

**דו"ח בדיקה מס': 9213202265**

פרטי ההזמנה:

שם המזמין :	שניידר אלקטריק ישראל בע"מ
מענו :	אזור תעשייה לב השרון טל. 09-8305555
תאריך ההזמנה :	06.02.2012

תאור המוצר:

ממיר סולארי	
דגם :	CONEXT TL 20000E
יצרן :	Schneider Electric Ltd.
ארץ :	China
הספק המפך :	15-20 KW

פרטי הנטילה:

המדגם ניטל בתאריך :	02.05.2012
הנוטל :	בא כח המזמין.
גודל המדגם :	1

מהות הבדיקה:

סקירת התאמת המהפך לדרישות חלקי התקן :	
	Inverter requirements - Part 2
	Grid protection requirements - Part 3
	SBתקן SI 4777 / AS 4777 standards for Grid Connection of Inverter Systems
	AS 3100 General requirements for electrical equipment

מסמך זה כשלעצמו אינו משמש לשחרור טובין ממכס

דו"ח בדיקה זה מתייחס רק לפריט שנבדק בלבד ואין ליחסו לדוגמאות אחרות של אותו מוצר

מסמך זה מכיל 11 דפים ואין להשתמש בו אלא במלואו

מסקנות הבדיקה:

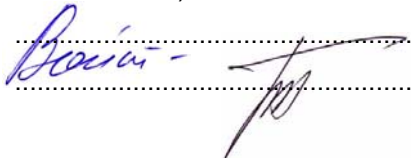
הדוגמה שנבדקה נמצא <b>מתאימה</b> לסעיפים בתקן.
<b>הערות:</b>
1. הסעיפים נסקרו מול תיעוד מספר: TD110826C01 and PVAU110826C01.
2. לפי מעבדת: Bureau Veritas.
3. דוגמה זו מייצגת עבור מודולים מדגם: CONEXT TL 15000E- 20000E.

גודלי ראובן  
ראש ענף מערכות אנרגיה

עידו כהן - סמי אהרון  
מהנדס בודק

תאריך סיום הבדיקה: 21.06.2012


### EVALUATION REPORT

**Report Reference No.** ..... : 9212303698 (Energy Branch P.O.: 9213202265)  
**Performed by (name + signature)** ..... : SERGEY VOYTENKO  
**Approved by (name + signature)** ..... : MICHAEL TERMAN   
**Date of performance of evaluation**..... : 12-14/03/2012, 4/06/2012  
**Date of issue** ..... : 14/06/2012

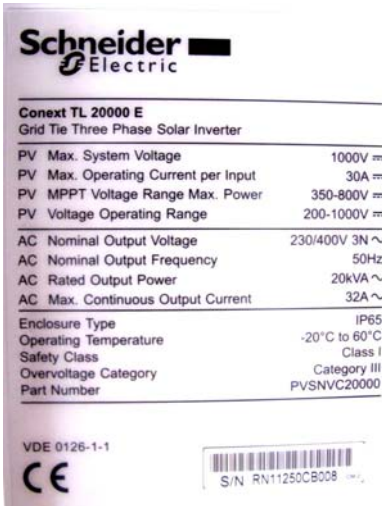
**Testing Laboratory**..... : The Standards Institution of Israel  
Electronics and Telematics Laboratory, Electrical Safety Branch  
**Address** ..... : 42 Chaim Levanon St., Tel Aviv 69977, Israel

**Applicant's name** ..... : Schneider Electric Ltd.  
**Address** ..... : Sagid House, Industrial Park "Hasharon", P.O. Box 1800,  
Kadima 60920, Israel

**Manufacturer's site** ..... : Delta Electronics (Jiang Su) Ltd.  
**Location**..... : No. 1688, Jiangxing East Rd., Wujiang Economic Development  
Zone, Wujiang City, Jiang Su Province, 215200, P.R. China

**Test item description** ..... : Solar (PV) Inverter  
**Trademark**..... :   
**Model/Type reference** ..... : Conext TL 20000 E  
**Ratings** ..... : Input: max. 1000 Vac, max. 30 A per input  
Output: 230/400 Vac, 50 Hz, 32 A, 20000 VA

**Copy of marking plate:**



**Schneider Electric**  
**Conext TL 20000 E**  
Grid Tie Three Phase Solar Inverter

PV Max. System Voltage	1000V ~
PV Max. Operating Current per Input	30A ~
PV MPPT Voltage Range Max. Power	350-800V ~
PV Voltage Operating Range	200-1000V ~
AC Nominal Output Voltage	230/400V 3N ~
AC Nominal Output Frequency	50Hz
AC Rated Output Power	20kVA ~
AC Max. Continuous Output Current	32A ~
Enclosure Type	IP65
Operating Temperature	-20°C to 60°C
Safety Class	Class I
Overvoltage Category	Category III
Part Number	PVSNVC20000

VDE 0126-1-1  
CE  
S/N RN11250CB008



**Possible test case verdicts:**

- test case does not apply to the test object.....: N/A (Not Applicable)
- test object does meet the requirement.....: P (Pass)
- test object does not meet the requirement.....: F (Fail)

**Final conclusion:**

A sample of the solar inverter model Conext TL 20000E was evaluated and found identical to the unit of the same model name, covered by the test reports TD110826C01 and PVAU110826C01 (issued by Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch). The test reports were found complying with the quality requirements for test reports.

In addition, the product successfully passed the following tests:

- Clearance/creepage measurements;
- Electric strength test;
- Insulation resistance test;
- Earthing test

Refer to Appendix 1 for test results.

Clause	Requirement + Test	Result - Remark	Verdict
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1.	Evaluation of test reports:		P
1.1	Test reports provided by the Applicant for evaluation:	1. Ref. No. TD110826C01, dated 12/10/2011; 2. Ref. No. PVAU110826C01, dated 07/10/2011 Both reports have been issued by Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch	—
1.2	Suitability of the standards	The reports have been issued according to the suitable standards: AS 4777.2:2005, AS 4777.3:2005; AS 3100:2009 + A1:2010	P
1.3	Laboratory accreditation	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch is accredited by TAF (Taiwan Accreditation Foundation) for AS4777 and AS3100 standards	P
1.4	Signatures	The reports are duly signed	P
1.5	Verdicts	All clauses of the reports contain appropriate verdicts. No "Fail" verdicts are found in the report	P
1.6	Tables with test results	All applicable tables with test results are duly filled and a list of test equipment is attached	P
1.7	Photo and related technical documentation	The reports contain sufficient photo and related technical documentation for the tested units	P

2.	Identification and evaluation of the actual sample:		P
2.1	Identification of the product (model, manufacturer, electrical ratings)	The actual markings (model, manufacturer, electrical ratings) on the product provided for evaluation (see page 1 of this report) are identical to the information provided in the aforementioned test reports	P
2.2	Identification of the internal boards	Markings of the internal board is identical to the marking specified in the test report TD110826C01	P
2.3	Construction	The actual product provided for evaluation is identical in construction to the unit tested and evaluated in the aforementioned test reports	P



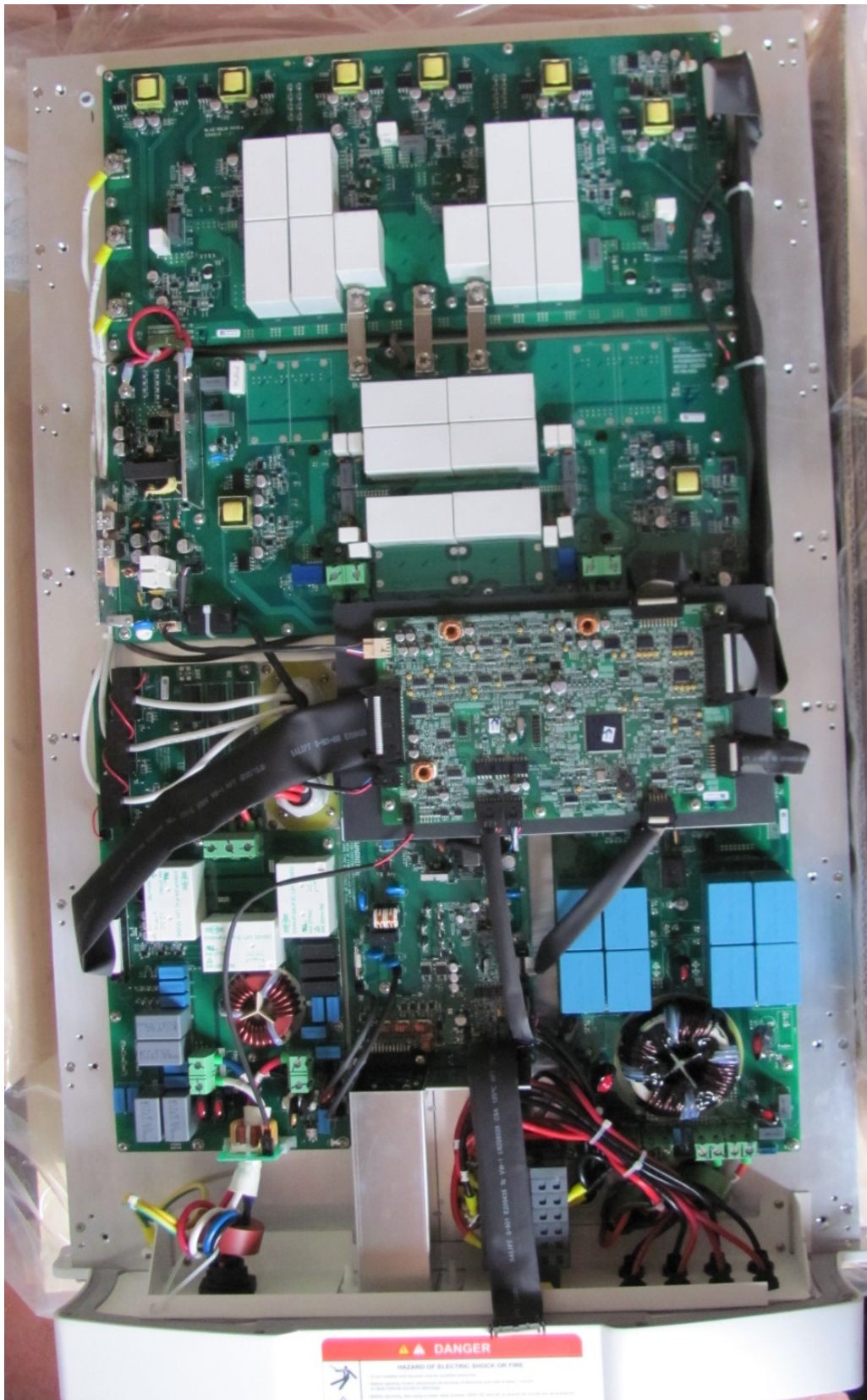
Clause	Requirement + Test	Result - Remark	Verdict
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Clause	Requirement + Test	Result - Remark	Verdict
<b>3.</b>	<b>Testing of the actual sample:</b>		<b>P</b>
3.1	Verification of safety critical components	Safety critical components in the actual product were verified and found identical to the components specified in the table "Critical components" of the test report TD110826C01	P
3.2	Tests	See test results in Appendix 2	P
	Clearance and creepage distances		P
	Electric strength test;		P
	Insulation resistance test;		P
	Earthing test		P



## APPENDIX 1 PHOTO DOCUMENTATION

Fig.1  
Internal view of Model Conext TL 20000E





## APPENDIX 2 TEST RESULTS



AS 3100 4.1	TABLE: Clearances						P
	Overvoltage category..... : 2					—	
	Type of insulation:						
Working voltage (V):	Min. cl (mm)	Basic	Functional	Supplementary	Reinforced	Verdict / Remark	
Up to 250	2.0*	--	4.0	--	--	Line to Neutral	
Up to 250	PCB. 150 V <sub>peak</sub> /mm = 2.4m	--	4.0	--	--	PCB. AC side from Line to Neutral.	
Up to 250	2.5*	8.0	--	--	--	Line/Neutral to Earth	
Up to 250	2.5*	5.5	--	--	--	PCB. AC side from Line / Neutral to Ground.	
Up to 250	4.0**	--	--	--	7.5	Line/Neutral to communication circuits	
950Vdc	3.4***	--	5.0	--	--	Between "+" and "-"	
950Vdc	3.4***	5.5	--	--	--	PCB. DC side from "+", "-" to Ground.	
950Vdc	6.4***	--	--	--	9.0	DC side from "+", "-" to communication circuits	
<p>*) specified for protected for deposition of dirt;            **) in accordance with IEC60950-1, Table 2K, interpolated for 250Vac.            ***) clearance requirements for primary circuits and between primary and secondary circuits in accordance with IEC60950-1, Table 2K, interpolated for 950Vdc.</p>							
<p>Date of test: 4/06/2012            Performed by: Sergey Voytenko</p>							

AS 3100 4.1	TABLE: Creepage					P
	Overvoltage category ...	:	2		—	
	Type of insulation:					
Working voltage (V):	Min. cl (mm)	Basic	Functional	Supplementary	Reinforced	Verdict / Remark
Up to 250	2.0*	--	4.0	--	--	Line to Neutral
Up to 250	2.0*	--	4.0	--	--	PCB. AC side from Line to Neutral.
Up to 250	3.0*	5.5	--	--	--	Line/Neutral to Earth
Up to 250	3.0	5.5	--	--	--	PCB. AC side from Line / Neutral to Ground.
Up to 250	5.0**	--	--	--	7.5	Line/Neutral to communication circuits
950Vdc	3.4***	--	5.0	--	--	PCB. Between "+" and "-"
950Vdc	3.4***	5.5	--	--	--	PCB. DC side from "+", "-" to Ground.
950Vdc	6.8***	--	--	--	9.0	PCB. DC side from "+", "-" to communication circuits
*) specified for protected for deposition of dirt; **) creepage requirements in accordance with IEC60950-1 Table 2N column "Printed boards" are interpolated for 250V. ***) creepage requirements for primary circuits and between primary and secondary circuits in accordance with IEC60950-1, Table 2N, Printed board , Pollution degree I (IP65), interpolated for 950Vdc. Values are increased to clearance limit.						
Date of test: 4/06/2012 Performed by: Sergey Voytenko						

AS3100 5.3	TABLE: Earthing facilities		P
	Test current (1.5*I rated or 25A)	32A*1.5A = 48A > 25A	40A
Test current applied between:		Resistance, Ω	Verdict
External grounding stud to front cover		0.018	P
Earthing terminal to enclosure		0.014	P
Earthing terminal to front cover		0.015	P
Date of test: 4/06/2012 Performed by: Sergey Voytenko			

AS 3100 8.3		TABLE: Insulation resistance		P
Between:		Resistance required, MΩ	Resistance measured, MΩ	
+ DC live parts and enclosure (until impulse test)		1.0	1.05	
- DC live parts and enclosure (until impulse test)		1.0	1.05	
Line AC and enclosure		1.0	>10 000	
Neutral AC and enclosure		1.0	>10 000	
+ DC live parts and handled non-conductive part (metal foil on control panel)		10.0	>10 000	
- DC live parts and handled non-conductive part (metal foil on control panel)		10.0	>10 000	
Line AC and handled non-conductive part (metal foil on control panel)		10.0	>10 000	
Neutral AC and handled non-conductive part (metal foil on control panel)		10.0	>10 000	
Date of test: 4/06/2012				
Performed by: Sergey Voytenko				

AS 3100 8.4	TABLE: Electric strength	P	
Test voltage applied between:	Test voltage V r.m.s.	Breakdown (Yes/No)	
+DC to Ground	2000* (BI)	No	
-DC to Ground	2000* (BI)	No	
Line AC to Ground	1520 (BI)	No	
Neutral AC to Ground	1520 (BI)	No	
+DC to metal foil on Control Panel (handled)	3000** (RI)	No	
-DC to metal foil on Control Panel (handled)	3000** (RI)	No	
Line AC to metal foil on Control Panel (handled)	3000** (RI)	No	
Neutral AC to metal foil on Control Panel (handled)	3000** (RI)	No	
+DC to connector (RS 485 interface)	3000** (RI)	No	
-DC to connector (RS 485 interface)	3000** (RI)	No	
Line AC to connector (RS 485 interface)	3000** (RI)	No	
Neutral AC to connector (RS 485 interface)	3000** (RI)	No	
*) for maximal working voltage 950V test voltage shall be $1000V+2*950=2900V$ , but no more than 2000Vac			
**) requirements for reinforced insulation in accordance with IEC60950-1 Table 5B Part 1.			
Date of test: 4/06/2012			
Performed by: Sergey Voytenko			

Test instruments						
SII Ref. No.	Instrument Type	Manufacturer	Model	Calibration Date		SII Location
				Last	Due	
52697	Digital Caliper	Mitutoyo	CD-6"R	07/11	07/12	Electr. Safety Branch
52746	Test gauge	PTL	L25.84	01/11	01/14	Electr. Safety Branch
5971	AC/DC Withstand Voltage Tester	Associated Research	3670	09/11	09/12	Electr. Safety Branch
5972	Ground Bond Tester	Associated Research	3140	09/11	09/12	Electr. Safety Branch
560339	Hygro-Thermometer	Extech Instruments	445703	07/11	07/12	Electr. Safety Branch