www.tonhetech.com
Address: No.350, Lijiang Road,
High-Tech Development Zone,
Shijiazhuang,Hebei Province,China,050035

TonHe

Tonhe ♥ INSIDE
EVERY EV CHARGER!

Disclaimer:
Shijiazhuang Tonhe Electronics Technologies Co.,Ltd. reserves the right to change product design and specifications, and may change the above information without prior notice. The picture may be slightly different from the real product. Product specification and appearance are subject to actual products.

VER:202602

TonHe

CHARGING MODULE

KV SUPER CHARGING TONHE TAKES THE LEAD

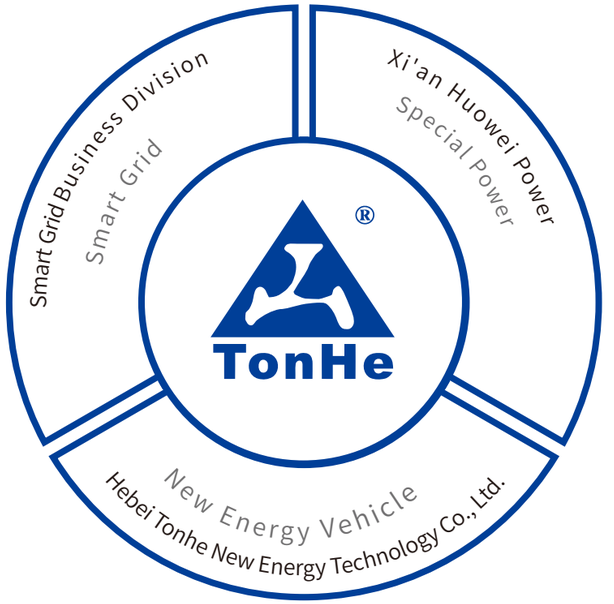
TonHe
–Stock code–
300491

1 COMPANY INTRODUCTION

Shijiazhuang Tonhe Electronics Technologies Co.,Ltd. (Stock Code:300491), hereinafter referred to as "Tonhe Technology", sticks to technological innovation, focusing on the field of high-frequency power conversion technology. Tonhe Technology is the first power electronic enterprise in China to have realized soft switching technology for the whole process of power conversion.

Company Profile

Tonhe Technology has a number of internationally advanced and domestically leading core technologies. It is a National Enterprise Technical Center, being rated as Standing Director Unit of China Power Association, Scientific and Technological Innovation & Progress Enterprise and has been awarded as “Excellent High-Tech Enterprise” and “Excellent Software Enterprise of Hebei Province” for multiple times.



Corporate Mission
Adhering to Entrepreneurial Spirit, Focusing on Power Electronics, Efficient Use of Energy, Serving Global Users

Corporate Values
Contribution, Mutual Benefit, Appreciation, Efficiency, Innovation

Corporate Vision
Leading China's Power Electronic Industry

Certificate of Honor

Certificate of Quality

1、Management System Certification

2、Test Report & Certification

Corporate History

We proceed from here!

Dec 21,1998

Established in Shijiazhuang High-Tech Development Zone.

1999

First power module supply contracts (220V/10A, 110V/10A and 220V/20A) accomplished.

2001

First generation of power module 220V/40A designed and sold in small-batch production.

2002

"High Reliability and High Efficiency Resonant High-frequency Switching Power Supply" Project awarded with"Hebei Science and Technology Achievement Award", utility model patent of "Resonant Voltage Control Type Power Converter" & utility model patent of "Active Power Factor Correction Booster".

2004

Obtainment of invention patent of "Resonant Voltage Control Type Power Converter"; Registration of "TonHe" trademark, Obtainment of ISO9001-2000 Quality Management System Certification; Awarded with High-Tech Enterprise Certification by Hebei Provincial Department of Science and Technology.

2005

Identified as Software Enterprise by Hebei Provincial Department of Information Technology. "Highly Reliable and Efficient Resonant High-Frequency Switching Power Supply" Project awarded with"Science and Technology Award of Hebei Province".

2006

Obtainment of GB/T19001-2000 (idt ISO9001:2000) Quality Management System Certification. "High Reliability and High Efficiency Resonant High-Frequency Switching Power Supply" identified as High-Tech Products by Hebei Provincial Department of Science and Technolo gy.

2007

Participation in charging equipment tender of Beijing Olympic Games; won First Prize in technical score.

2009

Obtainment of invention patent of "Soft Switch Resonant Type DC-AC Inverter Circuit"; New factory opening in Tianshan Science and Technology Industrial Park; Establishment of core values: "Contribution, Mutual Benefit, Appreciation, Efficiency & Innovation".

2010

Acquirement of Import and Export Permit; Establishment of "Tonhe Scholarship" in Electrical Engineering College of Yanshan University.

2011

World's most comprehensive power changing station with the largest scale -- Xuejiadao Power Charging Station put into operation, using more than 280 Tonhe charging modules.

2014

IPO prospectus of GEM first disclosed to public on April 18. Ranked as Top 50 Private Enterprises in Shijiazhuang City. Listed as Military-Civilian Integration Enterprise of Hebei Province. Sales of EV charging power system and on-board power products takes one quarter of the annual turnover.

2015

Current factory partly put into use. Sales of EV charging power system and on-board power products of reached over 50% of annual turnover. Listed on Growth Enterprise Market (GEM) with Stock Name "Tonhe Tech" & Stock Code: 300491.

2016

Establishment of subsidiary: Hebei Tonhe New Energy Technology Co., LTD. Awarded with "Best Listed Company in the Industry of Charging Facilities". New plant officially put into use. 1.03 million restricted share granted to 66 middle/ senior & key personnel.

2017

Obtainment of IATF16949 Certification. Identified as Hebei Enterprise Technology Center. Passed accreditation of CNAS. Launch of 20kW charging module.

2018

Awarded with Annual Top 10 Industrial Brand in Shijiazhuang. Launch of 6th generation 30kW high power density charging module . Acquisition of Xi'an Huowei; expansion in military industry.

2019

Launch of charger accorded with unified standards of the State Grid for six parts; launch of 20kW charging module accorded with State Grid request of 330-750V output constant power range.

2020

Launch of 20kW and 30kW charging module with 250-1000V output constant power range.

2021

Launch of 40kW charging module with 280-1000V output constant power range.

2022

Launched constant power 300-1000V cost-effective 30C8 module

2023

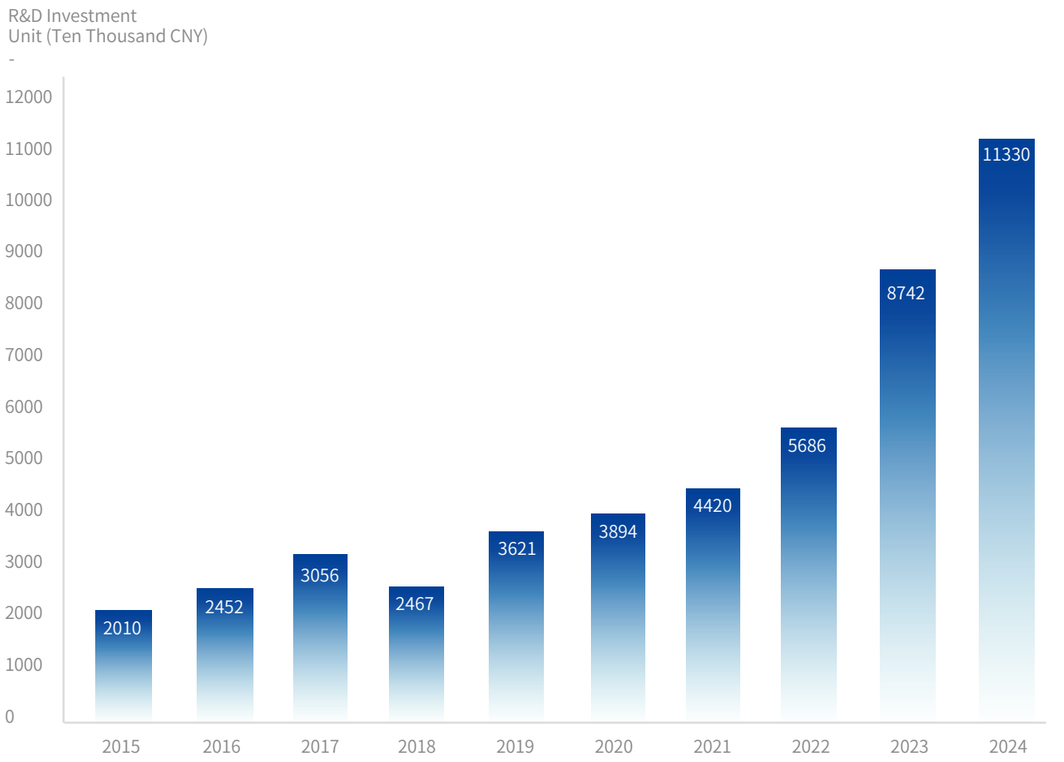
Launched 9th generation "Taihang" series of the first ultra-silent 30kW module.

2024

Launched 9th generation "Taihang" series 40kW ultra-silent module; liquid-cooled 40kW module, 2-fan unified standard 40kW module

2 TECHNICAL STRENGTH

R&D Center



R&D engineers account for 30%

R&D Team

Tonhe R&D center is the core department of product research&development and technological improvement of the company. There are more than 430 R&D employees, all of whom are professional engineers with rich practical experience. Most of the engineers are graduated from University of Science and Technology of China, Huazhong University of Science and Technology, Shandong University, Yanshan University and other key universities. Multiple updated technical invention patents provide sufficient resources for the continuous launch of innovative products.

LLC is widely recognized as a technical problem due to its limited usage scope. The early founders of Tonhe, led by Jia Tongying, worked hard to overcome this technical problem and formed a control mode with "double loop control" as the core technology. The main principle of this technology is to overcome the matching problem between the internal natural oscillation and the external feedback control of LLC resonant soft switch circuit, and real-time control of drive control frequency is achieved by detecting circuit resonant parameters cycle by cycle. In this way, the original high-order LLC system model can achieve "reduced order", so that the reliability of LLC can be applied to high-power industrial occasions.

The invention patent of Tonhe "resonant voltage control type power conversion technology" is applied to the multi-resonant mode to improve its reliability, and the incomparable double-loop control mechanism is applied to the multi-resonant mode to improve its working stability. The working band width of resonant circuit is compressed to improve its productivity.

Patent

Guided by market demand, Tonhe Technology has been investing about 10% of its sales revenue into R&D in the past 10 consecutive years. Tonhe has undertaken a number of scientific and technological projects from Shijiazhuang Enterprise Technology Center and Shijiazhuang Power Electronics Application Engineering Technology Research Center and develops dozens of scientific and technological projects every year. Tonhe Technology has obtained 224 patents, 67 software Copyrights and a number of technological innovations in the process of patent application by end of 2023.

Production Center

1,000,000 standard units
Annual production capacity

IATF16949
ISO9001
Production Standards

90,000 m²
Planned plant area

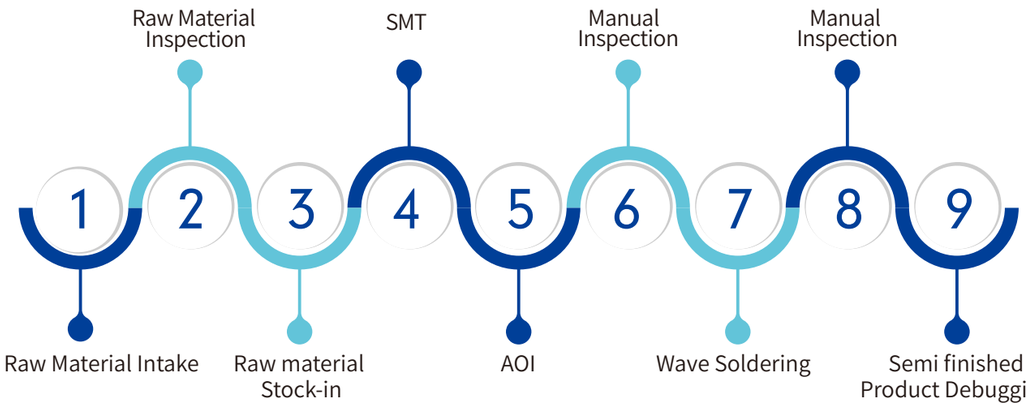
40,000 m²
Production area

600 +
Production staff

2 Automatic SMT Assembly Lines.

Achieve precise, fine and high speed pick-and-place operation by components vacuum picking and laser recognition placing.

Details determine success or failure, Tonhe focuses on quality control. From raw material to delivery, a product has been inspected 7 times to ensure that every delivered product is the most reliable "Tonhe heart".



Automatic Solder Paste Printer and Detector

TR7710 detector, which uses a 6.5Mpix high sensitive and high speed color camera with 10 μm optical resolution, prevents unqualified PCB from entering into the production line.

8 Wave Soldering Lines

By controlling wave crest parameters, the overall effect of connector soldering is guaranteed.

Double-sided Gel-filling solution

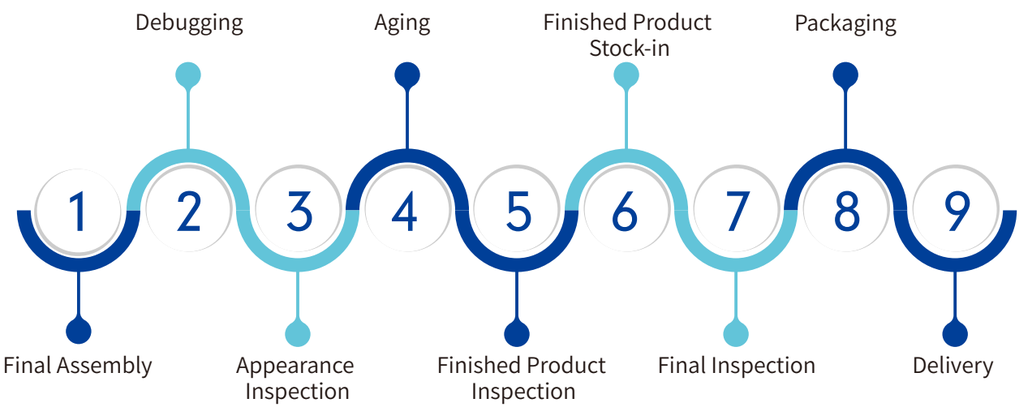
To improve protection grade of Tonhe power modules and ensure fair performance and reliability. Apply organic rubber and organic silicon on both sides of PCB, with average thickness of 2.5mm. Easy maintainance.

Automated Assembly Line

The first automated assembly line in the industry, with robots as main operators, reducing human intervention. Assembly data is recorded in real time and the entire process is automatically inspected, significantly enhancing production efficiency, consistency and stability.

Aging Chamber

The aging chamber, which is designed and built independently, adopts feedback load and automatic aging detection system to ensure that mass-production products have undergone comprehensive aging test before the follow-up inspection process.



Test Center

Tonhe Technology owns state-of-art EMC laboratory, certified by CNAS (China National Accreditation for Conformity Assessment) .

4000 m² Floor Space

3500 m² Testing Area

30 + Experts

70 millions+ USD Investment

CNAS Certified

Chroma electric load, AC Source; Yokogawa WT1800 high performance power analyzer; Fluke 8808A 5.5 digits desktop digital multimeter; -60°C-+150°C temperature and humidity test chamber.

Equipped 2 300kVA AC stable power supply, 2 sets of 200kW DC load, a 17m2 step-in temperature and humidity test chamber, charger system test could be done.

AXOS8 test system integrates surge, EFT and DIPs tests in one, which is convenient and reliable!

First-class transient immunity laboratory is built by HAEFELY from Switzerland.

Tonhe 3m semi anechoic EMC chamber is designed and built by FRANKONIA from Germany. It can be used for radiated emission and radiated immunity test of information technology equipment, charger, electric power equipment, industrial medical equipment and automotive electronic parts & components.

Test Capability

- GB/T 18487.2-2017Electric vehicle conductive charging systems - Part 2: EMC requirements for off-board electric vehicle supply equipment
- GB/T 20234.1-2015 Connection set for conductive charging of electric vehicles - Part 1: General requirements
- GB/T 20234.3-2015 Connection set for conductive charging of electric vehicles - Part 3: DC charging coupler
- NB/T 33008.1-2018 Inspection and test specifications for electric vehicle charging equipment - Part 1: off-board charger
- GB/T 2423.1-2008 Test A: Cold
- GB/T 2423.2-2008 Test B: Dry heat
- GB/T 2423.3-2008 Test Cab: Damp heat, steady state
- GB/T 2423.4-2008 Test Db: Damp heat, cyclic
- GB/T 2423.5-1995 Test Ea and Guidelines: Shock
- GB/T 2423.6-1995 Test Eb: Bump
- GB/T 2423.10-2008 Test Fc: Vibration (sinusoidal)
- GB/T 2423.21 Test M: Low air pressure
- GB/T 2423.25 Test Z/AM: Combined cold/low air pressure tests
- GB/T 2423.26 Test Z/BM: Combined dry heat/low air pressure tests
- GB/T 2423.56-2006 Test Fh: Vibration, broadband random and guidance

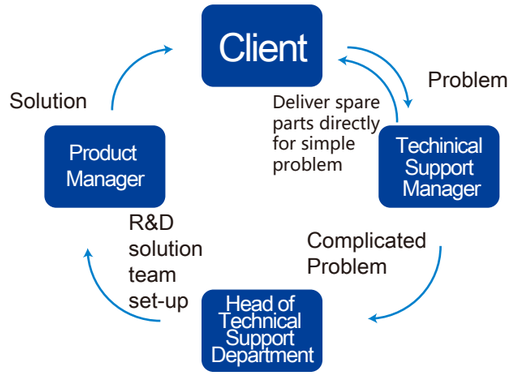
Quality Control

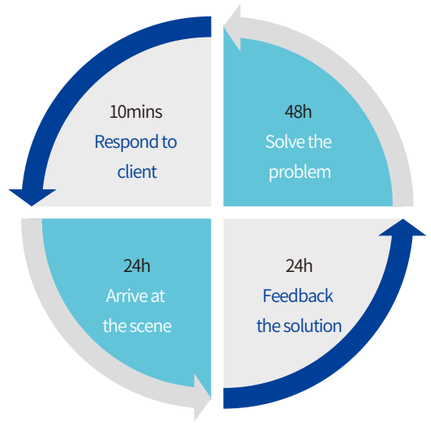
Tonhe adheres to the quality policy of "innovative technology, high quality products, satisfactory service, scientific management, continuous improvement". Tonhe products are designed in a standardized and modular manner, and a comprehensive quality management system has been established to ensure the company's comprehensive leadership in product performance and quality.

Tonhe is certified by IAFT16949, ISO9001, ISO14001 and ISO45001.

After-sales Service

After-sales Service Introduction





More than 50 technical support team members work together to cope with emergencies. For complicated problems, product managers and R&D engineers can provide technical support to guarantee the timeliness and success rate of problem solving, forming a closed loop.

Expert AS team
Efficient response scheme
Professional training program
Regular site-checking & maintenance

Global Manufacturing & Warehouse

Global AS Service

After-sales Network

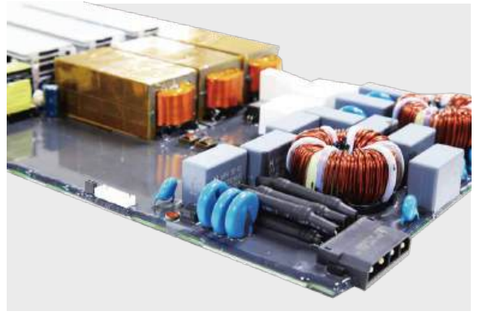
- Las Vegas, Anaheim, USA
- Munich,Hannover, Germany
- Seoul, South Korea
- Jakarta, Indonesia
- ABU Dhabi, UAE
- Moscow, Russia
- Bangkok, Thailand
- Sao Paulo, Brazil
- Istanbul, Turkey

Year 1998 - 2025

Focused on Technology R&D for 25 Years+

3 PRODUCT DESCRIPTION

All Series Support Double-sided Gel-filling Solution



Specially designed for coastal, metallurgy, coal mining, thermal power plants, electroplating and other harsh scenarios, due to the accumulation of dust, water vapor, salt spray corrosion, etc. Lower failure rate, longer life span, easy maintenance and higher reliability.

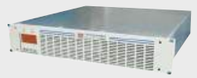
Special Environments

high altitude place, extreme hot place, extreme cold place

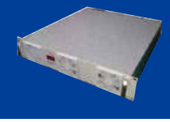
Note: used in high salt spray and extreme humid coastal area.

Development History of Tonhe Charging Power Module

1st Generation
Swap Charging Module
2007-2011



2nd Generation
TA4 Module
2011-2014



3rd Generation
TA4-2 Module
2014-2016

4thGeneration
First Digital 10kW Module
2016-2017

5th Generation
20kW Digital Module and Above
2017-2018

6th Generation
20kW & 30kW Output Constant Power Module
2018-2019

7th Generation
20kW & 30kW High Voltage Module with Wide Output Constant Power
2019-2020

8th Generation
40kW High Voltage Module with Wide Output Constant Power
2020-2021

9th Generation
Taihang series high-end module
Super low noise
Low standby power consumption
2023-2024

7th Generation
TH20F10025C7E-WT

20kW 1000V Unified Standards of the State Grid for Three Parts Module
Output Voltage Range: 50-1000VDC
Output Constant Power Range: 300-1000VDC

9th Generation
TH30F10030C9E-WT

30kW 1000V low noise power module
Output Voltage Range: 50-1000VDC
Output Constant Power Range: 300-1000VDC
Ultra-low power consumption: standby power⩽8Var
Ultra-low noise: ⩽60dB at full load at room temperature.

8th Generation
TH40F10030C8L-WT
THWT40F10030C8L-UR

40kW 1000V Liquid cooling Module
IP65 protection grade
High conversion efficiency: ⩾97%
Output Voltage Range: 50-1000VDC
Output Constant Power Range: 300-1000VDC

9th Generation
THWT40F10030C9E/ EUR

40kW 1000V CE/UL Standard Module
Regulated output voltage regulation range: 200-1000VDC
Output Constant Power Range: 300-1000VDC
High conversion efficiency:⩾97.2%
Ultra-low noise: ⩽60dB at full load at room temperature.

20kW 1000V

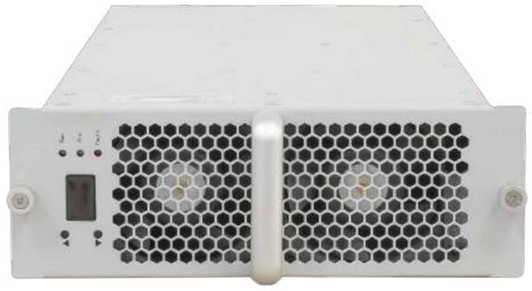
TH20F10025C7E-WT

TH 20 F 10025 C 7 E-WT

- E-WT: Overseas edition
- 7: 7th generation module
- C: EV charging module
- 10025: Output constant power range can support max（1000-250V）
- F: ACDC module
- 20: Output power rating
- TH: Tonhe

product brief introduction

With the development of the new energy automobile industry, it is the current trend to improve the battery voltage in order to improve the charging speed. The TH20F10025C7E-WT DC charging module developed by Tonhe based on the unified size of State Grid III has an output voltage up to 1000V and a constant power of 20kW within the range of 300-1000V.



product superiority

300-1000V

In line with the State grid three unified size, wide constant power range 300-1000V

＜10W

Ultra-low standby power consumption: < 10W

⩽5%

Ultra-low total harmonic distortion:THD⩽5%

-40°~75°

Ultra-wide operating temperature range: -40~75°C

96%

High conversion efficiency: peak efficiency ⩾96%

Data sheet

AC Input

Input Voltage	Rated voltage 380VAC, 3W+PE, operating voltage range 274-487VAC
Input Frequency	50/60Hz±10%
Input Power Factor	⩾0.99
Input Overvoltage Protection	490±10VAC
Input Undervoltage Protection	270±10VAC
THD	⩽5%

DC Output

Rated Output Power	20kW
Output Voltage Range	50-1000VDC
Output Current Range	0.5-67A
Output Constant Power Range	300-1000VDC
Peak Efficiency	⩾ 96%
Soft Start Time	3~8s
Short Circuit Protection	Self-rollback protection
Voltage Regulation Accuracy	⩽±0.5%
Current Regulation Accuracy	⩽±1%
Current Sharing Imbalance	⩽±5%

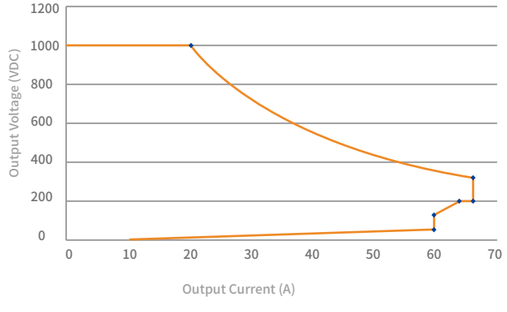
Operation Environment

Working Tempurature	-40°C-75°C
Relative Humidity	⩽95% no condensation
Altitude	⩽2000m, derating above 2000m

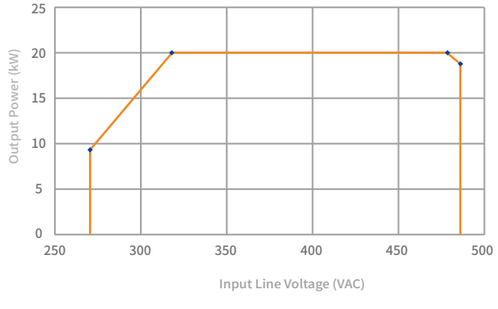
Product Features

Cooling Method	Fan cooling
Standby Power Consumption	<10W
Communication Protocol	CAN
Address Setting	Digital screen display, button operation
Dimension	460mm x 218mm x 84mm (D x W x H)
Weight	⩽13kg
MTBF	500 000 hours

Output Voltage - Output Current Curve



Output Power - Input Voltage Curve



30kW 1000V

TH30F10025C7E-WT

TH 30 F 10025 C 7 E-WT

- E-WT — Overseas edition
- 7 — 7th generation module
- C — EV charging module
- 10025 — Output constant power range can support max（1000-250V）
- F — ACDC module
- 30 — Output power rating
- TH — Tonhe

product brief introduction

With the development of the new energy vehicle industry, it is the current trend to improve the charging speed. TH30F10025C7E-WT DC charging module developed by Tonhe, output voltage can reach 1000V, and constant power is 30kW within the range of 250-1000VDC. Three fans design, cooling capability is strong and high reliability.

product superiority

250-1000V
Wide output constant power range: 250-1000VDC

＜10W
Ultra-low standby power consumption: < 10W

⩽5%
Ultra-low total harmonic distortion:THD⩽5%

-40°~75°
Ultra-wide operating temperature: -40°C-75°C

96%
High conversion efficiency: peak efficiency ⩾ 96%

Data sheet

AC Input

Input Voltage	Rated voltage 380VAC, 3W+PE, operating voltage range 270-490VAC
Input Frequency	50/60Hz±10%
Input Power Factor	⩾0.99
Input Overvoltage Protection	490±10VAC
Input Undervoltage Protection	270±10VAC
THD	⩽5%

DC Output

Rated Output Power	30kW
Output Voltage Range	50-1000VDC
Output Current Range	0.5-120A
Output Constant Power Range	250-1000VDC
Peak Efficiency	⩾ 96%
Soft Start Time	3~8s
Short Circuit Protection	Self-rollback protection
Voltage Regulation Accuracy	⩽±0.5%
Current Regulation Accuracy	⩽±1%
Current Sharing Imbalance	⩽±5%

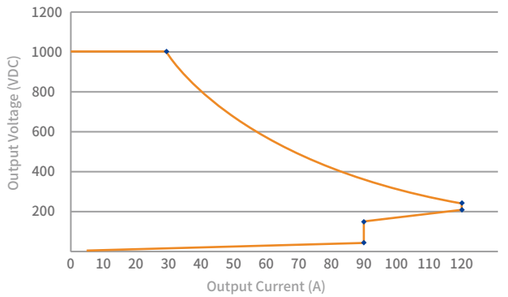
Operation Environment

Working Tempurature	-40°C-75°C
Relative Humidity	⩽95% no condensation
Altitude	⩽2000m, derating above 2000m

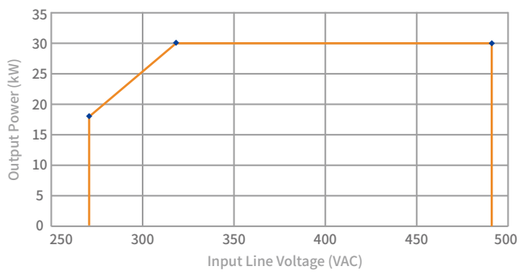
Product Features

Cooling Method	Fan cooling
Standby Power Consumption	<10W
Communication Protocol	CAN
Address Setting	Digital screen display, button operation
Dimension	437.5mm x 300mm x 84mm (D x W x H)
Weight	⩽16kg
MTBF	500 000 hours

Output Voltage - Output Current Curve



Output Power - Input Voltage Curve



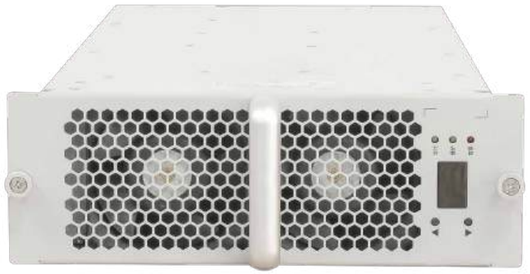
30kW 1000V

TH30F10030C8E-WT

TH 30 F 10030 C 8 E-WT
- E-WT: Overseas edition
- 8: 8th generation module
- C: EV charging module
- 10030: Output constant power range can support max（1000-300V）
- F: ACDC module
- 30: Output power rating
- TH: Tonhe

product brief introduction

TH30F10030C8E-WT is an AC/DC module developed by Tonhe for EV charger with high efficiency and high power density with maximum output voltage of 1000V and maximum output power of 30kW (maximum output constant power range between 300-1000VDC). Tonhe 30kW module is of the same size with 20kW ones, which allows subsequent expansion by users.



product superiority

300-1000V

In line with the State grid three unified size, wide constant power range 300-1000V

＜10W

Ultra-low standby power consumption: < 10W

⩽5%

Ultra-low total harmonic distortion: ⩽5%

-40°~75°

Ultra-wide operating temperature: -40°C-75°C

96%

High conversion efficiency: peak efficiency ⩾96%

Data sheet

AC Input

Input Voltage	Rated voltage 380VAC, 3W+PE, operating voltage range 285-475VAC
Input Frequency	50/60Hz±10%
Input Power Factor	⩾0.99
Input Overvoltage Protection	487±10VAC
Input Undervoltage Protection	270±10VAC
THD	⩽5%

DC Output

Rated Output Power	30kW
Output Voltage Range	50-1000VDC
Output Current Range	0.5-100A
Output Constant Power Range	300-1000VDC
Peak Efficiency	⩾ 96%
Soft Start Time	3-8s
Short Circuit Protection	Self-rollback protection
Voltage Regulation Accuracy	⩽±0.5%
Current Regulation Accuracy	⩽±1%
Current Sharing Imbalance	⩽±5%

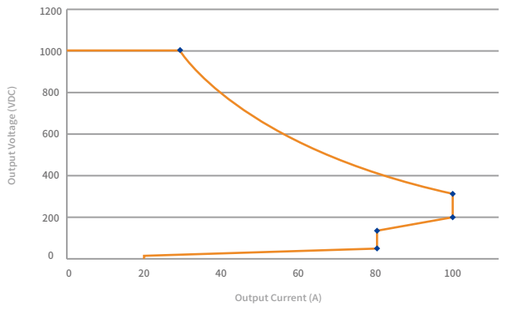
Operation Environment

Working Tempurature	-40°C-75°C
Relative Humidity	⩽95% no condensation
Altitude	⩽2000m, derating above 2000m

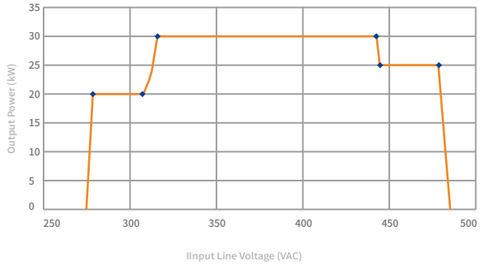
Product Features

Cooling Method	Fan cooling
Standby Power Consumption	<10W
Communication Protocol	CAN
Address Setting	Digital screen display, button operation
Dimension	460mm x 218mm x 84mm (D x W x H)
Weight	⩽13kg
MTBF	500 000 hours

Output Voltage - Output Current Curve



Output Power - Input Voltage Curve



30kW 1000V
TH30F10030C9E-WT

TH 30 F 10030 C 9 E-WT — Overseas edition
- 9th generation module
- EV charging module
- Output constant power range can support max（1000-300V）
- ACDC module
- Output power rating
- Tonhe

product brief introduction

Taihang Series TH30F10030C9E-WT is a DC charging module with high efficiency and high power density developed by Tonhe Company for chargers. It adopts SIC devices to improve product efficiency, has ultra-wide output voltage, reactive power consumption <8Var, protection level up to IP20, strong performance and low noise of 55dB.

product superiority

300-1000V
Wide output constant power range: 300-1000VDC

⩽8Var
Ultra-low power consumption: Standby reactive power⩽8Var

55dB
Ultra low noise level: 55dB, full load @ room temp

SIC
Ultra-high efficiency: SiC power components, low loss, high efficiency

96.5%
High conversion efficiency: peak efficiency ⩾96.5%

60°C
The power does not decrease within 60°C

Data sheet

AC Input

Input Voltage	Rated voltage 380VAC, 3W+PE, operating voltage range 285-475VAC
Input Frequency	50/60Hz±10%
Input Power Factor	⩾0.99
Input Overvoltage Protection	487±10VAC
Input Undervoltage Protection	270±10VAC
THD	⩽5%

DC Output

Rated Output Power	30kW
Output Voltage Range	50-1000VDC
Output Current Range	0.5-100A
Output Constant Power Range	300-1000VDC
Peak Efficiency	⩾ 96.5%
Soft Start Time	3~8s
Short Circuit Protection	Self-rollback protection
Voltage Regulation Accuracy	⩽±0.5%
Current Regulation Accuracy	⩽±1%
Current Sharing Imbalance	⩽±5%

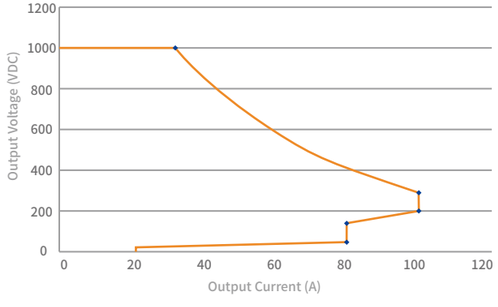
Operation Environment

Working Tempurature	-40°C-75°C
Relative Humidity	⩽95% no condensation
Altitude	⩽2000m, derating above 2000m

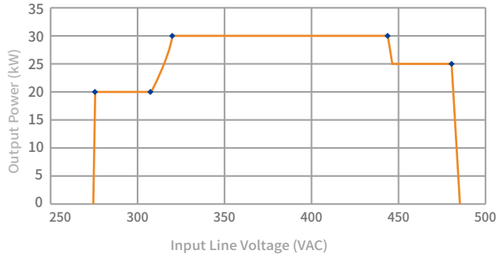
Product Features

Cooling Method	Fan cooling
Standby Power Consumption	<6W
Communication Protocol	CAN
Address Setting	Digital screen display, button operation
Dimension	437.5mm x 300mm x 84mm (D x W x H)
Weight	⩽16kg
MTBF	500 000 hours

Output Voltage – Output Current Curve



Output Power – Input Voltage Curve



40kW 1000V

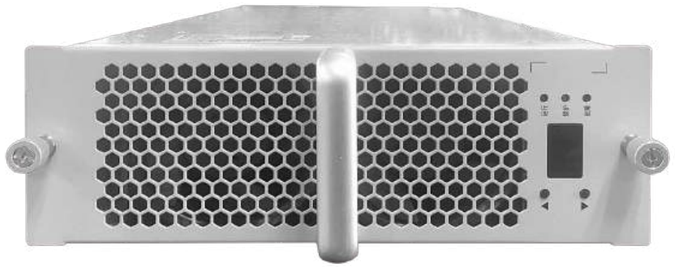
TH40F10030C8E-WT

CE

TH 40 F 10030 C 8 E-WT
- E-WT: Overseas edition
- 8: 8th generation module
- C: EV charging module
- 10030: Output constant power range (300-500V, 600-1000V)
- F: ACDC module
- 40: Output power rating
- TH: Tonhe

product brief introduction

TH40F10030C8E-WT is a high-efficiency and high-power-density power module developed by Tonhe Technology specifically for charging piles. It supports 270VAC-490VAC three-phase four-wire input (three phases + PE), with a maximum power of 40kW. The default constant power output range is 300Vdc to 500Vdc and 600Vdc to 1000Vdc.



product superiority

300-500V 600-1000V

In line with the State grid three unified size, wide constant power range 300-500V,600-1000V

⩽10Var

Ultra-low power consumption: Standby reactive power⩽10Var

⩽5%

Ultra-low total harmonic distortion: ⩽5%

-30°~75°

Ultra-wide operating temperature: -30°C-75°C

96%

High conversion efficiency: peak efficiency ⩾96%

Data sheet

AC Input

Input Voltage	Rated voltage 380VAC, 3W+PE, operating voltage range 270-490VAC
Input Frequency	50Hz/60Hz±10%
Input Power Factor	⩾0.99
Input Overvoltage Protection	487±10VAC
Input Undervoltage Protection	270±10VAC
THD	⩽5%

DC Output

Rated Output Power	40kW
Output Voltage Range	50-1000VDC
Output Current Range	0.5-134A
Output Constant Power Range	300-500VDC, 600-1000VDC
Peak Efficiency	⩾ 96%
Soft Start Time	3~8s
Short Circuit Protection	Self-rollback protection
Voltage Regulation Accuracy	⩽±0.5%
Current Regulation Accuracy	⩽±1%
Current Sharing Imbalance	⩽±5%

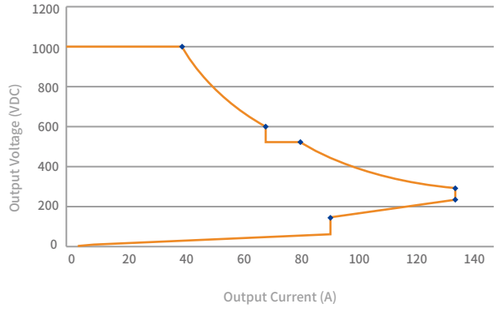
Operation Environment

Working Tempurature	-30°C-75°C
Relative Humidity	5%~95%RH no condensation
Altitude	⩽2000m, derating above 2000m

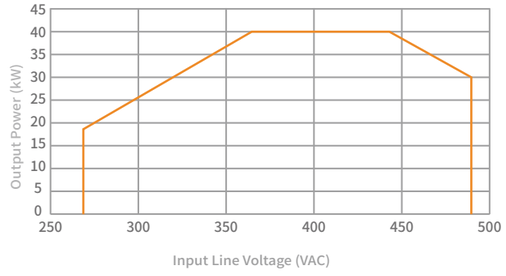
Product Features

Cooling Method	Fan cooling
Standby Power Consumption	⩽10W
Communication Protocol	CAN
Address Setting	Digital screen display, button operation
Dimension	460mm x 218mm x 84mm (D x W x H)
Weight	⩽15kg
MTBF	500 000 hours

Output Voltage - Output Current Curve



Output Power - Input Voltage Curve



40kW 1000V

THWT40F10030C9E

TH WT 40 F 10030 C 9 E

- E — Enhanced
- 9 — 9th generation module
- C — EV charging module
- 10030 — Output constant power range can support max（1000-300V）
- F — ACDC module
- 40 — Output power rating
- WT — Overseas edition
- TH — Tonhe

product brief introduction

THWT40F10030C9E is high efficiency, high power density DC charging module developed by Tonhe for European market. The module accords with IEC61851 and IEC60664 and other relative standards, could meets EMC request of Class B.

product superiority

300-1000V
Wide output constant power range: 300-1000VDC

＜10W
Ultra-low standby power consumption: < 10W

⩽5%
Ultra-low total harmonic distortion: ⩽5%

-40°~75°
Ultra-wide operating temperature: -40°C-75°C

97.2%
High conversion efficiency: peak efficiency ⩾97.2%

60dB
Ultra low noise level: 60dB, full load @ room temperature

Data sheet

AC Input

Input Voltage	Rated voltage 400VAC, 3W+PE, operating voltage range 272～490VAC
Input Frequency	50Hz/60Hz±10%
Input Power Factor	⩾0.99
Input Overvoltage Protection	490VAC±6VAC
Input Undervoltage Protection	272VAC±6VAC
THD	⩽5%

DC Output

Rated Output Power	40kW
Output Voltage Range	200-1000VDC
Output Current Range	8-134A
Output Constant Power Range	300-500VDC,500-1000VDC
Peak Efficiency	⩾ 97.2%
Soft Start Time	⩽3S
Short Circuit Protection	Self-rollback protection
Voltage Regulation Accuracy	⩽±0.5%
Current Regulation Accuracy	⩽±1%
Current Sharing Imbalance	⩽±5%

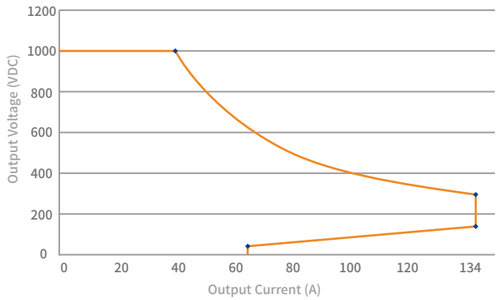
Operation Environment

Working Tempurature	-40°C-75°C
Relative Humidity	⩽95% no condensation
Altitude	⩽2000m, derating above 2000m

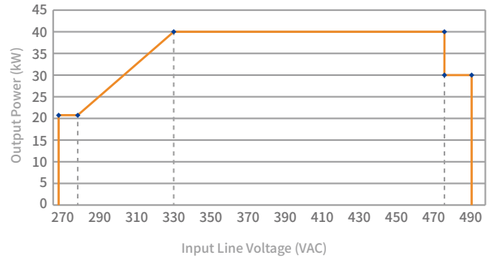
Product Features

Cooling Method	Fan cooling
Standby Power Consumption	<10W
Communication Protocol	CAN
Address Setting	Digital screen display, button operation
Dimension	437.5mm x 300mm x 84mm (D x W x H)
Weight	⩽18kg
MTBF	500 000 hours

Output Voltage - Output Current Curve



Output Power - Input Voltage Curve



40kW 1000V

THWT40F10030C9EUR

TH WT 40 F 10030 C 9 EUR

- EUR — Enhanced
- 9 — 9th generation module
- C — EV charging module
- 10030 — Output constant power range can support max (1000-300V)
- F — ACDC module
- 40 — Output power rating
- WT — Overseas edition
- TH — Tonhe

product brief introduction

THWT40F10030C9EUR is a high efficiency, high power density DC charging module developed by Tonhe for the American market, which complies with UL2202 standards.

product superiority

300-1000V
Wide output constant power range: 300-1000VDC

＜10W
Ultra-low standby power consumption: < 10W

⩽5%
Ultra-low total harmonic distortion: ⩽5%

-40°~75°
Ultra-wide operating temperature: -40°C-75°C

97.2%
High conversion efficiency: peak efficiency ⩾97.2%

60dB
Ultra low noise level: 60dB, full load @ room temperature

Data sheet

AC Input

Input Voltage	Rated voltage 480VAC, 3W+PE, operating voltage range 286-533VAC
Input Frequency	60Hz±10%
Input Power Factor	⩾0.99
Input Overvoltage Protection	289±3VAC
Input Undervoltage Protection	536±3VAC
THD	⩽5%

DC Output

Rated Output Power	40kW
Output Voltage Range	200-1000VDC
Output Current Range	8-134A
Output Constant Power Range	300-1000VDC
Peak Efficiency	⩾ 97.2%
Soft Start Time	⩽3S
Short Circuit Protection	Self-rollback protection
Voltage Regulation Accuracy	⩽±0.5%
Current Regulation Accuracy	⩽±1%
Current Sharing Imbalance	⩽±5%

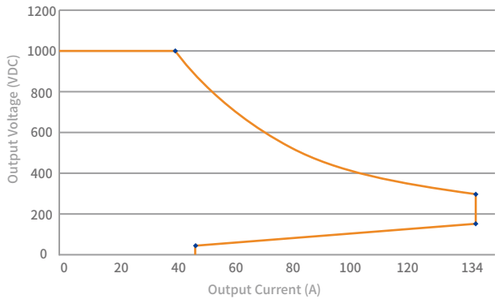
Operation Environment

Working Tempurature	-40°C-75°C
Relative Humidity	⩽95% no condensation
Altitude	⩽2000m, derating above 2000m

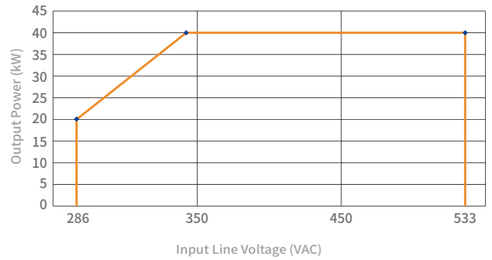
Product Features

Cooling Method	Fan cooling
Standby Power Consumption	<10W
Communication Protocol	CAN
Address Setting	Digital screen display, button operation
Dimension	437.5mm x 300mm x 84mm (D x W x H)
Weight	⩽18kg
MTBF	500 000 hours

Output Voltage - Output Current Curve



Output Power - Input Voltage Curve



40kW 1000V

TH40F10030C9E-WT

TH 40 F 10030 C 9 E-WT

- E-WT: Overseas edition
- 9: 9th generation module
- C: EV charging module
- 10030: Output constant power range can support max (1000-300V)
- F: ACDC module
- 40: Output power rating
- TH: Tonhe

product brief introduction

TH40F10030C9E-WT is a 40kW Taihang series charging module launched by Tonhe Company, which has the characteristics of high efficiency, low noise, low power consumption, double-sided organic silicone covering, etc., to improve user experience, compatible with the mainstream three-fan module design, and convenient for users to update and iteration.

product superiority

300-1000V
Wide output constant power range: 300-1000VDC

⩽10W
Ultra-low standby power consumption: ⩽10W

⩽5%
Ultra-low total harmonic distortion: ⩽5%

-40°~75°
Ultra-wide operating temperature: -40°C-75°C

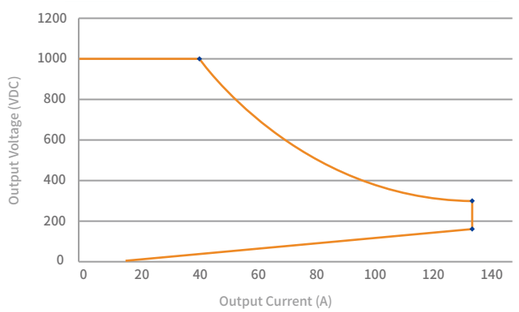
97.2%
High conversion efficiency: peak efficiency ⩾97.2%

60dB
Ultra low noise level: 60dB, full load @ room temperature

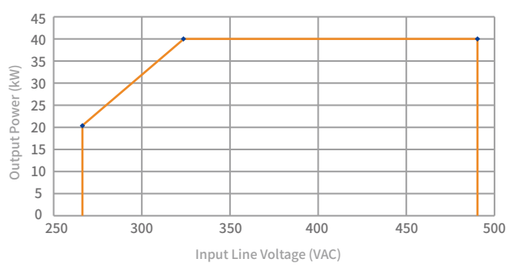
Data sheet

AC Input	
Input Voltage	Rated voltage 380VAC, 3W+PE, operating voltage range 270-490VAC
Input Frequency	50Hz/60Hz±10%
Input Power Factor	⩾0.99
Input Overvoltage Protection	490±10VAC
Input Undervoltage Protection	270±10VAC
THD	⩽5%
DC Output	
Rated Output Power	40kW
Output Voltage Range	50-1000VDC
Output Current Range	0.5-134A
Output Constant Power Range	300-1000VDC
Peak Efficiency	40kW Pro⩾ 96.5% 40kW Max⩾ 97.2%
Soft Start Time	⩽5S
Short Circuit Protection	Self-rollback protection
Voltage Regulation Accuracy	⩽±0.5%
Current Regulation Accuracy	⩽±1%
Current Sharing Imbalance	⩽±5%
Operation Environment	
Working Tempurature	-40°C-75°C
Relative Humidity	⩽95% no condensation
Altitude	⩽2000m, derating above 2000m
Product Features	
Cooling Method	Fan cooling
Standby Power Consumption	⩽10W
Communication Protocol	CAN
Address Setting	Digital screen display, button operation
Dimension	437.5mm x 300mm x 84mm (D x W x H)
Weight	⩽18kg
MTBF	500 000 hours

Output Voltage - Output Current Curve



Output Power - Input Voltage Curve



50kW 1000V
THWT50F1KA1 Pro

product brief introduction

THWT50F1KA1 Pro is high efficiency, high power density DC charging module developed by Tonhe for European market. The module accords with IEC61851 and IEC60664 and other relative standards, could meets EMC request of Class A.

product superiority

＜10W Ultra-low standby power consumption: < 10W

⩽5% Ultra-low total harmonic distortion: ⩽5%

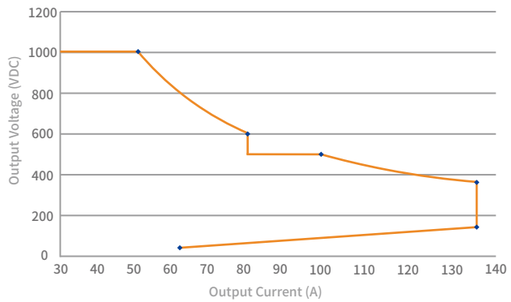
-40°~75° Ultra-wide operating temperature: -40°C-75°C

97.2% High conversion efficiency: peak efficiency ⩾97.2%

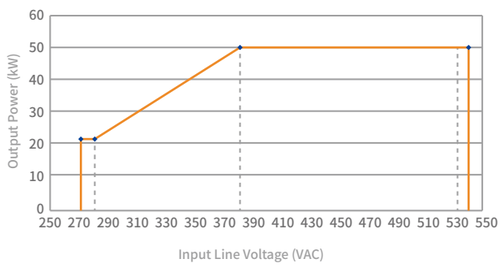
Data sheet

● AC Input	
Input Voltage	Rated voltage 400VAC, 3W+PE, operating voltage range 272～537VAC
Input Frequency	50Hz/60Hz±10%
Input Power Factor	⩾0.99
Input Overvoltage Protection	537±6VAC
Input Undervoltage Protection	272VAC±6VAC
THD	⩽5%
● DC Output	
Rated Output Power	50kW
Output Voltage Range	200-1000VDC
Output Current Range	10-134A
Output Constant Power Range	375-500VDC,600-1000VDC
Peak Efficiency	⩾ 97.2%
Soft Start Time	⩽3S
Short Circuit Protection	Self-rollback protection
Voltage Regulation Accuracy	⩽±0.5%
Current Regulation Accuracy	⩽±1%
Current Sharing Imbalance	⩽±5%
● Operation Environment	
Working Tempurature	-40°C-75°C
Relative Humidity	⩽95% no condensation
Altitude	⩽2000m, derating above 2000m
● Product Features	
Cooling Method	Fan cooling
Standby Power Consumption	<10W
Communication Protocol	CAN
Address Setting	Digital screen display, button operation
Dimension	437.5mm x 300mm x 84mm (D x W x H)
Weight	⩽18kg

Output Voltage - Output Current Curve



Output Power - Input Voltage Curve



40kW 1000V

Liquid Cooling Power Module

TH40F10030C8L-WT

TH 40 F 10030 C 8 L WT

- WT: Overseas edition
- L: Liquid cooling
- 8: 8th generation module
- C: EV charging module
- 10030: Output constant power range can support max（1000-300V）
- F: ACDC module
- 40: Output power rating
- TH: Tonhe

product brief introduction

product superiority

IP65

IP65 protection grade, can be used in a variety of harsh environments

Liquid Cooling

Liquid cooling method, greatly improve the heat dissipation efficiency

0dB

Use process 0dB

SIC

Ultra-high efficiency: SiC power components, low loss, high efficiency

⩾97%

High conversion efficiency: peak efficiency ⩾97%

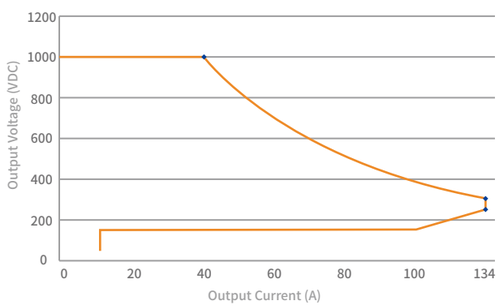
ten years

More than ten years of service life, process maintenance free

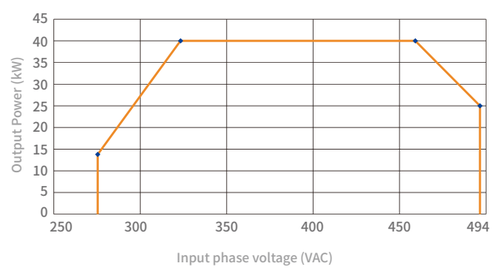
Data sheet

AC Input	
Input Voltage	Rated voltage 400VAC,3W+PE, operating voltage range 276-494VAC
Input Frequency	50/60Hz±10%
Input Power Factor	⩾0.99
Input Overvoltage Protection	494±10VAC
Input Undervoltage Protection	266±10VAC
THD	⩽±0.5%
DC Output	
Rated Output Power	40kW
Output Voltage Range	50-1000VDC
Output Current Range	0.5-134A
Output Constant Power Range	300-1000VDC
Peak Efficiency	⩾ 97%
Soft Start Time	⩽3~8S
Short Circuit Protection	Self-rollback protection
Voltage Regulation Accuracy	⩽0.5%
Current Regulation Accuracy	⩽±1%
Current Sharing Imbalance	⩽±5%
Operation Environment	
Working Tempurature	-40℃-75℃
Relative Humidity	⩽95% no condensation
Altitude	⩽2000m, derating above 2000m
Product Features	
Cooling Method	Liquid cooling
Standby Power Consumption	<10W
Communication Protocol	CAN
Address Setting	Digital screen display, button operation
Dimension	460mm x 300mm x 120mm (D x W x H)
Weight	⩽28kg
MTBF	500 000 hours

Output Voltage - Output Current Curve



Output Power - Input Voltage Curve



40kW 1000V

Liquid Cooling Power Module

THWT40F10030C8L-UR

TH WT 40 F 10030 C 8 L UR

- UR: Enhanced
- L: Liquid cooling
- 8: 8th generation module
- C: EV charging module
- 10030: Output constant power range can support max（1000-300V）
- F: ACDC module
- 40: Output power rating
- WT: Overseas edition
- TH: Tonhe

product brief introduction

product superiority

IP65

IP65 protection grade, can be used in a variety of harsh environments

Liquid Cooling

Liquid cooling method, greatly improve the heat dissipation efficiency

0dB

Use process 0dB

SIC

Ultra-high efficiency: SiC power components, low loss, high efficiency

⩾97%

High conversion efficiency: peak efficiency ⩾97%

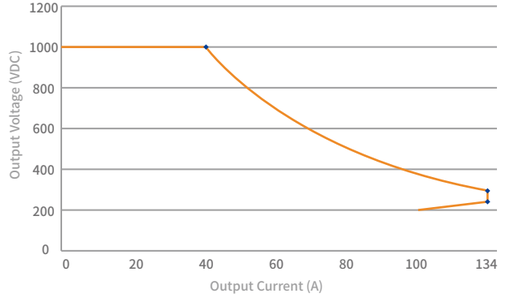
ten years

More than ten years of service life, process maintenance free

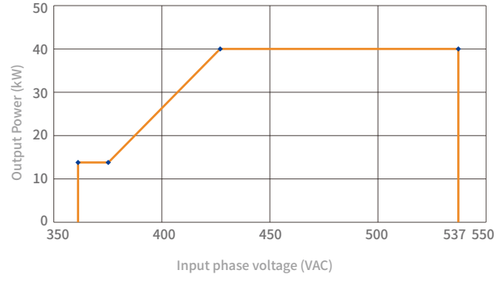
Data sheet

AC Input	
Input Voltage	Rated voltage 480VAC,3W+PE, operating voltage range 363-537VAC
Input Frequency	50/60Hz±10%
Input Power Factor	⩾0.99
Input Overvoltage Protection	537±10VAC
Input Undervoltage Protection	363±10VAC
THD	⩽±0.5%
DC Output	
Rated Output Power	40kW
Output Voltage Range	50-1000VDC
Output Current Range	0.5-134A
Output Constant Power Range	300-1000VDC
Peak Efficiency	⩾ 97%
Soft Start Time	⩽3~8S
Short Circuit Protection	Self-rollback protection
Voltage Regulation Accuracy	⩽0.5%
Current Regulation Accuracy	⩽±1%
Current Sharing Imbalance	⩽±5%
Operation Environment	
Working Tempurature	-40°C-75°C
Relative Humidity	⩽95% no condensation
Altitude	⩽2000m, derating above 2000m
Product Features	
Cooling Method	Liquid cooling
Standby Power Consumption	<10W
Communication Protocol	CAN
Address Setting	Digital screen display, button operation
Dimension	460mm x 300mm x 120mm (D x W x H)
Weight	⩽28kg
MTBF	500 000 hours

Output Voltage - Output Current Curve



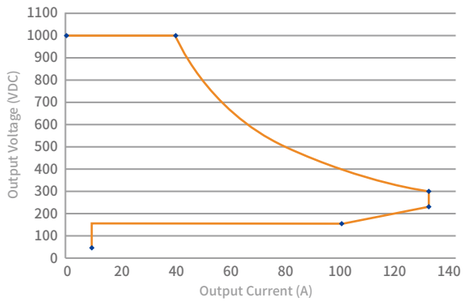
Output Power - Input Voltage Curve



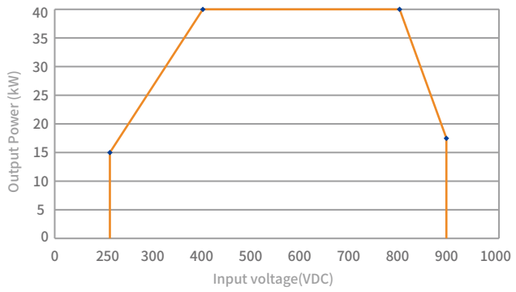
40kW DCDC CE
Liquid cooling

TH40DS10030C8L-WT

Output characteristic curve



Input limit power curve



Data sheet

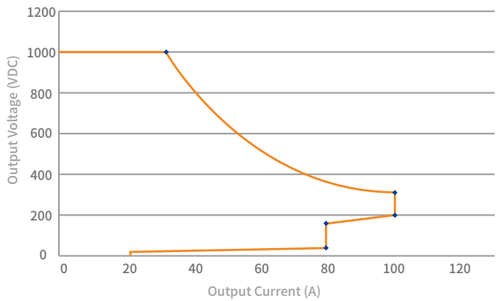
● DC Input	
Input Voltage	Rated voltage 600VDC, operating voltage range 250-900VDC
Maximum Current	100A
● DC Output	
Rated Output Power	40kW
Output Voltage Range	50-1000VDC
Output Current Range	0.5-134A
Output Constant Power Range	300-1000VDC
Peak Efficiency	⩾ 97%
Soft Start Time	⩽3~8S
Short Circuit Protection	Self-rollback protection
Voltage Regulation Accuracy	⩽±0.5%
Current Regulation Accuracy	⩽±1%
Current Sharing Imbalance	⩽±5%
● Operation Environment	
Working Tempurature	-40°C-75°C
Relative Humidity	5%RH~95%RH no condensation
Altitude	⩽2000m
● Product Features	
Cooling Method	Liquid cooling
Standby Power Consumption	⩽10W
Communication Protocol	CAN
Address Setting	Digital screen display, button operation
Dimension	460mm x 300mm x 120mm (D x W x H)
Weight	⩽28kg
MTBF	500 000 hours

30kW DCDC

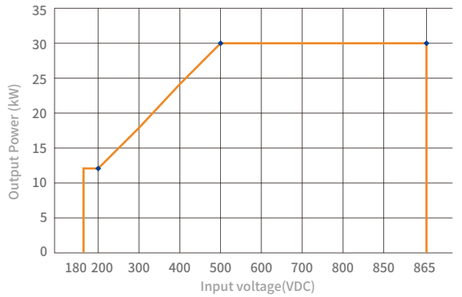
TH30DS10030C8E-WT

CE KC

Output characteristic curve



Input limit power curve



Data sheet

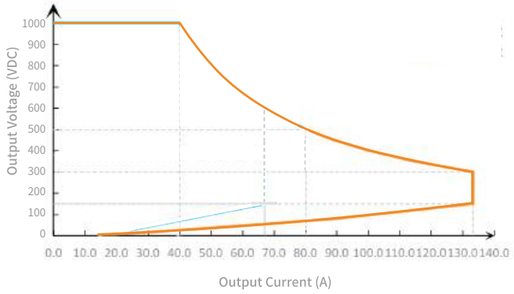
● DC Input	
Input Voltage	Rated voltage 750VDC, operating voltage range 200-865VDC
Maximum Current	60A
● DC Output	
Rated Output Power	30kW
Output Voltage Range	50-1000VDC
Output Current Range	0.5-100A
Output Constant Power Range	300-1000VDC
Peak Efficiency	⩾ 98%
Soft Start Time	3~8s
Short Circuit Protection	Self-rollback protection
Voltage Regulation Accuracy	⩽±0.5%
Current Regulation Accuracy	⩽±1%
Current Sharing Imbalance	⩽±5%
● Operation Environment	
Working Tempurature	-30°C-75°C
Relative Humidity	5%RH~95%RH no condensation
Altitude	⩽2000m
● Product Features	
Cooling Method	Fan cooling
Standby Power Consumption	<10W
Communication Protocol	CAN
Address Setting	Digital screen display, button operation
Dimension	437.5mm x 300mm x 84mm (D x W x H)
Weight	⩽16kg
MTBF	500 000 hours

40kW DCDC

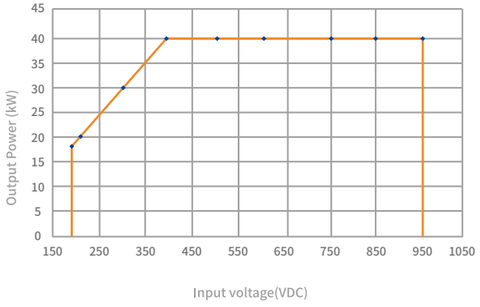
TH40DS10030C9E-WT

CE

Output characteristic curve



Input limit power curve



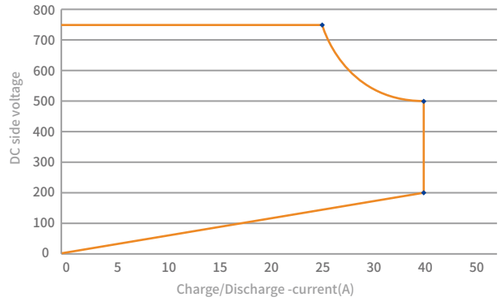
Data sheet

● DC Input	
Input Voltage	Rated voltage 750VDC, operating voltage range 200-950VDC
Maximum Current	100A
● DC Output	
Rated Output Power	40kW
Output Voltage Range	50-1000VDC
Output Current Range	0.5-134A
Output Constant Power Range	300-1000VDC
Peak Efficiency	⩾ 98.5%
Soft Start Time	3~8s
Short Circuit Protection	Self-rollback protection
Voltage Regulation Accuracy	⩽±0.5%
Current Regulation Accuracy	⩽±1%
Current Sharing Imbalance	⩽±5%
● Operation Environment	
Working Tempurature	-40℃-75℃
Relative Humidity	5%RH~95%RH no condensation
Altitude	⩽2000m
● Product Features	
Cooling Method	Fan cooling
Standby Power Consumption	<10W
Communication Protocol	CAN
Address Setting	Digital screen display, button operation
Dimension	437.5mm x 300mm x 84mm (D x W x H)
Weight	⩽16kg
MTBF	500 000 hours

V2G 20kW CE

TH20GT7550C7-WT

DC Voltage Current Curve



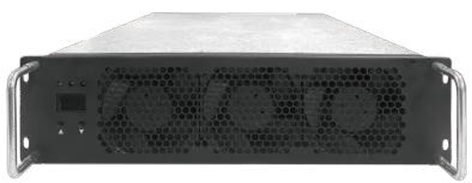
Data sheet

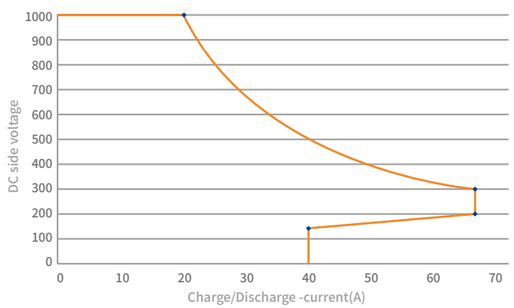
● AC	
Voltage Range	323Vac～456VAC
Current Range	0～38A
Rated Current	31A
Power Factor	⩾0.99 Full load
THD	⩽5% Full load
Efficiency	Charging (AC side → DC side) mode: ⩾ 95.5%, @750VDC, 100% load current.
● DC	
Voltage Range	200Vdc～750VDC
Current Range	1～40A
Rated Current	26.7A
Voltage regulation accuracy	＜±0.5%（200Vdc～750VDC）
Current Regulation Accuracy	⩽±1%（Output load: 20% ~ 100% rated range）
Load adjustment rate	⩽±0.5%
Start the overshoot	⩽±3%
Efficiency	Discharge (DC → AC) mode: ⩾ 95%, @750Vdc, 100% load current.
Peak ripple coefficient	⩽1%
Effective ripple coefficient	⩽0.5%
● Operation Environment	
Working Tempurature	-30℃～65℃
Relative Humidity	5%～95% no condensation
Altitude	⩽2000m, derating above 2000m
● Product Features	
Cooling Method	Fan cooling
Standby Power Consumption	<10W
Communication Protocol	CAN
Address Setting	Digital screen display, button operation
Dimension	458mm x 218mm x 85mm (D x W x H)
Weight	⩽13kg
MTBF	500 000 hours

V2G 20kW

TH20GT10030C8-WT

DC Voltage Current Curve





Data sheet

- AC

Voltage Range	323Vac～456VAC
Current Range	0～38A
Rated Current	33A
Power Factor	⩾0.99 Full load
THD	⩽5% Full load
Efficiency	Charging (AC side → DC side) mode: ⩾ 95%, @1000VDC, 100% load current.

- DC

Voltage Range	150～1000VDC
Current Range	1～66.7A
Rated Current	20A
Voltage regulation accuracy	＜±0.5%（200Vdc～1000VDC）
Current Regulation Accuracy	⩽±1%（Output load: 20% ~ 100% rated range）
Load adjustment rate	⩽±0.5%
Start the overshoot	⩽±3%
Efficiency	Discharge (DC → AC) mode: ⩾ 95%, @1000VDC, 100% load current.
Peak ripple coefficient	⩽1%
Effective ripple coefficient	⩽0.5%

- Operation Environment

Working Tempurature	-30℃～65℃
Relative Humidity	5%～95% no condensation
Altitude	⩽2000m, derating above 2000m

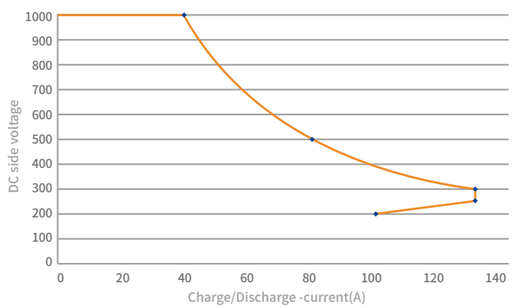
- Product Features

Cooling Method	Fan cooling
Standby Power Consumption	<10W
Communication Protocol	CAN
Address Setting	Digital screen display, button operation
Dimension	437.5mm x 300mm x 84mm (D x W x H)
Weight	⩽15kg
MTBF	500 000 hours

V2G 40kW

TH40GT10030C8E-WT

DC Voltage Current Curve



Data sheet

- Rectifier Mode

Rated Output Power	40kW
Input Voltage Range	260 - 510VAC
Output Voltage Range	200 - 1000VDC
Constant Power Output Voltage Range	300 -1000VDC
Output Current Range	0.5 - 134A
Input Phase	3-phase+N+PE
PF	PF ⩾ 0.99
THD	⩽ 5%
Voltage Regulation Accuracy	⩽ ±0.5%
Current Regulation Accuracy	⩽ ±1%
Peak Efficiency	⩾ 96%

- Inverter Mode

Input Voltage	200 - 1000VDC
Output Voltage	260 - 510VAC
Constant Power Input Voltage Range	300 - 1000VDC

- Operation Environment

Working Tempurature	-40°C-75°C
Relative Humidity	⩽95% no condensation
Altitude	⩽2000m, derating above 2000m

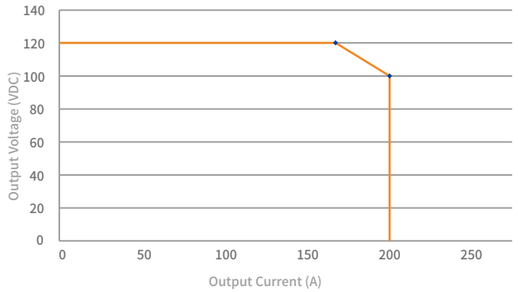
- Product Features

Cooling Method	Fan cooling
Standby Power Consumption	⩽10W
Communication Protocol	CAN
Address Setting	Digital screen display, button operation
Dimension	437.5mm x 300mm x 84mm (D x W x H)
Weight	⩽18kg
MTBF	500 000 hours

Low Voltage Product

TH20F1210C8E-WT

Output Voltage - Output Current Curve



Data sheet

AC Input

Input Voltage	Rated voltage 380VAC, 3W+PE, operating voltage range 260-520VAC
Input Frequency	50/60Hz±10%
Input Power Factor	⩾0.99
Input Overvoltage Protection	536±8VAC
Input Undervoltage Protection	242±8VAC
THD	⩽5%

DC Output

Rated Output Power	20kW
Output Voltage Range	10-120VDC
Output Current Range	0.5-200A
Output Constant Power Range	100-120VDC
Peak Efficiency	⩾ 95%
Soft Start Time	3~8s
Short Circuit Protection	Self-rollback protection
Voltage Regulation Accuracy	⩽±0.5%
Current Regulation Accuracy	⩽±1%
Current Sharing Imbalance	⩽±5%

Operation Environment

Working Tempurature	-40°C-75°C
Relative Humidity	⩽95% no condensation
Altitude	⩽2000m, derating above 2000m

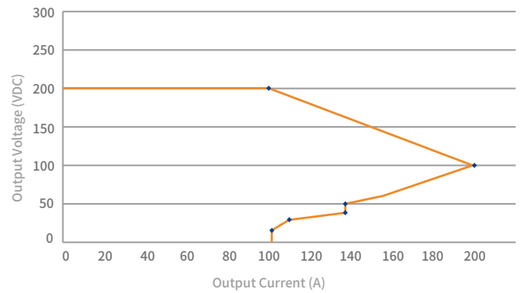
Product Features

Cooling Method	Fan cooling
Standby Power Consumption	<10W
Communication Protocol	CAN
Address Setting	Digital screen display, button operation
Dimension	460mm x 218mm x 84mm (D x W x H)
Weight	⩽13kg
MTBF	500 000 hours

Low Voltage Product

TH20F2010C8E-WT

Output Voltage - Output Current Curve



Data sheet

AC Input

Input Voltage	Rated voltage 380VAC, 3W+PE, operating voltage range 260-520VAC
Input Frequency	50/60Hz±10%
Input Power Factor	⩾0.99
Input Overvoltage Protection	536±8VAC
Input Undervoltage Protection	242±8VAC
THD	⩽5%

DC Output

Rated Output Power	20kW
Output Voltage Range	10-200VDC
Output Current Range	0.5-200A
Output Constant Power Range	100-200VDC
Peak Efficiency	⩾ 95%
Soft Start Time	3-8s
Short Circuit Protection	Self-rollback protection
Voltage Regulation Accuracy	⩽±0.5%
Current Regulation Accuracy	⩽±1%
Current Sharing Imbalance	⩽±5%

Operation Environment

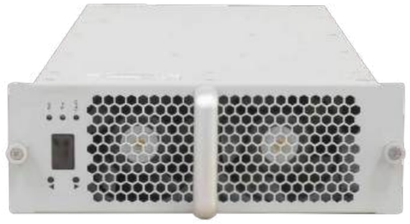
Working Tempurature	-40°C-75°C
Relative Humidity	⩽95% no condensation
Altitude	⩽2000m, derating above 2000m

Product Features

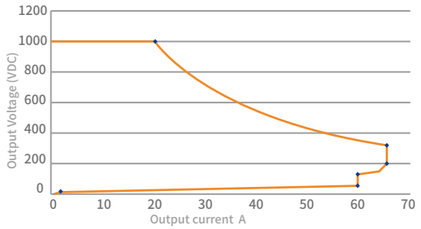
Cooling Method	Fan cooling
Standby Power Consumption	<10W
Communication Protocol	CAN
Address Setting	Digital screen display, button operation
Dimension	460mm x 218mm x 84mm (D x W x H)
Weight	⩽13kg
MTBF	500 000 hours

1000V AC&DC Dual Input Module

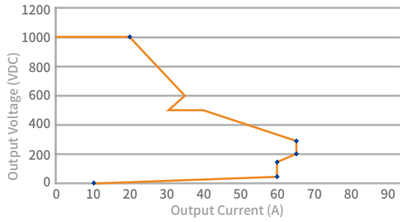
TH20T10025C7E-WT



Output Voltage - Output Current Curve (AC Input)



Output Voltage - Output Current Curve (DC Input)



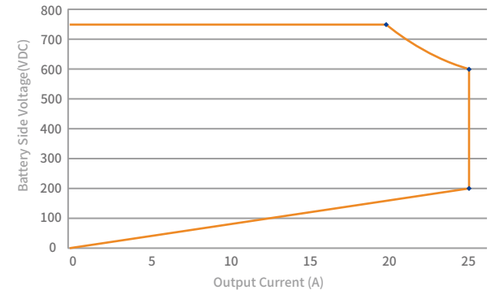
Data sheet

AC Input	Input Voltage	Rated voltage 380VAC, 3W+PE, operating voltage range 285-475VAC
	Input Frequency	50/60Hz±10%
	Input Power Factor	⩾0.99
	Input Overvoltage Protection	476-506VAC
	Input Undervoltage Protection	254-284VAC
	THD	⩽5%
DC Output	Rated Output Power	20kW
	Output Voltage Range	50-1000VDC
	Output Current Range	0.5-67A
	Output Constant Power Range	300-1000VDC
	Soft Start Time	3~8s
	Short Circuit Protection	Self-rollback protection
	Voltage Regulation Accuracy	⩽±0.5%
	Current Regulation Accuracy	⩽±1%
	Current Sharing Imbalance	⩽±5%
DC Input	Operating Voltage	300-810VDC
	Rated Voltage	750VDC
DC Output	Output Rated Power	20kW
	Output voltage range	50-1000VDC
	Output current range	0.5-67A
	Output constant power range	300-500VDC,600-1000VDC(Rated DC input)
Operation Environment	Working Tempurature	-40℃-75℃
	Relative Humidity	⩽95% no condensation
	Altitude	⩽2000m, derating above 2000m
Product Features	Peak Efficiency	⩾ 95.5%
	Cooling Method	Fan cooling
	Standby Power Consumption	<10W
	Communication Protocol	CAN
	Address Setting	Digital screen display, button operation
	Dimension	460mm x 218mm x 84mm (D x W x H)
	Weight	⩽13kg
	MTBF	500 000 hours

15kW DCDC

TH15DD7560C7-WT

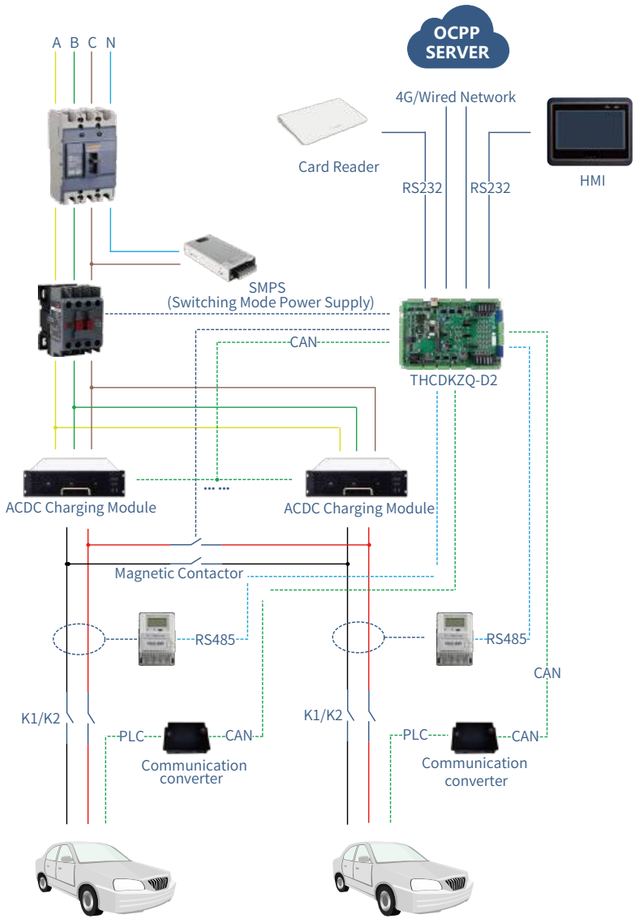
Battery Side Voltage-Current Curve



Data sheet

● Busbar side	
Output power (kW)	15kW
Voltage range	600VDC ～ 800VDC
Current range	0 ～ 25A
Rated current	20A
Voltage Regulation Accuracy	<±0.5% （600VDC～800VDC）
Current Regulation Accuracy	⩽± 1% (output load: 20% ~100% rated range)
Load regulation	⩽±0.5%
Start the overshoot	⩽±3%
● Battery side	
Voltage range	200VDC ～ 750VDC
Current range	1 ～ 25A
Rated current	20A
Voltage Regulation Accuracy	<±0.5% （200VDC ～750VDC）
Current Regulation Accuracy	⩽± 1% (output load: 20% ~100% rated range)
● Efficiency	
Forward (high voltage side → low voltage side)mode: ⩾ 95.5%, @750VDC,50% ~ 90% load current.	
Reverse (low voltage → high voltage) mode: ⩾ 95.5%, @750VDC,50% ~ 90% load current.	
● Environmental Conditions	
Working Temperature	- 30℃ ~ +65℃
Relative humid	⩽95%RH
Type of cooling	Forced air coolin
Altitude	2000m (Derated above 2000m
Communication Protocol	CAN
Soft Start Time	3~8s
Address Setting	Digital screen display, button operation
Weight (kg)	⩽13kg
MTBF	500 000 hours

Auxiliary Product



DC Charge Controller (THCDKZQ-D2)

Product Characteristics

The dual-gun DC charging controller is the core component of charge control and monitoring in DC charging pile. The controller is simple in design and flexible in use, conforming to IEC standards and meeting the needs of the mainstream market.

The dual-gun DC charging controller uses DC12V power supply, and realizes the communication between the controller and OCPP operating platform and vehicle BMS; The charging process is monitored and controlled in real time to ensure the safety of the whole charging process.

Charging Management System (CMS)

Product Characteristics

The management function of a single charging gun is realized.

Partial output uses high-power relay, no need for secondary relay.

All the wiring of the charging gun is integrated into one terminal for easy installation.

Power Management System (PMS)

Product Characteristics

PMS realizes the power distribution function of the whole charging station.

AC Charger Controller (THACKZQ)

Product Characteristics

The controller can be used as the control core of single-phase 3.5kW, 7kW and three-phase 11kW, 22kW charging piles. Support communication with OCPP operating platform, in line with IEC standards, to meet overseas market needs.

1, the controller is based on Linux platform development, on-board single-phase power metering function, by non-volatile memory, communication interface, display interface, switch input interface, clock, backup power supply, network port and other parts.

2, optional 4G module, card reader, external meter, LED indicator and other components.

3, suitable for charging mode 3 connection mode C, flexible application in a variety of use scenarios, to meet the mainstream market demand.

Communication Converter (THCDKZQ-SECC)

Product Characteristics

THCDKZQ-SECC is a fully functional charging communication converter at the pile end. It can convert the CAN communication signals of the national standard charging pile into PLC signals that comply with the ISO15118 (EIM) and DIN70121 communication protocol standards. It also has the function of real-time output of diagnostic information via serial port, facilitating fault diagnosis. Custom private communication protocols, supporting the main control of charging piles, can be customized and developed according to requirements.

4 Tonhe EV Charger Solution

OEM & ODM Solutions

EV Charger Offer List

Type			Rated Output Power	Cabinet No.	Dimension (W x D x H)
Tonhe EV Charger Solution	All-in-one Type	Single Gun	20-60kW	G29	700mm x 400mm x 1500mm
		Dual Guns	20-60kW	G45(Move)	650mm x 750mm x 1000mm
			60-120kW	G20/G16	700mm x 400mm x 1870mm 550mm x 650mm x 1950mm
			120-160kW	G26/G52	700mm x 600mm x 1900mm 700mm x 612mm x 1850mm
			180-240kW	G49/G50	900mm x 850mm x 1800mm 900mm x 750mm x 1800mm
			240-360kW	G43	900mm x 1100mm x 2170mm
			240-480kW	G32	1400mm x 800mm x 1900mm
	Split Type	Three Guns	80-120kW	G33	700mm x 600mm x 1900mm
		Four Guns	160-240kW	G40	800mm x 850mm x 2100mm
		Rectifier Cabinet	240-480kW	G32	1400mm x 800mm x 1900mm
			360-720kW	G53	1700mm x 800mm x 2150mm
		Charging Cabinet	Single Gun/ Dual Guns	Z13/Z14	510mm x 350mm x 1820mm

Power Module Offer List

Type	Power	Model No.	Dimension (Dx W x H)	Output Voltage Range	Output Constant Power Range
3-Phase AC2DC	20kW	TH20F10025C7E-WT	460mm x 218mm x 84mm	50-1000VDC	300-1000VDC
	20kW	TH20F2010C8E-WT	460mm x 218mm x 84mm	20-200VDC	100-200VDC
	20kW	TH20F1210C8E-WT	460mm x 218mm x 84mm	20-120VDC	100-120VDC
	30kW	TH30F10025C7E-WT	437.5mm x 300mm x 84mm	50-1000VDC	250-1000VDC
	30kW	TH30F10030C8E-WT	460mm x 218mm x 84mm	50-1000VDC	300-1000VDC
	30kW	THWT30F10030C9E	437.5mm x 300mm x 84mm	200-1000VDC	300-1000VDC
	30kW	THWT30F10030C9EUR	437.5mm x 300mm x 84mm	200-1000VDC	300-1000VDC
	30kW	TH30F10030C9E-WT	437.5mm x 300mm x 84mm	50-1000VDC	300-1000VDC
	40kW	TH40F10030C7E-WT	437.5mm x 300mm x 84mm	50-1000VDC	300-500VDC, 600-1000VDC
	40kW	TH40F10030C8E-WT	460mm x 218mm x 84mm	50-1000VDC	300-500VDC,600-1000VDC
	40kW	TH40F10030C8L-WT	460mm x 300mm x 120mm	50-1000VDC	300-1000VDC
	40kW	THWT40F10030C9E	437.5mm x 300mm x 84mm	200-1000VDC	300-1000VDC
	40kW	THWT40F10030C9EUR	437.5mm x 300mm x 84mm	200-1000VDC	300-1000VDC
	40kW	TH40F10030C9E-WT	437.5mm x 300mm x 84mm	50-1000VDC	300-1000VDC
Bidirectional DC2DC	15kW	TH15DD7560C7-WT	458mm x 218mm x 85mm	200-750VDC	600-750VDC
AC&DC2DC	20kW	TH20T10025C7E-WT	460mm x 218mm x 84mm	50-1000VDC	AC Input: 300-1000VDC DC Input: 300-500VDC, 600-1000VDC
Bidirectional AC2DC	20kW	TH20GT7550C7-WT	458mm x 218mm x 85mm	200-750VDC	500-750VDC
	20kW	TH20GT10030C8-WT	437.5mm x 300mm x 84mm	150～1000VDC	300-1000VDC
Unidirectional DC2DC	30kW	TH30DS10030C8E-WT	437.5mm x 300mm x 84mm	50-1000VDC	300-1000VDC
	40kW	TH40DS10030C8L-WT	460mm x 300mm x 120mm	50-1000VDC	300-1000VDC

Note

For more information, please browse our official website：www.tonhetech.com
Or follow our WeChat Official Account：

WeChat Official Account QR Code

We are wholeheartedly at your service!

Tonhe Technology

Win-Win Cooperation
To Build a Better World Together