



SANDS



Record Details TPRS - 1107A

LT	3P4W	Dual	Scan Head
Consumer ID	SANDS	PT Ratio	1/1
Consumer No	123456	Primary CT Ratio	100
No Of Pulses	50	Secondary CT Ratio	1
Count	1	Test Time(MM:SS)	00:01:37
Primary Error (%)	0.1550	Secondary Error (%)	0.2692
Error Difference(%)			-0.11

V	Primary I(A)	Secondary I(A)	CT Ratio	Primary PF	Secondary PF	Ref	MUT
R	231.5100	71.5258	0.7105	100.6700	0.92	0.93	Primary kWh 0.0125 0.0125
Y	228.6100	69.6088	0.6940	100.30	1.00	1.00	Secondary kWh 0.0125 0.0125
B	230.4100	72.4386	0.7240	100.0500	0.92	0.92	

Freq = 49.8831 Hz

PRINT



# SMART THREE PHASE PORTABLE REFERENCE STANDARD

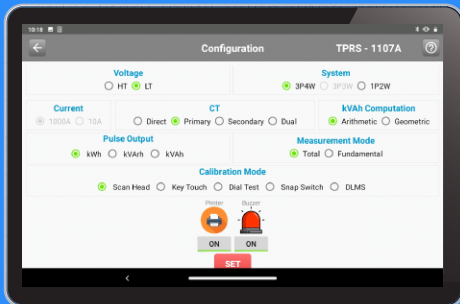
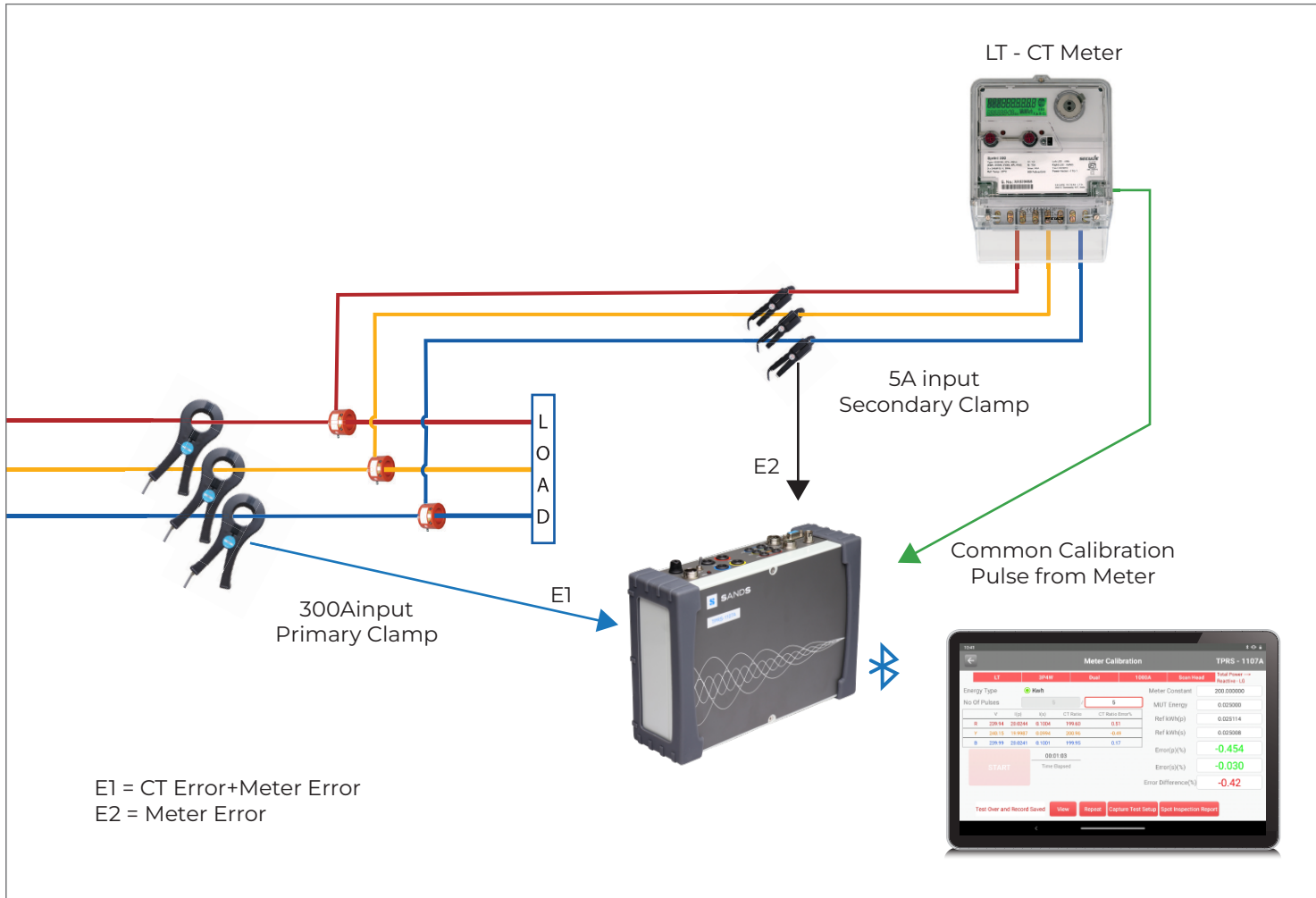
Three Phase Portable Reference Standard is used to test the accuracy of Three phase & Single phase energy meters at customer site without interrupting the service connection. The base equipment is connected to the meter(CT & PT) and that can be operated by an electrically isolated tablet (Android Application)



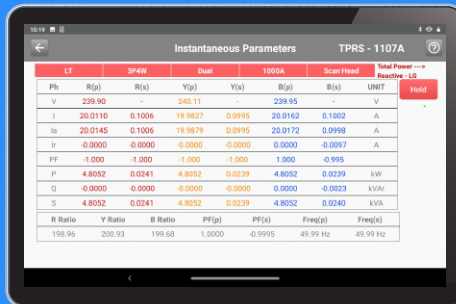
- Enriched graphical display with touch interface, for easy operation
- Data transfer to PC through Bluetooth or USB
- External wireless (Bluetooth) printer for on site printing
- Smart App (Android) to operate the Three Phase Reference Standard
- Storage of 8000 test results with search facility



## DUAL MODE TESTING FOR LT - CT METER



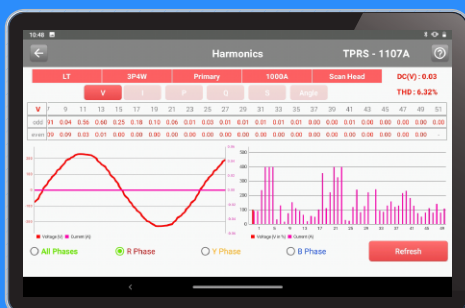
Configuration Settings



View Parameters



Waveform & Vector Diagram



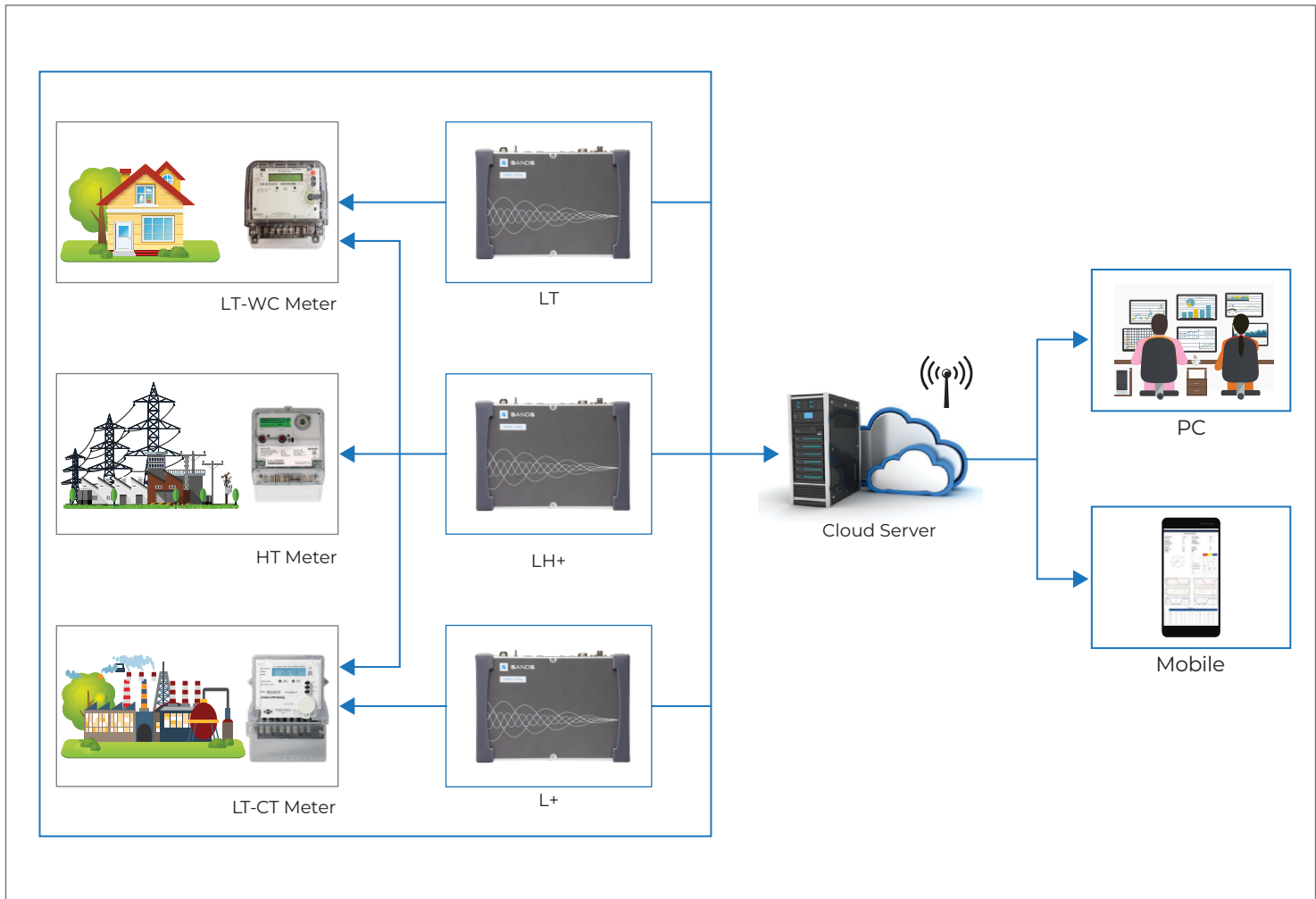
Harmonics Report



Meter Calibration Report



## CLOUD ENABLED METER TESTING



## BCS FEATURES

Shows details of Circle, Division and SD, with the Number of meters

Select the Language in which the Reports to be viewed

All parameters can be viewed by selecting this.

Important parameters and results can be selectively Viewed/Printed using Filter Option

Test Results with accuracy levels, + Total Harmonic Distortion (THD) of V & I

In case of Dual Mode testing, the CT Ratio and the Phase Diff. between Primary and Secondary is shown.

The GPS location of the consumer with Date and Time of testing with the TPRSII. No and the name of the test Engineer

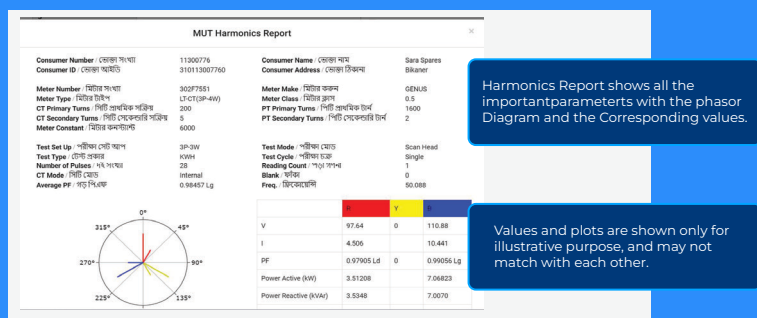
PDF version of this report can be printed and signed

Primary		Secondary	
R	Y	R	Y
V	247.44	250.27	234.88
I	14.506	13.018	30.441
PF	0.97905 Ld	0.99411 Lg	0.99026 Ld
Power Active (kW)	5.41398	5.21142	7.04029
Power Reactive (kVAR)	0.5468	2.0575	7.0073
Power Apparent (kVA)	5.8403	7.3706	9.1252
V THD	98.281	99.25	98.281
I THD	98.781	98.281	99.25

Lat: 22.91923, Long: 73.32357  
Test Date: 12/20/17, Test Time: 00:00:54  
Duration of Test: 5, Test Engineer: [Signature]

Test results can be viewed in any Regional Language by Selecting the Language option in the main page

Any other language can be added on request.





## TECHNICAL SPECIFICATION

	T-1107A-L	TPRS-1107A-L+	TPRS-1107A-H	TPRS-1107A-H+	TPRS-1107A-LH	TPRS-1107A-LH+	TPRS-1107A-LH+(3CH)
<b>Applications</b>	LT-CT meters Whole current meters ● Single phase ● Three phase	LT-CT meters Whole current meters ● Single phase ● Three phase Test of CT	HT Meters	HT Meters	HT Meters LT-CT meters Whole current meters ● Single phase ● Three phase	HT Meters LT-CT meters Whole current meters ● Single phase ● Three phase Test of CT	HT Meters LT-CT meters Whole current meters ● Single phase ● Three phase Test of CT
<b>Direct Mode</b>							
Current	10mA-10A	-	10mA-10A	-	10mA-10A	-	10mA-10A
Accuracy	0.05/0.1/0.2/0.2s		0.05/0.1/0.2/0.2s		0.05/0.1/0.2/0.2s		0.05/0.1/0.2/0.2s
<b>Clamp-on Primary</b>							
Current	500mA-100A*	500mA-300A*	-	-	500mA-200A*	500mA-300A*	500mA-300A*
Accuracy	0.2/0.2s/0.5s	0.2s/0.5s			0.2/0.2s/0.5s	0.2s/0.5s	0.2s/0.5s
<b>Clamp-on Secondary</b>							
Current	-	50mA-10A	-	50mA-10A	-	50mA-10A	50mA-10A
Accuracy		0.1s / 0.2s		0.1s / 0.2s		0.1s / 0.2s	0.1s / 0.2s

\* **Note:** For Clamp-on Mode, other current ranges upto 1000A can be made available on request

### Display Parameters & Resolution

- Voltage : 0.01 V
- Current : 0.0001A
- Power Factor : 0.001
- Frequency : 0.001 Hz
- Energy : 0.0001 Wh / Kwh / Kvarh / Kvah
- Error Percentage : 0.001%

### Features

- Bluetooth tablet for wireless operation
- Touch interface through Android Application
- Graphical display with rich colours for display of harmonics phasor diagram, waveform and phase wise parameters
- Provision to capture photograph of test setup / meter-name plate / connections etc
- Storage Upto 8000 test results
- Frequency output for self calibration (kWh and KVArh)
- Software diagnostic Menu
- Data transfer through USB
- Bluetooth printer for onsite printing
- CT ratio verification for CT operated meters (L+ and LH+)
- Automatic dial test
- Zoom option for Bar Graph and Waveforms
- Connection verification tool
- Support regional Languages
- Vector diagram for Voltage, Current & Power

### Advantages

- Average and Standard Deviation of Test results
- Isolation of electrical connections from the user interfaces for safety
- Better environmental condition for operator - need not stand next to meter once connections are made
- Testing without service interruptions
- DLMS meter can be calibrated through optical probe
- Complete calibration and testing for CT operated meters
- GPRS to Upload Test results with GPS location without manual intervention
- Can use any nearby Hotspot for Data Transfer, avoiding dedicated SIM cards

### Harmonics

- Voltage and Current Harmonic Distortion / THD
- Analysis upto 51<sup>st</sup> Harmonic

### Accessories

- High current range clamp-on CT with cable
- Low current range clamp-on CT with cable
- Cable for Direct CT
- PT Cable for field & laboratory use
- Scanner with stand
- Snap switch for Manual Operation
- Communication cable for downloading
- Portable Bluetooth Printer (Optional)
- Optical probe for DLMS Dial test (Optional)
- Base computer software

### Mechanical

- Dimension : 265 x 200 x 80 mm(not exceeding)
- Enclosure : ABS FR (V-O), High Strength Moulded
- Operating Temp : -10 to 50 Deg C
- Storage Temp : -25 to 70 Deg C
- Rel. Humidity : 95% non-condensing

### Phasor

- Phasor diagram to visualise the phase sequence & lead/lag conditions
- Identification of CT reversal, Phase Sequence reversal, CT/ PT interchange, Low Power factor

### Instantaneous Measurement

- Simultaneous display of all Instantaneous parameters
- Phase-wise -Voltage, Current, Active & Reactive Current and Power Factor
- Phase wise Active, Reactive and Apparent Power
- Average Power Factor and Frequency
- Phase to Phase Voltage and Angle

### Waveforms

- Analyse the waveform distortion
- Identify cases of CT saturation
- Available for both Voltage and Current channels

### Standards

- IEC 60687
- IS 12346
- IS 14697

Click the below link to explore other variants:

<https://www.sandsindia.com/portable-reference-standard-meter/>

Prices are subject to actual requirements, contact sales for pricing  
Product development is continuous process- Specification Subject to change  
SMART TPRS 21/08/2024

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