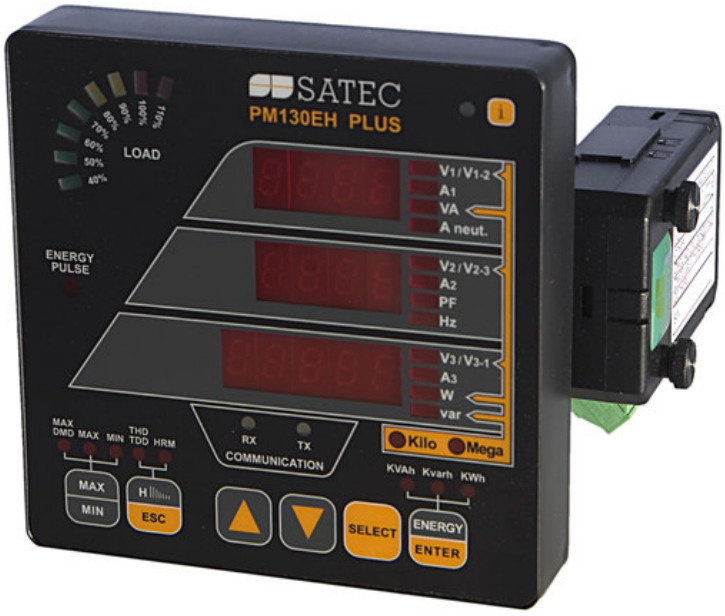
PM130 PLUS Powermeter Series

PM130P/PM130EH

CERTIFICATIONS



SATEC Instruments Types Statement

SATEC
Powerful Solutions

DECLARATION

I HEREBY DECLARE THAT THE FOLLOWING PRODUCTS:

PM130P PLUS

ARE IDENTICAL ELCTRONICALLY, PHYSICALLY, AND MECHANICALLY TO:

PM130EH PLUS

Please relate to them (from an EMC point of view) as the same product.

Thank you,

April 18, 2007.

Dany Shacked
Projects Manager
SATEC LTD.
ISRAEL

אזור תעשייה הר חוצבים
רח' המרפא 7
ת"ד 45022 ירושלים 91450
טל' 02-5411000 פקס 02-5812371
www.satec.co.il

Har Hotzvim Industrial Park
7 Hamarpe St.
POB 45022 Jerusalem 91450 Israel
Tel. +972-2-5411000 Fax +972-2-5812371
satec@satec.co.il

ISRAEL Accuracy and Insulation Tests Certification per IEC 62053-22 class 0.5S

Israel Electric Corporation
Marketing Division
Central Metering Unit

17 Ha-Lehi Street, Bnei Brak 51200, Israel
Tel. 972 3 6174859 Fax 972 3 6174908

Test Certificate

Page *1* **of** *9* **Date:** *10/07/2007* **Test Certificate No.:** *167-2007*

According to procedure No. *n/a* **And/or according to requirement:** *29-2007*

Date of acceptance: *25/06/2007* **Description of tested item:** *Power Meter*

Manufacturer: *SATEC* **Type:** *PM130 PLUS* **Serial No:** *72446, 72447*

Status: *new*

Customer: *SATEC* **Address:** *Har Ha-tzofim, Science Based Industrial Park, POBox 45022, Jerusalem 91450, Israel.*

Environmental conditions: *Ambient temperature: 23°C±2°C; relative humidity: 50%±20%*
Method: *Comparison with reference standard*
Suggested next test date: *n/a*

List of main equipment used for the calibration

Description/Type	Manufacturer	Serial number	Test date
RMM 3000	Zera	*7/5302*	*3/2006*
MTS 320	Zera	*7/5130*	*6/2007*
9500	F.W.Bell	*7/4342*	*11/2004*
UNITEST	BEHA	*K2251/19*	*2/2007*
UH 28 M	RB	*7/4009*	*2/2004*
GP3050	SCHLUMBERGER	*7/5098*	*6/2007*
VCL 4034 MH	VOTSCH	*7/5282*	*9/2006*
51-548-1	ZERA	*7/3671*	*11/2004*

The reported expanded measurement uncertainties correspond to the coverage probability of approximately 95% and based on coverage factor K=2, or as stated in enclosed document.
The results of calibration characterize the calibrated item at the time of calibration only, and not include any changes after this time.
Reference should be made the full document. The document or part of it should not be copied without confirmation with the laboratory manager.
This Calibration meets the requirements of ISO/IEC 17025 and reference quantities of the laboratory are traceable to national and international reference quantities.
The use of ISRAC symbol relates to tests/calibrations which are included in the laboratory scope of accreditation, as detailed in the accreditation certificate.
ISRAC is one of the signatories of the International Accreditation Cooperation (ILAC) Arrangement for the mutual recognition of test and calibration reports/certificates.

ISRAEL ELECTRIC CO. LTD. MARKETING DIVISION CENTRAL METER TESTING LABORATORY DEPARTMENT STANDARDS LABORATORY

Signature: **Date:** *10/07/07* **Tested by:** *G. Mitelman*

Signature: **Date:** *12/7/07* **Verified by:** בן ציון רכניץ
מהנדס כורמחה
מנהל טכני במעבדת תקנים
מחלקת מבדקה למונים

Form No.: 06/307/06/03-23, version 3

Test report of samples "Power Meter PM130 PLUS"

List of samples

Manufacturer	Type	Serial number	Reference voltage, V	Rated (maximum) current, A	Reference frequency, Hz
SATEC	PM130 PLUS	724446 724447	230/400	3 x 5(10)	50

List of performed tests

# item in IEC62053-22- class 0.5 s	# item in IEC6205 2-11	Test	Pass/No pass	# test
8.1	-	Error due to variation of the current	Pass	1.
8.2	-	Error due to ambient temperature variation	Pass	2.
8.2	-	Error due to voltage variation	Pass	3.
8.2	-	Error due to frequency variation	Pass	4.
8.2	-	Error due to reversed phase sequence	Pass	5.
8.2	-	Error due to voltage unbalance	Pass	6.
8.2.1	-	Error due to harmonic components in the current and voltage circuit	Pass	7.
8.2.2		Error due to sub-harmonics in the a.c. current circuit	Pass	8.
8.2.3	-	Error due to magnetic indication of external origin 0.5 mT	Pass	9.
8.3.1	-	Test of initial start-up of the meter	Pass	10.
7.4	7.3.3	AC voltage Insulation test	Pass	11.
7	7.3.2	Impulse voltage tests for circuits and between the circuits	Pass	12.

Expanded uncertainty of energy error: 200ppm at PF = 1 and 250ppm at PF = 0.5

EMC Tests Certification per IEC 61000-6-2

Approved to ISO/IEC 17025

ACCREDITED
Cert. No. 1152.01

EMC Test Certificate

Certificate No	Page	Date of Issue
K72790.01	1	01 May 2007

Applicant **Satec Ltd.**

Tested to

CISPR 22: 2005, Class A	
EN 61000-6-2: 2001	
IEC 61000-4-2: 2001	Air Discharge, 8kV Contact Discharge, 4kV
IEC 61000-4-3: 2006	(80-1000 MHz), 10V/m 80% A.M. by 1kHz
IEC 61000-4-4: 2004	2kV Power Lines, 1kV Signal Lines
IEC 61000-4-5: 2005	COM. Mode; 1kV, Dif. Mode; 1kV Power Lines 2kV Signal lines
IEC 61000-4-6: 2006	(0.15-80 MHz) 10VRMS, 80% A.M. by 1kHz Power and Signal Lines
IEC 61000-4-8: 2001	30A/m, 50Hz

Certified Product

E.U.T.	Power Meter
Model:	PM130EH PLUS*
Serial No.:	Not Designated

* See customer's declaration dated 18 April 2007 in ITL test report no. E72790.00.

This is to certify that the product specified herein has been tested and found compliant with the requirements noted above.

Signature: _____
D. Yadidi
EMC Test Engineer

Signature: _____
I. Raz
EMC Laboratory Manager

ITL091 Rev 1.6 26/06/05

I.T.L. (Product Testing) Ltd.
HEAD OFFICE& PRODUCT SAFETY LAB
1 Batsheva St. P.O.B 87
Lod 71100 ISRAEL
Tel: 972-8-9153100 Fax: 9728-9153101

EMC LABORATORY
Kfar Bin Nun 99780
ISRAEL
Tel: 9728-9797799 Fax: 9728-9797702

מעבדת תאימות אלקטרומגנטית
כפר בין נון 99780
ישראל
טל 9728-9797799 פקס 972-8 9797702

אייי.טי.אל) בדיקת מוצרים (בע"מ
משרד ראשי ומעבדת בטיחות מוצר
רחוב בתשבע1ת ,ד. 87
לוד71000 ישראל
טל 972-8 9153100 פקס 972-8 9153101

4. Summary of Test Results

Test	Results
Conducted Emissions CISPR 22: 2005 Class A	The E.U.T met the performance requirements of the specification. The margin between the emission levels and the specification limit was, in the worst case, 10.9 dB for the phase line at 0.51 MHz and 10.7 dB for the neutral line at 0.64 MHz.
Radiated Emissions CISPR 22: 2005 Class A	The E.U.T met the performance requirements of the specification. The margin between the emission level and the specification limit was 6.4 dB in the worst case at the frequency of 182.20 MHz, vertical polarization.
ESD IEC 61000-4-2: 2001 Air Discharge, 8kV Contact Discharge, 4kV	The E.U.T met the performance requirements of the specification.
Radiated Immunity (80-1000 MHz) IEC 61000-4-3: 2006 10 V/m, 80% A.M. by 1kHz	The E.U.T met the performance requirements of the specification.
EFT/B IEC 61000-4-4: 2004 2kV Power lines, 1kV Signal lines	The E.U.T met the performance requirements of the specification.

Summary of Test Results (cont'd.)

Test	Results
Conductive Surges IEC 61000-4-5: 2005 Differential mode; 1kV Signal lines, 2kV	The E.U.T met the performance requirements of the specification.
Conducted Disturbances (0.15-80 MHz) IEC 61000-4-6: 2006 10 VRMS, 80% A.M. by 1kHz	The E.U.T met the performance requirements of the specification.
Immunity to Magnetic Field IEC 61000-4-8: 2001 30 A/m, 50Hz	The E.U.T met the performance requirements of the specification.

Israel Testing Laboratories
מעבדות לתקנים בינלאומיים בישראל

APPROVED TO ISO/IEC 17025

I.T.L (PRODUCT TESTING) Ltd.

HEAD OFFICE, SAFETY & TELECOMS LABS.
26 Hacharoshet St., POB 211
Or Yehuda 60251 ISRAEL
Tel. 972-3-5339022
Fax. 972-3-5339019
Email: standard@itl.co.il, Web Site: http://www.itl.co.il

EMC LABORATORY
Kfar Bin Nun 99780
ISRAEL
Tel. 972-8-9797799
Fax. 972-8-9797702

ACCREDITED Cert. No. 1152.01

Nemko ELA No. 207

TO: **Satec Ltd.**
ATT: **Dany Shacked**
FROM: **Moshe Henig**
DATE: **22 July 2007**

Model: Power Meter PM130EH PLUS*

Dear Danny
This is to confirm that the subject product has been submitted to us for engineering evaluation for STD: IEC 62052-11
The following test were performed:

1. Insulation Impulse Voltage.
2. 6kV surge 1.2/50 signals with - source impedance of 500 Ohm+/- 50 Ohm Impulse was applied 10 times one polarity and then repeated with the other polarity.
3. No failures were observed during the above test.

ITL is an independent test laboratory, certified to ISO/IEC 17025:1999, ISO9002 and EN45001. International agencies and institutions that certified ITL include ISRAC, UL, MET, FCC, Industry Canada, A2LA, TUV, MedCert, and NATA.

*Model PM130EH PLUS is Identical to PM130P PLUS See customer declaration.

Moshe Henig Dipl. Ing. SMIEEE NCE
Senior Compliance Engineer

Elie Avital BSEE MBA
Safety division Director

INDIA Accuracy Tests Certification

Form No : NTH/SL/CALI/F/5A

006174

सत्यमेव जयते

CALIBRATION CERTIFICATE

भारत सरकार
उपभोक्ता मामले, खाद्य एवं सार्वजनिक वितरण मंत्रालय
Government Of India
Ministry Of Consumer Affairs , Food and Public Distribution
राष्ट्रीय परीक्षण शाला (पूर्वी क्षेत्र)

National Test House

ब्लाक-सी.पी., सेक्टर-5, साल्ट लेक सिटी, कोलकाता-700 091
Block - CP , Sector - V , Salt Lake City , Kolkata - 700 091
Phone No : 91-33-2367-3429 / 3430 / 3431 / 3871 / 9741 / 3308 , Fax No : 91-33-2367- 3871 / 3308
email : nthsal@wb.nic.in

FORM NO :NTH/SL/F/5

भारत सरकार
Government Of India
राष्ट्रीय परीक्षण शाला (पूर्वी क्षेत्र)
National Test House (Eastern Region)
ब्लाक-सी.पी., सेक्टर-5, साल्ट लेक सिटी, कोलकाता-700 091.
Block - CP, Sector -V,Salt Lake City,Kolkata - 700 091.

NABL ACCREDITED LABORATORY

031225

006174

CALIBRATION CERTIFICATE
of THREE PHASE ENERGY METER

Certificate No.	Date
NTH(ER)/CAL(EL)/2008/0017	24.04.2008

Date of Calibration	Page	No. of Pages
23.04.2008	01	02

Issued to	M/s.M.B.Control & Systems Pvt. Ltd., 31/1, Ahiripukur Road, Kolkata – 700 019
Party's Ref. No.	MBCS/08-09/1701/055939 Dated. 22.04.2008
1. Description & Identification of EUC*	Three Phase Energy Meter Model: PM130EH PLUS Make: SATEC Serial No. 737363
2. EUC* received on	22.04.2008
3. Test Procedure followed	NTH/WATT/01 and on the lines of IEC 62053 – 22 (2003)
4. Environmental Conditions	Temperature: 25±1 deg C Relative Humidity: 65 - 75%
5. Major Standards Used	Rotek Power/Energy Calibrator, USA.
6. Traceability of Measurement	NPL, New Delhi
7. Calibration Carried out at (NTH/On site)	NTH
8. NTH Identification Mark on the Label	NTH(ER)/CAL(EL)/2008/0017

Calibrated by	Checked by	Approved by
V. Sivaguru	Avijit Das	Avijit Das
SA (Elect.)	Sc.SC (Elect.)	Sc.SC (Elect.)

FORM NO :NTH/SL/F/5

भारत सरकार
Government Of India
राष्ट्रीय परीक्षण शाला (पूर्वी क्षेत्र)
National Test House (Eastern Region)
ब्लाक-सी.पी., सेक्टर-5, साल्ट लेक सिटी, कोलकाता-700 091.
Block - CP, Sector -V,Salt Lake City,Kolkata - 700 091.

031216

CALIBRATION CERTIFICATE

of THREE PHASE ENERGY METER

Certificate No.	Date
NTH(ER)/CAL(EL)/2008/0017	24.04.2008

Date of Calibration	Page	No. of Pages
23.04.2008	02	02

9.Results of Test: As desired the sample was subjected to accuracy test of energy, on the lines of IEC: 62053 – 22 (2003) and the results given below:

Parameter: AC Power at 110V, 1A at 50Hz

Sl. No.	Specified Current	Power Factor	Value of Set Current	Error observed in %	Error limits as per IEC: 62053 – 22 (2003) in %	Expanded Uncertainty, k=2
1	0.01 In ≤ I < 0.05 I_n	UPF	0.01 I_n	0.38	± 0.4	6.17E-03
2			0.045 I_n	0.35	± 0.4	6.80E-03
3	0.05 In ≤ I ≤ I_{max}	UPF	0.05 I_n	0.18	± 0.2	6.24E-03
4			I_{max}	0.16	± 0.2	1.47E-02
5	0.02 In ≤ I < 0.1 I_n	0.5Lag	0.02 I_n	0.44	± 0.5	1.02E-03
6		0.8Lead	0.02 I_n	0.48	± 0.5	1.50E-03
7		0.5Lag	0.09 I_n	0.44	± 0.5	9.92E-04
8		0.8Lead	0.09 I_n	0.45	± 0.5	1.84E-03
9	0.1 In ≤ I ≤ I_{max}	0.5Lag	0.1 I_n	0.24	± 0.3	2.14E-03
10		0.8Lead	0.1 I_n	0.23	± 0.3	1.84E-03
11		0.5Lag	I_{max}	0.26	± 0.3	2.94E-03
12		0.8Lead	I_{max}	0.27	± 0.3	1.52E-02
13	0.1 I_n ≤ I ≤ I_{max}	0.25Lag	0.1 I_n	0.45	± 0.5	4.10E-03
14		0.5Lead	0.1 I_n	0.42	± 0.5	3.20E-03
15		0.25Lag	I_{max}	0.43	± 0.5	4.71E-02
16		0.5Lead	I_{max}	0.44	± 0.5	4.65E-02

EUC* - Equipment Under Calibration

The meter complied to the requirements of Cl. 8.1 of IEC: 62053 - 22(2003) for accuracy - 0.2 S Class

10. Next calibration due on: 23.04.2009

Calibrated by
V. Sivaguru
SA (Elect.)

Checked by
Avijit Das
Sc.SC (Elect.)

Approved by
Avijit Das
Sc.SC (Elect.)

RUSSIA Type Approval Certification

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ГОССТАНДАРТ РОССИИ

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ РОСС IL.ME65.B01271

Срок действия с 14. 09. 2007 по 14. 09. 2010

6974599

ОРГАН ПО СЕРТИФИКАЦИИ РОСС. RU. 0001. 11ME65
Орган по сертификации средств измерений "Сомет" АНО "Поток-Тест"
(ОС "Сомет")
119361, Москва, ул. Озерная, 46 тел.: (495) 437-29-22

ПРОДУКЦИЯ
Прибор для измерений показателей качества и учёта электрической энергии PM130P PLUS, PM130EH PLUS
серийный выпуск

код ОК 005 (ОКП): 42 2860

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ НОРМАТИВНЫХ ДОКУМЕНТОВ
ГОСТ Р 52320 (МЭК 62052-11:2003)

код ТН ВЭД России: 9028301900

ИЗГОТОВИТЕЛЬ
SATEC Ltd, Израиль
Har Hotzvim Science Based Industrial Park P.O. Box 45022 Jerusalem 91450 Israel

СЕРТИФИКАТ ВЫДАН
SATEC Ltd, Израиль
Har Hotzvim Science Based Industrial Park P.O. Box 45022 Jerusalem 91450 Israel
тел: +972-2-5411000, факс: +972-2-5812371

НА ОСНОВАНИИ
Протокол
№ 0526 от 07.09.2007

Испытательная лаборатория электропродукции
ООО "ТЕСТЭП" Россия 249035 Обнинск
Калужская обл. пр. Ленина, д. 127, офис 513

РОСС RU.0001.21МЮ37

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ
Маркирование продукции знаком соответствия производится по ГОСТ Р 50460-92

Руководитель органа _____ (подпись) *В.Н.Яншин* (инициалы, фамилия)

М.П.

Эксперт _____ (подпись) *О.В.Круг* (инициалы, фамилия)

Сертификат имеет юридическую силу на всей территории Российской Федерации

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ГОССТАНДАРТ РОССИИ

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ **РОСС IL.ME65.B01271**

Срок действия с 14. 09. 2007 по 14. 09. 2010

6974599

ОРГАН ПО СЕРТИФИКАЦИИ **РОСС. RU. 0001. 11ME65**

Орган по сертификации средств измерений "Сомет" АНО "Поток-Тест"
(ОС "Сомет")
119361, Москва, ул. Озерная, 46 тел.: (495) 437-29-22

ПРОДУКЦИЯ

Прибор для измерений показателей качества и учёта электрической энергии PM130P PLUS, PM130EH PLUS
серийный выпуск

код ОК 005 (ОКП): **42 2860**

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ НОРМАТИВНЫХ ДОКУМЕНТОВ

ГОСТ Р 52320 (МЭК 62052-11:2003)

код ТН ВЭД России: **9028301900**

ИЗГОТОВИТЕЛЬ

SATEC Ltd, Израиль
Har Hotzvim Science Based Industrial Park P.O. Box 45022 Jerusalem 91450 Israel

СЕРТИФИКАТ ВЫДАН

SATEC Ltd, Израиль
Har Hotzvim Science Based Industrial Park P.O. Box 45022 Jerusalem 91450 Israel
тел: +972-2-5411000, факс: +972-2-5812371

НА ОСНОВАНИИ

Протокол
№ 0526 от 07.09.2007

Испытательная лаборатория электропродукции
ООО "ТЕСТЭП" Россия 249035 Обнинск
Калужская обл. пр. Ленина, д. 127, офис 513

РОСС RU.0001.21МЮ37

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ

Маркирование продукции знаком соответствия производится по ГОСТ Р 50460-92

Руководитель органа подпись *В.Н.Яншин* инициалы, фамилия

Эксперт подпись *О.В.Круг* инициалы, фамилия

Сертификат имеет юридическую силу на всей территории Российской Федерации

Declaration of Conformity

The Manufacturer of the Products covered by this Declaration is

SATEC
Powerful Solutions

SATEC LTD.
Har Hotzvim Industrial Park
POB 45022 Jerusalem 91450 ISRAEL

The Directives covered by this Declaration

89/336/EEC Electromagnetic Compatibility directive, as amended
73/23/EEC Low Voltage Equipment directive, amended by 93/68/EEC

The Products Covered by this Declaration

PM130 PLUS series: **PM130P PLUS, PM130E PLUS, PM130EH PLUS,** all models with 3 power supplies options: **ACDC, 1DC and 23DC**

PM130 PLUS add-on modules: **4DI/2DO, 4AO, TOU, TOD, ETH, PROFIBUS**

The Basis on which Conformity is being Declared

We hereby declare under our sole responsibility that the products identified above comply with the protection requirements of the EMC directive and with the principal elements of the safety objectives of the Low Voltage Equipment directive, and that the following standards have been applied:

Electromagnetic Immunity:

IEC 61000-6-2:
- IEC 61000-4-2 level 3: Electrostatic Discharge
- IEC 61000-4-3 level 3: Radiated Electromagnetic RF Fields
- IEC 61000-4-4 level 3: Electric Fast Transient
- IEC 61000-4-5 level 3: Surge
- IEC 61000-4-6 level 3: Conducted Radio Frequency
- IEC 61000-4-8: Power Frequency Magnetic

Electromagnetic Emission:

IEC 61000-6-4: Radiated/Conducted class A

IEC CISPR 22: Radiated/Conducted class A

Safety:

IEC 61010-1

AC and Impulse insulation by IEC 62052

The technical documentation required to demonstrate that the products meet the requirements of the Low Voltage Equipment directive has been compiled and is available for inspection by the relevant enforcement authorities.

The CE mark was first applied in: 5/08/2007

Signed: Daniel Slacked

Authority: R&D Projects Manager.

Date: 29/07/2007.