

# Meter Room Control Panel

*Bulletin 1120: User Manual*



***IMPORTANT USER INFORMATION***

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

In no event will Timpson Training, LLC be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Timpson Training, LLC cannot assume responsibility or liability for actual use based on the examples and diagrams.

No patent liability is assumed by Timpson Training, LLC with respect to use of information, circuits, equipment, or software described in this manual.

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***SUMMARY OF CHANGES***

This manual may contain new and updated information.  
Changes throughout this manual will be listed below:

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<b>TOPIC</b>	<b>PAGE</b>
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**NOTES:**

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## 1. Users

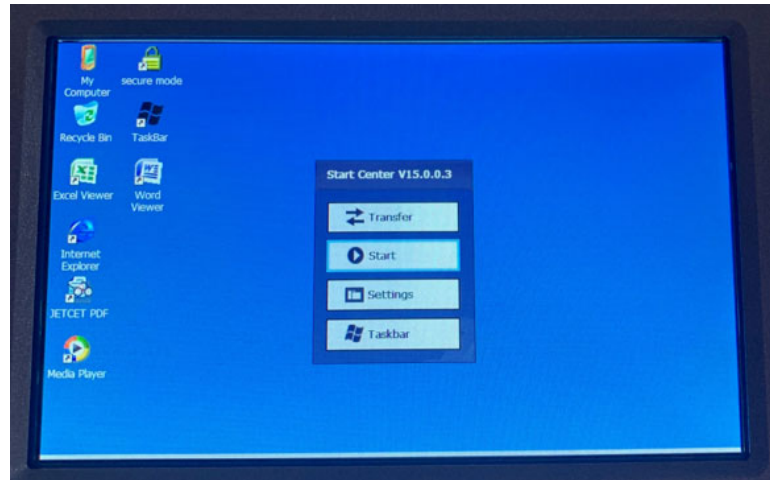
### a. Intended Users

- This system is intended for the following users:
  - Linemen Trainer
  - Linemen Trainees

### b. Needs That This Unit Satisfies

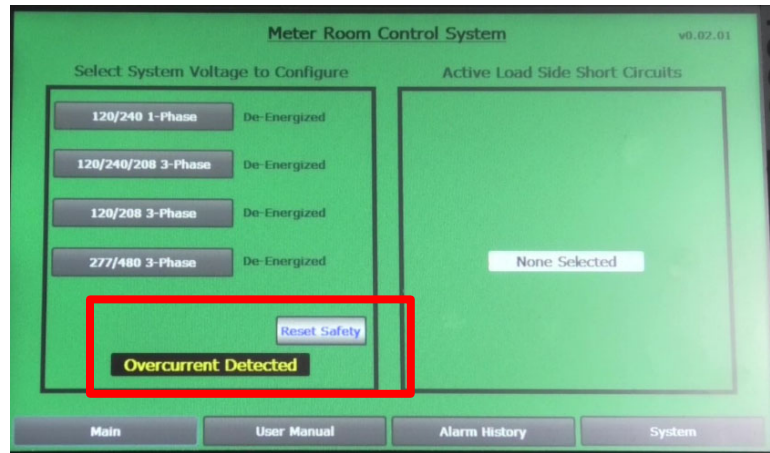
- Provides the Lineman trainer and trainee, with adequate real-world Low Voltage, Meter wiring scenarios, while maintaining safety for the trainer, trainee, and the training integrity of the company.

## 2. Operational Display



a.

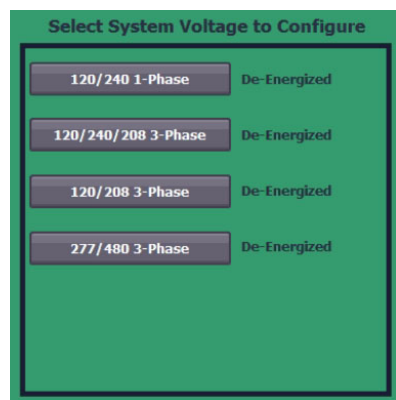
HMI Boot Screen



b.

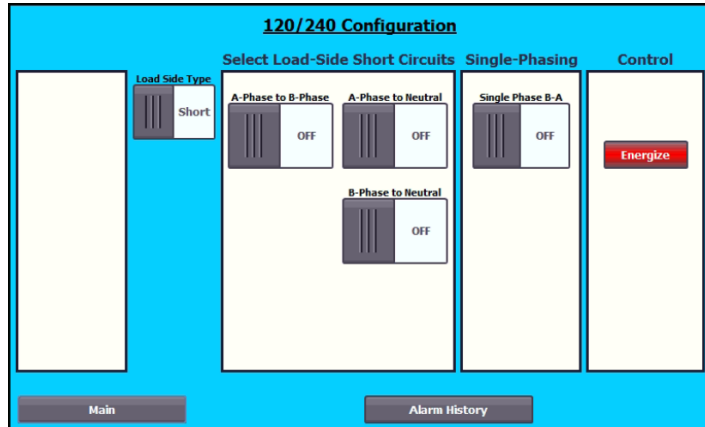
System in Start-Up Mode. This mode performs a self-test on safety systems components.

Main Screen-Safety Reset Needed



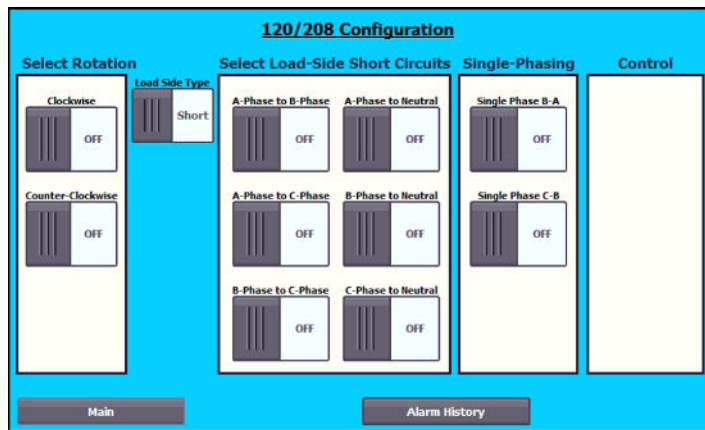
c.

Select System Voltage to configure: Here the user can energize any of the voltage options.



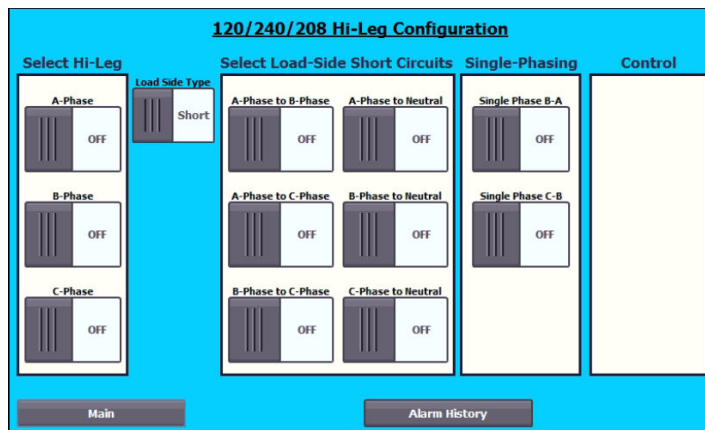
120/240 Configuration Screen

d.



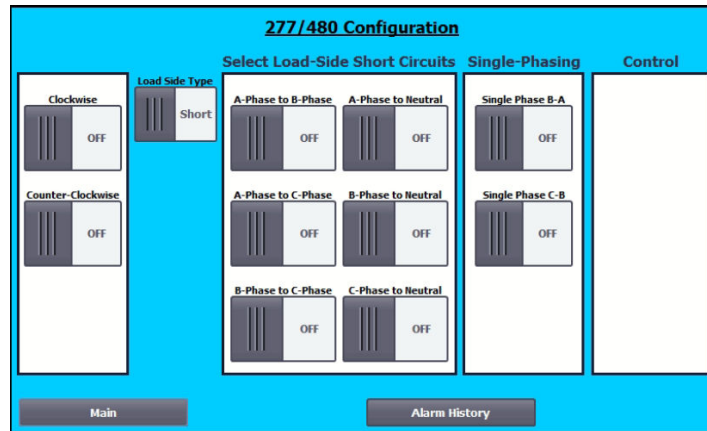
120/208 Configuration Screen

e.



120/240/208 Hi-Leg Configuration Screen

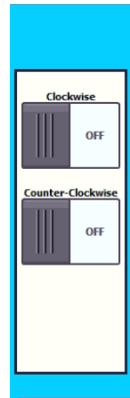
f.



277/480 Configuration Screen

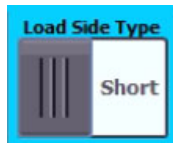
Configuration Screen: Here the user can select the rotation and Load-side short circuit.

g.



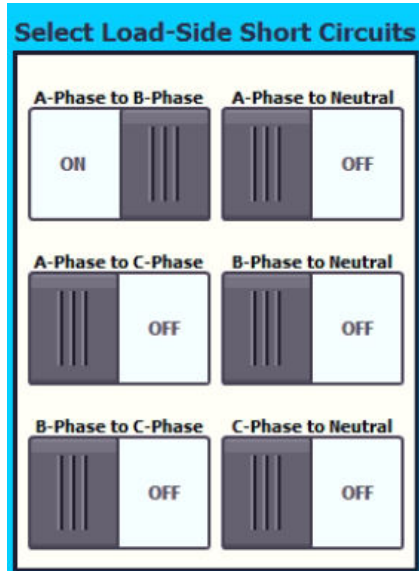
Rotation- Select Rotation

h.



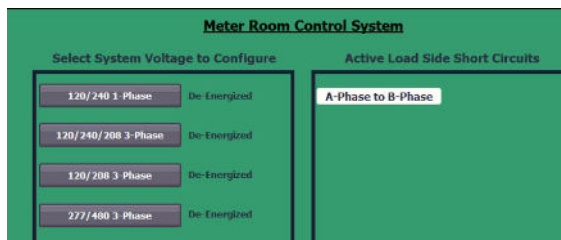
i.

Load-side short circuit selected.



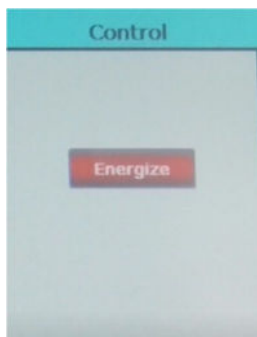
j.

Load-side short circuit phase -A Phase to B-Phase selected.



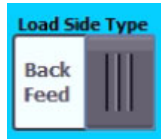
k.

Active Load-side short circuit phase -A Phase to B-Phase displayed on main screen



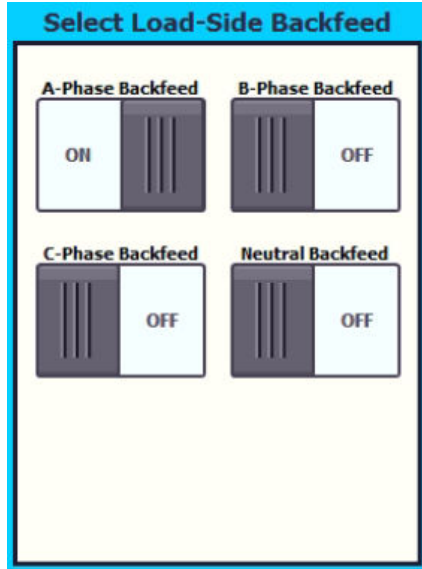
l.

Energize Load-side short circuit.



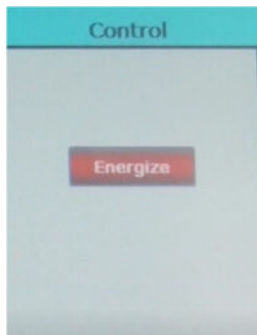
m.

Load-side Back Feed selected.



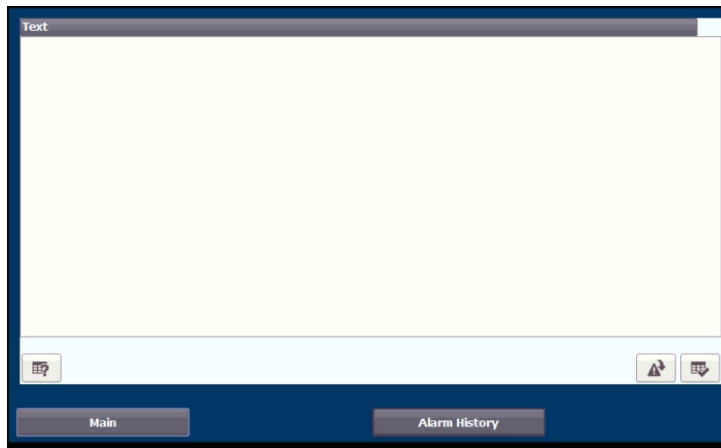
n.

Load-side Back Feed phase -A selected.



o.

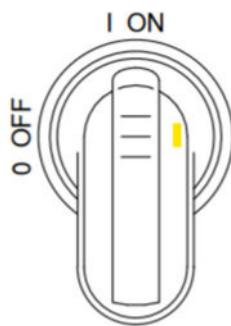
Energize Back Feed



p.

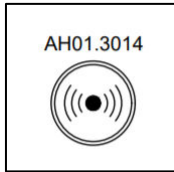
Alarm Screen

Sr. No.	Alarm Description
1	DC Power Health - Contact Factory
2	Hardware Fault _Safety Relay - Contact Factory
3	AST Trip Setpoint is Set to 0
4	AST In-Rush Delay is Set to 0
5	TVSS Health - Please Replace Cartridge



**Global Operator**

### 3. Operator Descriptors



**Audible/Alarm Horn**

## 4. Operational Sequence

### a. System Pre-Check

- i. Determine that the meter room is free and clear of people, animals, and misc. debris that are not intended for use as described herein.
- ii. Verify that all PPE and safety protocols & procedures are in place.
- iii. Verify that both doors on the control panel are closed and locked.

### b. System Usage

- i. Remove the Lock-Out-Tag-Out provisions that are currently on the Main Disconnect handle.
- ii. Index the Main Disconnect handle to the ON position.
  1. Note that the unit, once energized, will enter into a self-check mode before entering into the run mode. This self-check mode, will take approximately 30-seconds after the processor starts.
- iii. Verify that all Emergency Stop pushbuttons are pulled outward and disengaged.
- iv. After startup, there is an indicator “Overcurrent Detected”. “Reset safety” by pressing a button on HMI Main screen.
- v. Choose the system voltage to energize from HMI Main screen
  1. 120/240 1-Phase
  2. 120/240/208 3-Phase
  3. 120/208 3-Phase
  4. 277/480 3-Phase
- vi. After selection, it will navigate to another screen; Select the configuration to test.
  1. To test 120/240 1-Phase
    - a. Select any Load side shorts option
      - i. A-Phase to B-Phase
      - ii. A-Phase to Neutral
      - iii. B-Phase to Neutral
    - b. OR Select Back Feed option
      - i. Single Phase B-A
  2. To test 120/240/208 3-Phase, select Hi-Leg and;
    - a. Select any Load side shorts option
      - i. A-Phase to B-Phase
      - ii. A-Phase to C-Phase
      - iii. B-Phase to C-Phase

- iv. A-Phase to Neutral
    - v. B-Phase to Neutral
    - vi. C-Phase to Neutral
  - b. OR Select Back Feed option
    - i. A-Phase
    - ii. B-Phase
    - iii. C-Phase
    - iv. Neutral
- 3. To test 120/208 3-Phase, select Clockwise or Counter-clockwise and select the load side shorts or back feed.
  - a. Go to instruction vi 2a or
  - b. Go to instruction vi 2b
- 4. To test 277/480 3-Phase, select Clockwise or Counter-clockwise and select the load side shorts or back feed.
  - a. Go to instruction vi 2a or
  - b. Go to instruction vi 2b
- vii. After selection, click energize, it will take few seconds to energize.
- viii. Before putting the meter in, check the following conditions.
  - 1. Make sure the rotation you have selected is indicated on motor rotation tester.
  - 2. Check the selected voltage by multimeter.
  - 3. Check the selected load side short or back feed by multimeter.
- ix. If the trainee did not catch the short and tries to install the meter, the unit trips out instantly and Alarm horn will sound.
- x. To reset the unit, press “Reset Safety” button on selected voltage configuration screen.
- xi. To Reset selected short, press “Reset all shorts” on Main HMI screen. To select different options to test; Go to Instruction v.

### **c. System Shut-Down**

- i. The system will continue to operate until one or more of the following happen:
  1. An E-Stop pushbutton is depressed;
  2. Power is disconnected to the unit, or;
  3. The operator depresses the System Off/Safe pushbutton;
  4. The unit trips out on overcurrent detection.
- ii. To properly shut-down the Meter Room Panel, follow the steps as outlined below:
  1. Depress the System Off/Safe pushbutton;
  2. Index the Main Disconnect handle to the OFF position;
  3. Replace the Lock-Out-Tag-Out provisions on the Main Disconnect handle.

## 5. System Alarms

### a. Critical Alarms

- i. Critical Alarms are as follows:
  1. Incoming supply voltage is out-of-range (generally 5-10%);
  2. Safety Relay response and/or feedback time is out of spec;
  3. DC Power Supply Health is poor;
- ii. Annunciation of Critical Alarms:
  1. If a Critical Alarm is detected during the Self-Check mode, the unit will enter into a non-permissive mode and will not run until the system is diagnosed and the alarm is cleared.
  2. If a Critical Alarm is detected during system operation, the unit will not run until diagnosed and cleared.
- iii. In the event of a Critical Alarm, please contact the Timpson Training, LLC. Technical Support team at: (443) 553-2250.

### b. Non-Critical Alarms

- i. Non-Critical Alarms are as follows:
  1. Overcurrent detection as set during system start-up.
  2. TVSS Cartridge replacement needed
  3. AST Trip Setpoint is Set to 0
  4. AST In-Rush Delay is Set to 0
- ii. Annunciation of Non-Critical Alarms, audible Horn will sound for 2-seconds.
- iii. In the event of a Non-Critical Alarm, reset safety. Please refer to section 4.b "System Usage."

## 6. Troubleshooting

### a. Troubleshoot the Installation

- i. Unit does not energize when Main Disconnect handle is indexed to the ON position.
  1. Verify incoming voltage is present on all phases. 120/208-volt, 3-phase, 4-wire with Neutral
  2. Test fuses in Main Disconnect switch. If needed, replace with the same class fuses, paying attention to: Class, Voltage, and Amperage.

### b. Troubleshoot the Operation

#### i. System Operation Issues

1. System locks up during Self-Check mode - The system will not exit the Self-Check mode if one or more of the following conditions are detected:
  - a. DC Power Supply Health is poor.
  - b. The incoming supply voltage is out of range.
  - c. One or more of the secondary safety relays have failed their feedback test.
2. Cannot close the safety circuit for system use (cannot get “Reset Safety”):
  - a. Check that all E-Stop Mushroom head pushbuttons are pulled outward.
  - b. System is in Critical Alarm mode.
3. Cannot energize:
  - a. System is not ready – reset the Main Safety Relay.
  - b. System has a non-critical alarm.
4. In the event of a Critical Alarm, please contact the Timpson Training, LLC. Technical Support team at: (443) 553-2250.

**c. Determining the Software Version**

- i. The software version is usually located in the upper right-hand corner of the unit HMI.

## 7. Warranty Statement

Timpson Electrical & Aerial Services, LLC. warrants the equipment manufactured by it to be free from defects in material and workmanship under normal use and service, its obligation under this warranty being limited to replacing at its factory any product, part, or parts thereof which shall, within one year after delivery of such equipment to the original purchaser, be returned, and which Timpson Electrical & Aerial Services, LLC.'s examination shall disclose to its satisfaction to have been defective. Except for the warranty hereinbefore stated TIMPSON ELECTRICAL & AERIAL SERVICES, LLC. MAKES NO WARRANTY EXPRESSED OR IMPLIED; ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS HEREBY DISCLAIMED BY TIMPSON ELECTRICAL & AERIAL SERVICES, LLC. AND EXCLUDED FROM ANY AGREEMENT MADE BY ACCEPTANCE OF ANY ORDER PURSUANT TO OUR QUOTATION. THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. Timpson Electrical & Aerial Services, LLC. neither assumes nor authorizes any person to assume for it any other liability in connection with the sale of its equipment. This warranty will not apply to any equipment which has been modified outside of its factory in any way so as, in Timpson Electrical & Aerial Services, LLC.'s judgment, to affect its stability, or reliability, nor which has been subject to misuse, negligence, or accident or to improper operation or storage, or to other than normal use or service. Timpson Electrical & Aerial Services, LLC. shall not be held liable for damages, direct or consequential, or delays, if such occurs on account of defective materials, or workmanship, or delays in shipment. Timpson Electrical & Aerial Services, LLC. will not grant any allowance for any repairs of alterations made without written consent of an officer of Timpson Electrical & Aerial Services, LLC. Timpson Electrical & Aerial Services, LLC. will in no way be liable or responsible for injuries or damages to persons or property, arising from or out of use or operation of the equipment within described. Timpson Electrical & Aerial Services, LLC. reserves the right to make changes in design or to make additions to, or improvements in, its product without imposing any obligations upon itself to install them on its products previously installed. Timpson Electrical & Aerial Services, LLC. may provide assistance in the form of recommendations, engineering or technical information and advice but such information is furnished only as an accommodation and Timpson Electrical & Aerial Services, LLC. shall have no liability for incomplete, faulty or inaccurate advice, recommendations or assistance, negligent or otherwise.

**IN ADDITION:** Timpson Electrical & Aerial Services, LLC.'s liability under this Warranty shall be limited to the repair or replacement of any defective work or material, F.O.B. Havre de Grace, Maryland, USA. Customer shall be responsible for notifying Timpson Electrical & Aerial Services, LLC., in writing, of any claims against this Warranty. Upon receipt of such a written claim, Timpson Electrical & Aerial Services, LLC., shall advise customer as to the warranty action to be taken. Timpson Electrical & Aerial Services, LLC. shall have the sole right to determine what action, if any, is to be taken. Any unauthorized repairs to Timpson Electrical & Aerial Services, LLC. products or systems may cause this warranty to be declared null and void.

Timpson Electrical & Aerial Services, LLC. shall not be liable for any consequential damages including lost sales and profits, injury to person or property, or any other incidental losses.

There are no warranties or remedies for the breach thereof beyond those previously described.

## 8. Support

Timpson Training provides technical information within this manual, over the phone, and on-site to assist you in using its products.

At [www.timpsontraining.com](http://www.timpsontraining.com) you can find technical assistance measures such as FAQ's and support numbers.

In the event of a unit non-function, please contact the Timpson Training, LLC. Technical Support team at: (443) 553-2250

In addition, we offer multiple support programs for installation and continued use. For more information, contact your local representative or a Timpson Training representative.

### a. Installation Supervision and Start-Up & Commissioning

Timpson Training includes in every sale, a minimum of 1-day onsite for Start-Up & Commissioning of your system. Available upon request, are additional days. We can arrive one or more days early to oversee the installation of the system, comment on your training yard set-up, or stay one or more days after start-up for onsite support during your first week of use. Please contact your Timpson sales rep for current pricing.

### b. New Product Satisfaction Parts Return/Repair

Timpson Training tests all of its products and systems to help ensure that they are fully operational before they were shipped from our manufacturing facilities. However, if your product is not functioning properly, please contact Timpson directly to discuss parts replacement/repair. Due to the nature of the sensitive electronics, no unit, in part or in whole, may be returned.

### c. Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any comments or suggestions on how to improve this document, please contact Timpson customer service.