



Product Service

# Compliance Document

No. D 114411 0012 Rev. 00

**Holder of Certificate:** **THEA ENERGY PRIVATE LIMITED**  
Y17 EP Block Sector V Salt Lake Electronics Complex  
Kolkata 700091  
INDIA

**Product:** **Converter**  
**(Grid-Tied Solar Inverter)**

This Compliance document confirms the compliance with the listed standards on a voluntary basis. It refers only to the sample submitted for testing and certification and does not certify the quality or safety of the serial products. For details see: [www.tuvsud.com/ps-cert](http://www.tuvsud.com/ps-cert)

**Test report no.:** 64290233058501



**Date,** 2023-04-26

( Billy Qiu )

*Hitesh*  
हितेश कुमार बंसल / HITESH KUMAR BANSAL  
प्रबंधक (विद्युत) / MANAGER (ELECTRICAL)  
राईडर्स लिमिटेड / RIDERS LTD.  
भारत सरकार का प्रतिष्ठान / (A GOVT. OF INDIA ENTERPRISE)





Product Service

# Compliance Document

No. D 114411 0012 Rev. 00

**Model(s):** SE-TH 01 5.0TL3, SE-TH 01 6.0TL3, SE-TH 01 8.0TL3, SE-TH 01 10.0TL3, SE-TH 01P10.0TL3, SE-TH 01 12.0TL3, SE-TH 01 15.0TL3, SE-TH 01P15.0TL3, SE-TH 01 17.0TL3, SE-TH 01 20.0TL3, SE-TH 01 22.0TL3, SE-TH 01 25.0TL3, SE-TH 01 30.0TL3

## Parameters:

Model Name	SE-TH 01 5.0TL3	SE-TH 01 6.0TL3	SE-TH 01 8.0TL3	SE-TH 01 10.0TL3	SE-TH 01P 10.0TL3
PV input terminal parameters					
Maximum Input Voltage	1100 V d.c.				
MPPT Voltage Range	160 V d.c. -1000 V d.c.				
MPPT Tracker number	1/1			1/2	
Maximum Input Current	15/15 A d.c.			15/30 A d.c.	
Maximum Shorted-Circuit Current	20/20 A d.c.			20/40 A d.c.	
AC output terminal parameters					
Rated Output Voltage	3/N/PE~, 230/400 V a.c.				
Rated Output Current	7.2 A.a.c.	8.7 A.a.c.	11.6 A.a.c.	14.5 A.a.c.	14.5 A.a.c.
Maximum Output Current	8.4 A a.c.	10.1 A a.c.	13.4 A a.c.	17.0 A a.c.	16.8 A a.c.
Rated Output Power	5000 W	6000 W	8000 W	10000 W	10000 W
Maximum Output Power	5500 W	6600 W	8800 W	11200 W	11000 W
Maximum Output Apparent Power	5500 VA	6600 VA	8800 VA	11200 VA	11000 VA
Rated Output Frequency	50 Hz				
Power Factor	0.8 inductive(under-excited) to 0.8 capacitive(over-excited)				



  
 हितेश कुमार बंसल / HITESH KUMAR BANSAI  
 MANAGER (ELECTRICAL) / MANAGER (ELECTRICAL)  
 रीटिस लिमिटेड / RITES LTD.  
 भारत सरकार का प्रतिष्ठान / (AGOV.T OF INDIA)





Product Service

# Compliance Document

No. D 114411 0012 Rev. 00

Model Name	SE-TH 01 12.0TL3	SE-TH 01 15.0TL3	SE-TH 01P 15.0TL3	SE-TH 01 17.0TL3
PV input terminal parameters				
Maximum Input Voltage	1100 V d.c.			
MPPT Voltage Range	160 V d.c.-1000 V d.c.			
MPPT Tracker number	1/2	1/2	2/2	2/2
Maximum Input Current	15/30 A d.c.		30/30 A d.c.	
Maximum Shorted-Circuit Current	20/40 A d.c.		40/40 A d.c.	
AC output terminal parameters				
Rated Output Voltage	3/N/PE~, 230/400 V a.c.			
Rated Output Current	17.4 A a.c.	21.7 A a.c.	21.7 A a.c.	24.6 A a.c.
Maximum Output Current	20.2 A a.c.	25.3 A a.c.	25.3 A a.c.	28.6 A a.c.
Rated Output Power	12000 W	15000 W	15000 W	17000 W
Maximum Output Power	13500 W	16500 W	16500 W	18700 W
Maximum Output Apparent Power	13200 VA	16700 VA	16500 VA	18700 VA
Rated Output Frequency	50 Hz			
Power Factor	0.8 inductive(under-excited) to 0.8 capacitive(over-excited)			



हितेश कुमार बंसल / HITESH KUMAR BANSAL  
 प्रबंध निदेशक / MANAGER (ELECTRICAL)  
 राईस लिमिटेड / RITES LTD.  
 भारत सरकार का प्रतिष्ठान / GOVT. OF INDIA ENTERPRISE





Product Service

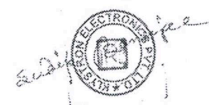
# Compliance Document

No. D 114411 0012 Rev. 00

Model Name	SE-TH 01 20.0TL3	SE-TH 01 22.0TL3	SE-TH 01 25.0TL3	SE-TH 01 30.0TL3
PV input terminal parameters				
Maximum Input Voltage	1100 V d.c.			
MPPT Voltage Range	160 V d.c.-1000 V d.c.			
MPPT Tracker number	2/2	2/2	2/2	2/2
Maximum Input Current	30/30 A d.c.			40/30 A d.c.
Maximum Shorted-Circuit Current	40/40 A d.c.			50/37.5 A d.c.
AC output terminal parameters				
Rated Output Voltage	3/N/PE~, 230/400 V a.c.			
Rated Output Current	29.0 A a.c.	31.9 A a.c.	36.2 A a.c.	43.5 A a.c.
Maximum Output Current	33.7 A a.c.	37.0 A a.c.	39.8 A a.c.	50.2 A a.c.
Rated Output Power	20000W	22000W	25000W	30000W
Maximum Output Power	22000 W	24200 W	27500 W	33000 W
Maximum Output Apparent Power	22000 VA	24200 VA	27500 VA	33000 VA
Rated Output Frequency	50 Hz			
Power Factor	0.8 inductive(under-excited) to 0.8 capacitive(over-excited)			

**Tested according to:**

IEC 61727:2004  
IEC 62116:2014



*Hitesh*

हिता कुमर बंसल / HITESHKUMAR BANSAL  
 प्रबंधक (विप) / MANAGER (OFFICE)  
 TUV SUD





Product Service

# Compliance Document

No. D 114411 0011 Rev. 00


**Holder of Certificate:** THEA ENERGY PRIVATE LIMITED  
Y17 EP Block Sector V Salt Lake Electronics Complex  
Kolkata 700091  
INDIA

**Product:** Converter  
(Grid-Tied Solar Inverter)

This Compliance document confirms the compliance with the listed standards on a voluntary basis. It refers only to the sample submitted for testing and certification and does not certify the quality or safety of the serial products. For details see: [www.tuvsud.com/ps-cert](http://www.tuvsud.com/ps-cert)

**Test report no.:** 64290233058601

**Date,** 2023-04-26

  
( Billy Qiu )



  
हितेश कुमार बंसल / HITESH KUMAR BANSAL  
प्रबंधक (विद्युत) / MANAGER (ELECTRICAL)  
राइटेस लिमिटेड / RITES LTD.  
भारत सरकार का प्रतिष्ठान / (A GOVT. OF INDIA ENTERPRISES)





Product Service

# Compliance Document

No. D 114411 0011 Rev. 00

**Model(s):** SE-TH 01 5.0TL3, SE-TH 01 6.0TL3,  
SE-TH 01 8.0TL3, SE-TH 01 10.0TL3,  
SE-TH 01P10.0TL3, SE-TH 01 12.0TL3,  
SE-TH 01 15.0TL3, SE-TH 01P15.0TL3,  
SE-TH 01 17.0TL3, SE-TH 01 20.0TL3,  
SE-TH 01 22.0TL3, SE-TH 01 25.0TL3,  
SE-TH 01 30.0TL3

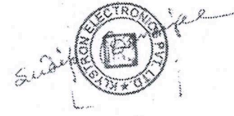
## Parameters:

Model	SE-TH 01 5.0TL3	SE-TH 01 6.0TL3	SE-TH 01 8.0TL3	SE-TH 01 10.0TL3	SE-TH 01P 10.0TL3	SE-TH 01 12.0TL3
PV terminal						
Nominal Voltage	620 Vd.c.					
Vmax. PV	1100Vd.c.					
MPPT Voltage Range	160-1000 Vd.c.					
MPPT Voltage Range (full load)	170-850 Vd.c.	210-850 Vd.c.	270-850 Vd.c.	340-850 Vd.c.	510-850 Vd.c.	270-850 Vd.c.
MPPT Tracker number	2					
Max. continuous PV input current per tracker	15/15Ad.c.				15/30Ad.c.	
Isc PV per tracker	20/20Ad.c.				20/40Ad.c.	
Grid terminal						
Rated voltage	230/400 Va.c., 3W+N+PE					
Rated frequency	50 Hz					
Maximum continuous output current	8.4 Aa.c.	10.1 Aa.c.	13.4 Aa.c.	17 Aa.c.	16.8 Aa.c.	20.2 Aa.c.
Rated output current	7.2 Aa.c.	8.7 Aa.c.	11.6 Aa.c.	14.5 Aa.c.	14.5 Aa.c.	17.4 Aa.c.
Rated output power	5000W	6000W	8000W	10000W	10000W	12000W
Maximum continuous output Apparent power	5500VA	6600VA	8800VA	11200VA	11000VA	13200VA
Power factor	0.8 inductive(under-excited) to 0.8 capacitive(over-excited)					





Product Service



# Compliance Document

No. D 114411 0011 Rev. 00

Model	SE-TH 01 15.0TL3	SE-TH 01P 15.0TL3	SE-TH 01 17.0TL3	SE-TH 01 20.0TL3	SE-TH 01 22.0TL3	SE-TH 01 25.0TL3	SE-TH 01 30.0TL3
PV terminal							
Nominal Voltage	620 Vd.c.						
Vmax. PV	1100Vd.c.						
MPPT Voltage Range	160-1000 Vd.c.						
MPPT Voltage Range (full load)	340-850 Vd.c.	380-850 Vd.c.	290-850 Vd.c.	340-850 Vd.c.	380-850 Vd.c.	430-850 Vd.c.	510-850 Vd.c.
MPPT Tracker number	2						
Max. continuous PV input current per tracker	15/30 Ad.c.	30/30Ad.c.					40/30 Ad.c.
Isc PV per tracker	20/40 Ad.c.	40/40Ad.c.					50/37.5 Ad.c.
Grid terminal							
Rated voltage	230/400 Va.c., 3W+N+PE						
Rated frequency	50 Hz						
Maximum continuous output current	25.3 Aa.c.	25.3 Aa.c.	28.6 Aa.c.	33.7 Aa.c.	37 Aa.c.	39.8 Aa.c.	50.2 Aa.c.
Rated output current	21.7 Aa.c.	21.7 Aa.c.	24.6 Aa.c.	29 Aa.c.	31.9 Aa.c.	36.2 Aa.c.	43.5 Aa.c.
Rated output power	15000W	15000W	17000W	20000W	22000W	25000W	30000W
Maximum continuous output Apparent power	16700VA	16500VA	18700VA	22000VA	24200VA	27500VA	33000VA
Power factor	0.8 inductive(under-excited) to 0.8 capacitive(over-excited)						





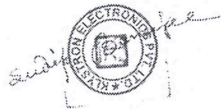
Product Service

# Compliance Document

No. D 114411 0011 Rev. 00

**Tested  
according to:**

IEC 60068-2-1:2007  
IEC 60068-2-2:2007  
IEC 60068-2-14:2009  
IEC 60068-2-30:2005



*Hitesh*  
हितेश कुमार बंसल / HITESH KUMAR BANSAL  
प्रबंधक (विद्युत) / MANAGER (ELECTRICAL)  
राईट्स लिमिटेड / RITES LTD.  
भारत सरकार का प्रतिष्ठान / (A GOVT. OF INDIA ENTERPRISES)



**CERTIFICATE**  
of Conformity  
EC Council Directive 2014/30/EU  
Electromagnetic Compatibility



Registration No.: AE 50580347 0001

Report No.: CN22IO44 004

Holder: **THEA ENERGY PRIVATE LIMITED**  
Y17 EP Block Sector V Salt Lake Electronics Complex,  
Kolkata 700091  
India



Product: **PV-Inverter**  
(Grid-Tied Solar Inverter)

Identification: Type Designation: SE-TH 01 5.0TL3, SE-TH 01 6.0TL3,  
SE-TH 01 8.0TL3, SE-TH 01 10.0TL3,  
SE-TH 01P10.0TL3, SE-TH 01 12.0TL3,  
Continued on Page 0002  
Serial No. : n.a.  
Remark: Refer to above-listed test report for details.

Tested acc. to: EN IEC 61000-6-1:2019  
EN IEC 61000-6-2:2019  
EN IEC 61000-6-3:2021  
EN IEC 61000-6-4:2019

This certificate of conformity is based on an evaluation of a sample of the above mentioned product. Technical Report and documentation are at the Licence Holder's disposal. This is to certify that the tested sample is in conformity with all provisions of Annex I of Council Directive 2014/30/EU. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity. The holder of the certificate is authorized to use this certificate in connection with the EC declaration of conformity according to the a.m. Directive.

Date 03.04.2023



Certification Body

*Tongle Lee*

Tongle Lee

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

*Hitesh*  
हितेश कुमार बंसल / HITESH KUMAR BANSAL  
प्रबंधक (विद्युत) / MANAGER (ELECTRICAL)  
राईटेस लिमिटेड / RITES LTD.  
भारत सरकार का अधिकारी / AUTHORITY OF INDIA ENTERPRISES

**CE** The CE marking may only be used if all relevant and effective EC Directives are complied with. **CE**



**CERTIFICATE**  
of Conformity  
EC Council Directive 2014/30/EU  
Electromagnetic Compatibility



Registration No.: AE 50580347 0002

Report No.: CN22IO44 004

Holder: **THEA ENERGY PRIVATE LIMITED**  
Y17 EP Block Sector V Salt Lake Electronics Complex,  
Kolkata 700091  
India



Product: **PV-Inverter**  
(Grid-Tied Solar Inverter)

Identification: Type Designation: Continuation  
SE-TH 01 15.0TL3, SE-TH 01P15.0TL3,  
SE-TH 01 17.0TL3, SE-TH 01 20.0TL3,  
SE-TH 01 22.0TL3, SE-TH 01 25.0TL3,  
SE-TH 01 30.0TL3  
Serial No. : n.a.  
Remark: Refer to above-listed test report for details.

Tested acc. to: EN IEC 61000-6-1:2019  
EN IEC 61000-6-2:2019  
EN IEC 61000-6-3:2021  
EN IEC 61000-6-4:2019

This certificate of conformity is based on an evaluation of a sample of the above mentioned product. Technical Report and documentation are at the Licence Holder's disposal. This is to certify that the tested sample is in conformity with all provisions of Annex I of Council Directive 2014/30/EU. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity. The holder of the certificate is authorized to use this certificate in connection with the EC declaration of conformity according to the a.m. Directive.

Date 03.04.2023



Certification Body

*Tongle Lee*

Tongle Lee

**TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg**

**CE** The CE marking may only be used if all relevant and effective EC Directives are complied with. **CE** ES LTD.  
हिंसा कुमार बंसल / HITESH KUMAR BANSAL  
प्रबंधक (विद्युत) / MANAGER (ELECTRICAL)  
भारत सरकार का प्रतिष्ठान / (GOVT. OF INDIA ENTERPRISES)



TÜV Rheinland (China) Ltd.  
Member of TÜV Rheinland Group



THEA ENERGY PRIVATE LIMITED

Date : 03.04.2023

Our ref. : TL 02

Your ref.: 168419942

Y17 EP Block Sector V Salt Lake  
Electronics Complex,  
Kolkata 700091  
India



Ref : AE Certificate of Conformity EMC

Type of Equipment : Grid-Tied Solar Inverter  
Model Designation : See Certificate  
Certificate No. : AE 50580347 0001  
Report No. : CN22IO44 004

Dear Ladies and Gentlemen,

We herewith confirm that a sample of the above mentioned technical equipment has been tested and was found to be in accordance with the relevant requirements.

Enclosed please find your Certificate of Conformity.

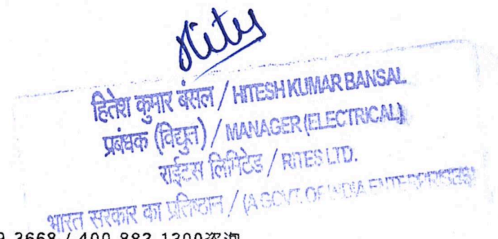
We appreciate your kind support and would like to offer our assistance and continuous services in the future.

With kind regards,

Certification Body

Tongle Lee

Enclosure



证书的详细资料请登陆[www.certipedia.com](http://www.certipedia.com)查阅,或拨打我司客服热线800 999 3668 / 400 883 1300咨询

TÜV Rheinland (China) Ltd.  
莱茵检测认证服务(中国)有限公司

Room 301, 3F and Room 1203, 12F, Building 4, No.15, Ronghua South Road, Beijing Economic-Technological Development Area Beijing (Yizhuang group in high-end industrial area of Beijing Pilot Free Trade Zone), P.R.China, 100176

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路15号院4号楼3层301室、12层  
1203室(北京自贸试验区高端产业  
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Internet: <http://www.chn.tuv.com>





Product Service

# Compliance Document

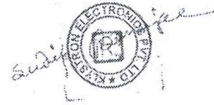
No. D 114411 0007 Rev. 00

**Holder of Certificate:** **THEA ENERGY PRIVATE LIMITED**  
Y17 EP Block Sector V Salt Lake Electronics Complex  
Kolkata 700091  
INDIA


**Product:** **Converter**  
**(Photovoltaic grid-connected inverter)**

This Compliance document confirms the compliance with the listed standards on a voluntary basis. It refers only to the sample submitted for testing and certification and does not certify the quality or safety of the serial products. For details see: [www.tuvsud.com/ps-cert](http://www.tuvsud.com/ps-cert)

**Test report no.:** 64290233058701



**Date,** 2023-04-19

  
( Billy Qiu )







Product Service

# Compliance Document

No. D 114411 0007 Rev. 00

**Model(s):** SE-TH 01 5.0TL3, SE-TH 01 6.0TL3,  
SE-TH 01 8.0TL3, SE-TH 01 10.0TL3,  
SE-TH 01P10.0TL3, SE-TH 01 12.0TL3,  
SE-TH 01 15.0TL3, SE-TH 01P15.0TL3,  
SE-TH 01 17.0TL3, SE-TH 01 20.0TL3,  
SE-TH 01 22.0TL3, SE-TH 01 25.0TL3,  
SE-TH 01 30.0TL3

## Parameters:

Model	SE-TH 01 5.0TL3	SE-TH 01 6.0TL3	SE-TH 01 8.0TL3	SE-TH 01 10.0TL3	SE-TH 01P 10.0TL3	SE-TH 01 12.0TL3
PV terminal						
Nominal Voltage	620 Vd.c.					
Vmax. PV	1100Vd.c.					
MPPT Voltage Range	160-1000 Vd.c.					
MPPT Voltage Range (full load)	170-850 Vd.c.	210-850 Vd.c.	270-850 Vd.c.	340-850 Vd.c.	510-850 Vd.c.	270-850 Vd.c.
MPPT Tracker number	2					
Max. continuous PV input current per tracker	15/15Ad.c.				15/30Ad.c.	
Isc PV per tracker	20/20Ad.c.				20/40Ad.c.	
Grid terminal						
Rated voltage	230/400 Va.c., 3W+N+PE					
Rated frequency	50 Hz					
Maximum continuous output current	8.4 Aa.c.	10.1 Aa.c.	13.4 Aa.c.	17 Aa.c.	16.8 Aa.c.	20.2 Aa.c.
Rated output current	7.2 Aa.c.	8.7 Aa.c.	11.6 Aa.c.	14.5 Aa.c.	14.5 Aa.c.	17.4 Aa.c.
Rated output power	5000W	6000W	8000W	10000W	10000W	12000W
Maximum continuous output Apparent power	5500VA	6600VA	8800VA	11200VA	11000VA	13200VA
Power factor	0.8 inductive(under-excited) to 0.8 capacitive(over-excited)					

  
 हितेश कुमार बंसल / HITESH KUMAR BANSAL  
 प्रबंधक (विद्युत) / MANAGER (ELECTRICAL)  
 भारत सरकार का प्रतिष्ठान / (A GOVT. OF INDIA ESTABLISHMENT)







Product Service


# Compliance Document

No. D 114411 0007 Rev. 00

Model	SE-TH 01 15.0TL3	SE-TH 01P 15.0TL3	SE-TH 01 17.0TL3	SE-TH 01 20.0TL3	SE-TH 01 22.0TL3	SE-TH 01 25.0TL3	SE-TH 01 30.0TL3
PV terminal							
Nominal Voltage	620 Vd.c.						
Vmax. PV	1100Vd.c.						
MPPT Voltage Range	160-1000 Vd.c.						
MPPT Voltage Range (full load)	340-850 Vd.c.	380-850 Vd.c.	290-850 Vd.c.	340-850 Vd.c.	380-850 Vd.c.	430-850 Vd.c.	510-850 Vd.c.
MPPT Tracker number	2						
Max. continuous PV input current per tracker	30/30Ad.c.						40/30 Ad.c.
Isc PV per tracker	40/40Ad.c.						50/37.5 Ad.c.
Grid terminal							
Rated voltage	230/400 Va.c., 3W+N+PE						
Rated frequency	50 Hz						
Maximum continuous output current	25.3 Aa.c.	25.3 Aa.c.	28.6 Aa.c.	33.7 Aa.c.	37 Aa.c.	39.8 Aa.c.	50.2 Aa.c.
Rated output current	21.7 Aa.c.	21.7 Aa.c.	24.6 Aa.c.	29 Aa.c.	31.9 Aa.c.	36.2 Aa.c.	43.5 Aa.c.
Rated output power	15000W	15000W	17000W	20000W	22000W	25000W	30000W
Maximum continuous output Apparent power	16700VA	16500VA	18700VA	22000VA	24200VA	27500VA	33000VA
Power factor	0.8 inductive(under-excited) to 0.8 capacitive(over-excited)						

**Tested according to:**

IEC 61683:1999

  
  
 हितेश कुमार बंसल / HITESH KUMAR BANSAL  
 प्रबंधक (विद्युत) / MANAGER (ELECTRICAL)  
 भारत सरकार का प्रमाणन / IN GOVT. OF INDIA EXTERIOR



# Zertifikat

# Certificate



Zertifikat Nr. *Certificate No.*  
R 50581460

Blatt *Sheet*  
0001

Ihr Zeichen *Client Reference* 168419942  
Unser Zeichen *Our Reference* 02-XGJ-CN23P9V0 001  
Ausstellungsdatum *Date of Issue* 21.04.2023  
(day/mo/yr)

**Genehmigungsinhaber *License Holder***  
THEA ENERGY PRIVATE LIMITED  
Y17 EP Block Sector V Salt Lake  
Electronics Complex,  
Kolkata 700091  
India

**Fertigungsstätte *Manufacturing Plant***  
Refer to latest revision  
of the annex list of factories

## Prüfzeichen *Test Mark*



Type Approved  
Safety  
Regular Production  
Surveillance

www.tuv.com  
ID 1111267661

## Geprüft nach *Tested acc. to*

EN 62109-1:2010  
EN 62109-2:2011  
IEC 62109-1:2010  
IEC 62109-2:2011

## Zertifiziertes Produkt (*Geräteidentifikation*) *Certified Product (Product Identification)*

## Lizenzentgelte - Einheit *License Fee - Unit*

PV-Inverter (Grid-Tied Solar inverter)

Type Designation: 1) SE-TH 01 5.0TL3, 2) SE-TH 01 6.0TL3,  
3) SE-TH 01 8.0TL3, 4) SE-TH 01 10.0TL3,  
5) SE-TH 01P10.0TL3, 6) SE-TH 01 12.0TL3,  
7) SE-TH 01 15.0TL3, 8) SE-TH 01P15.0TL3,  
9) SE-TH 01 17.0TL3, 10) SE-TH 01 20.0TL3,  
11) SE-TH 01 22.0TL3, 12) SE-TH 01 25.0TL3,  
13) SE-TH 01 30.0TL3

22

V<sub>max</sub> PV [V d.c.] : 1100  
I<sub>sc</sub> PV [A d.c.] : 1) 2) 3) 4) 20/20,  
5) 6) 7) 20/40,  
8) 9) 10) 11) 12) 40/40,  
13) 50/37.5

MPP Voltage Range [V d.c.] : 1) 170-850, 2) 210-850,  
3) 6) 270-850, 4) 7) 10) 340-850,  
5) 510-850, 8) 11) 380-850,  
9) 290-850, 12) 430-850,  
13) 510-850

Continued on page 0002

22

ANLAGE (Appendix): 1.0

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.  
This certificate is based on our Testing and Certification Regulation and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance.

**TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg**  
http://www.tuv.com/safety E-mail: markcheck@tuv.com  
Fax: +49 221 806-3935



Zertifizierungsstelle

A. Chen



*Hitesh*  
हितेश कुमार बंसल / HITESH KUMAR BANSAL  
प्रबंधक (विद्युत) / MANAGER (ELECTRICAL)  
राईटस लिमिटेड / RITES LTD.  
भारत सरकार का प्रतिष्ठान / (A GOVT. OF INDIA ENTERPRISE)



# Zertifikat

# Certificate



Zertifikat Nr. Certificate No. R 50581460  
Blatt Sheet 0002

Ihr Zeichen Client Reference 168419942  
Unser Zeichen Our Reference 02-XGJ-CN23P9V0 001  
Ausstellungsdatum Date of Issue 21.04.2023 (day/mo/yr)

**Genehmigungsinhaber License Holder**  
THEA ENERGY PRIVATE LIMITED  
Y17 EP Block Sector V Salt Lake  
Electronics Complex,  
Kolkata 700091  
India

**Fertigungsstätte Manufacturing Plant**  
Refer to latest revision  
of the annex list of factories

## Prüfzeichen Test Mark



Type Approved  
Safety  
Regular Production  
Surveillance

www.tuv.com  
ID 1111267661

## Geprüft nach Tested acc. to

EN 62109-1:2010  
EN 62109-2:2011  
IEC 62109-1:2010  
IEC 62109-2:2011



## Zertifiziertes Produkt (Geräteidentifikation) Certified Product (Product Identification)

## Lizenzentgelte - Einheit License Fee - Unit

PV-Inverter (Grid-Tied Solar inverter)

as page 0001 continuation

Max. Input Current [A d.c.] : 1) 2) 3) 4) 15/15,  
5) 6) 7) 15/30,  
8) 9) 10) 11) 12) 30/30,  
13) 40/30  
Overvoltage Category (OVC) : II for PV,  
III for AC mains.  
Grid Rated Output Volt. [V a.c.]: 3W+N+PE, 380V/400V/415V  
Grid Rated Output Freq. [Hz] : 50/60  
Grid Max. Output Current. [A a.c.]: 1) 3\*8.4, 2) 3\*10.1,  
3) 3\*13.4, 4) 3\*17,  
5) 3\*16.8, 6) 3\*20.2,  
7) 8) 3\*25.3, 9) 3\*28.6,  
10) 3\*33.7, 11) 3\*37,  
12) 3\*39.8, 13) 3\*50.2  
Grid Rated Output Power. [kW] : 1) 5, 2) 6, 3) 8, 4) 5) 10,  
6) 12, 7) 8) 15, 9) 17,  
10) 20, 11) 22, 12) 25,  
13) 30

Continued on page 0003

ANLAGE (Appendix): 1.0

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.  
This certificate is based on our Testing and Certification Regulation and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance.

**TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg**

http://www.tuv.com/safety E-mail: markcheck@tuv.com  
Fax: +49 221 806-3935



*Hitesh*  
हितेश कुमार बंसल / HITESH KUMAR BANSAL  
प्रबंधक (विद्युत) / MANAGER (ELECTRICAL)  
रेट्स लिमिटेड / RATES LTD.  
प्रमाणन का पंजीजन / (A GOVT. OF INDIA ENTERPRISE)

Zertifizierungsstelle

*A. Chen*  
A. Chen



# Zertifikat

# Certificate



Zertifikat Nr. *Certificate No.* R 50581460  
Blatt *Sheet* 0003

Ihr Zeichen *Client Reference* 168419942  
Unser Zeichen *Our Reference* 02-XGJ-CN23P9V0 001  
Ausstellungsdatum *Date of Issue* 21.04.2023  
(day/mo/yr)

Genehmigungsinhaber *License Holder*  
THEA ENERGY PRIVATE LIMITED  
Y17 EP Block Sector V Salt Lake  
Electronics Complex,  
Kolkata 700091  
India

Fertigungsstätte *Manufacturing Plant*  
Refer to latest revision  
of the annex list of factories

## Prüfzeichen *Test Mark*



Type Approved  
Safety  
Regular Production  
Surveillance

www.tuv.com  
ID 1111267661

## Geprüft nach *Tested acc. to*

EN 62109-1:2010  
EN 62109-2:2011  
IEC 62109-1:2010  
IEC 62109-2:2011



## Zertifiziertes Produkt (Geräteidentifikation) *Certified Product (Product Identification)*

## Lizenzentgelte - Einheit *License Fee - Unit*

PV-Inverter (Grid-Tied Solar inverter)

as page 0002 continuation

Grid Power Factor : [-0.80, 0.80]  
Protective Class : Class I  
Ingress Protection (IP) : IP66  
Pollution Degree (PD) : PD3  
Altitude[m] : 4000  
Operating Temperature [°C] : -25 to +60 (>45 derating)  
Type of Inverter : Non-isolated

Remark(s): The installation has to be carried out according to the attached installation instruction.  
Any additional requirements in countries where the product is going to be marketed have to be considered additionally.

ANLAGE (Appendix): 1.0

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.  
This certificate is based on our Testing and Certification Regulation and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance.

TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg  
http://www.tuv.com/safety E-mail: markcheck@tuv.com  
Fax: +49 221 806-3935



Hitesh  
हितेश कुमार बंसल / HITESH KUMAR BANSAL  
प्रबंधक (विद्युत) / MANAGER (ELECTRICAL)  
राइटिस लिमिटेड / RITES LTD.  
भारत सरकार का प्रतिष्ठान / (A GOVT. OF INDIA ENTERPRISE)

Zertifizierungsstelle

A. Chen



Anlage Fertigungsstättenliste  
/Attachment List of Factories



R 50581460 0001

1 APD Shenzhen DK Inc.

No. 1,  
Fengwei Road, Dakang Community,  
Yuanshan Street, Longgang District,  
Shenzhen  
518115 Guangdong  
P.R. China

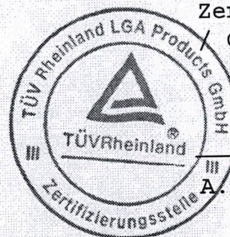
2 Shenzhen Senenergy Technology  
Co., Ltd.

Block D, BC Park, No.18,  
Xiusha Rd., Shatian, Kengzi  
Sub-district, Pingshan District,  
Shenzhen 518112,  
P.R. China



Dieser Anhang ersetzt den Vorgänger vom/  
This annex replaces the previous annex dated

Datum / Date 21.04.2023



Zertifizierungsstelle  
/ Certification Body

*A. Chen*

*Stuty*  
हितेश कुमार बंसल / HITESH KUMAR BANSAL  
प्रबंधक (विद्युत) / MANAGER (ELECTRICAL)  
राइट्स लिमिटेड / RITES LTD.  
भारत सरकार का प्रतिष्ठान / (A GOVT. OF INDIA ENTERPRISE)



TÜV Rheinland (China) Ltd.  
Member of TÜV Rheinland Group



THEA ENERGY PRIVATE LIMITED

Date : 21.04.2023  
Our ref. : XGJ 02  
Your ref.: 168419942

Y17 EP Block Sector V Salt Lake  
Electronics Complex,  
Kolkata 700091  
India

**Ref : R TÜV-Mark Approval**

Type of Equipment : Grid-Tied Solar inverter  
Model Designation : See Certificate  
Certificate No. : R 50581460 0001  
Report No. : CN23P9V0 001



Dear Ladies and Gentlemen,

The above specified technical equipment has been tested and found to be in accordance with the relevant requirements.

Enclosed you will find the certificate of approval.

If cancellation of the certificate is submitted by November 15 in a given year, no fee will be charged for the following year.

We appreciate your kind support and would like to offer our assistance and continuous services in the future.

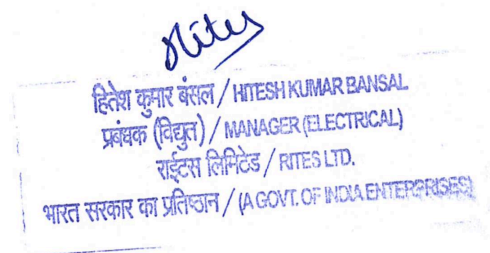
Please contact our office for approval of your new products.

With kind regards,

Certification Body

A. Chen

Enclosure



证书的详细资料请登陆[www.certipedia.com](http://www.certipedia.com)查阅,或拨打我司客服热线800 999 3668 / 400 883 1300咨询

TÜV Rheinland (China) Ltd.  
莱茵检测认证服务(中国)有限公司

Room 301, 3F and Room 1203, 12F, Building 4, No.15, Honghua South Road, Beijing Economic-Technological Development Area Beijing (Yizhuang group in high-end industrial area of Beijing Pilot Free Trade Zone), P.R.China, 100176

北京市北京经济技术开发区荣华南  
路15号院4号楼3层301室、12层  
1203室(北京自贸试验区高端产业  
片区亦庄组团)  
邮编: 100176

Tel: 86 10 8524 2222  
Fax: 86 10 8524 2200  
e-mail: [info@bj.chn.tuv.com](mailto:info@bj.chn.tuv.com)  
Internet: <http://www.chn.tuv.com>



# CERTIFICATE of Conformity

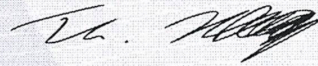
**Registration No.:** AK 50606367 0001  
**Report No.:** CN23VAGG 002  
**Holder:** THEA ENERGY PRIVATE LIMITED  
Y17 EP Block Sector V Salt Lake  
Electronics Complex,  
Kolkata 700091  
India  
**Product:** PV-Inverter  
(Grid-Tied Solar Inverter)

## Type designation listed on the next page

The certificate of conformity refers to the above-mentioned product. This is to certify that the specimen is in conformity with the assessment requirement mentioned on the next page. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity.

**Date:** 2023-10-27

## Certification Body



Dipl.-Ing. Th. Illing



*Hitesh*  
हितेश कुमार बंसल / HITESH KUMAR BANSAL  
प्रबंधक (विद्युत) / MANAGER (ELECTRICAL)  
रइटेस लिमिटेड / RITES LTD.  
भारत सरकार का प्रतिष्ठान / (A GOVT. OF INDIA ENTERPRISES)

**TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg**



# CERTIFICATE

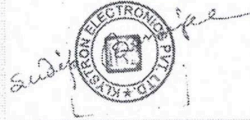
## of Conformity

**Registration No.:** AK 50606367 0001

**Product:** PV-Inverter  
(Grid-Tied Solar Inverter)

**Tested according to:** IEC 61683:1999  
IEC 60068-2-1:2007  
IEC 60068-2-2:2007  
IEC 60068-2-14:2009  
IEC 60068-2-30:2005

**Identification:** Type Designation  
a) SE-TH02 30.0TL3,  
b) SE-TH01 40.0TL3,  
c) SE-TH01 50.0TL3,  
d) SE-TH01 60.0TL3



*Ritesh*  
रिषेश कुमार बंसल / NITESH KUMAR BANSAL  
प्रबंधक (विद्युत) / MANAGER (ELECTRICAL)  
रिषेश लिमिटेड / RITES LTD.  
भारत सरकार का प्रतिष्ठान / (A GOVT. OF INDIA ENTERPRISES)

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg



# CERTIFICATE

of Conformity

EC Council Directive (EU) 2014/30

Electromagnetic Compatibility

**Registration No.:** AE 50605861 0001  
**Report No.:** CN230JZK 002  
**Holder:** THEA ENERGY PRIVATE LIMITED  
Y17 EP Block Sector V Salt Lake  
Electronics Complex,  
Kolkata 700091  
India  
**Product:** PV-Inverter  
(Grid-Tied Solar Inverter)

Type designation and serial number are listed on the next page

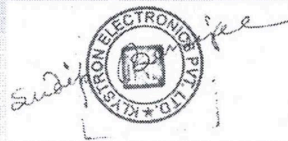
This certificate of conformity is based on an evaluation of a sample of the above mentioned product. Technical Report and documentation are at the License Holder's disposal. This is to certify that the tested sample is in conformity with all provisions of Annex I of Council Directive (EU) 2014/30. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity. The holder of the certificate is authorized to use this certificate in connection with the EC declaration of conformity according to the a.m. Directive.

Date: 2023-10-25

Certification Body

*Tong Lee*

Tong Lee



*Hitesh*  
हितेश कुमार बंसल / HITESH KUMAR BANSAL  
प्रबंधक (विद्युत) / MANAGER (ELECTRICAL)  
राइटिस लिमिटेड / RITES LTD.  
भारत सरकार का प्रतिकूल / (A GOVT. OF INDIA ENTERPRISES)

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

CE The CE marking may be used if all relevant and effective EC Directives/Regulations are complied with. CE



# CERTIFICATE

## of Conformity EC Council Directive (EU) 2014/30 Electromagnetic Compatibility

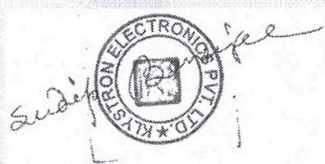
**Registration No.:** AE 50605861 0001

**Product:** PV-Inverter  
(Grid-Tied Solar Inverter)

**Tested according to:** EN IEC 61000-3-11:2019  
EN IEC 61000-6-1:2019  
EN IEC 61000-6-2:2019  
EN IEC 61000-6-3:2021  
EN IEC 61000-6-4:2019  
EN 62920:2017+A11  
IEC 61000-3-12:2011/AMD1

**Identification:** Type Designation  
SE-TH02 30.0TL3, SE-TH01 40.0TL3,  
SE-TH01 50.0TL3, SE-TH01 60.0TL3

**Serial No.:**  
n. a.  
**Remark:**  
Refer to above-listed test report for details.



*Hitesh*  
हितेश कुमार बंसल / HITESH KUMAR BANSAI  
प्रबंधक (विद्युत) / MANAGER (ELECTRICAL)  
राइटिस लिमिटेड / RITES LTD.  
एन.ए.ए.ए. प्रविष्टि / (A GOVT. OF INDIA ENTERPRISES)

**TÜV Rheinland LGA Products GmbH Tillystraße 2 - 90431 Nürnberg**

CE The CE marking may be used if all relevant and effective EC Directives/Regulations are complied with. CE



# Zertifikat Certificate

**Zertifikatsnummer Certificate No.:**  
R 50606426 0001

**Berichtsnummer Report No.:**  
CN23HH4X 002

**Genehmigungsinhaber License Holder:**  
THEA ENERGY PRIVATE LIMITED  
Y17 EP Block Sector V Salt Lake  
Electronics Complex,  
Kolkata 700091  
India

**Fertigungsstätte Manufacturing Site:**  
2 Fertigungsstätten auf Folgeseiten  
Listing of 2 factories on following pages

**Prüfzeichen Test Mark:**



Bauart geprüft  
Sicherheit  
Regelmäßige  
Produktions-  
überwachung  
  
www.tuv.com  
ID 1111276585

**Geprüft nach Tested according to:**

EN 62109-1:2010  
EN 62109-2:2011  
IEC 62109-1:2010  
IEC 62109-2:2011

**Geräteidentifikation**

*Product Identification*

**Produkt:** PV-Wechselrichter (Grid-Tied Solar Inverter)  
*Product:*

**Modell:** Modelle sind auf nächste(r) Seite(n) gelistet  
*Type:* Type designation(s) are listed on the next page(s)

**Technische Daten:** PV Max. Eingangsspannung : a)b)c)d) DC 1100V  
*Technical Data:* (PV Max. Input Voltage)  
PV MPPT Spannungsbereich : a)b)c)d) DC 180~1000V  
(PV MPPT Voltage Range)

for more info, see following page.

**Gültig ab:**  
*Valid from:*

**Ausstellungsdatum:** 2023-10-27  
*Date of issue:*

**Zertifizierungsstelle:**  
*Certification body:*

*[Signature]*  
Dipl.-Ing. Th. Illing



Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.  
*This certificate is based on our Testing and Certification Regulation and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance.*

**TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg**  
<http://www.tuv.com/safety> E-mail: [markcheck@tuv.com](mailto:markcheck@tuv.com)  
Fax: +49 221 806-3935

[www.tuv.com](http://www.tuv.com)

*[Signature]*  
हितेश कुमार बंसल / HITESH KUMAR BANSAL  
प्रबंधक (विद्युत) / MANAGER (ELECTRICAL)  
राइट्स लिमिटेड / RITES LTD.  
भारत सरकार का प्रतिष्ठान / (A GOVT. OF INDIA ENTERPRISE)

**TÜVRheinland®**  
Precisely Right.



# Zertifikat Certificate

**Zertifikatsnummer Certificate No.:**  
R 50606426 0001

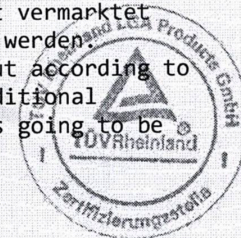
**Berichtsnummer Report No.:**  
CN23HH4X 002

**Produkt Product:** PV-Wechselrichter  
(Grid-Tied Solar Inverter)

**Modell Type:** **Bezeichnung Designation:**  
a) SE-TH02 30.0TL3, b) SE-TH01 40.0TL3,  
c) SE-TH01 50.0TL3, d) SE-TH01 60.0TL3

PV Max. Eingangsstrom : a)b) 40/32/32A;  
(PV Max. Input Current) : c)d) 40/32/32/32A  
PV Isc : a)b) 50/45/45A;  
(PV Isc) : c)d) 50/45/45/45A  
AC-Ausgang Nennspannung : a)b)c)d) AC 380/400/415V  
(AC Output Rated Vol  
AC-Ausgang Max. Strom : a) 51A; b) 67.5A; c) 84.3A;  
(AC Output Max. Current) : d) 92A  
AC-Ausgang Nennfrequenz : 50/60Hz  
(AC Output Rated Frequency)  
AC-Ausgangsnennleistung : a) 30kW; b) 40kW; c) 50kW;  
(AC Output Rated Power) : d) 60kW  
Leistungsfaktorbereich : -0.8 (rückständig (lagging))  
(Power Factor Range) : 0.8 (führend (leading))  
Schutzklasse : I  
(Protective Class)  
Schutz vor Umwelteinflüssen: IP66  
(Enclosure Protection)  
Temperaturbereich : -25 bis (to) +60°C  
(Temperature Range)  
Typ des Wechselrichters : Nicht isoliert  
(Type of inverter) (Non-isolated)

Hinweis: Die Installation ist gemäß der beiliegenden Installationsanleitung vorzunehmen. Etwaige zusätzliche Anforderungen in Ländern, in denen das Produkt vermarktet werden soll, müssen zusätzlich berücksichtigt werden.  
(Remark: The installation has to be carried out according to the attached installation instruction. Any additional requirements in countries where the product is going to be marketed have to be considered additionally.)



www.tuv.com

*Sudip*  
हितेश कुमार बंसल / Hitesh Kumar Bansal  
प्रबंधक (विद्युत) / MANAGER (ELECTRICAL)  
राइटिस लिमिटेड / RITES LTD.  
भारत सरकार का प्रतिष्ठान / (A GOVT. OF INDIA ENTERPRISE)



**TÜVRheinland®**  
Precisely Right.



# Zertifikat Certificate

**Zertifikatsnummer Certificate No.:**  
R 50606426 0001

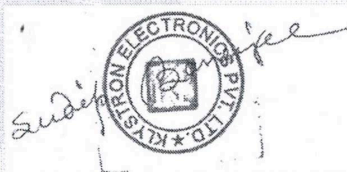
**Berichtsnummer Report No.:**  
CN23HH4X 002

**Produkt Product:**  
PV-Wechselrichter  
(Grid-Tied Solar Inverter)

**Fertigungsstätten Factories:**

1 040-0040910996

2 040-0002027422



*Hitesh*  
हितेश कुमार बंसल / HITESH KUMAR BANSAL  
प्रबंधक (विद्युत) / MANAGER (ELECTRICAL)  
राइट्स लिमिटेड / RITES LTD.  
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# CERTIFICATE of Conformity

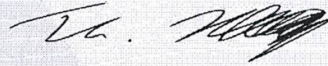
**Registration No.:** AK 50606415 0001  
**Report No.:** CN23196P 002  
**Holder:** THEA ENERGY PRIVATE LIMITED  
Y17 EP Block Sector V Salt Lake  
Electronics Complex,  
Kolkata 700091  
India  
**Product:** PV-Inverter  
(Grid-Tied Solar Inverter)

## Type designation listed on the next page

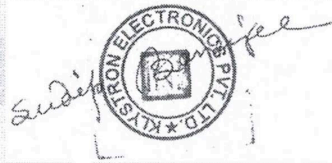
The certificate of conformity refers to the above-mentioned product. This is to certify that the specimen is in conformity with the assessment requirement mentioned on the next page. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity.

**Date:** 2023-10-27

## Certification Body



Dipl.-Ing. Th. Illing



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**TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg**

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Page 1 of 2

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# CERTIFICATE

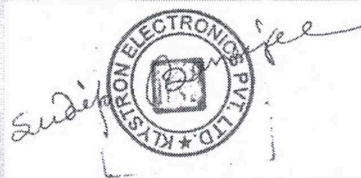
## of Conformity

**Registration No.:** AK 50606415 0001

**Product:** PV-Inverter  
(Grid-Tied Solar Inverter)

**Tested according to:** IEC 61727:2004  
IEC 62116:2014

**Identification:** Type Designation  
a) SE-TH02 30.0TL3,  
b) SE-TH01 40.0TL3,  
c) SE-TH01 50.0TL3,  
d) SE-TH01 60.0TL3



TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

www.tuv.com

*Ritesh*  
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Our Ref: REGISTRATION/CRS 2024-0981/R-  
51002593

Date: 11-03-  
2024

Inclusion Id: 78898

Subject : Inclusion of Additional Model(s)

MANUFACTURING UNIT :	Thea Energy Private Limited 502 KAMALALAYA CENTER, 5TH FLOOR, 156A LENIN SARANI, KOLKATA WEST BENGAL, India- 700013 saikat@thea-energy.com 9830048447
-------------------------	--

Dear Sir,

1. This has reference to your request for inclusion of models of "Utility-Interconnected Photovoltaic Inverters" as per IS 16221 (Part 2) : 2015 / IEC 62109-2 : 2011, IS 16169 : 2014 / IEC 62116 : 2008 in Licence No. R-51002593 already granted to you which is valid upto 25-02-2026.

2. It is intimated that the additional Models as per details given below have been agreed to be included in your scope of Licence. R-51002593 w.e.f. 11-03-2024:

Product Category	Utility-Interconnected Photovoltaic Inverters
Product Name	Utility-Interconnected Photovoltaic Inverters
IS No.	IS 16221 (Part 2) : 2015 / IEC 62109-2 : 2011, IS 16169 : 2014 / IEC 62116 : 2008
Brand	Thea
(As Declared by Manufacturer):	
Inclusion of Additional Models (w.e.f. 11-03-2024)	[Brand -> Thea, Models -> SE-TIH1 10.0TL3, SE-TIH1 15.0TL3, SE-TIH1 20.0TL3, SE-TIH1 25.0TL3, SE-TIH1 30.0TL3, SE-TIH1 40.0TL3, SE-TIH1 50.0TL3, SE-TIH1 5.0TL3, SE-TIH1 60.0TL3, SE-TIH1 6.0TL3, SE-TIH1 8.0TL3, SE-TIH1P 10.0TL3, SE-TIH1P 15.0TL3, SE-TIH2 30.0TL3]
Factory Address	502 KAMALALAYA CENTER, 5TH FLOOR, 156A LENIN SARANI, KOLKATA WEST BENGAL, India-700013

3. Other terms and conditions of the licence shall remain same.

4. This letter is being issued with the approval of competent authority.

Kindly acknowledge receipt of this letter.

Thanking you,

Yours faithfully,

(Deepti Budyal)

Granting Authority

Telfax : +91-11-23230856

E-mail: registration@bis.gov.in

Note: This is a system generated

letter. Hence signature is not required.

To verify authentication of letter, kindly scan the QR code on this letter.

letter.

*Deepti*  
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EmPowering Tomorrow with New Energy

What a Solar  
Inverter  
*aspires to be*

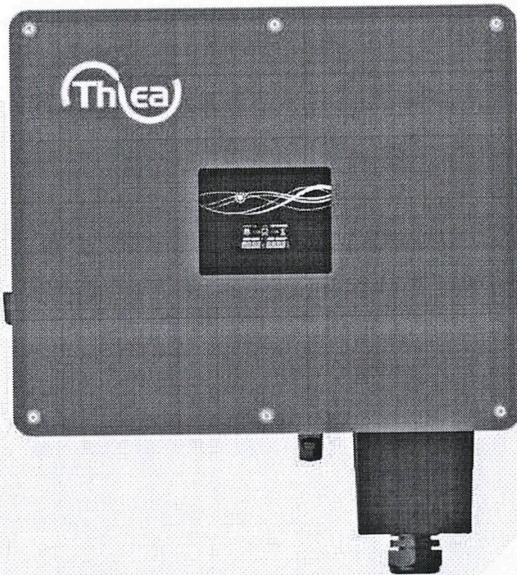
Thea

Thea Energy specializes in renewable energy solutions, particularly solar technology.

We have a 30-year history in manufacturing reliable solar inverters and launching global brands like Kaco New Energy in India.

We are known for our Grid-Tied Solar Inverters tailored to Indian conditions and plan to expand into energy storage solutions, including hybrid inverters, Li-ion batteries, and EV chargers. We also contribute to India's Renewable Energy roadmap and operate a carbon-neutral production facility powered by solar energy.

**SE-TH02 30kW (Three Phase)**  
**SE-TH01 40kW - 50kW - 60kW (Three Phase)**  
For Large Scale Applications



**SUPERIOR EFFICIENCY**

- Maximum Efficiency of 98.6%
- String current of 16A/20A, compatible with 210 mm PV modules
- 150% PV configuration and 110% output overload



**HIGH RELIABILITY**

- IP66 protection level for outdoor installation
- Integrated type II DC/AC SPD
- High Quality components used



**INTELLIGENT MAINTENANCE**

- Quick commissioning via mobile app
- Remote configuration and upgrade
- String level current detection
- Power Export Control supported.

**Thea Energy Pvt. Ltd**  
Registered Office:

502 Kamalalaya Centre, 156 A Lenin Sarani, Kolkata- 700013

Works: 24 Canal South Road, Belegghata, Kolkata- 700015  
Corporate Office: Y-17, Block-EP, Salt Lake, Kolkata- 700091  
Regional Office: A-49, Sector-5, Delhi NCR, Noida- 201301

Branches: Mumbai | Bangalore | Bhopal | Chennai



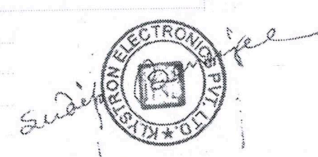
Hitesh  
Hitesh Kumar Bansal / HITESH KUMAR BANSAL  
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# SE-TH02 30kW (Three Phase) SE-TH01 40kW - 50kW - 60kW (Three Phase)

Model SE-TH01	30.0TL3	40.0TL3	50.0TL3	60.0TL3
<b>Efficiency</b>				
Max Efficiency		98.5%		98.6%
European Efficiency	98.0%		97.9%	98.0%
<b>Input (PV)</b>				
Max. Input Voltage			1,100V	
Max. PV Configuration (STC)			150%	
Rated Input Voltage			620V	
Max. Input Current	40A + 2*32A			40A + 3*32A
Max. Short Circuit Current	50A + 2*45A			50A + 3*45A
Start Input Voltage			200V	
MPPT Operating Voltage Range			180V-1000V	
Max. Number of PV Strings	2/2/2			2/2/2
No. of MPPTs	3			4
<b>Output (Grid)</b>				
Rated AC Active Power	30,000W	40,000W	50,000W	60,000W
Max. AC Apparent Power	33,400VA	44,500VA	55,600VA	66,700VA
Max. AC Active Power (PF=1)	33,400W	44,500W	55,600W	66,700W
Max. AC Output Current	51A	67.5A	84.3A	3*92A
Rated AC Voltage	380V / 400V / 415V, 3P+N+PE or 3P+PE			
AC Voltage Range <sup>①</sup>	320V-520V (Adjustable)			
Rated Grid Frequency	50Hz / 60Hz			
Grid Frequency Range <sup>②</sup>	45Hz-55Hz / 55Hz-65Hz (Adjustable)			
THDI	<3%@Rated Power			
DC Current Injection	<0.5%@Rated Current			
Power Factor	>0.99 Rated power (Adjustable 0.8 LD - 0.8 LG)			
<b>Protection</b>				
DC Switch	Support			
Anti-Islanding Protection	Support			
AC Overcurrent Protection	Support			
AC Short Circuit Protection	Support			
DC Reverse Connection	Support			
Surge Arrester	AC Type II / DC Type II			
Insulation Resistance Detection	Support			
Leakage Current Protection	Support			
<b>General</b>				
Topology	Transformerless			
IP Rating	IP66			
Night Self Consumption	<5W (Standard)			
Cooling	Fan Cooling			
Operating Temperature Range	-25°C to 60°C			
Relative Humidity Range	0-100%			
Max. Operating Altitude	4000m			
Dimensions (W*H*D)	635mm*530mm*224mm			
Weight	36Kg	40Kg	42Kg	43.5Kg
<b>HMI &amp; COM</b>				
Display	Wireless & App + LED, LCD (Optional)			
Communication	RS485, Optional: WIFI / GPRS			
<b>Certification</b>				
Safety	IEC62109, IEC61727, IEC62116			
Grid Code	IEC61683, IEC60068, IEC61000			



*Hitesh*  
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**MANAGER (ELECTRICAL)**  
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**Remarks :**

① ② The range of output voltage and frequency may vary depending on different grid codes. Specifications are subject to change without advance notice.

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[contact@thea-energy.com](mailto:contact@thea-energy.com)

+91 86976-06548 / 98734-43572





# SE-TH01 5kW - 30kW (Three Phase)

Model SE-TH01	5.0TL3	6.0TL3	8.0TL3	10.0TL3	15.0TL3	PI0.0TL3	PI5.0TL3	20.0TL3	25.0TL3	30.0TL3	
<b>Efficiency</b>											
Max. Efficiency	98.2%	98.2%	98.2%	98.2%	98.3%	98.3%	98.4%	98.4%	98.4%	98.4%	
European Efficiency	97.8%	97.8%	97.8%	97.8%	97.8%	97.8%	98.0%	98.0%	98.0%	98.0%	
<b>Input (PV)</b>											
Max. Input Voltage	1100V										
Max. PV Configuration	150%										
Rated Input Voltage	620V										
Max. Input Current	2*15A			15A+30A				2*30A			
Max.Short Circuit Current	2*20A			20A+40A				2*40A			
Start Input Voltage	180V										
MPPT Operating Voltage Range	160V-1000V										
Max. Number of PV Strings	2(1/1)			3(1/2)				4(2/2)			
No. of MPPTs	2										
<b>Output (Grid)</b>											
Rated AC Active Power	5,000W	6,000W	8,000W	10,000W	15,000W	10,000W	15,000W	20,000W	25,000W	30,000W	
Max. AC Apparent Power	5,500VA	6,600VA	8,800VA	11,000VA	16,500VA	11,000VA	16,500VA	22,000VA	27,500VA	33,000VA	
Max. AC Active Power (PF=1)	5,500W	6,600W	8,800W	11,000W	16,500W	11,000W	16,500W	22,000W	27,500W	33,000W	
Max. AC Output Current	3*8.4A	3*10.1A	3*13.4A	3*17A	3*25.3A	3*16.8A	3*25.3A	3*33.7A	3*39.8A	3*50.2A	
Rated AC Voltage	380V / 400V / 415V, 3P+N+PE										
AC Voltage Range <sup>①</sup>	260V-510V (Adjustable)										
Rated Grid Frequency	50Hz / 60Hz										
Grid Frequency Range <sup>②</sup>	45Hz-55Hz / 55Hz-65Hz (Adjustable)										
THDI	<3%@Rated Power										
DC Current Injection	<0.5%@Rated Current										
Power Factor	>0.99 Rated power (Adjustable 0.8 LD - 0.8 LG)										
<b>Protection</b>											
DC Switch	Support										
Anti-Islanding Protection	Support										
AC Overcurrent Protection	Support										
AC Short Circuit Protection	Support										
DC Reverse Connection	Support										
Surge Arrester	AC Type III (Type II optional) / DC Type III (Type II optional)										
Insulation Detection	Support										
Leakage Current Protection	Support										
<b>General</b>											
Topology	Transformerless										
IP Rating	IP66										
Night Self Consumption	<1W										
Cooling	Natural cooling					Fan cooling					
Operating Temperature Range	-25°C to 60°C										
Relative Humidity Range	0-100%										
Max. Operating Altitude	4000m										
Dimensions (W*H*D)	398mm*460mm*190mm										
Weight	16Kg			18Kg				20Kg			
<b>HMI &amp; COM</b>											
Display	Wireless & App + LED, LCD (Optional)										
Communication	RS485, Optional: WiFi / GPRS / 4G / LAN										
<b>Certification</b>											
Safety	IEC62109, IEC61727, IEC62116										
Grid Code	IEC61683, IEC60068, IEC61000										



*Nitay*  
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**Remarks : ①②**  
 The range of output voltage and frequency may vary depending on different grid codes.  
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