

customer manual

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ORIGINAL 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 could 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 could 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 could 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 may 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 tool box 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 may 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 may 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 may result in injury or property damage.

SAFETY PRECAUTIONS — AVOID INJURY

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 wear appropriate ear protection while using equipment.



Moving parts can crush and cut. Always keep guard(s) in place during normal operation.



Electrical shock hazard.



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



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



Never alter, modify, or misuse the equipment.

TOOLING ASSISTANCE CENTER

CALL TOLL FREE 1-800-722-1111 (CONTINENTAL UNITED STATES AND PUERTO RICO ONLY)

The **Tooling Assistance 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 which your maintenance personnel are unable to correct.

INFORMATION REQUIRED WHEN CONTACTING THE TOOLING ASSISTANCE CENTER

When calling the Tooling Assistance Center regarding service to equipment, it is suggested that a person familiar with the device be present with a copy of the manual (and drawings) to receive instructions. Many difficulties can be avoided in this manner.

When calling the Tooling Assistance Center, be ready with the following information:

1. Customer name
2. Customer address
3. Person to contact (name, title, telephone number, and extension)
4. Person calling
5. Equipment number (and serial number if applicable)
6. Product part number (and serial number if applicable)
7. Urgency of request
8. Nature of problem
9. Description of inoperative component(s)
10. Additional information/comments that may be helpful

Crimping Tool Kit with Battery Cartridge Installed



CRIMPING TOOL (With Battery Installed)

Length	253 mm [9.96 inches]
Width	93 mm [3.66 inches]
Depth	64 mm [2.52 inches]
Mass/Weight (with Battery)	0.96 kg [2.12 lbs]
Sound Level	70 dBA at 1 Meter
Vibration	< 2.5 m/s ²

CRIMPING CAPACITIES

Maximum Crimping Force	15 kN (1.53 Metric Tons) [3,400 lbs.] Max
Average Crimping Time	2 Seconds ▽
Average Crimps per Charge	(Approx.) 350 ▽

BATTERY

Charging Volume	10.8 V
Charging Time	40 Minutes

▽ Depending on terminal size.

Figure 1

1. INTRODUCTION

Micro SDE Lithium-Ion Battery-Powered Crimping Tool Kits 2280380-[] each consist of a battery crimping tool, as well as one rechargeable battery cartridge (2280381-1) used to power the tool. See Figure 1. Kits 2280380-1 includes a 110V battery charger (2280382-1); Kit 2280380-2 includes a 220V battery charger (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 Figure 2 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.

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.] Recept.	[26-14 AWG] 0.13-2.0 mm ²	58628-2
		ULTRA-FAST FASTON (Straight) [.187/.250 in.] Recept. [.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.] 1.52-3.30 mm Ins. Dia.	90546-2
			[20-14 AWG] 0.6-2.0 mm ² [.130-.200 in.] 3.30-5.08 mm Ins. Dia.	90547-2
		Mini-Universal MATE-N-LOK Pin and Socket Contacts	[26-22 AWG] 0.13-0.3 mm ²	90758-2
			[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	

Figure 2 (cont'd)

PRODUCT FAMILY	CATALOG NUMBER	TE PRODUCT	RG/U CABLE WIRE SIZE	SDE DIE SET
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	[26-22 AWG] 0.13-0.3 mm ²	58517-2
			[20-16 AWG] 0.5-1.25 mm ²	58529-2
65505	Uninsulated Terminals and Splices (SOLISTRAND*)	0.5-1.5 mm ²	58583-2	
		[22-10 AWG] 0.3-5.0 mm ²	58545-1	

Figure 2 (end)



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.

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.

The crimping tool should be inspected at regularly scheduled intervals, depending on care, degree of operator skill, the type and size of the product to be crimped, and environmental conditions. At a minimum, the tool should be inspected after every 40 hours of use.

3. USER INTERFACE INFORMATION (PRE-OPERATION TESTING)

3.1. LED Indicators

A. 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.

B. 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 will signal in the cases given in Figure 3.

WHAT HAPPENS	WHAT IT MEANS
Red LED flashes two times.	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 for 20 sec/2Hz after completion of crimp.	Return tool for service.
Red and white LED flash once after completion of crimp.	Manual interruption of the crimp cycle prior to completion.
Red and white LED flashes 3 times after completion of crimp	Crimp force has been exceeded before completion of crimp.
Red and white flash for 20 sec/50Hz after completion of crimp.	Tool is too hot.

Figure 3



NOTE

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

4. OPERATION

4.1. Battery Installation and Removal



NOTE

The batteries Directive 2006/66/EC introduces new requirements from September 2008 on removability of batteries from waste equipment in EU Member States. To comply with this 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 further. There will be an audible “click” from the battery lock to indicate 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 pack in an environmentally-responsible way, in accordance with local waste regulations. Where possible, please recycle the battery cartridge. Contact your local authority for details of battery recycling locations in your area.

4.2. Installation and Removal of Die Assemblies



DANGER

To avoid personal injury, be sure to 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. Installation

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. See Figure 4.
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 at this time.
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. See Figure 4.

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 at this time.
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 check that the crimp chambers are properly aligned.

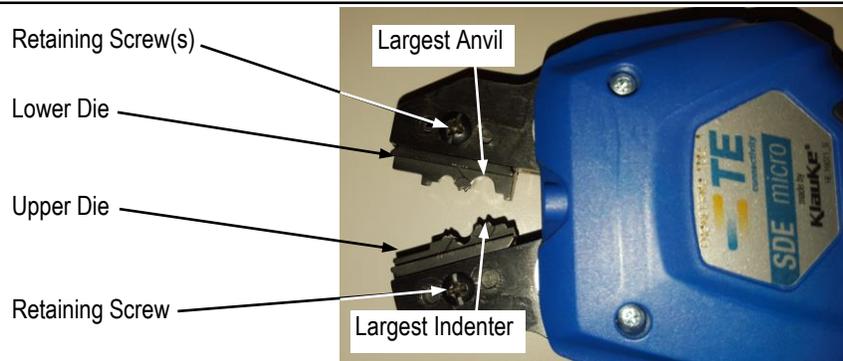


Figure 4

B. Removal

1. Remove the battery from the crimping tool.
2. Remove the die retaining screws, then 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. Depress 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. Hold the wire in position, then depress and hold the trigger closed to complete the crimp. The crimping tool will return automatically to the first position of its cycle when the crimp is complete. Release lever.



CAUTION

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



CAUTION

Do not re-terminate the crimped product.

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

5. PREVENTATIVE 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 detected, 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. Wipe the entire tool frequently with a clean, lint-free cloth.

5.2. Yearly Maintenance

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

6. TROUBLESHOOTING

Prior to beginning troubleshooting procedures, be sure the battery is operational.

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

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

PROBLEM	PROBABLE CAUSE	REMEDY
Tool is inoperative.	Dirt, contaminants, etc., in ram area of tool.	Return tool to TE for evaluation.
	Tool battery contacts damaged.	Return the contacts.
	Tool components are worn or damaged.	Return tool to TE for evaluation.

Figure 5

7. REPLACEMENT AND REPAIR



DANGER

To avoid personal injury, ALWAYS remove the battery cartridge from the tool BEFORE performing any maintenance on the crimping tool.

Kit replacement parts are identified in Figure 6. Order replacement parts through or return parts to your TE Representative, call 1.800.526.5142, or send a facsimile of your purchase order to 717.986.7605. Or write to:

CUSTOMER SERVICE (038-035)
 TYCO ELECTRONICS CORPORATION
 PO BOX 3608
 HARRISBURG PA 17105-3608

PART NUMBER	DESCRIPTION
2280381-1, 2280381-2	Battery
2280382-1	Charger, 120 V, North America
2280382-2	Charger, 220 V, Europe

Figure 6

8. DECOMMISSIONING

In compliance with the regulations in force in the country where the tool is used, the user must make sure that waste produced during operation is correctly disposed. Disposal of lubricants and parts removed must be carried out in compliance with the standards in force in the country where the tool is used.

9. RESTRICTION ON HAZARDOUS SUBSTANCES (RoHS) INFORMATION

Information on the presence and location of any substances subject to RoHS can be found at

<http://www.te.com/customersupport/rohssupportcenter>

Click the Resources tab, click Check Product Compliance, enter the terminator part number, then click “Search”

10. REVISION SUMMARY

- Updated document to corporate requirements
- Corrected hyperlink for data sheet in Section 1
- Deleted information from table in Figure 2
- Added NOTE at end of Figure 2