

AMP Weld Smart E Controller

Operation Manual

EPP-4024-7/22



For more information: te.com/energy

Please dispose of all waste according to environmental regulations.



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The Information contained in these installation instructions is for use only by installers trained to make electrical power installations and is intended to describe the correct method of installation for this product. However, TE Connectivity has no control over the field conditions which influence product installation.

It is the user's responsibility to determine the suitability of the installation method in the user's field conditions.

TE Connectivity's only obligations are those in TE Connectivity's standard Conditions of Sale for this product and in no case will TE Connectivity be liable for any other incidental, indirect or consequential damages arising from the use or misuse of the products.

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Table of Contents

1. Safety	3
1.1 Important Instructions	3
1.2 Product Compliance	3
2. Introduction	4
3. What's in the Box	4
4. Technical Specifications	5
5. Product Features	6
6. Operation	7
6.1 Connect the Controller	7
6.2 Prepare for Weld.....	7
6.3 Weld Operation	7

1. Safety

1.1 Important Instructions

⚠ DANGER

Welding is dangerous to the operator and people in or near the working area, if the equipment is not correctly operated. Welding must be performed under the strict observance of all safety regulations.

⚠ WARNING

Only qualified operators should perform the welding procedure.

⚠ WARNING

Smoke and gas generated during welding operation is harmful to health. Avoid breathing of smoke and gas generated during welding. Wear appropriate protection equipment.

⚠ WARNING

Exothermic reaction during the welding may cause fire, remove the flammable materials away from the working area.

⚠ CAUTION

As TE Connectivity (TE) has no control over field conditions, it is understood that the user must take this into consideration and apply his own experience and expertise when operating the product.

⚠ CAUTION

Read and understand the contents of these instructions before operation and follow all locally approved procedures and safety practices before installing or operating this equipment.

⚠ CAUTION

These instructions cannot cover all details or variations in the equipment, procedures, or processes described, nor provide directions for meeting every possible contingency during installation, operation, or maintenance. When additional information is desired to satisfy a problem not covered sufficiently for the user's purpose, please contact your TE sales representative. These instructions are not intended to supersede or replace existing safety and operating procedures.

⚠ CAUTION

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTICE

Upon receipt of the product, inspect it thoroughly for damage and loss of parts incurred during shipment. If damage or loss is discovered, file a claim with the carrier immediately or contact your TE representative.

1.2 Product Compliance

FCC Compliance Statement

This device complies with Part 15 Subpart C of the FCC Rules. Operation is subject to following two conditions:

(1) this device may not cause harmful interference and (2) this device must accept any interference received, including that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and human body.

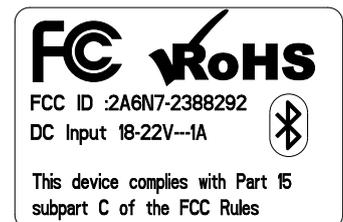
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

RoHS Compliance Statement

Based on the certificate of compliance provided by our suppliers, and to the best of our knowledge, TE Connectivity designates that the parts used in the AMP Weld Controller are compliant with RoHS (Restriction of Hazardous Substance) directive 2011/65/EU amended with directive 2015/863/EU as set forth by the European Union.

TE Connectivity does not intentionally add hazardous substances to the finished product. Our statements in this document regarding RoHS compliance and lead content do not extend to, or apply to the product subjected to unintended contamination, misuse, neglect, or accident.



2. Introduction

This manual contains information on the setup and operation of the AMP Weld Controller.

The AMP Weld Controller is designed to perform the exothermic welding operation remotely using a smart phone and a bluetooth application, thus enabling operators to do the weld procedure from a safe distance of approx. 10 meters. This device can also be operated manually using the push buttons on the controller.

3. What's in the Box

The AMP Weld Controller kit consists of the following components:



Figure 1: AMP Weld Controller Kit

1. Box / Carry case	2415600
2. Connection Harness	2389716
3. AMP Weld Controller	2388292
4. Battery, 18V	2415598

4. Technical Specifications

Table 1: Technical specifications

Parameter	Value	
	Typical	Maximum
Battery Input Voltage	18 Vdc	22 Vdc
Input current	135 mA	180 mA
Buzzer Sound Pressure	>80 dBm	
Fire delay	0.5 sec	
Tungsten Output Voltage	18 Vdc	22 Vdc
Tungsten Output Current	26 A	35 A
Tungsten Length	0.015*0.25 inch	
Operating Temp	-20 °C	+50 °C
Operating Humidity		90% RH

4.1 AMP Weld Application - Minimum Requirements

Table 2: AMP Weld Application requirements

System specifications	Properties
Operating System	Android 4.4.4 (KitKat) or later
	iOS 12 or later
RAM	1GB to 2GB
Internal Memory	2GB to 8GB
Bluetooth	5.0 or later

5. Product Features

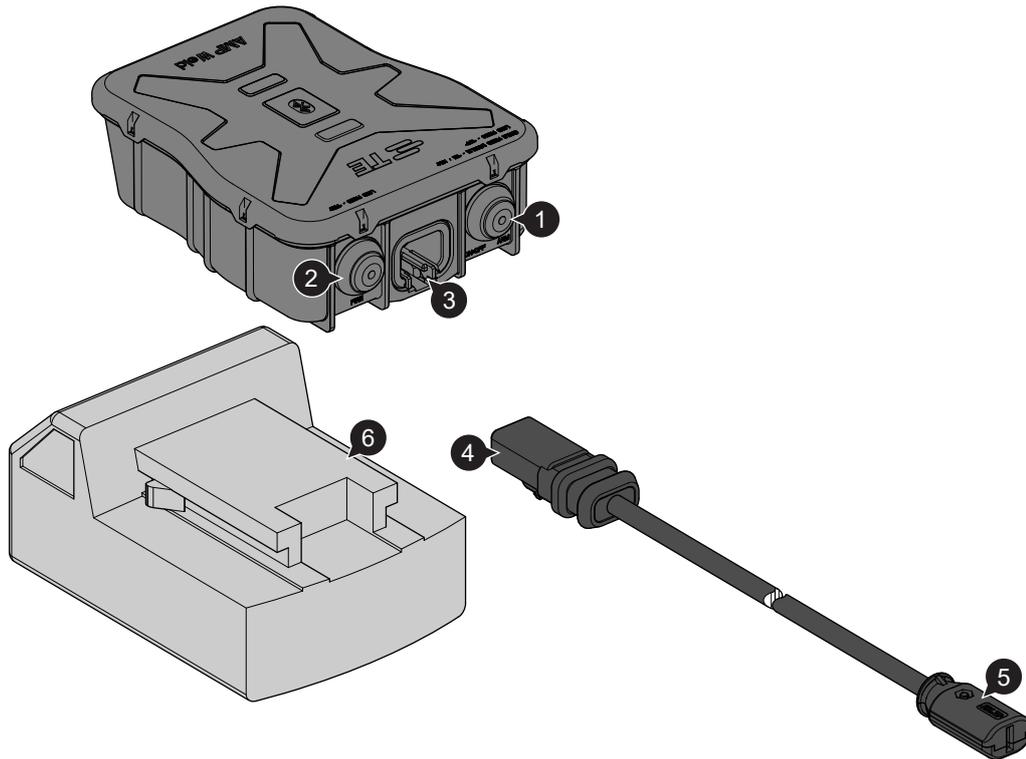


Figure 2: AMP Weld Controller

1. Power switch (Green)
2. Fire switch (Red)
3. Connector (Male)
4. Connection harness (Controller side connector)
5. Connection harness (Weld side connector)
6. Battery, 18V

5.1 Power Switch

The power switch is a push button with green LED indicator which is used to power ON, ARM and power OFF (by long press) the controller.

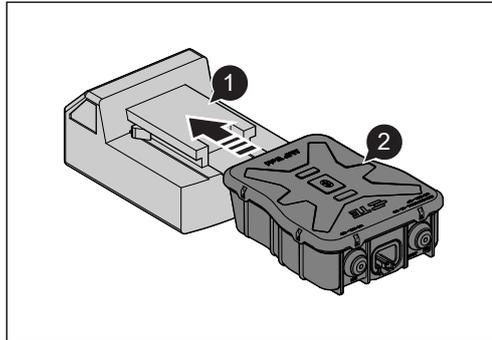
5.2 Fire Switch

The fire switch is a push button with red LED indicator which is used to fire or ignite tungsten.

6. Operation

6.1 Connect the Controller

1. Remove the AMP Weld Controller and the battery from the carry case.
2. Position the battery (1) and controller (2) in the correct orientation.
3. Hold the battery firmly and carefully slide the controller until you hear a click sound.



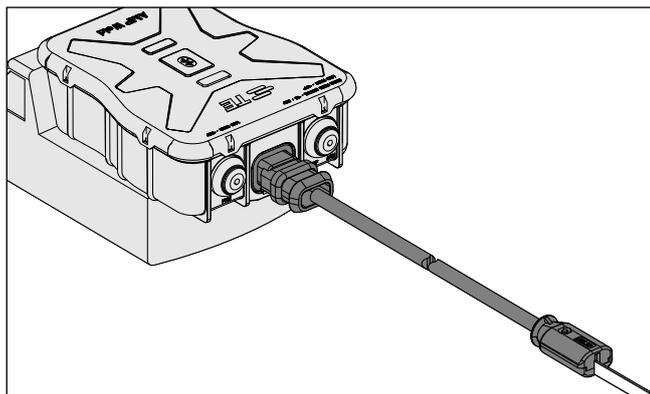
6.2 Prepare for Weld

1. Assemble and secure the weld mould on the joint to be welded. Refer to the manufacturer instructions.
2. Connect the cable to the controller.

NOTE

Before you connect the cable to the controller, make sure the controller is turned off.

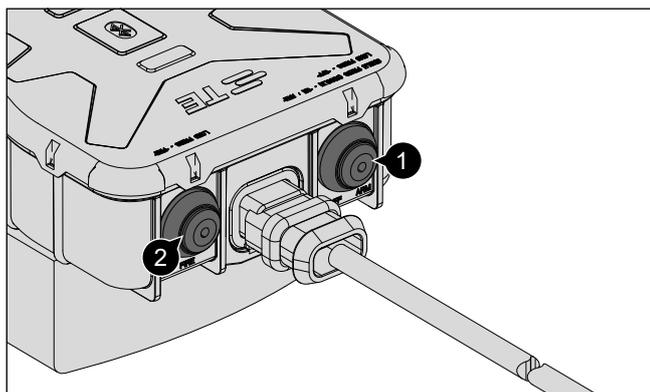
3. Connect the other end of the cable to the fuse metal integrated cup.



6.3 Weld Operation

6.3.1 Manual Operation

1. Connect the controller to the battery. Refer to 6.1 *Connect the Controller*.
2. Prepare the controller for weld. Refer to 6.2 *Prepare for Weld*.
3. Press the power switch (1) to turn ON the controller.
When the controller is ON, the green LED indicator will illuminate.



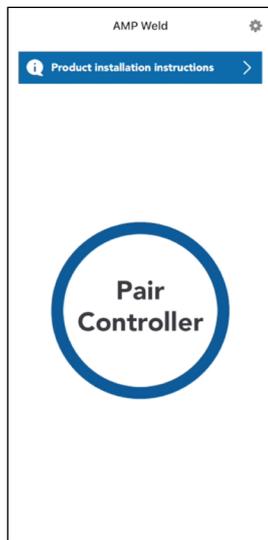
4. Press the power switch (1) again for short duration to enable the ARM mode. This ensures that the controller is ready to fire and will be indicated by a buzzer sound and the red LED on the fire switch will illuminate.
5. Press the fire switch (2) and continue to hold until the tungsten fuses out to a maximum of 500ms. After successful firing operation, the red LED on the fire switch goes OFF. Upon which the controller remains ON and also the green LED indicator on the power switch remains illuminated.

NOTE

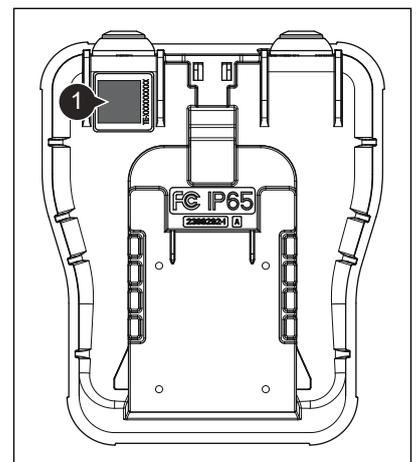
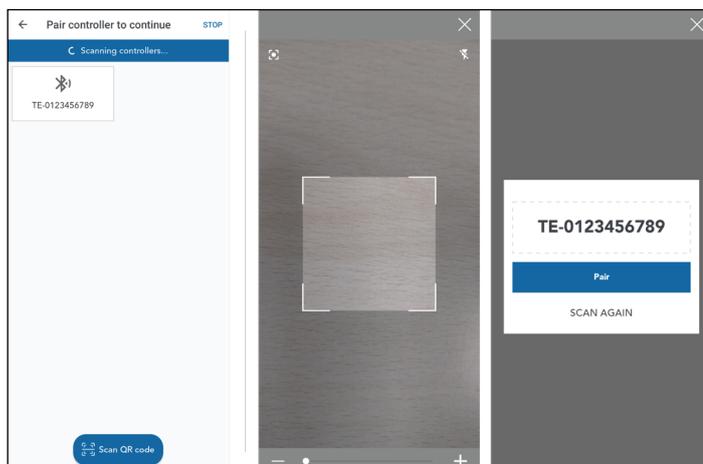
If you do not want to continue fire operation after the controller is set to ARM mode then, press the power switch for 3 seconds to turn OFF the controller.

6.3.2 Remote Operation through Bluetooth Device

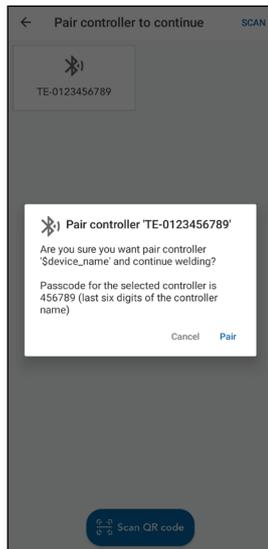
1. Connect the controller to the battery. Refer to 6.1 *Connect the Controller*.
2. Prepare the controller for weld. Refer to 6.2 *Prepare for Weld*.
3. Press the power switch to turn ON the controller. When the controller is ON, the green LED indicator will illuminate.
4. Pair the controller with the mobile device.
To Pair the controller with the mobile device. Open the "TE AMP Weld" application on your mobile device.
5. Click on Pair Controller.



6. Select the controller unit (TE-XXXXXXXXXX) from the scan list to pair with mobile device. Alternatively, you can also pair the controller using the Scan QR code button and then scanning the QR code at the back of the controller.



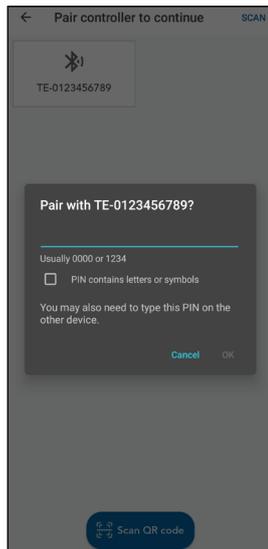
7. When prompted, select Pair.



8. Enter the pairing code shown on the controller and select pair.

NOTE

The pairing code is the last six digits of the TE ID imprinted on the product. For example, if the TE ID is TE-0123456789 then the pairing code is 456789.



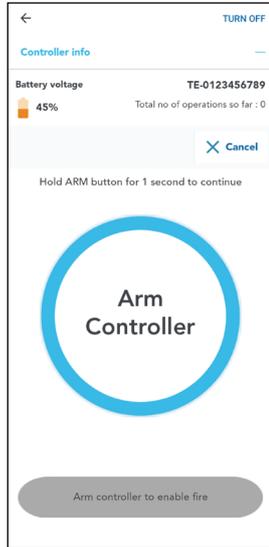
9. After successful pairing, the app should show the controller device ID on controller info screen.

10. On the controller info screen, hold the 'Arm Controller' button for a second and release to set the controller ready to fire.

When the controller is ready to fire, the fire switch LED indicator should illuminate and buzzer should beep continuously.

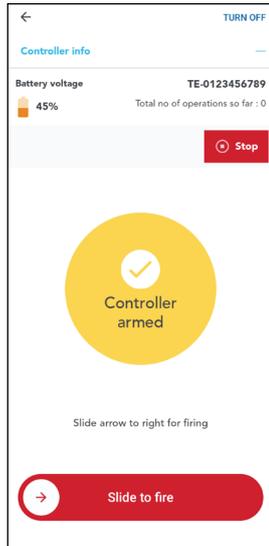
NOTE

If the controller is armed manually before connecting to the bluetooth device, then the arm and fire functionality is disabled on the application. Turn OFF the manual mode to enable the bluetooth functionality.



11. Slide the 'Slide to fire' button to fire. After successful completion of fire, the fire switch LED (red) indicator and buzzer should go OFF, but power switch LED (green) should be ON.

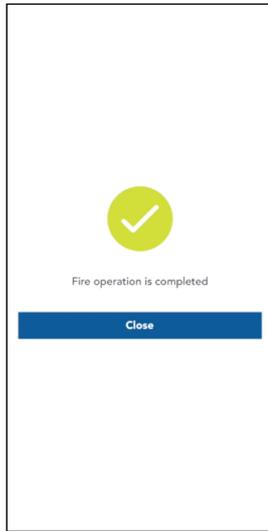
A 'Fire completed' notification should pop-up in application.



NOTE

If the fire operation is initiated without connecting the load, then you will see a error message and the controller will go back to ready to arm state.

12. Close the Notification, and the app will go back to ARM Page.



13. Click on TURN OFF button, to turn OFF the controller.

When the controller is turned OFF, the power switch LED (green) indicator should go OFF.

