



Quick Installation Manual

Ener Hexon®Smart 103P PV&ESS All-in-one Distributed ESS

YT-DS5T103-PV050-B02

Document version: 2.0

Release date: 2024-09-26



All Rights Reserved

Copyright © YOTAI Digital Energy Technology (Shenzhen) Co., Ltd. 2024. All rights reserved.

The content of this manual shall not be disseminated, copied, or forwarded to any third party without authorization from YOTAI Digital Energy Technology (Shenzhen) Co., Ltd., nor shall it be posted on public networks or other third-party platforms.

Trademark

 and other Yotai trademarks are owned by YOTAI Digital Energy Technology (Shenzhen) Co., Ltd. All other trademarks or registered trademarks mentioned in this manual are owned by their respective trademark owners.

Notice

The products, services, features, etc., you purchase, are subject to the commercial contracts and regulations of YOTAI Digital Energy Technology (Shenzhen) Co., Ltd. All or part of the products, services, or features described in this manual may not be within the scope of your purchase or use. Unless otherwise contractually agreed.

Due to product version upgrades, iterations, or other reasons, the content of this manual will be updated and corrected from time to time. However, there may be slight discrepancies or errors with the actual product. This document serves as a guide only, and the statements, information, and recommendations in this document do not constitute any express or implied warranties.

The images described in this manual are for reference only and subject to the actual product.

YOTAI Digital Energy Technology (Shenzhen) Co., Ltd.

Address: Tellhow Industrial Park, No. 5,
Guansheng Road, Longhua District, Shenzhen,
Guangdong, China

Tel.: 400-830-2980 0755-26998085

Website: www.yotaienergy.com

Contents

- 1. TRANSPORT1**
- 2. SITE AND FOUNDATION2**
 - 2.1. BASIC PRODUCTION INSTRUCTIONS 2
 - 2.2. CABLE PRE-BURIAL 3
 - 2.3. GROUNDING GRID 3
- 3. EQUIPMENT INSTALLATION AND CABLE CONNECTION4**
 - 3.1. EQUIPMENT INSTALLATION AND FIXATION4
 - 3.2. PHOTOVOLTAIC CONNECTIONS5
 - 3.3. MAINS POWER INPUT 5
 - 3.4. LOAD OUTPUTS5

1. Transport

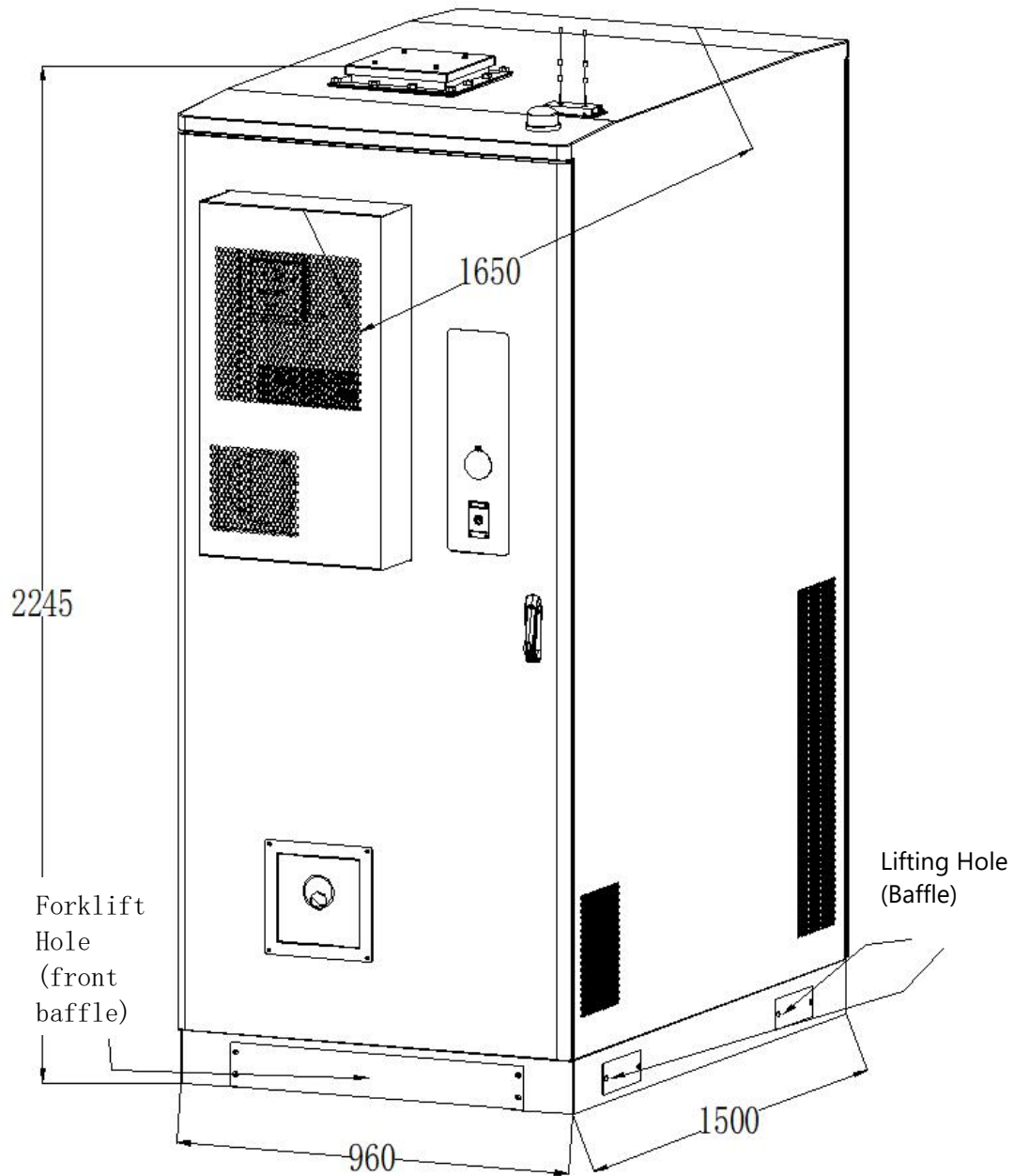
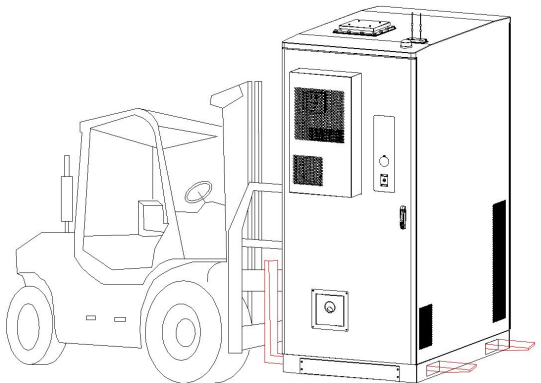


Figure 1 Overall view

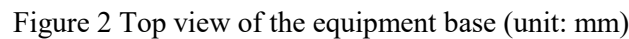
	1、 This product is an outdoor box structure, designed for forklift (left and right, when necessary, can be front or back forklift); 2、 This product can only be handled by forklift (if lifting is necessary, please prepare special lifting equipment); 3、 The installation site shall meet the forklift operation requirements; 4、 Recommended to use forklifts over 3 tons; 5、 Product weight approximately: 1500kg. Note: The installation and storage of this product should be placed on a flat and hard ground to avoid tilting; there should be no protruding objects on the ground at the bottom of the product to avoid deformation and damage of the equipment.
---	---

2. Site and Foundation

This product is an outdoor product, and the installation and storage site are open outdoor, far away from people or other animal activity places.

2.1. Basic Production Instructions

1. Consolidate and level the site.
2. Cement base material C25.
3. The part below the foundation shall not be less than 100mm.
4. The conduit (4* $\varnothing$ 75mm) should be embedded before cement pouring, and the embedded depth should be more than 500mm.
6. The installation iron plate shall be pre-buried according to the drawing size during cement pouring.
7. Pay attention to the position and size of pre-opening holes during cement pouring.
8. After the cement pouring, it should be maintained for more than 7 days before the equipment is installed.



3. The length of the embedded cable head shall not be less than 1000mm, and the length of the communication cable head shall not be less than 2000mm.

The grounding grid can be constructed as follows: Dig trenches over 800mm deep around the

foundation, and drive $50 \times 50 \times 5$ mm angle steels into the ground at a depth exceeding 2500mm. The distance between two angle steels should not exceed 5000mm. Weld these angle steels together with 50×5 mm flat iron to form a complete grounding grid, which should then be extended above ground. Ensure the grounding resistance remains below 4Ω .

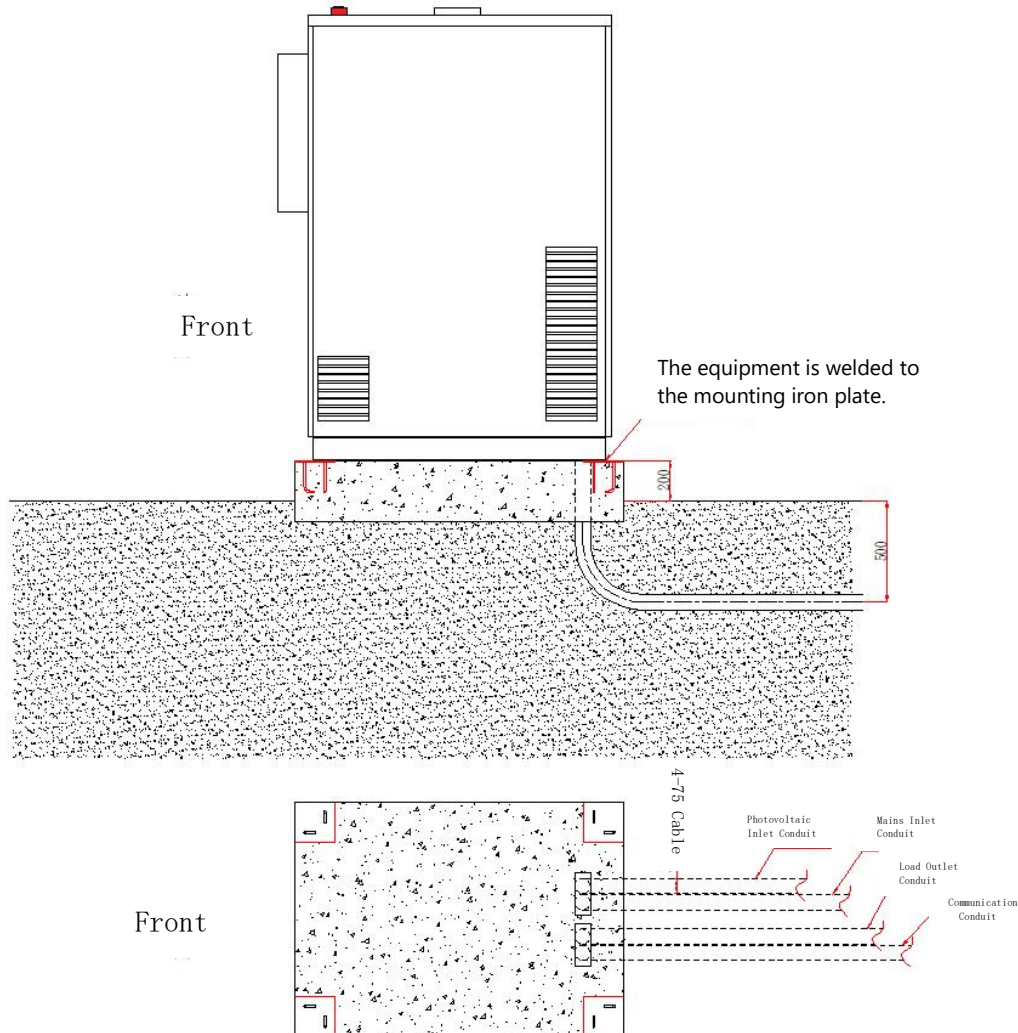


Figure 3 Basic drawing (unit mm)

3. Equipment Installation and Cable Connection

3.1. Equipment Installation and Fixation

1. Equipment is moved to the required position.
2. The four corners of the equipment should be welded firmly with the base plate.
3. Align the inlet and outlet holes.
4. The equipment shell is reliably connected to the grounding network.

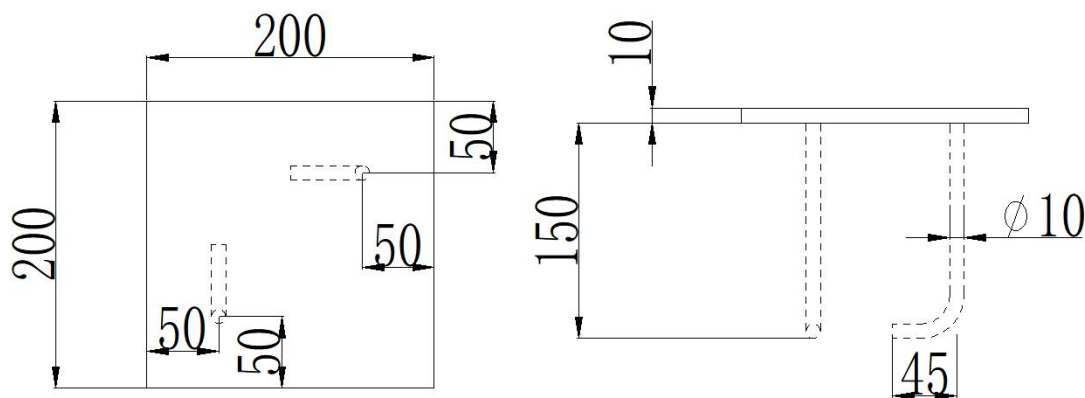


Figure 4 Iron Plate Size for Equipment Installation (unit: mm)

- a, The iron plate installed is Q235.
- b, Iron plate size 200*200*10mm.
- c. Two Ø10 steel bars are welded at the bottom of the iron plate, and the size is shown in the figure above.

3.2. Photovoltaic Connections

1. Rated input of pv is 50kW.
2. The maximum input voltage of photovoltaic is 1000V, the rated working voltage is 620V, and the MPPT working voltage is 200-850V.
3. Four 2-strings MPPT inputs, each with a maximum operating current of 30A and a maximum short-circuit current of 40A.
4. Connection position: PV input terminal row, photovoltaic cable is 4-6 mm² photovoltaic special cable.
5. This product shall not use thin film photovoltaic modules, only suitable for crystalline silicon photovoltaic modules.

3.3. Mains Power Input

1. This product accepts the maximum mains input power of 50kW, mains voltage of 380V, frequency of 50Hz, wiring three-phase five-wire or four-wire system.
2. The mains input is connected to the mains input terminal of the device.

3.4. Load Outputs

1. The maximum load accepted by this product is 50kW three-phase, and the maximum three-phase imbalance is 10%.
2. The load wiring is connected to the load output terminal.

Quick Installation Manual

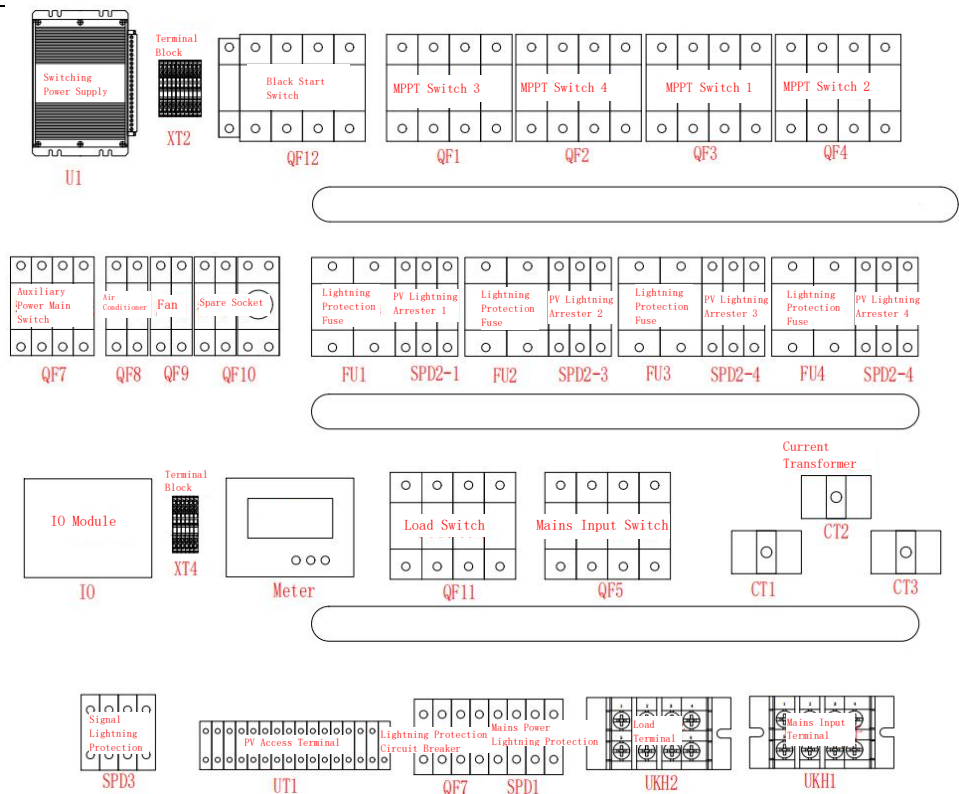


Figure 5 Layout of Distribution Panel

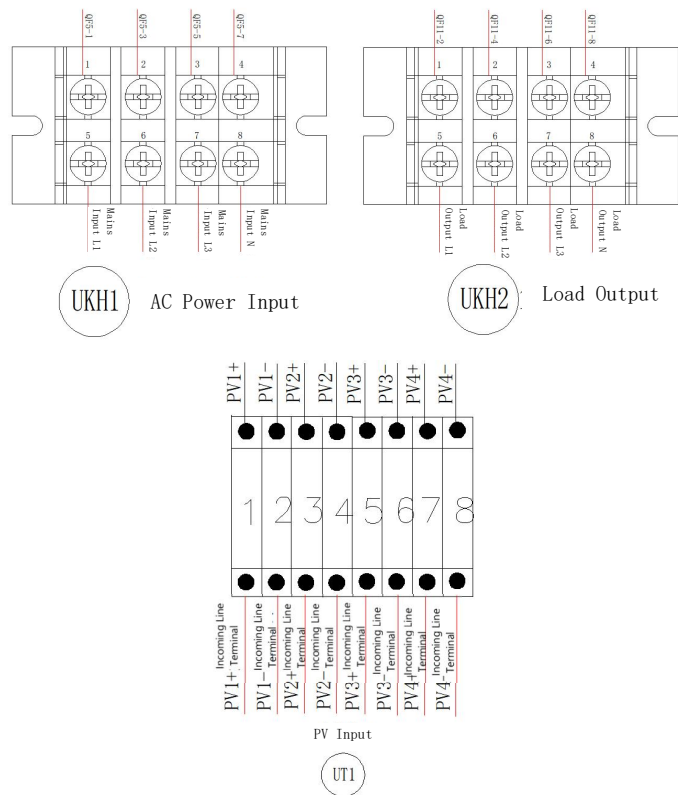


Figure 6 Definition of Terminal Bars on Distribution Panels