הרשות הלאומית להסמכת מעבדות
Israel Laboratory Accreditation Authority

מעבדות כיול **ISO/IEC 17025:2017**

תעודת הסמכה מס' 0094

חברת החשמל לישראל בע"מ; אגף הנדסת רשת; מונים ארצי- מחלקת מבדקות מונים; מעבדת תקנים

כתובת אתר ייחוס: לח"י 17, בני ברק, 5120026

בתוקף מיום: 09.02.2020 **עד יום: 11.02.2022**

הארגון נבדק ונבחן על ידי הרשות הלאומית להסמכת מעבדות (להלן הרשות) ונמצא ראוי להסמכה בהתאם לנספח פירוט היקף ההסמכה המצורף לתעודה זו, המהווה חלק בלתי נפרד ממנה ומספרו זהה למספר התעודה.

הסמכה מצביעה על כשירות מקצועית ותפעול מערכת ניהול איכות בעלת הכרה בינלאומית.

הארגון המוסמך על ידי הרשות, עומד בתקנים/בדרישות המפורטים למעלה. דרישות התקנים הם לכשירות מקצועית ולמערכות ניהול, שהינן הכרחיות למתן תוצאות אמינות. הסמכה זו ניתנה בהתאם לכללי ISO/IEC 17011:2017 לפיהם פועלת הרשות ובמסגרתם מקיימת פיקוח שוטף על הארגון לצורך בחינת תפקודו המתמשך בהתאם לדרישות ההסמכה.

ההסמכה תקפה כל עוד הארגון עונה לאמות המידה שנקבעו על ידי הרשות.

תעודה זו אינה מהווה אישור לפי סעיף 12 לחוק התקנים.

תאריך הסמכה ראשון: 12.02.2003

אתי פלר
מנכ"ל
הרשות הלאומית להסמכת מעבדות

הרשות הלאומית להסמכת מעבדות
Israel Laboratory Accreditation Authority

Calibration Laboratories

ISO/IEC 17025:2017

Accreditation Certificate No. 94

Standards Laboratory; Meter Testing Department - Central Metering Unit; Network Engineering Division; Israel Electric Corporation Ltd.

Main site address: 17 Lechi st., Bnei-Brak ,5120026, Israel

Valid from: 09.02.2020 **Until: 11.02.2022**

The organization was assessed by the Israel Laboratory Accreditation Authority (ISRAC) and found to be worthy of accreditation to the detailed schedule attached.
The schedule is an integral part of this certificate and is numbered with the above certificate number.
Accreditation demonstrates technical competence and operation of an internationally recognized quality management system.
The organization accredited by ISRAC complies with the standards/requirements mentioned above, meets the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically competent results. This accreditation is granted in accordance with the requirements of ISO/IEC 17011:2017, and entails periodic surveillance and reassessment by ISRAC to ensure that the organization continues to comply with the accreditation requirements.
The accreditation is valid provided that the organization continues to meet the criteria as laid down by ISRAC.

This certificate does not constitute an approval in accordance with article 12 of the standard law.

Date of first accreditation: 12.02.2003

Etty Feller
General Manager
Israel Laboratory Accreditation Authority

Date of signature 03/06/2020

***Name and Address*:**

Laboratory name	**Standards Laboratory, Meter Testing Department - Central Metering Unit, Network Engineering Division, Israel Electric Corporation Ltd.**
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- *P* Israel Electric Corp. Ltd Meter Test Station
  Marketing Division Central Metering Unit
  Standard Laboratory

- *P1* H.V Laboratory-Beit Dagan Store, +972-3-960-2241
  Meter Testing Department-Central Metering Unit,
  Marketing Division, Israel Electric Corporation Ltd.

As declared by the Organization, following is a list of the permanent sites and the phones numbers at which accredited activities are performed

Site: P or T or M , P-Permanent, T-Temporary, M-Mobile
A permanent (P) or temporary (T) place, or a stationary or mobile (M) facility, at or from which the organization performs activities forming part of its scope of accreditation, starting from sampling to final issuance of a report or certificate and / or quality system activities. A temporary (T) site is a site established under the responsibility of an accredited permanent site. All activities performed at a temporary site are the responsibility of the permanent site. An outdoors work is also considered to be a temporary site. Temporary site will be a site that involves work for special project and the activity will be defined in time (up to 2 years).
Type of Scopes: A- Fixed, C- Flexible scope in analytical tests : Type of matrix, analytes, experimental systems and/or analytical characteristics may be subject to changes, in accordance with the laboratory's approved and documented procedures. For details, please refer to the list of Accredited Tests, available from the laboratory upon request.

Item	*Scope Type*	*Site*	*Measurand, Instrument, Gauge*		*Range [Including margins] (Does not include margins)*	*CMC Expressed as an Expanded Uncertainty (95%)*	*Reference Documents*	*Remarks*
Calibration – Electrical Quantities - DC and LF								***כיול – גדלים חשמליים - זרם ישר ותדר נמוך***
1	A	P	DC Voltage, Sources	מחוללי מתח בזרם ישר	[0 V to 0.1 V]	2 µV	Manufacturer Instructions	Digital Multimeters: Datron 1271; Fluke 8508A
2	A	P			(0.1 V to 0.2 V]	2.7 µV		
3	A	P			(0.2 V to 1.0 V]	14 µV		
4	A	P			(1.0 V to 2.0 V]	19 µV		
5	A	P			(2.0 V to 10 V]	120 µV		
6	A	P			(10 V to 20 V]	180 µV		
7	A	P			(20 V to 100 V]	1.4 mV		
8	A	P			(100 V to 200 V]	2.3 mV		
9	A	P			(200 V to 1000 V]	14 mV		
10	A	P	DC Voltage Reference Voltage Sources	מתח בזרם ישר, מקורות מתח ישר לייחוס	1.018 V	2.2 µV	Manufacturer Instructions	Standard Cells Fluke 7001 Digital Multimeters: Datron 1271; Fluke 8508A
11	A	P			10 V	20 µV		
12	A	P	DC Voltage, Measuring Instruments	מכשירי מדידת מתח בזרם ישר	[0 V to 0.33 V]	16 µV	Manufacturer Instructions	Calibrator Fluke 5520A
13	A	P			(0.33 V to 3. 3 V]	160 µV		
14	A	P			(3.3 V to 33 V]	1.6 mV		
15	A	P			(33 V to 330 V]	21 mV		
16	A	P			(330 V to 1020 V]	21 mV		
17	A	P	DC Current, Sources	זרם ישר, מחוללים	[0 mA to 0.2 mA]	5.4 nA	Manufacturer Instructions	Digital Multimeters Datron 1271; Fluke 8508A
18	A	P			(0.2 mA to 2.0 mA]	54 nA		
19	A	P			(2.0 mA to 20 mA]	0.57 µA		

Item	*Scope Type*	*Site*	*Measurand, Instrument, Gauge*		*Range [Including margins] (Does not include margins)*	*CMC Expressed as an Expanded Uncertainty (95%)*	*Reference Documents*	*Remarks*
Calibration – Electrical Quantities - DC and LF								***כיול – גדלים חשמליים - זרם ישר ותדר נמוך***
20	A	P			(20 mA to 200 mA]	17 µA		
21	A	P			(200 mA to 1.0 A]	250 µA		
22	A	P			(1.0 A to 2.0 A]	0.58 mA		
23	A	P			(2.0 A to 20 A]	13 mA		
24	A	P	DC Current, Measuring Instruments	זרם ישר, מכשירי מדידה	[0 mA to 0.32 mA]	0.7 µA	Manufacturer Instructions	Calibrators Fluke 5520A;
25	A	P			(0.32 mA to 3.3 mA]	1.2 µA		
26	A	P			(3.3 mA to 33 mA]	21 µA		
27	A	P			(33 mA to 330 mA]	310 µA		
28	A	P			(330 mA to 2.1 A]	1.2 mA		
29	A	P			(3.2 A to 11 A]	12 mA		
			AC Voltage, Sources	מתח חילופין מחוללים	[40 Hz to 70 Hz]		Manufacturer Instructions	Digital Multimeters Datron 1271; Fluke 8508A
30	A	P			[0.00 V to 0.1 V]	0.053 mV		
31	A	P			(0.1 V to 0.2 V]	0.072 mV		
32	A	P			(0.2 V to 1.0 V]	0.2 mV		
33	A	P			(1.0 V to 2.0 V]	0.41 mV		
34	A	P			(2.0 V to 10 V]	3.8 mV		
35	A	P			(10 V to 20 V]	4.9 mV		Three Phase Comparator Zera COM 303-1
36	A	P			(20 V to 60 V]	6.0 mV		
37	A	P			(60 V to 120 V]	11 mV		

Item	*Scope Type*	*Site*	*Measurand, Instrument, Gauge*		*Range [Including margins] (Does not include margins)*	*CMC Expressed as an Expanded Uncertainty (95%)*	*Reference Documents*	*Remarks*
Calibration – Electrical Quantities - DC and LF								***כיול – גדלים חשמליים - זרם ישר ותדר נמוך***
38	A	P			(120 V to 240 V]	22 mV		
39	A	P			(240 V to 480 V]	44 mV		Digital Multimeter Fluke 8508A
40	A	P	AC Voltage. Measuring Instruments	מתח חילופין מכשירי מדידה	[40 Hz to 70 Hz] [0.00 V to 0.01 V]	150 µV	Manufacturer Instructions	Calibrators Fluke 5520A;
41	A	P			(0.01 V to 0.033 V]	160 µV		
42	A	P			(0.033 V to 0.32 V]	600 µV		
43	A	P			(0.32 V to 3.2 V]	5.4 mV		
44	A	P			(3.2 V to 33 V]	40 mV		
45	A	P			(33 V to 330 V]	280 mV		
46	A	P			(330 V to 1020 V]	1 V		
47	A	P	AC Voltage. Sources	מתח חילופין מחוללים	[70 Hz to 1 KHz] [0.00 V to 0.1 V]	0.053 mV	Manufacturer Instructions	Digital Multimeters Datron 1271; Fluke 8508A
48	A	P			(0.1 V to 0.2 V]	0.075 mV		
49	A	P			(0.2 V to 1.0 V]	0.18 mV		
50	A	P			(1.0 V to 2.0 V]	0.46 mV		
51	A	P			(2.0 V to 10 V]	3.8 mV		
52	A	P			(10 V to 20 V]	5.4 mV		
53	A	P			(20 V to 100 V]	24 mV		
54	A	P			(100 V to 200 V]	46 mV		

Item	*Scope Type*	*Site*	*Measurand, Instrument, Gauge*		*Range [Including margins] (Does not include margins)*	*CMC Expressed as an Expanded Uncertainty (95%)*	*Reference Documents*	*Remarks*
Calibration – Electrical Quantities - DC and LF								***כיול – גדלים חשמליים - זרם ישר ותדר נמוך***
55	A	P			(200V to 1000V]	240 mV		
56	A	P	AC Current Sources	זרם חילופין מחוללים	[40 Hz to 70 Hz] [0.0 µA to 100 µA]	0.073 µA	Manufacturer Instructions	Digital Multimeters Datron 1271; Fluke 8508A
57	A	P			(100 µA to 200 µA]	0.17 µA		
58	A	P			(200 µA to 1.0 mA]	0.064 µA		
59	A	P			(1.0 mA to 2.0 mA]	1.2 µA		
60	A	P			(2.0 mA to 5.0 mA]	1.3 µA		Three Phase Comparator Zera COM 303-1
61	A	P			(5.0 mA to 10 mA]	1.6 µA		
62	A	P			(10 mA to 20 mA]	4.0 µA		
63	A	P			(20 mA to 50 mA]	8.0 µA		
64	A	P			(50 mA to 100 mA]	10 µA		
65	A	P			(100mA to 200mA]	21 µA		
66	A	P			(200mA to 500mA]	50 µA		
67	A	P			(0.5 A to 1.0 A]	0.1 mA		
68	A	P			(1.0 A to 2.0 A]	0.21 mA		
69	A	P			(2.0 A to 5.0 A]]	0.5 mA		
70	A	P			(5.0 A to 10 A]	1.0 mA		
71	A	P			(10 A to 20 A]	4.0 mA		
72	A	P			(20 A to 50 A]	10 mA		

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Calibration – Electrical Quantities - DC and LF								***כיול – גדלים חשמליים - זרם ישר ותדר נמוך***
73	A	P			(50 A to 100 A]	18 mA		
74	A	P			(100 A to 160 A]	43 mA		
75	A	P			(160 A to 500 A]	157 mA		Three Phase Comparator Zera COM 303-1 Current Comparator Tettex 4761
76	A	P			(500 A to 1000 A]	197 mA		
			AC Current Measuring Instruments	זרם חילופין מכשירי מדידה	[40 Hz to 70 Hz]		Manufacturer Instructions	Calibrators Fluke 5520A;
77	A	P			[0.0 µA to 33 µA]	0.92 µA		
78	A	P			(33 µA to 0.32 mA]	1.3 µA		
79	A	P			0.32mA to 3.2mA]	5.2 µA		
80	A	P			(3.2 mA to 33 mA]	56 µA		
81	A	P			(33 mA to 330 mA]	560 µA		
82	A	P			(0.33 A to 2.2 A]	4.2 mA		
83	A	P			(2.2 A to 11 A]	14 mA		
84	A	P			(11 A to 20 A]	70 mA		
85	A	P			(20 A to 32 A]	110 mA		
86	A	P			(32 A to 160 A]	560 mA		
87	A	P			(160 A to 200 A]	750 mA		
88	A	P			(200 A to 1000 A]	3.9 A		

Item	*Scope Type*	*Site*	*Measurand, Instrument, Gauge*		*Range [Including margins] (Does not include margins)*	*CMC Expressed as an Expanded Uncertainty (95%)*	*Reference Documents*	*Remarks*
Calibration – Electrical Quantities - DC and LF								***כיול – גדלים חשמליים - זרם ישר ותדר נמוך***
89	A	P	AC Current Sources	זרם חילופין מחוללים	[70 Hz to 1 KHz] [0.0µA to 0.1mA]	0.073 µA	Manufacturer Instructions	Digital Multimeters Datron 1271; ***Fluke 8508A***
90	A	P			(0.1 mA to 0.2mA]	0.2 µA		
91	A	P			(0.2 mA to 1.0mA]	0.64 µA		
92	A	P			(1.0 mA to 2.0mA]	1.4 µA		
93	A	P			(2.0 mA to 10 mA]	6.4 µA		
94	A	P			(10 mA to 20 mA]	14 µA		
95	A	P			(20 mA to 100mA]	45 µA		
96	A	P			(100mA to 200mA]	170 µA		
97	A	P			(0.2 A to 1.0 A]	0.95 mA		
98	A	P			(1.0 A to 2.0 A]	1.9 mA		
99	A	P			(2.0 A to 20 A]	25 mA		
100	A	P	DC resistance, Reference Resistance	התנגדות זרם ישר, התנגדויות לייחוס	(0.0 Ω to 0.02 Ω]	13 µΩ	Manufacturer Instructions	Micro-Ohmmeter Cambridge 510A; Digital Multimeters Datron 1271; Fluke 8508A
101	A	P			(0.02 Ω to 2.0 Ω]	77 µΩ		
102	A	P			(2.0 Ω to 20 Ω]	0.37 mΩ		
103	A	P			(20 Ω to 100 Ω]	1.9 mΩ		
104	A	P			(100 Ω to 200 Ω]	3.5 mΩ		
105	A	P			(200 Ω to 1.0 kΩ]	1.9 mΩ		
106	A	P			(1.0 kΩ to 2.0 kΩ]	35 mΩ		
107	A	P			(2.0 kΩ to 10 kΩ]	0.17 Ω		

Item	*Scope Type*	*Site*	*Measurand, Instrument, Gauge*		*Range [Including margins] (Does not include margins)*	*CMC Expressed as an Expanded Uncertainty (95%)*	*Reference Documents*	*Remarks*
Calibration – Electrical Quantities - DC and LF								***כיול – גדלים חשמליים - זרם ישר ותדר נמוך***
108	A	P			(10 kΩ to 20 kΩ]	0.30 Ω		
109	A	P			(20 kΩ to 100 kΩ]	1.9 Ω		
110	A	P			(100 kΩ to 200 kΩ]	3.5 Ω		
111	A	P			(200 kΩ to 1.0 MΩ]	31 Ω		
112	A	P			(1.0 MΩ to 2.0 MΩ]	50 Ω		
113	A	P			(2.0 MΩ to 10 MΩ]	0.64 kΩ		
114	A	P			(10 MΩ to 20 MΩ]	0.93 kΩ		
115	A	P			(20 MΩ to 200 MΩ]	63 kΩ		Digital Multimeter Fluke 8508A
116	A	P			(200 MΩ to 1 GΩ]	5.1 MΩ		
117	A	P	DC Resistance, Measuring Instruments	התנגדות זרם ישר, מכשירי מדידה	(0.0 Ω to 11.0 Ω]	14 mΩ	Manufacturer Instructions	Calibrators Fluke 5520A;
118	A	P			(11.0 Ω to 33.0 Ω]	26 mΩ		
119	A	P			(33 Ω to 110 Ω]	40 mΩ		
120	A	P			(110 Ω to 330 Ω]	100 mΩ		
121	A	P			(330 Ω to 1.1 kΩ]	300 mΩ		
122	A	P			(1.1 kΩ to 3.3 kΩ]	1.0 Ω		
123	A	P			(3.3 kΩ to 11 kΩ]	3.0 Ω		
124	A	P			(11 kΩ to 33 kΩ]	7.0 Ω		
125	A	P			(33 kΩ to 110 kΩ]	28 Ω		
126	A	P			(110 kΩ to 330 kΩ]	85 Ω		

Item	*Scope Type*	*Site*	*Measurand, Instrument, Gauge*		*Range [Including margins] (Does not include margins)*	*CMC Expressed as an Expanded Uncertainty (95%)*	*Reference Documents*	*Remarks*
Calibration – Electrical Quantities - DC and LF								***כיול – גדלים חשמליים - זרם ישר ותדר נמוך***
127	A	P			(330 kΩ to 1.1 MΩ]	350 Ω		
128	A	P			(1.1 MΩ to 3.3 MΩ]	1.2 kΩ		
129	A	P			(3.3 MΩ to 11 MΩ]	12 kΩ		
130	A	P			(11 MΩ to 33 MΩ]	100 kΩ		
131	A	P			(33 MΩ to 110 MΩ]	920 kΩ		
132	A	P			(110 MΩ to 330 MΩ]	6.0 MΩ		
133	A	P	Phase angle, Wattmeter, Power source	זווית מופע, מד הספק, מקור הספק	[0° to 360°]	0.034°	Manufacturer Instructions	Three Phase Comparator Zera COM 303-1
134	A	P1	Voltage ratio Voltage measuring transformer Primary: 6 kV to 40 kV Secondary: 110 V or 110/√3 V	יחס השנאה של שנאי מתח	1/300 to 1/120	$2 \cdot 10^{-4}$ V/V	IEC 60044-2	Reference V.T. MPS NVOD 30. Measuring Bridge Zera WM-303U 1' (minute) stands for 0.291 mrad
135	A	P1	Phase displacement Voltage measuring transformer Primary: 6 kV to 40 kV Secondary: 110 V or 110/√3 V	הזזת מופע של שנאי מתח	0' to 100'	2.0'		
136	A	P1	Current ratio Current measuring transformer Primary: 0.05 A to 1000 A Secondary: 5 A	יחס השנאה של שנאי זרם	1/200 to 1/1	$1.1 \cdot 10^{-4}$ A/A	IEC 60044-1	Current comparator TETTEX 4761. Measuring Bridge Zera WM-303I 1' (minute) stands for 0.291 mrad
137	A	P1	Phase displacement Current measuring transformer Primary: 0.05A to 1000A Secondary: 5A	הזזת מופע של שנאי זרם	0' to 100'	0.3'		

Item	*Scope Type*	*Site*	*Measurand, Instrument, Gauge*		*Range [Including margins] (Does not include margins)*	*CMC Expressed as an Expanded Uncertainty (95%)*	*Reference Documents*	*Remarks*
Calibration – Electrical Quantities - DC and LF								***כיול – גדלים חשמליים - זרם ישר ותדר נמוך***
138	A	P	Frequency, Sources	תדר, מחוללים	[0.5 Hz to 10.0 MHz]	1.5 Hz / MHz	Manufacturer Instructions	Timer/ Counter Pendulum CNT 80
139	A	P	Frequency. Counters	תדר, מוני תדר	[0.5 Hz to 10.0 MHz]	2.5 Hz / MHz	Manufacturer Instructions	Function Generator Philips PM 5193

Item	*Scope Type*	*Site*	*Measurand Instrument, Gauge*		*Range [Including margins] (Does not include margins)*	*CMC Expressed as an Expanded Uncertainty (95%)*	*Reference Documents*	*Remarks*
Calibration – Physical Quantities - Humidity								***כיול – גדלים פיזיקליים - לחות***
140	A	P	Relative Humidity, Hygrometers and humidity transducers, Ambient Humidity measurement	לחות יחסית, מדי לחות ומתמרים, מדידת לחות סביבה	23 ºC [30 % rh to 95 % rh] 50 ºC [10 % rh to 95 % rh]	6.0 % rh 7.0 % rh	IEC 60068 A Guide to the Measurement of humidity- NPL	Reference instrument TESTO 650

Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – ***Electrical Quantities - LF Single & Three Phase Electrical Power and Energy***							***כיול – גדלים חשמליים - הספק ואנרגיה חשמלית חד ותלת מופעית בתדר נמוך***	
141	A	P	Active Energy, in single phase 50 Hz network,	אנרגיה אקטיבית ברשת חד מופעית 50 Hz	63.5 V P. Factor 0.5 5 A	200 µJ/J	IEC 60736 IEC 60514 IEC 61358	Reference instrument COM 303 standard instrument Voltage measured phase to neutral
142	A	P			P. Factor 1 5 A	150 µJ/J	IEC 60687 IEC 62052-11	
143	A	P			10 A	150 µJ/J	IEC 62053-11 IEC 62053-21 IEC 62053-22 IEC 62053-23	
144	A	P			230 V P. Factor 0.5 2.5 A	200 µJ/J	IEC 60688 IEC 60145	
145	A	P			5 A	200 µJ/J		
146	A	P			10 A	200 µJ/J		
147	A	P			20 A	220 µJ/J		
148	A	P			50 A	220 µJ/J		
149	A	P			100 A	220 µJ/J		
150	A	P			P. Factor 1 0.05 A	170 µJ/J		
151	A	P			0.1 A	150 µJ/J		
152	A	P			0.2 A	150 µJ/J		
153	A	P			0.25 A	150 µJ/J		
154	A	P			0.5 A	150 µJ/J		
155	A	P			1 A	150 µJ/J		
156	A	P			2 A	150 µJ/J		
157	A	P			2.5 A	150 µJ/J		

Item	*Scope Type*	*Site*	*Measurand Instrument, Gauge*		*Range [Including margins] (Does not include margins)*	*CMC Expressed as an Expanded Uncertainty (95%)*	*Reference Documents*	*Remarks*
Calibration – ***Electrical Quantities - LF Single & Three Phase Electrical Power and Energy***						***כיול – גדלים חשמליים - הספק ואנרגיה חשמלית חד ותלת מופעית בתדר נמוך***		
158	A	P			5 A	150 µJ/J		
159	A	P			10 A	150 µJ/J		
160	A	P			20 A	170 µJ/J		
161	A	P			50 A	170 µJ/J		
162	A	P			100 A	170 µJ/J		
163	A	P	Active Energy, in three phase 50 Hz network, 3 wires, 2 elements	אנרגיה אקטיבית, מונה ברשת תלת מופעית 50 Hz 3 מוליכים, 2 אלמנטים	110 V P. Factor 0.5 0.01 A	220 µJ/J	IEC 60736 IEC 60514 IEC 61358	Reference instrument COM 303 of Zera standard instrument. Voltage phase to phase
164	A	P			0.02 A	220 µJ/J	IEC 60687	
165	A	P			0.05 A	220 µJ/J	IEC 62052-11 IEC 62053-11 IEC 62053-21	
166	A	P			0.1 A	200 µJ/J	IEC 62053-22	
167	A	P			0.2 A	200 µJ/J	IEC 62053-23 IEC 60688	
168	A	P			0.5 A	200 µJ/J	IEC 60145	
169	A	P			1 A	200 µJ/J		
170	A	P			2 A	200 µJ/J		
171	A	P			5 A	200 µJ/J		
172	A	P			P. Factor 1 0.01 A	170 µJ/J		
173	A	P			0.02 A	170 µJ/J		
174	A	P			0.05 A	170 µJ/J		

Item	Scope Type	Site	Measurand Instrument, Gauge		Range [Including margins] (Does not include margins)	CMC Expressed as an Expanded Uncertainty (95%)	Reference Documents	Remarks
Calibration – *Electrical Quantities - LF Single & Three Phase Electrical Power and Energy*						כיול – *גדלים חשמליים - הספק ואנרגיה חשמלית חד ותלת מופעית בתדר נמוך*		
175	A	P			0.1 A	150 µJ/J		
176	A	P			0.2 A	150 µJ/J		
177	A	P			0.5 A	150 µJ/J		
178	A	P			1 A	150 µJ/J		
179	A	P			2 A	150 µJ/J		
180	A	P			5 A	150 µJ/J		
181	A	P			10 A	150 µJ/J		
182	A	P			20 A	170 µJ/J		
183	A	P	Active energy, in three phase 50 Hz network, 4 wires, 3 elements	אנרגיה אקטיבית ברשת תלת מופעית 50 Hz 4 מוליכים, 3 אלמנטים	63.5 V P. Factor 0.5 0.05 A	220 µJ/J		Reference instrument ILM 03 standard instrument Voltage measured phase to neutral
184	A	P			0.1 A	200 µJ/J		
185	A	P			0.2 A	200 µJ/J		
186	A	P			0.5 A	200 µJ/J		
187	A	P			1 A	200 µJ/J		
188	A	P			2 A	200 µJ/J		
189	A	P			5 A	200 µJ/J		
190	A	P			10 A	200 µJ/J		
191	A	P			P. Factor 1 0.05 A	170 µJ/J		
192	A	P			0.1 A	150 µJ/J		

Item	*Scope Type*	*Site*	*Measurand Instrument, Gauge*	*Range [Including margins] (Does not include margins)*	*CMC Expressed as an Expanded Uncertainty (95%)*	*Reference Documents*	*Remarks*
Calibration – *Electrical Quantities - LF Single & Three Phase Electrical Power and Energy*					*כיול – גדלים חשמליים - הספק ואנרגיה חשמלית חד ותלת מופעית בתדר נמוך*		
193	A	P		0.2 A	150 µJ/J		
194	A	P		0.5 A	150 µJ/J		
195	A	P		1 A	150 µJ/J		
196	A	P		2 A	150 µJ/J		
197	A	P		5 A	150 µJ/J		
198	A	P		10 A	150 µJ/J		
199	A	P		230 V P. Factor 0.5 0.01 A	220 µJ/J		
200	A	P		0.02 A	220 µJ/J		
201	A	P		0.05 A	220 µJ/J		
202	A	P		0.1 A	200 µJ/J		
203	A	P		0.2 A	200 µJ/J		
204	A	P		0.5 A	200 µJ/J		
205	A	P		1 A	200 µJ/J		
206	A	P		2 A	200 µJ/J		
207	A	P		5 A	200 µJ/J		
208	A	P		10 A	200 µJ/J		
209	A	P		20 A	220 µJ/J		
210	A	P		50 A	220 µJ/J		

Item	*Scope Type*	*Site*	*Measurand Instrument, Gauge*		*Range [Including margins] (Does not include margins)*	*CMC Expressed as an Expanded Uncertainty (95%)*	*Reference Documents*	*Remarks*
Calibration – ***Electrical Quantities - LF Single & Three Phase Electrical Power and Energy***						***כיול – גדלים חשמליים - הספק ואנרגיה חשמלית חד ותלת מופעית בתדר נמוך***		
211	A	P			100 A	220 µJ/J		
212	A	P			P. Factor 1 0.01 A	170 µJ/J		
213	A	P			0.02 A	170 µJ/J		
214	A	P			0.05 A	170 µJ/J		
215	A	P			0.1 A	150 µJ/J		
216	A	P			0.2 A	150 µJ/J		
217	A	P			0.5 A	150 µJ/J		
218	A	P			1 A	150 µJ/J		
219	A	P			2 A	150 µJ/J		
220	A	P			5 A	150 µJ/J		
221	A	P			10 A	150 µJ/J		
222	A	P			20 A	170 µJ/J		
223	A	P			50 A	170 µJ/J		
224	A	P			100 A	170 µJ/J		
225	A	P	Reactive energy, in three phase 50 Hz network, 3 wires, 2 elements	אנרגיה ראקטיבית ברשת תלת מופעית 50 Hz 3 מוליכים, 2 אלמנטים	110 V P. Factor 0.5 0.05 A	300 µJ/J		Reference instrument COM 303 of Zera standard instrument. Voltage phase to phase
226	A	P			0.1 A	280 µJ/J		
227	A	P			0.2 A	280 µJ/J		
228	A	P			0.5 A	280 µJ/J		

Item	*Scope Type*	*Site*	*Measurand Instrument, Gauge*		*Range [Including margins] (Does not include margins)*	*CMC Expressed as an Expanded Uncertainty (95%)*	*Reference Documents*	*Remarks*
Calibration – ***Electrical Quantities - LF Single & Three Phase Electrical Power and Energy***						***כיול – גדלים חשמליים - הספק ואנרגיה חשמלית חד ותלת מופעית בתדר נמוך***		
229	A	P			1 A	280 µJ/J		
230	A	P			2 A	280 µJ/J		
231	A	P			5 A	280 µJ/J		
232	A	P			10 A	280 µJ/J		
233	A	P			P. Factor 1 0.01 A	240 µJ/J		
234	A	P			0.02 A	240 µJ/J		
235	A	P			0.05 A	240 µJ/J		
236	A	P			0.1 A	230 µJ/J		
237	A	P			0.2 A	230 µJ/J		
238	A	P			0.5 A	230 µJ/J		
239	A	P			1 A	230 µJ/J		
240	A	P			2 A	230 µJ/J		
241	A	P			5 A	230 µJ/J		
242	A	P			10 A	230 µJ/J		
243	A	P	Reactive energy, in three phase 50 Hz network, 4 wires, 3 elements	אנרגיה ראקטיבית ברשת תלת מופעית 50 Hz 4 מוליכים, 3 אלמנטים	63.5 V P. Factor 0.5 0.05 A	300 µJ/J		Reference instrument COM 303 of Zera standard instrument. Voltage phase to neutral
244	A	P			0.1 A	280 µJ/J		
245	A	P			0.2 A	280 µJ/J		
246	A	P			0.5 A	280 µJ/J		

Item	*Scope Type*	*Site*	*Measurand Instrument, Gauge*	*Range [Including margins] (Does not include margins)*	*CMC Expressed as an Expanded Uncertainty (95%)*	*Reference Documents*	*Remarks*
Calibration – ***Electrical Quantities - LF Single & Three Phase Electrical Power and Energy***					***כיול – גדלים חשמליים - הספק ואנרגיה חשמלית חד ותלת מופעית בתדר נמוך***		
247	A	P		1 A	280 µJ/J		
248	A	P		2 A	280 µJ/J		
249	A	P		5 A	280 µJ/J		
250	A	P		10 A	280 µJ/J		
251	A	P		P. Factor 1 0.01 A	240 µJ/J		
252	A	P		0.02 A	240 µJ/J		
253	A	P		0.05 A	240 µJ/J		
254	A	P		0.1 A	230 µJ/J		
255	A	P		0.2 A	230 µJ/J		
256	A	P		0.5 A	230 µJ/J		
257	A	P		1 A	230 µJ/J		
258	A	P		2 A	230 µJ/J		
259	A	P		5 A	230 µJ/J		
260	A	P		10 A	230 µJ/J		
261	A	P		230 V P. Factor 0.5 0.05 A	300 µJ/J		
262	A	P		0.1 A	280 µJ/J		
263	A	P		0.2 A	280 µJ/J		

Item	*Scope Type*	*Site*	*Measurand Instrument, Gauge*	*Range [Including margins] (Does not include margins)*	*CMC Expressed as an Expanded Uncertainty (95%)*	*Reference Documents*	*Remarks*
Calibration – *Electrical Quantities - LF Single & Three Phase Electrical Power and Energy*					*כיול – גדלים חשמליים - הספק ואנרגיה חשמלית חד ותלת מופעית בתדר נמוך*		
264	A	P		0.5 A	280 µJ/J		
265	A	P		1 A	280 µJ/J		
266	A	P		2 A	280 µJ/J		
267	A	P		5 A	280 µJ/J		
268	A	P		10 A	280 µJ/J		
269	A	P		P. Factor 1 0.01 A	240 µJ/J		
270	A	P		0.02 A	240 µJ/J		
271	A	P		0.05 A	240 µJ/J		
272	A	P		0.1 A	230 µJ/J		
273	A	P		0.2 A	230 µJ/J		
274	A	P		0.5 A	230 µJ/J		
275	A	P		1 A	230 µJ/J		
276	A	P		2 A	230 µJ/J		
277	A	P		5 A	230 µJ/J		
278	A	P		10 A	230 µJ/J		

Department: Calibration Laboratory ISO/IEC 17025: 2017 Accreditation No. 0094

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Calibration – Physical Quantities - Temperature							***כיול – גדלים פיזיקליים - טמפרטורה***
279	A	P	Temperature, Temperature Meters and Transducers טמפרטורה מדי טמפרטורה ומתמרים	[0 ºC to 60 ºC]	0.5 ºC	IEC 60068	Reference instrument TESTO 650