD Threshold for Import		

Addr / 001 — PROG To enter into address / To change value of address (Default value 001) / PROG To Save

Pt P / 0000 / 0001 — PROG To enter into PT Primary / To change value of PT Primary (Default PTP 0001 / PROG To Save

Pt S / 0000 / 0001 — PROG To enter into PT Secondary / To change value of PT Secondary (Default PTS 0001) / PROG To Save

Ct P / 0000 / 0001 — PROG To enter into CT Primary / To change value of CT Primary (Default CTP 0001) / PROG To Save

Ct S / 0000 / 0001 — PROG To enter into CT Secondary / To change value of CT Secondary (Default CTS 0001) / PROG To Save

r U / SUrE / P / CLr I — PROG To Clear Import Energy / ESC To Come out of Menu

r U / SUrE / P / CLrE — PROG To Clear Export Energy / ESC To Come out of Menu

CHG / PRSS / 2000 — PROG To enter into Change Password / To edit new password / PROG To Save

n̄d tYPE / Act — PROG To enter into MD Type / To select Active or Apparent MD Type / PROG To Save

n̄d IntP / 00 I5 — PROG To enter into MD Integration Time / To enter desired Integration Time (Between 0-30 min.) / PROG To Save

n̄d-I / 9999 / 9999 — 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.) / PROG To Save

n̄d-E / 9999 / 9999 — 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.) / PROG To Save

r U / SUrE / P / CPd I — PROG To Clear Import Maximum Demand / ESC To Come out of Menu

r U / SUrE / P / CPdE — PROG To Clear Export Maximum Demand / ESC To Come out of Menu

bAUd / 9600 / PAr / EuEn — PROG To enter into Baud Rate / To set baud rate (19200 MAX) / To set parity (Even, Odd, None) / PROG To Save

r U / SUrE / P / COnt — PROG To Clear ON Timer / ESC To Come out of Menu

r U / SUrE / P / CLt I — PROG To Clear Import Timer / ESC To Come out of Menu

r U / SUrE / P / CLtE — PROG To Clear Export Timer / ESC To Come out of Menu

AUto SCrL / di S — PROG To enter into Select Auto / Manual Scroll / To Disable / Enable Scrolling / PROG To Save

ESC — To come out of program mode

Press ESC Key to display following Energy Parameter VIPS 70L

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 - Capacitivie 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

BAR GRAPH * Only For VIPS 70L

I1%,I2% & I3% TO Display the % of current in R, Y, B, phases respective. Separate 8 Digit For Energy Parameter.

NOTE :

1) MD Relay will come On for 30 secs once the set threshold is crossed.

2) 230VAC input has to be given across terminal marked M/G to put the meter in Export / DG mode for dual source operators.

3) 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.

4) When M/G input is available ● / Generator will Flash to indicate now DG / Export mode is active.

5) The meter can also be put in DG / Export mode by sending a broadcast command on RS485 Bus (See protocal 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

1) To Prevent the risk of electric shock power supply to the equipment must be kept OFF while doing the wiring arrangement.

2) Wiring shall be done strictly according to the terminal layout with shortest connection. Confirm that all connection are correct.

⚠ CAUTION :

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

The Document are subject to change without Notification