

Customer Manual

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ORIGINAL OPERATING INSTRUCTIONS

SAFETY PRECAUTIONS — IMPORTANT SAFETY INFORMATION



NOTE

Keep all decals clean and legible, and replace them when necessary.



**DANGER
ELECTRIC SHOCK HAZARD**

This tool is not insulated. When using this unit near energized electrical lines, use proper personal protective equipment.



Failure to observe this warning can result in severe injury or death.



**DANGER
SKIN INJECTION HAZARD**

Do not use hands to check for oil leaks. Highly pressurized oil will puncture the skin causing serious injury, gangrene, or death. If injured, seek medical help immediately to remove the oil.



**DANGER
FIRE HAZARD**

Do not use solvents or flammable liquids to clean the crimping tool. Solvents or flammable liquids could ignite and cause serious injury or property damage.



Failure to heed these warnings can result in severe injury from harmful fumes or burns from flying debris.



**DANGER
FIRE HAZARD**

Do not dispose of batteries in a fire. They will vent fumes and will explode. Instead, dispose of batteries in an environmentally responsible manner or send the battery back to TE.



DANGER

Inspect the tool and jaws/dies before each use. Replace any worn or damaged parts. A damaged or improperly assembled tool can break and strike nearby personnel.

Failure to observe this warning can result in severe injury or death.



CAUTION

— Do not place the tool in a vise. The crimping tool is designed for hand-held operation.

— Protect the crimping tool from rain and moisture. Water will damage the crimping tool and battery.

Failure to observe these precautions can result in injury or property damage.



CAUTION

— Do not allow anything to contact the battery terminals.

— Do not immerse the batteries in liquid. Liquid may create a short circuit and damage the battery. If the batteries are immersed, contact your service center for proper handling.

— Do not place the battery into a pocket, tool pouch, or toolbox with conductive objects. Conductive objects may create a short circuit and damage the battery.

— Do not place a battery on moist ground or grass. Moisture may create a short circuit and damage the battery.

Failure to observe these precautions can result in injury or property damage.



CAUTION

— Do not store the battery at more than 60°C [140°F]. Damage to the battery can result.

— Do not use another manufacturer's charger.

— Do not attempt to open the battery. It contains no user-serviceable parts.

Failure to observe these precautions can result in injury or property damage.



CAUTION

Do not perform any service or maintenance other than as described in this manual. Injury or damage to the tool may result.

Failure to observe these precautions can result in injury or property damage.

SAFETY PRECAUTIONS – TO AVOID INJURY – READ THIS SECTION FIRST!

Safeguards are designed into this application equipment to protect operators and maintenance personnel from most hazards during equipment operation. However, certain safety precautions must be taken by the operator and repair personnel to avoid personal injury, as well as damage to the equipment. For best results, application equipment must be operated in a dry, dust-free environment. Do not operate equipment in a gaseous or hazardous environment.

Carefully observe the following safety precautions before and during operation of the equipment:



Always wear approved eye protection while operating equipment.



Always turn off the main power switch and disconnect the electrical cord from the power source when performing repair or maintenance on the equipment.



Always wear appropriate ear protection while using equipment.



Never insert hands into installed equipment. Never wear loose clothing or jewelry that may catch in moving parts of the equipment.



Moving parts can crush and cut. Always keep guards in place during normal operation.



Never alter, modify, or misuse the equipment.



Electrical shock hazard.

SUPPORT CENTER

CALL TOLL FREE 1-800-522-6752 (UNITED STATES AND PUERTO RICO ONLY)

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Mexico: +52 55 1106 0800

Latin America +54 11 4733 2200

Germany: +49 6151 607 1999

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Netherlands: +31 73 624 6999

The **Support Center** offers a means of providing technical assistance when required. In addition, Field Service Specialists are available to provide assistance in the adjustment or repair of the application equipment when problems arise that your maintenance personnel cannot correct.

INFORMATION REQUIRED WHEN CONTACTING THE SUPPORT CENTER

When calling the Support Center regarding service on the device, a person familiar with the device should be present with a copy of the manual (and drawings) to receive instructions. Many difficulties can be avoided in this manner.

When calling the Support Center, be ready with the following information:

- Customer name and address
- Contact person (name, title, phone number and extension)
- Person calling
- Device number
- Serial number (if applicable)
- Product part number
- Urgency of request
- Nature of problem
- Description of inoperative components
- Additional information that may be helpful

Figure 1: Crimping tool kit with battery installed



- 1 SDE crimping jaws
- 2 LED work light
- 3 LED indicator light
- 4 Battery 2280381-1 or 2280381-2
- 5 Battery lock
- 6 Trigger

Table 1: Specifications

Dimensions	Length	253 mm [9.96 in.]
	Width	93 mm [3.66 in.]
	Depth	64 mm [2.52 in.]
	Mass/weight (with battery)	0.96 kg [2.12 lb.]
Acoustic	Sound level	70 dBA at 1 m
	Vibration	< 2.5 m/s ²
Crimping capacities	Crimping force	11.56 kN [2,600 lb.] max
	Average crimping time	2 seconds (depending on terminal size)
	Average crimps per charge	350 (depending on terminal size)
Battery	Charging volume	10.8 V
	Charging time	40 minutes

1. INTRODUCTION

Micro SDE Lithium-Ion Battery-Powered Crimping Tool Kits 2280380-[] each consist of a battery crimping tool and one rechargeable battery (2280381-1) used to power the tool. (See Figure 1.) The kits include battery chargers (Table 2).

Table 2: Battery chargers

Kit	Charger voltage	Charger part number
2280380-1	110V	2280382-1
2280380-2	220V	2280382-2

This powered crimp tool is designed to accept interchangeable SDE die assemblies for crimping various types of closed and open barrel terminals.

When reading this manual, pay particular attention to DANGER, CAUTION, and NOTE statements.



DANGER

Denotes an imminent hazard that may result in moderate or severe injury.



CAUTION

Denotes a condition that may result in product or equipment damage.



NOTE

Highlights special or important information.

Each kit is designed to accept interchangeable die assemblies used in PRO-CRIMPER™ hand tools, which crimp various types of terminals. See Table 3 for a list of popular die sets for crimping open and closed barrel terminals. For a complete list of the die sets, refer to data sheet [2280635](#).



NOTE

Dimensions in this customer manual are in metric units [with U.S. customary units in brackets]. Figures and illustrations are for reference only and are not drawn to scale.



NOTE

The following dies cannot be used in this tool because the crimp force required exceeds the limits of the tool: 58423-1, 58524-2, 58525-2, 58530-2, 58630-2, 91965-2, 217212-2, and 2063030-1.

Table 3: Popular die sets for crimping open and closed barrel terminals

Product family	Catalog number	TE product	RG/U cable wire size	SDE die set only
Receptacles and tabs	82004	ULTRA-FAST FASTON™ (straight) [.110/.125 in.] receptacle	[26-14 AWG] 0.13-2.0 mm ²	58628-2
		ULTRA-FAST FASTON (straight) [.187/.250 in.] receptacle. [.250 in.] tabs		
Pin and socket connectors	82068	D-Subminiature 20 DF pin and socket contacts (AMPLIMITE™)	[28-24 AWG] 0.08-0.2 mm ²	58448-3
			[24-20 AWG] 0.2-0.6 mm ²	
		D-Subminiature 22 DF pin and socket contacts (AMPLIMITE)	[28-22 AWG] 0.08-0.3 mm ²	90800-2
		Type II pin and socket contacts	[24-14 AWG] 0.2-2.0 mm ²	58541-2
	Type III+ and Type VI pin and socket contacts	[28-24 AWG] 0.08-0.2 mm ²	58495-2	
		[24-20 AWG] 0.2-0.6 mm ²		
		[18-16 AWG] 0.8-1.4 mm ²		
	82181	.093 soft shell commercial pin and socket contacts	[24-18 AWG] 0.2-0.9 mm ²	90872-2
			[20-14 AWG] 0.6-2.0 mm ²	90871-2
		.062 soft shell commercial pin and socket contacts	[30-24 AWG] 0.05-0.2 mm ²	90870-2
			[24-18 AWG] 0.2-0.9 mm ²	90869-2
		MR pin and socket contacts	[26-18 AWG] 0.13-0.9 mm ²	58514-2
		Universal MATE-N-LOK™ II and Universal MATE-N-LOK pin and socket contacts	[24-18 AWG] 0.2-0.9 mm ²	90548-2
			[20-14 AWG] 0.6-2.0 mm ² [.060-.130 in.] Insulation diameter: 1.52-3.30 mm	90546-2
			[20-14 AWG] 0.6-2.0 mm ² [.130-.200 in.] Insulation diameter: 3.30-5.08 mm	90547-2
			[26-22 AWG] 0.13-0.3 mm ²	90758-2
		Mini-Universal MATE-N-LOK pin and socket contacts	[22-18 AWG] 0.3-0.9 mm ² or two [22 AWG]	90759-2
			[20-16 AWG] 0.6-1.4 mm ² or two [20 AWG]	90760-2
		Commercial MATE-N-LOK pin and socket contacts	[24-18 AWG] 0.2-0.9 mm ²	90574-2
	[20-14 AWG] 0.6-2.0 mm ²		90575-2	
Receptacle and tab connectors	—	Dynamic series D-3 contacts	[24-20 AWG] 0.2-0.56 mm ²	90683-2
			[20-16 AWG] 0.5-1.42 mm ²	90684-2
	65481	AMPSEAL™ automotive receptacles	[20-16 AWG] 0.5-1.25 mm ²	58529-2
			AMP SUPERSEAL™ 1.5 series contacts	0.5-1.5 mm ²
	65505	Uninsulated terminals and splices (SOLISTRAND™)	[22-10 AWG] 0.3-5.0 mm ²	58545-1

2. RECEIVING AND INSPECTION

Each kit is thoroughly inspected during and after assembly. Prior to packaging and shipping a final series of tests and inspections is made to ensure proper function of the tool. The following inspection should be performed as a safeguard against potential problems generated in transit.

1. In a well-lighted area, carefully uncrate the kit and inspect each component as it is removed from the crate.
2. Thoroughly inspect each component for evidence of damage that may have occurred in transit. If any of the components are damaged, file a claim against the carrier and notify TE Connectivity immediately.
3. Keep this manual and all drawings and product samples with the kit for the benefit of operation and maintenance personnel.

Inspect the crimping tool at regularly scheduled intervals (every 40 hours of use or less). Base your inspection schedule on care, degree of operator skill, the type and size of the product to be crimped, and environmental conditions.

3. PRE-OPERATION TESTING

White LED work light: This LED automatically turns on when the trigger is pulled. The indicator remains lit for ten seconds after the trigger is released.

Red LED indicator: The tool is equipped with a special circuit board incorporating several important features. These features inform the user of the current status of the tool. The red LED signals as described in Table 4.

Table 4: Red LED indicator signals

What happens	What it means
Red LED flashes twice.	The battery has been inserted in the tool.
Red LED remains lit for 20 seconds after completion of crimp.	Battery charge is low.
Red LED light flashes at 2Hz for 20 seconds after completion of crimp.	Return tool for service.
Red and white LEDs flash once after completion of crimp.	Manual interruption of the crimp cycle prior to completion.
Red and white LEDs flash 3 times after completion of crimp	Crimp force has been exceeded before completion of crimp.
Red and white LEDs flash at 50Hz for 20 seconds after completion of crimp.	Tool is too hot.



NOTE

The tool has an on-board memory of previous crimp cycles and the cycle count. This information can be accessed and downloaded to a computer using USB adapter module 2217896-1.

4. OPERATION

4.1. Installing and removing the battery

**NOTE**

Directive 2006/66/EC introduces new requirements from September 2008 on removability of batteries from waste equipment in EU member states. To comply with the directive, this device is designed to allow the rechargeable battery pack to be easily removed by the end-user when it needs to be replaced.

To install the battery, slide the battery into the bottom of the crimping tool until it can go no farther. An audible click from the battery lock indicates that the battery has been properly installed.

To remove the battery, disengage the battery lock by applying pressure on the lock toward the bottom of the crimping tool and slide the battery away from the tool.

**DANGER**

Always dispose of the old battery in an environmentally-responsible way, in accordance with local waste regulations. Where possible, recycle the battery. Contact your local authority for details of battery recycling locations in your area.

4.2. Installing and removing the die assemblies

**DANGER**

To avoid personal injury, exercise extreme caution when handling the crimping tool. Remove the battery before installing or removing the die assembly.

**CAUTION**

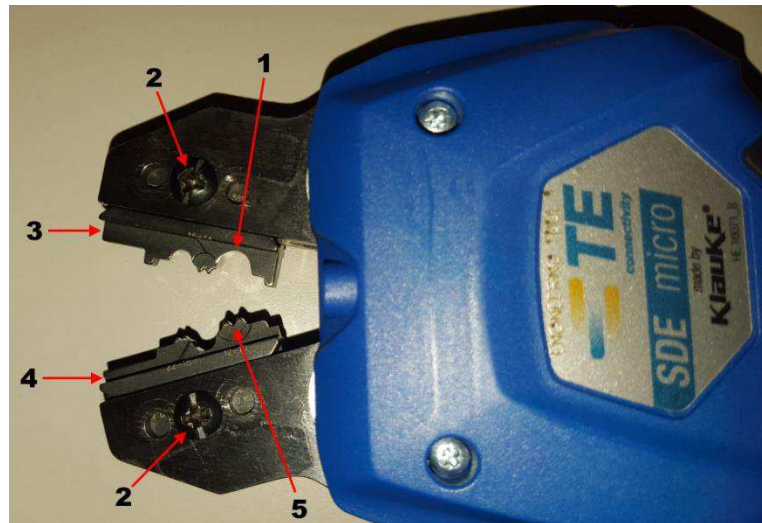
Do not operate the tool without the die assembly installed. Damage to the crimping head can result.

The following instructions are specific to the use of TE SDE die assemblies. Make sure to use only TE SDE die assemblies.

A. Installing the die assemblies

1. Remove the battery from the crimping tool.
2. Remove the two die retaining screws from the crimp jaws.
3. Slide the upper die into the jaw. Orient the die so that the indenters face inward (with the largest indenter entering first) and the screw holes align (Figure 2).

Figure 2: Inserting the dies



- 1** Largest anvil
- 2** Retaining screw
- 3** Lower die
- 4** Upper die
- 5** Largest indenter

4. Insert the die retaining screw into the screw hole of the jaw. Tighten the screw just enough to hold the die in place. Do **not** tighten the screw completely.
5. Slide the lower die into the other jaw. Orient the die so that the anvils face inward (with the largest anvil entering first) and the screw holes align (Figure 2).
6. Insert the lower die retaining screw into the screw hole of the jaw and through the screw hole of the lower die. Tighten the screw just enough to hold the die in place. Do **not** tighten the screw completely.
7. Squeeze the trigger lever to slowly close the dies, making sure the crimping chambers are properly aligned.
8. When the crimping chambers are aligned, tighten the die retaining screws.
9. Re-install the battery.
10. Cycle the tool to verify that the crimp chambers are properly aligned.

B. Removing the die assemblies

1. Remove the battery from the crimping tool.
2. Remove the die retaining screws.
3. Slide the dies out of the jaws of the crimping head.

4.3. Crimping

The following procedure provides only general information concerning crimping. Refer to the instructions packaged with the dies for detailed information, including wire stripping dimensions and instructions for positioning terminals and splices in the die assemblies. Operation of the battery powered tool 2280380-[] is provided in the following steps.

**DANGER**

To avoid personal injury, keep fingers clear of the crimping area.

1. Position the product to be crimped in the appropriate crimping chamber.
2. Press the trigger halfway to slowly close the jaws in order to hold the product to be crimped in place. Do not deform the wire barrel. Continue to hold the trigger halfway.
3. Insert a stripped wire in the wire barrel of the product to be crimped, making sure that the wire insulation does not enter the wire barrel.

**CAUTION**

Do not use wires with nicked or missing conductor strands.

4. While holding the wire in position, press and hold the trigger closed to complete the crimp. When the crimp is complete, the crimping tool returns automatically to the first position of its cycle.
5. Release the trigger.

**CAUTION**

This tool is not designed for continuous operation. After 100 cycles, allow the crimping tool to cool for 15 minutes.

**CAUTION**

Denotes a condition that can result in product or equipment damage.

6. Inspect the crimp according to the crimping procedure for the terminal in TE instruction sheets.

5. PREVENTIVE MAINTENANCE

5.1. Daily maintenance

Perform the following maintenance on a daily basis.

1. Inspect the crimping head jaws and dies for wear or damage such as cracks, gouges, or chips.
2. Inspect the tool for damage or leaks. If damage is evident, return the tool to TE for repair.
3. Clean the tool, removing accumulations of dirt and grease from the crimping head, particularly in areas where the crimping head is installed and the product is crimped.
4. Wipe the entire tool frequently with a clean, lint-free cloth.

5.2. Annual maintenance

Once a year or every 10,000 cycles (whichever comes first), return the crimping tool to TE for inspection.

6. TROUBLESHOOTING

1. Verify that the battery is operational.
2. Verify that the battery is charged. Re-check the battery after several minutes to ensure that the battery is holding its charge.
3. Use a nonflammable contact cleaner or a pencil eraser to clean the electrical contacts on the battery and crimping tool.
4. Re-install the battery and check the crimping tool again.

Refer to Table 5 for problems, probable causes, and remedy.

Table 5: Troubleshooting

Problem	Probable cause	Remedy
Tool is inoperative	Dirt or contaminants in the ram area of the tool.	Return the tool to TE for evaluation.
	Tool battery contacts are damaged.	Return the contacts.
	Tool components are worn or damaged.	Return the tool to TE for evaluation.

7. REPLACEMENT AND REPAIR



DANGER

To avoid personal injury, **always** remove the battery from the tool **before** performing any maintenance on the crimping tool.

Kit replacement parts are listed in Table 6. Stock and control a complete inventory to prevent lost time when replacement of parts is necessary. Order or return parts through your TE representative. You can also order parts by any of the following methods:

- Go to TE.com and click the **Shop TE** link at the top of the page.
- Call 800-522-6752.
- Write to:

CUSTOMER SERVICE (038-035)
 TE CONNECTIVITY CORPORATION
 PO BOX 3608
 HARRISBURG PA 17105-3608

For customer repair services, call 800-522-6752.

Table 6: Kit replacement parts

Part number	Description
2280381-1	Battery
2280381-2	
2280382-1	Charger, 120 V, North America
2280382-2	Charger, 220 V, Europe

8. REVISION SUMMARY

Since the last revision of this document, the following changes were made:

- Corrected crimping force in Table 1.