Distribution Channel Tooling Solutions

A Quick Guide to all TE Application Tooling Solutions.

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For additional information about any of the tooling shown in this catalog, call 888-777-5917 or 717-810-2080.

Discover our full range of tooling and equipment at www.tooling.te.com.

3 Easy Steps

- **Determine the terminal**.
- **Search for tooling.** Click on the tooling search link.
- **Double check all your options:** hand tools, applicators, spare tooling, bench equipment, etc.

The Tools to Choose Your Tooling

Once you've identified the wire and the terminal you need to crimp, there's a convenient selection process on our web site, **tooling.te.com**. Just type the terminal part number in the search box at the upper right, click on search, and you're on your way.

If you don't find the tooling you need for your application, we usually can make it to your specification. This capability is made possible by our experience and our engineering and manufacturing resources.

TE Connectivity. The Leader in Crimp Quality.

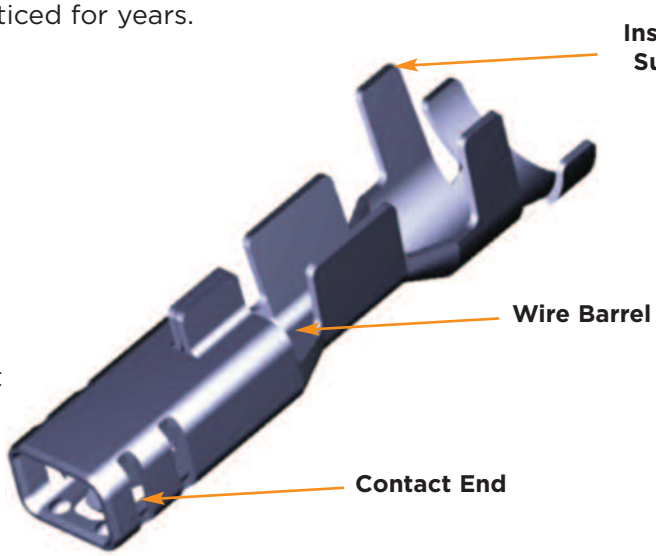
Anyone can make a tool to crimp terminals onto a wire. But not everyone can manufacture a tool to crimp the terminals properly. Crimp termination of wires isn't easy. At least, doing it right isn't easy. We know. We started it. TE Connectivity developed the technology of hand crimping over 70 years ago.

Why is this experience important to you? As the pioneer in crimping technology our highly trained engineers have studied how the forces of crimping can affect how a tool works, whether it meets specifications, and even whether it reaches its expected service life. As a result we have led the way, with tool frames and die sets that maintain their geometry and produce consistent crimps time after time after time. There are differences that aren't readily apparent: the materials, the manufacturing processes, the designs to diverse requirements for different applications.

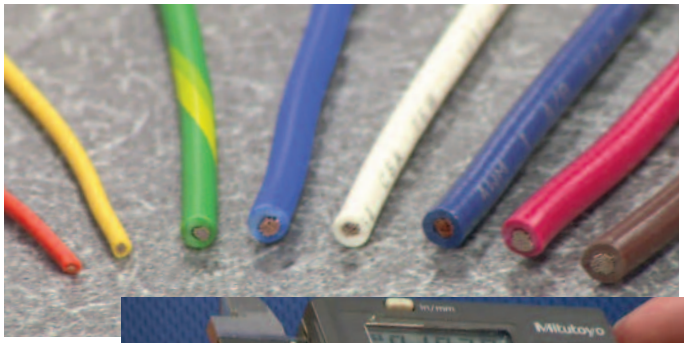
These are all part of what we've known and practiced for years.

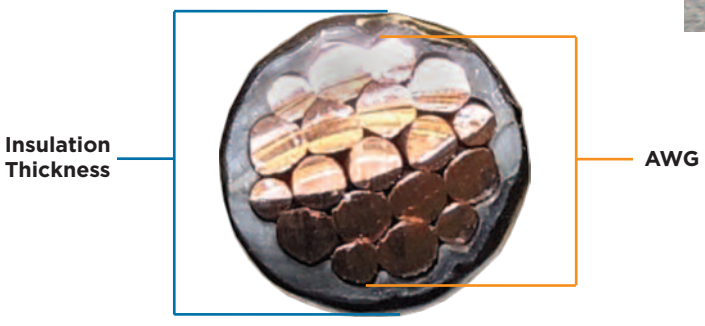
The Secret to a Successful Crimp

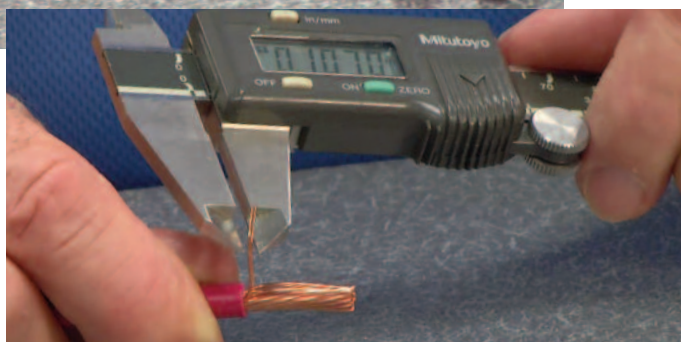
Matching the Terminal to the Tooling - Among the many factors that are critical in producing a quality crimp, matching the terminal to the tooling is crucial. Unlike inferior tooling options, TE offers engineered solutions that are designed to match the exact crimp geometry of the terminal to be applied on the wire. To ensure a proper crimp you need to follow these important steps:



1. **Wire Selection** – AWG and wire insulation thickness varies from wire to wire. Just because two wires are listed at the same AWG, it doesn't mean their insulation thickness is the same. If you don't take into account both factors the copper or aluminum strands may not fit in the wire barrel correctly, or the terminal's insulation support may be to large or small for the wire strand.

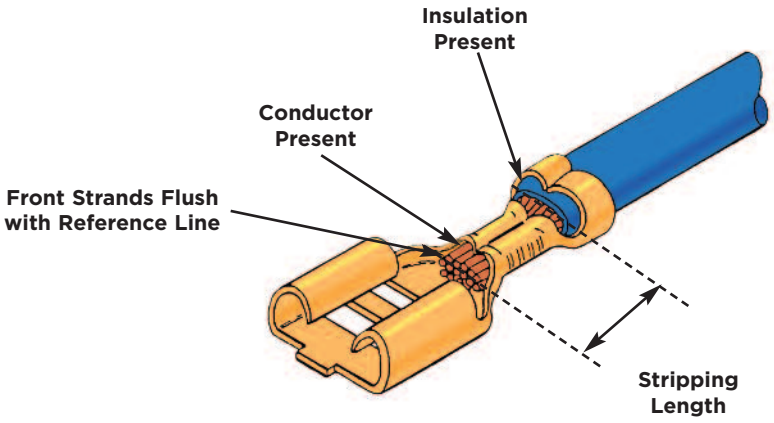




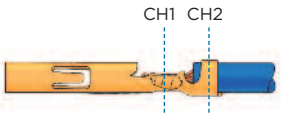


The Secret to a Successful Crimp

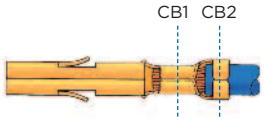
2. **Wire Prep** – In order to properly place a wire in a terminal, the wire insulation must first be stripped to the proper length based on the terminal specifications. If the insulation is cut too short or too long, the wire will not be seated properly into the wire barrel, causing terminal separations or shorting.



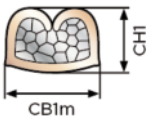
3. **Crimp Specifications** – To ensure a proper crimp for a TE connector or terminal you should be using a TE Connectivity tooling solution that is specifically engineered to the proper Crimp Height, Width and Crimp Geometry of the selected terminal or contact.

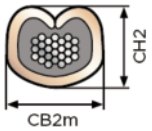


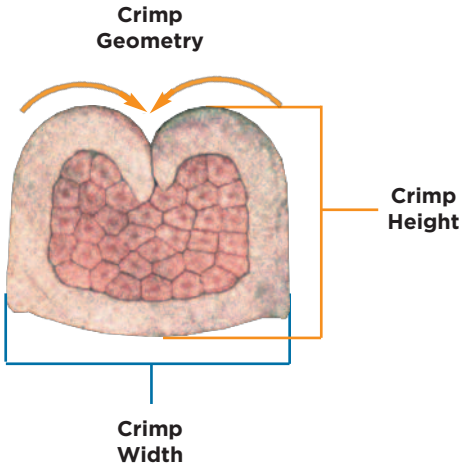
CH2: Insulation crimp height
CH1: Conductor crimp height



CB2m: Insulation crimp width
CB1m: Conductor crimp width







4. **Selecting the Right Tool Based on Production Level** – Are you in the prototype phase of your project? Will you soon be ramping up production? Do your tools need to be mobile, or is a bench top unit more applicable? Are you producing 100's – 1,000's of crimps per day?

   Once you know the answers to these questions, selecting the right TE Connectivity tool to meet your needs is simple. (**Please refer to page 7 for tooling options.**)

Choices at Any Production Level

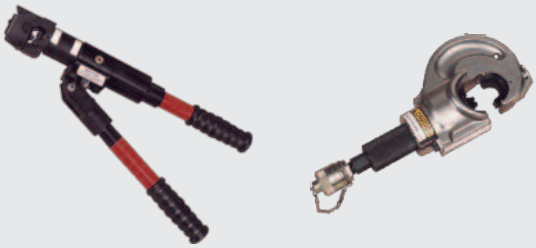
We can offer performance continuity in tools, so customers have the same crimp functionality and quality whether they are developing, building, or servicing a product. In many cases they can use the same die set in tooling that spans the range from hand operation through battery, pneumatic, and even electrically powered tools.

LOW VOLUME: Prototype, Repair

Manual Hand Tools

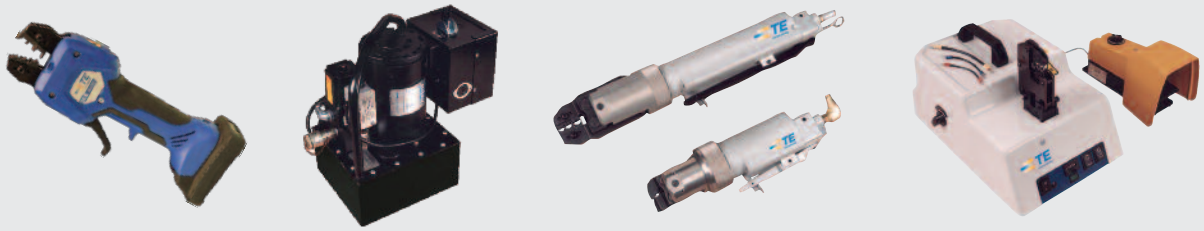
LOW VOLUME: Small Production Quantities

Manual Hand Tools



INTERMEDIATE: Small to Mid-Level Volumes

Power Hand Tools and Benchtop Tooling — Battery, Hydraulic, Pneumatic Electric

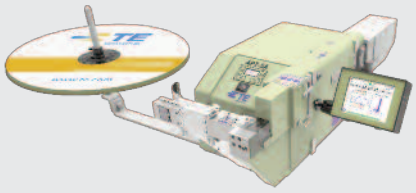


INTERMEDIATE: Semi-Automatic Volumes

Applicators & Spare Tooling

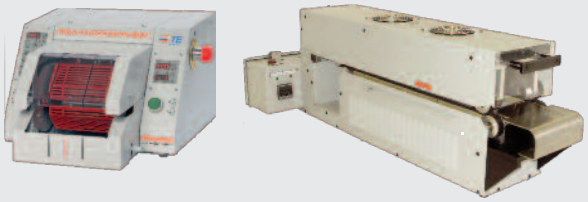
Bench Terminators

AMPLIVAR Product Termination — Magnet Wire



INTERMEDIATE: Semi-Automatic Volumes

Heat Shrink Tubing Equipment

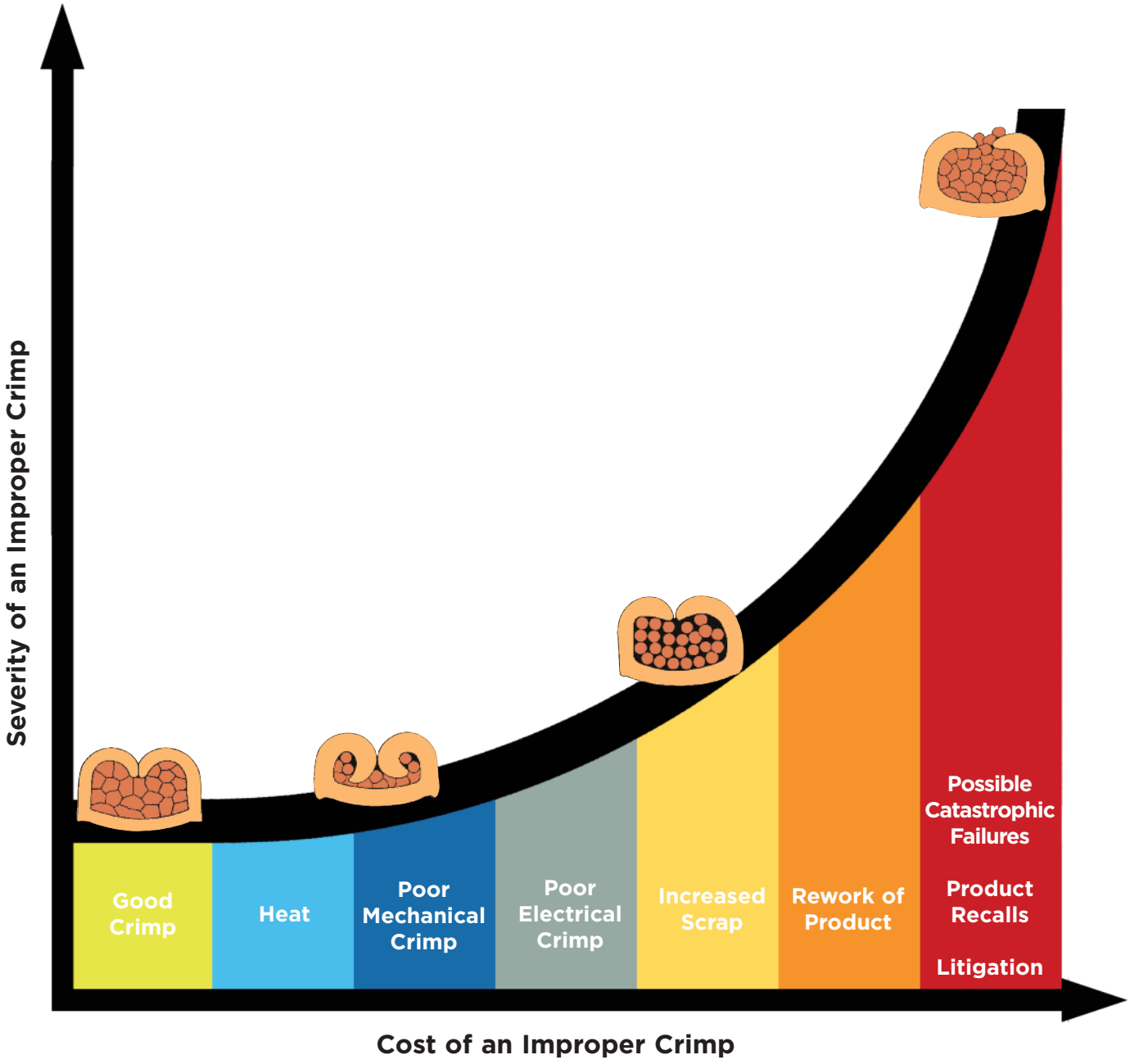


INTERMEDIATE: Fully-Automatic Volumes

Single Crimp Wire Processor

Dangers of Improperly Crimped Terminals

From wasted time & scrap all the way up to product recalls and possible litigation, the cost of poor crimp quality can be expensive. If customers are not using the proper crimp tooling, ie. incorrectly matching the terminal to the crimp tooling, the end results can be dramatic.



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What You Need to Know About TE Hand Tools

Tool Grade

A prime consideration when choosing the appropriate tool for an application. Our hand tools are categorized into three levels; Service, Commercial and Premium. The higher the grade of the tool, less operator skill is needed in order to repeatedly meet the specified parameters of the crimp.

Premium (CERTI-CRIMP Tool)

Premium tools include the appropriate crimp die configuration, integral locating, and integral straightening features that permit terminals or contacts crimped in these tools, to meet all feature requirements in applicable TEC application (114-) specifications. Most premium tools include an adjustable insulation crimp height feature and the CERTI-CRIMP ratcheting feature, set at the factory, which ensures the ratchet will not release until the wire crimp jaws bottom within .001. This guarantees consistent repeatability of the crimp. Premium hand tools require the least amount of user dexterity.

Commercial (PRO-CRIMPER III Tool)

Commercial die assemblies are designed to meet the wire crimp height requirements per the applicable TEC application (114-) specifications. Other feature requirements may or may not be met. Commercial handle assemblies permit the interchange of die assemblies and an adjustable ratcheting feature. Users are responsible for adjusting the ratchet to obtain the correct crimp height. Commercial tools require a greater amount of user dexterity than Premium crimp tools.

Service

Service tools are generally single thickness, stamped tools. They are not intended to meet any specifications and require exceptional user dexterity to obtain acceptable results.

Tool Type

Choosing a tool type may be driven by several factors; simply by type preference, or by the application needs itself, ie. heavy duty crimp, industry specification requirements, etc. The overall wire range is also a prime consideration when choosing the appropriate tool for an application. Often there will be several tools referenced to the same product but having different wire ranges.

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Premium CERTI-CRIMP II Hand Tools

FAST FACTS

- Designed to exacting specifications
- Ratchet control provides complete crimping cycle
- For most military, UL and CSA applications
- Manufactured using the highest quality materials
- Requires minimum skill
- Repairable
- Calibrated; recalibration recommended every 6 months or 5,000 cycles
- Many SAHT and DAHT crimping heads, and many die sets, can be adapted for use with the 626 pneumatic tool system *(Request catalog 124208)*
- Produced under a quality management system certified to ISO 9001. *(A copy of the certificate is available upon request.)*

Consistent High Quality Terminations

CERTI-CRIMP hand tools are top-of-the-line, premium, hand-operated tools for crimping a broad array of terminals, contacts and special wiring devices. They are designed to exacting specifications to produce consistent, high-quality terminations. A potential service life of over 50,000 cycles is possible, depending on operator care.

CERTI-CRIMP Tooling Options

There are currently seven basic styles of CERTI-CRIMP hand tools. The choice depends on the product being applied and/or your preferred method of application. For example, open barrel contacts typically require straight-action die movement to minimize possible rotation during crimping. Or, if your application requires crimping different sizes of terminals, you may prefer using a single tool with a combination of crimping nests, rather than two or three separate tools.

Other options include insulation crimp adjustment for different insulation thicknesses, a locator for properly positioning and supporting the terminal or contact in the tool, a wire stop, and color-coding and/or wire size information on the head of the tool or on the handles.

Ratchet Control

All CERTI-CRIMP hand tools feature our reliable ratchet control system. The ratchet will not release until the handles are fully closed and the dies bottomed. This helps eliminate partial crimps.

CERTI-CRIMP hand tools are well suited for low production runs, prototype work, and repairs—almost any application requiring consistent, highly-reliable terminations.

Characteristics of a Premium Crimping Tool

Every CERTI-CRIMP II hand tool incorporates features for optimum performance. They include locating, straightening, and insulation crimp adjustment features—quality options that set us apart from our competitors.

Crimp Designs—Optimum Performance
It's more than squeezing a terminal over a wire. Our crimp designs incorporate percent of compression that optimizes electrical and mechanical performance.

Bottoming Dies—An Assurance of Repeatability

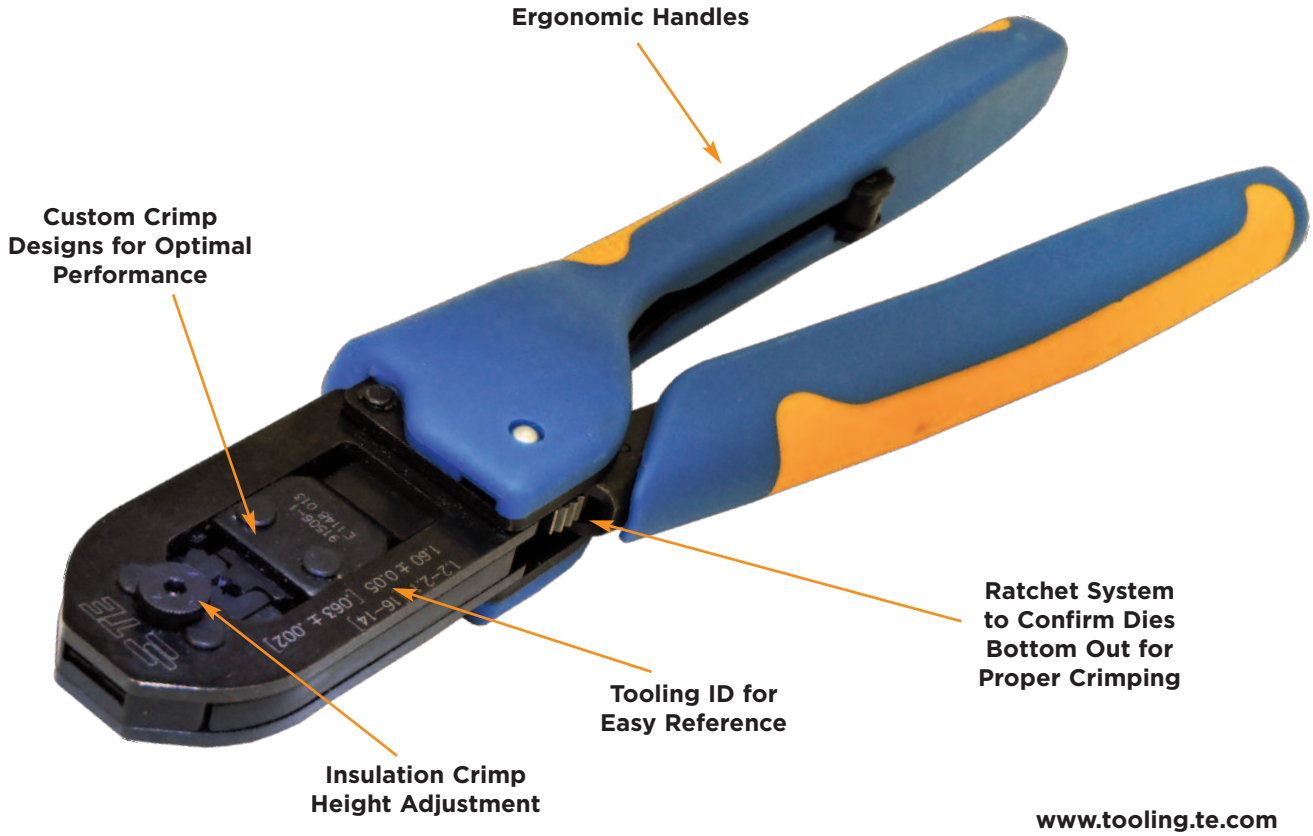
Repeatability in consistently reducing Circular Mil Area is the real measure of a crimp tool. The entire design of the tool—crimp form, force application, materials, and manufacturing tolerances—ensures that dies fully bottom, independent of operator technique or fatigue, or tool wear.

Applying the Crimp Force

Handle force is a key factor for any combination of hand tool, crimp die, terminal, and wire to crimp successfully. The design of the tool must take into account the crimp force requirement, as well as friction in the linkage and the need to bottom the dies. CERTI-CRIMP II tools are set to specific handle pressures at our factory; a Certificate of Calibration allows tracking and performance verification.

Ratchet System to Improve Repeatability

The reliable ratchet system in all the CERTI-CRIMP II tools is an aid to the operator, making sure the die bottoms before the tool opens. It complements the actual tool and die design in ensuring crimp repeatability.



www.tooling.te.com

PREMIUM: MANUAL HAND TOOLING

CERTI-CRIMP Tooling Options

Straight Action Hand Tool (SAHT)

- Dies close in a straight line
- Contact locator and support
- Wire stop
- Insulation crimp adjustment (4 positions)
- Ejects crimped contact
- Approx. weight 1.3 lb [0.59 kg]

Double Action Hand Tool (DAHT)

- Dies travel in arc-like path
- Locator on tools for FASTON, MATE-N-LOK, PIDG and PLASTI-GRIP terminals
- Insulation adjustment on tools for FASTON, MATE-N-LOK, PIDG and PLASTI-GRIP terminals
- Approx. weight 1.2 lb [0.54 kg]

T-HEAD Hand Tool (T-HEAD)

- Dies close in a straight line
- Locator
- Quick take-up on handle for holding terminal or splice in place
- Adjust insulation crimp with a 4-position screw
- Color-coded
- Approx. weight 1.3 lb [0.59 kg]

TETRA-CRIMP Hand Tool (TETRA) Part No. 59824-1

- Dies travel in arc-like path
- Multiple color-coded crimping cavities
- Terminal locator and wire stop
- Ratchet control release
- Approx. weight 1.4 lb [0.64 kg]

Platform Die Hand Tool (UFHT) Part No. 58078-3

- Same frame configuration as TETRA-CRIMP hand tool
- Dies are interchangeable
- Adjustable terminal locator
- Approx. weight 1.4 lb [0.64 kg]

Heavy Head Hand Tool (HHHT)

- Terminates most large coaxial cable and heavy-gage wire
- Dies close in a straight line
- Locator and wire stop when applicable
- Insulation adjustment on tools for AMPLI-BOND, PIDG and PLASTI-GRIP terminals
- Approx. weight 2.1 lb [0.95 kg]

C Head Straight Action Hand Tool Part No. 69710-1

- Dies close in a straight line
- Dies are interchangeable
- Locators and other applicable features included with dies
- Approx. weight 1.9 lb [0.86 kg]

Flip Locator for Premium CERTI-CRIMP II Hand Tools

FAST FACTS

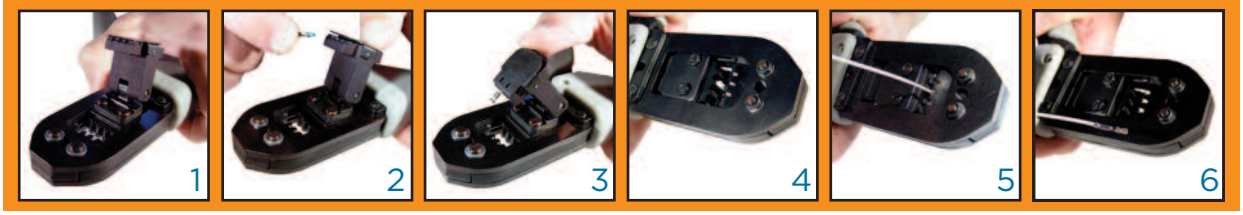
- Configured for CERTI-CRIMP II heads
- Accurately locates the terminal for a more consistent crimp termination
- Highly visible, easy to load terminal into locator
- Spring loaded retention feature
- Available with short and long handle tools

The flip locator on our CERTI-CRIMP II hand tool is designed to provide the ultimate in terminal placement accuracy, increased efficiency and ease of use.

Function

The new wire size trends have translated into new operator, tooling, and application challenges. Small terminal handling is a particular challenge as terminals continue to miniaturize. To help with the problem. The TE flip locator system allows the operator to flip the locator approx. 150 degrees, which provides exact placement of small terminals. After loading, the locator is flipped back into position and the terminal is properly located automatically. Now, with the terminal held in place, the operator can concentrate on proper wire placement and complete the termination process.

Step-by-Step



LightKnack Accessory for CERTI-CRIMP II Hand Tools

FAST FACTS

- High-intensity, long-life LED bulb
- Eases the termination process
- Magnetic for a secure placement while maintaining flexibility
- Applicable for any metallic tool surface
- Available separately in packs of 3
- Up to 8 hours of battery life
- Replaceable CR12166 batteries

This portable, magnetic accessory is designed to provide light anywhere you need it.

How it works

Simply place the light on any magnetic surface, point the light to where light is needed and turn on the switch. The high-intensity LED provides hours of bright light onto the work surface. The magnets provide hands-free use.

Part # 2119700-1

Tooling-to-Terminal Cross Reference

PREMIUM TOOLS

CERTI-CRIMP II Hand Tools (SAHT)

Double Action Hand Tools (DAHT)

T-HEAD Hand Tools (T-HEAD)

TETRA-CRIMP Hand Tool (TETRA)

ULTRA-FAST Hand Tool (UFHT)

Heavy Head Hand Tools (HHHT)

UNINSULATED TERMINALS

		Wire Range AWG	Wire Range mm²	Max Insul.	Max Dia.	Hand Tools Premium	Tool Type Premium
SOLISTRAND Terminals and Splices		22-16	0.3-1.25	—	—	49935	DAHT
		16-14	1.25-2	—	—	49935	DAHT
		12-10	3-5	—	—	49935	DAHT
		8	7	—	—	69355	HHHT

INSULATED TERMINALS

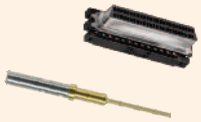
		Wire Range AWG	Wire Range mm²	Max Insul.	Max Dia.	Hand Tools Premium	Tool Type Premium
PIDG FASTON Receptacles (6409☐☐ Series)		22-18	0.3-0.8	.100	2.54	59824-1	TETRA
		16-14	1.25-2	.170	4.32		
		12-10	3-5	.250	6.35		
PIDG Terminals and Splices, PLASTI-GRIP Terminals		26-22	0.12-0.3	.082	2.08	46121 59275	DAHT T-HEAD
		22-16	0.3-1.25	.125	3.18	47386 59824-1 59250	DAHT TETRA T-HEAD
		16-14	1.25-2	.150	3.81	47387 59824-1 59250	DAHT TETRA T-HEAD
		12-10	3-5	.230	5.84	59824-1 59239-4	TETRA HHHT
PLASTI-GRIP Butt Splices		26-22	0.12-0.3	.080	2.03	46121	DAHT
		22-16	0.3-1.25	.170	4.32	45160	DAHT
		16-14	1.25-2	.215	5.46	45575-1	DAHT
PLASTI-GRIP Terminals		8	7	.377	9.58	69959	HHHT

FULLY-INSULATED TERMINALS

		Wire Range AWG	Wire Range mm²	Max Insul.	Max Dia.	Hand Tools Premium	Tool Type Premium
Ultra-Fast Plus FASTON Receptacles		22-18	0.3-0.8	.135	3.43	58079-3*	UFHT
		16-14	1.25-2	.160	4.06	58080-3*	UFHT
Ultra-Fast FASTON Tabs and Receptacles		22-18	0.3-0.8	.230	5.84	90390-3*	UFHT
		16-14	1.25-2	.260	6.60	90391-3*	UFHT

* Die sets for Ultra-Fast hand tool frame P/N 58078-3.

Tooling-to-Terminal Cross Reference

OPEN BARREL TERMINALS		Style	Wire Range AWG	Wire Range mm²	Max Insul.	Max Dia.	Hand Tools Premium	Tool Type Premium
AMPLIMITE D-Sub. Connectors		Size 20 DF Contacts	28-24	0.08-0.2	.040	1.02	91503-1	SAHT
			24-20	0.2-0.5	.060	1.52		
		Size 22 DF Contacts	28-22	0.08-0.3	.040	1.02	91520-1	SAHT
AMPMODU Connectors		Mod. IV Contacts	26-22	0.12-0.3	.061	1.55	91517-1	SAHT
			24-20	0.2-0.5	.069	1.75	91516-1	SAHT
		Locking Clip Contacts	26-22	0.12-0.3	.062	1.58	91533-1	SAHT
		MTE & Tandem Spring Contacts	32-28	0.03-0.08	.054	1.37	1901786-1	SAHT
			26-22	0.12-0.3	.065	1.65	91531-1	SAHT
		Short Point Contacts	32-22	0.03-0.3	.060	1.52	91518-1	SAHT
			24-20	0.2-0.5	.060	1.52	91551-1	SAHT
CPC Connectors, M Series Connectors		Type II Contacts	28-24	0.08-0.2	.055	1.40	91538-1	SAHT
			24-20	0.2-0.6	.062	1.57	91538-1	SAHT
			18-16	0.8-1.4	—	—	91538-1	SAHT
			14	2	—	—	91539-1	SAHT
		Type III+ Contacts	30-26	0.05-0.15	.060	1.52	91515-1	SAHT
			26-24	0.12-0.2	.055	1.40	91515-1	SAHT
			24-20	0.2-0.6	.080	2.03	91515-1	SAHT
			24-20	0.2-0.6	.100	2.54	91523-1	SAHT
			24-20	0.2-0.6	.120	3.05	91542-1	SAHT
			18-16	0.8-1.25	.100	2.54	91505-1	SAHT
			18-14	0.8-2	.100	2.54	91519-1	SAHT
		Type XII Contacts	16	1.25	.160	4.06	90382-2	HHHT
			14-12	2-3	.160	4.06	90382-2	HHHT
			10-8	5-7	.220	5.59	90384-1	HHHT
FASTON Straight Receptacles (Premier Line Only)		250 Series	22-18	0.3-0.8	.130	3.30	90166-1	DAHT
			18-14	0.8-2	.170	4.32	90165-1	DAHT
			14-10	2-5	.200	5.08	90120	DAHT
MATE-N-LOK Connectors		Commercial Contacts	30-22	0.05-0.3	.075	1.91	91515-1	SAHT
			24-18	0.2-0.8	.100	2.54	91512-1	SAHT
			20-14	0.5-2	.130	3.30	91504-1	SAHT
		Universal & Universal II Contacts	24-18	0.2-0.8	.100	2.54	91510-1	SAHT
			20-14	0.5-2	.130	3.30	91500-1	SAHT
			20-18	0.5-0.8	.200	5.08	91508-1	SAHT
			16-14	1.25-2	.200	5.08	91506-1	SAHT
		Mini-Universal	20-16	0.5-1.25	.126	3.20	91536-1	SAHT
		Mini-Universal II Contacts	26-22	0.12-0.3	.069	1.75	91529-1	SAHT
			22-18	0.3-0.8	.094	2.39	91522-1	SAHT
			20-16	0.5-1.25	.126	3.20	91594-1	SAHT

Standard Die Envelope (SDE)

FAST FACTS

- Dies meet wire crimp requirements per specification
- Over 100 interchangeable SDE die sets for crimping over 4,000 different connectors
- Ability to handle multiple wire and terminal sizes in one die set

Standard Die Envelope (SDE)

SDE technology is a new, flexible approach to crimp tooling, that allows use of the same dies on tooling across a range of application platforms. Dies are interchangeable in tools from portable hand tools — manual or battery-powered — to pneumatic hand tools and electric bench terminators. It's a family of tools that you can take from bench to production or into the field, without the need for dies fitted to each kind of tool. They're suited for R & D, networking applications and on-site maintenance work.

Customers can be sure their dies will fit their long-term needs, because they are completely compatible with all tools in the SDE system. They move with a customer as their needs grow.

If you know the terminal — this tool will help you find the die set.

Go to **www.tooling.te.com** and look for the magnifying glass.

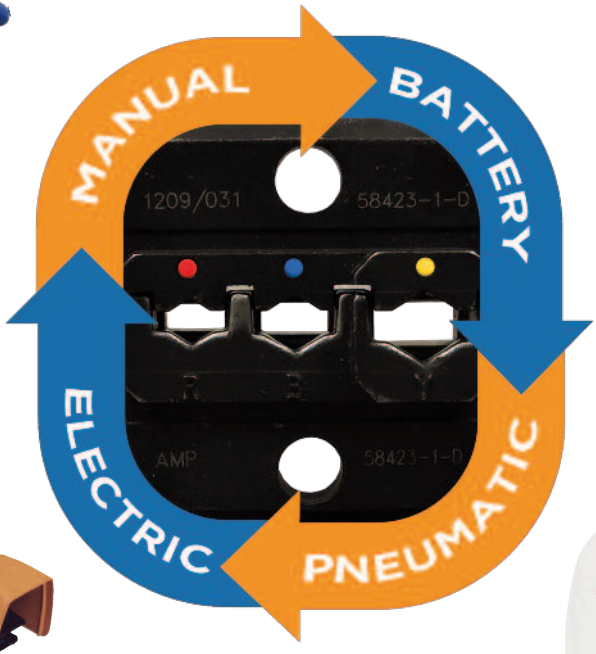
www.tooling.te.com

Standard Die Envelope (SDE)

By removing just 2 screws you can easily swap dies between your SDE compatible manual, battery, pneumatic and electric TE tools.

The SDE* Advantage!

*Standard Die Envelope



See pages 18-23

See pages 24-27

See pages 32-35

See pages 60-63

See pages 61-63

Commercial Standard Die Envelope (SDE) Manual Hand Tools

FAST FACTS

- Ratchet control provides complete crimping cycle
- Emergency ratchet release
- Angled head provides a comfortable hand and wrist position
- One tool with over 75 interchangeable die sets can crimp many different types of connectors
- Accommodates multiple terminal sizes in one die set
- Precision construction of durable high-carbon steel
- Extra strength pivot pins provide greater durability
- Produced under a quality management system certified to ISO 9001.

The SDE* Advantage!
*Standard Die Envelope

A Flexible Tooling Approach

Our Commercial Hand Tools provide the versatility of general-purpose service tools along with the reliability and ease of use of many premium-grade tools. For versatility, all 75 die sets are interchangeable, including those for open-barrel contacts and terminals. Additionally, many of these die sets have multiple cavities for crimping a variety of contact or terminal sizes.

PRO-CRIMPER III — Made to Last

For reliability, the tool is constructed of durable high carbon steel with extra strength pivot pins. And, for user convenience, the PRO-CRIMPER III Hand Tool particularly excels.

Characteristics of a Commercial Crimping Tool

Every Commercial grade hand tool incorporates features for long lasting performance and ease-of-use. They include ergonomic handle designs and a ratchet control system designed to ensure proper crimping.

Ratchet System for Improved Repeatability

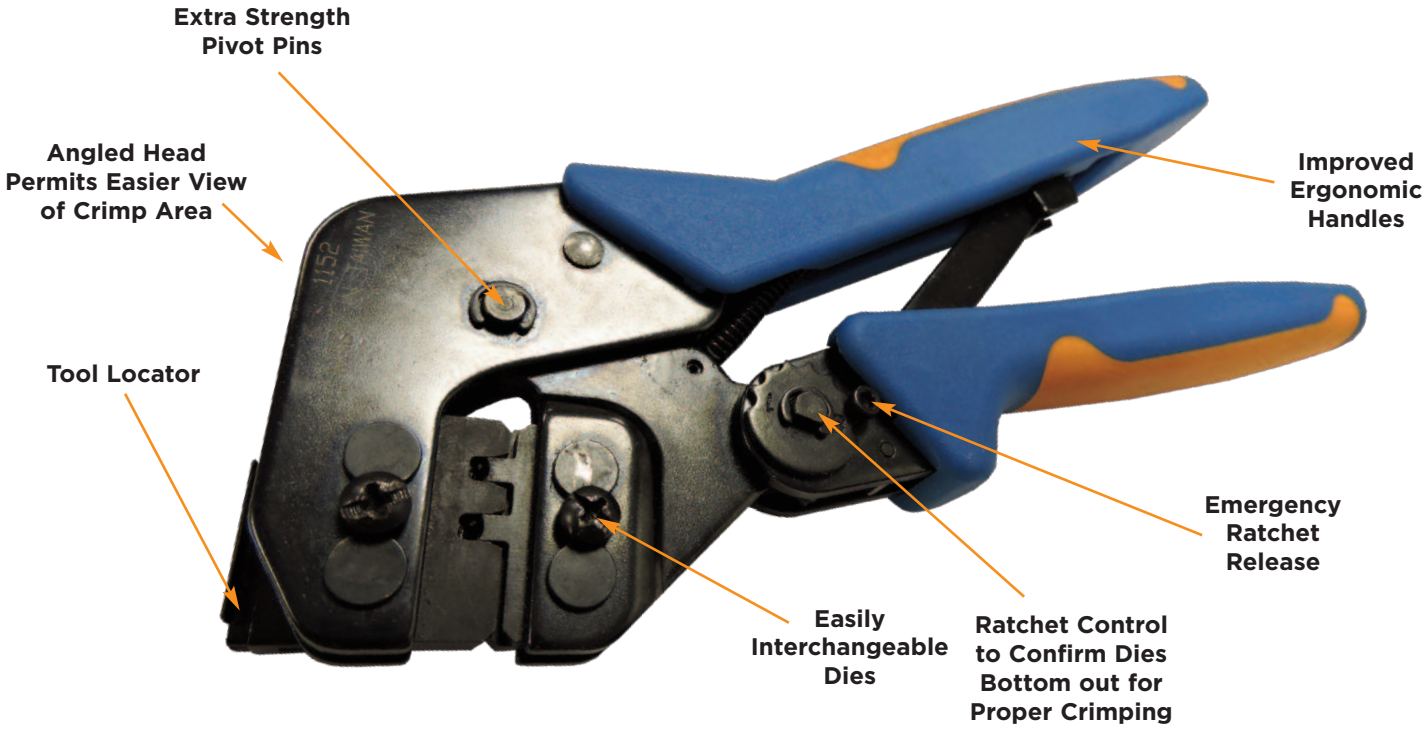
Ratchet control is provided for complete crimp cycling; this helps eliminate partial crimps. Also, an emergency ratchet release allows the user to open the tool jaws at any time during the crimp cycle.

Applying the Crimp Force

To reduce handle force, the linkage was designed to match the forces required to crimp our largest insulated terminal. The result is dramatically less handle force than comparable tools. Also, the angled head and specially designed handles reduce hand stretch and provide comfortable operation.

Ensuring a Proper Crimp

Locators are mounted on pin-and-socket style tools. They help properly locate the contact in the die set, provide a wire stop, and help minimize contact rotation and bending during crimping.



Commercial SDE Tooling Options

PRO-CRIMPER III Hand Tool
Part No. 354940-1 (frame only)

The PRO-CRIMPER III hand tool is ideally suited for R&D prototyping, networking applications, and commercial, industrial, and institutional maintenance work.

- Enhanced ergonomics, with a thin, comfortable handle profile
- Manufactured with precision stamping that permits close tolerance controls on critical parts, for better performance and repeatability
- Improved tool geometry for a longer life, stronger tool frame
- Fits industry's largest selection of crimp die options

SDE SA Hand Tool
Part No. 9-1478240-0 (frame only)

The unique geometry of this tool results in a comfortable, easy-to-use handle design that is unmatched in the market.

- Large crimp jaw arc, minimizing roll in open barrel applications
- Easy accessibility for space-constrained applications
- User-adjustable ratchet control and emergency ratchet release

ERGOCRIMP Hand Tool
Part No. 539635-1 (frame only)

- Interchangeable dies
- Virtually a straight action jaw closure
- Ratchet mechanism ensures complete crimp cycle
- Easy access ratchet release
- Handle pressure adjustment with locking device
- Ergonomic non-slip handles

Customized Hand Tool Kits

FAST FACTS

- Portability
- Customization
- Cost effectiveness
- OEM personalization
- Flexibility in the factory as well as in service and repair garages
- Consist of well-proven hand tools and dies as well as accessories matched to special applications
- A selection of sample terminals enables the technician to start work immediately

In addition to providing standard kits, TE Connectivity is also able to provide custom kits for volume requirements containing only tools, or a combination of tools, dies and terminals tailored to your specific requirements.

The kit shown is an example designed specifically for the Automotive Industry. However, we can also provide kits for promotion and product support as well as application support and repair.

The flexibility in creation of these individual kits enables the customer to help both control and ensure quality.

PRO-CRIMPER Hand Tool Kits

TE specialty hand tools are available in convenient kits that contain the tooling, terminations, and spare parts you need for your crimping operations.

PRO-CRIMPER III Hand Tool PIDG and PLASTI-GRIP Terminal Kit Part No. 55823-1

Includes hand tool (part no. 58433-3), 225 insulated ring and spade terminals in 12-10, 16-14 and 22-16 AWG [3.0-5.0, 1.3-2.0 and 0.3-1.3 mm^2] wire sizes.

BNC Premises Wiring Kit Part No. 58477-1

Includes hand tool (part no. 58433-1); plugs—5 RG-58, 10 RG-59/62, 5 RG-58 plenum and RG-59/62 plenum sizes; adapters—2 jack-to-jack and 2 T.

PRO-CRIMPER III Hand Tool Repair Kit Part No. 679221-1

Includes retaining rings, handle return spring, pawl spring, pivot pins, pawl pin, ratchet pawl, die pins, nut and die set screws.

Tooling-to-Terminal Cross Reference

COMMERCIAL TOOLS

PRO-CRIMPER Hand Tools (PC)

SDE-SA Hand Tools (SDE-SA)

ERGO-CRIMP Hand Tool

UNINSULATED TERMINALS

		Wire Range		Max		Hand Tools	Tool Type
		AWG	mm²	Insul.	Dia.	Commercial	Commercial
SOLISTRAND Terminals and Splices		22-16	0.3-1.25	—	—	58546-1	PC
		16-14	1.25-2	—	—	58546-1	PC
		12-10	3-5	—	—	58546-1	PC
		8	7	—	—	—	—

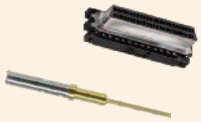
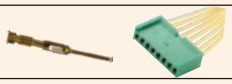
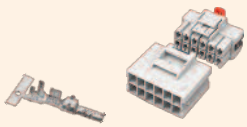
INSULATED TERMINALS

		Wire Range		Max		Hand Tools	Tool Type
		AWG	mm²	Insul.	Dia.	Commercial	Commercial
PIDG FASTON Receptacles (6409☐☐ Series)		22-18	0.3-0.8	.100	2.54	58433-3	PC
		16-14	1.25-2	.170	4.32	58433-3	PC
		12-10	3-5	.250	6.35	—	—
PIDG Terminals and Splices, PLASTI-GRIP Terminals		22-16	0.3-1.25	.125	3.18	58433-3	PC
		16-14	1.25-2	.150	3.81	58433-3	PC
		12-10	3-5	.230	5.84	58433-3	PC

FULLY-INSULATED TERMINALS

		Wire Range		Max		Hand Tools	Tool Type
		AWG	mm²	Insul.	Dia.	Commercial	Commercial
Ultra-Fast FASTON Tabs and Receptacles		22-18	0.3-0.8	.230	5.84	58628-1	PC
		16-14	1.25-2	.260	6.60	58628-1	PC

Tooling-to-Terminal Cross Reference

OPEN BARREL TERMINALS		Style	Wire Range AWG	Wire Range mm²	Max Insul.	Max Dia.	Hand Tools Commercial	Tool Type Commercial
AMPLIMITE D-Sub. Connectors		Size 20 DF Contacts	28-24	0.08-0.2	.040	1.02	58448-2	PC
			24-20	0.2-0.5	.060	1.52		
		Size 22 DF Contacts	28-22	0.08-0.3	.040	1.02	90800-1	PC
AMPMODU Connectors		Mod. IV Contacts	26-22	0.12-0.3	.061	1.55	58641-1	PC
			24-20	0.2-0.5	.069	1.75	—	—
CPC Connectors, M Series Connectors		Type II Contacts	28-24	0.08-0.2	.055	1.40	—	—
			24-20	0.2-0.6	.062	1.57	58541-1	PC
			18-16	0.8-1.4	—	—	58541-1	PC
			14	2	—	—	58541-1	PC
		Type III+ Contacts	30-26	0.05-0.15	.060	1.52	—	—
			26-24	0.12-0.2	.055	1.40	58495-1	PC
			24-20	0.2-0.6	.080	2.03	58495-1	PC
			24-20	0.2-0.6	.100	2.54	—	—
			24-20	0.2-0.6	.120	3.05	—	—
			18-16	0.8-1.25	.100	2.54	58495-1	PC
			18-14	0.8-2	.100	2.54	—	—
FASTON Straight Receptacles (Premier Line Only)		250 Series	22-18	0.3-0.8	.130	3.30	—	—
			18-14	0.8-2	.170	4.32	58524-1	PC
			14-10	2-5	.200	5.08	58525-1	PC
MATE-N-LOK Connectors		Commercial Contacts	30-22	0.05-0.3	.075	1.91	—	—
			24-18	0.2-0.8	.100	2.54	90574-1	PC
			20-14	0.5-2	.130	3.30	90575-1	PC
		Universal & Universal II Contacts	24-18	0.2-0.8	.100	2.54	90548-1	PC
			20-14	0.5-2	.130	3.30	90546-1	PC
			20-18	0.5-0.8	.200	5.08	90547-1	PC
			16-14	1.25-2	.200	5.08	90547-1	PC
		Mini-Universal	20-16	0.5-1.25	.126	3.20	90760-1	PC
		Mini-Universal II Contacts	26-22	0.12-0.3	.069	1.75	90758-1	PC
			22-18	0.3-0.8	.094	2.39	90759-1	PC
			20-16	0.5-1.25	.126	3.20	58707-1	PC
Power Triple Lock Connectors		Power Triple Lock	22-20	0.3-0.6	.106	2.70	2217267-1	SDE-SA
			20-16	0.6-1.25	.130	3.30	2217208-1	SDE-SA
			18-14	0.9-2.1	.146	3.70	2217266-1	SDE-SA
			12	3.3	.167	4.25	2217268-1	SDE-SA

SDE Micro Crimp Hand Tool Kit, 10.8V, 3,400 lb

FAST FACTS

- Light weight, ergonomic design is only 2.2 lbs
- Uses 90% less force, thereby reducing operator muscle fatigue
- Contains a built in LED light for illuminating crimping point and work area
- Contains mounting lugs for use with a balancer or as fall protection when used outdoors
- 10.8V Lithium-Ion battery
- USB adapter to download crimp cycle information to a computer
- Higher crimp force capability than comparable tools

Maximum Power. Minimum Effort.

The SDE Micro Crimp hand tool provides maximum crimping results for minimum effort with its one-lever operation for controlling all tool functions. Unlike other 2-handed manual crimping tools, the intuitive quick takeup technology built into the SDE Micro Crimp hand tool allows the operator to keep one hand free to place the wire while crimping with the other hand.

Compared to a manual hand tool the SDE Micro Crimp hand tool:

- Utilizes an electronic control with lock function to monitor complete closing of the dies
- Automatically retracts when the crimping is complete
- Features motor stall protection in case of faulty operation

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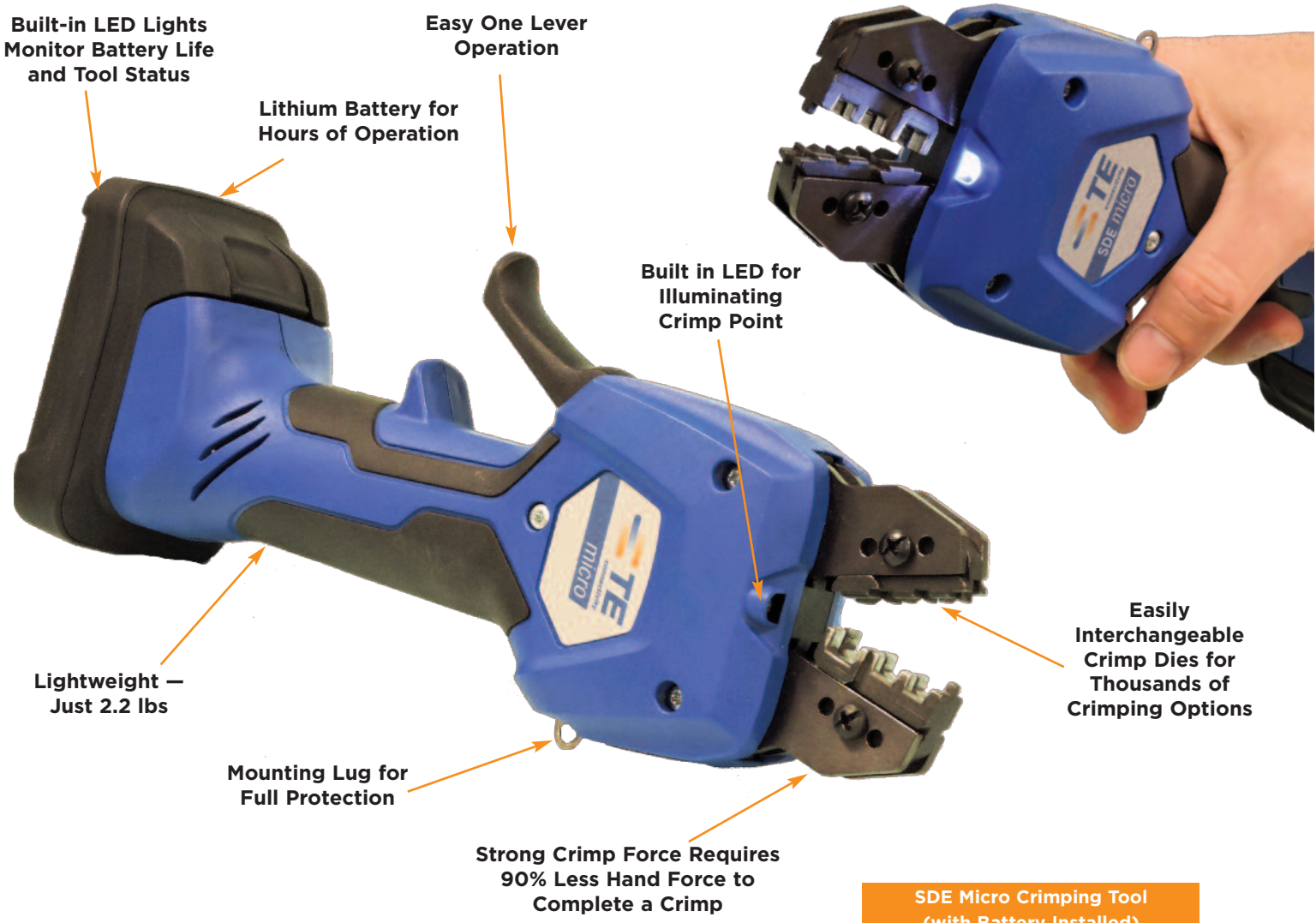
SDE Micro Crimp Hand Tool Kit, 10.8 V, 3,400 lb



P/N	Description
2280380-1*	SDE Micro Tool Kit, 110-120 Volt Charger, Battery
2280380-2*	SDE Micro Tool Kit, 220-240 Volt Charger, Battery
2280381-1*	SDE Micro Tool Battery, 10.8 Volts
2280382-1*	SDE Micro Tool Charger, 110-120 Volts
2280382-2*	SDE Micro Tool Charger, 220-240 Volts
2217896-1*	USB Adapter Module

* CE Certified

SDE Micro Crimping Tool (with Battery Installed) P/N 2280380-[ ]	
Length	253mm [9.96]
Width	93mm [3.66]
Depth	64mm [2.52]
Mass Weight (w/battery)	0.96kg [2.12 lb]
Sound Level	75 dBA at 1 meter
Vibration	< 2.5 m/s²
Crimping Capacities	
Max. Crimping Force	15 kn (1.53 metric tons) [3,400 lbs max.]
Avg. Crimping Time	2 sec
Avg. Crimps Per Charge	Approx. 350

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Lithium-Ion Battery-Powered Crimp Tool Kits, 18V, 3,500 lb

FAST FACTS

Fast, ergonomically-designed tools suitable for use at the bench, on the line, or in the field.

- Maximum wire size depending on terminal type: 10 AWG
- Completely portable — Over 150 crimps per charge
- Pressure-sensitive cycle control
- On-board pressure monitoring with visual (LED) and audible warnings of an incomplete crimp
- Crimp cycle information can be down-loaded to a computer via optional USB adapter
- Lightweight and compact
- Kits include tool, 2 batteries, charger, case
- Lithium-Ion batteries - no memory effects
- 20 minute charging time

3500 lb Crimping Tool (w/battery installed, w/o head)	
Length	254mm [10.00]
Width	73mm [2.87]
Depth	114mm [4.50]
Mass Weight (w/Battery)	1.3kg [2.9 lb]
Sound Level	75 dBA at 1 meter
Vibration	< 2.5 m/s²
Hydraulic Oil	Shell Tellus T15
Crimping Capacities	
Maximum Crimping Force	15.6 kn [1.75 ton]
Average Crimping Time	2 sec
Average Crimps Per Charge	Approx. 150

* Makita is a trademark.

Each battery tool kit includes a tool, 2 batteries and a charger in a rugged carrying case.

www.tooling.te.com

Lithium-Ion Battery-Powered Crimp Tool Kits, 18V, 3,500 lb Tooling Options

SDE Open Head Battery Powered Crimp Tool Kit

PN 2217480-1, 110 volts
PN 2217480-2, 220 volts

This battery powered crimp tool kit accepts TE's SDE shoulder mounted die sets like the one shown. For a partial list of SDE die sets, please refer to catalog 1773379-1.

Customer Manual 409-32031

SDE Closed Head Battery Powered Crimp Tool Kit

PN 2217481-1, 110 volts
PN 2217481-2, 220 volts

This battery powered crimp tool kit accepts TE's SDE shoulder and pin mounted die sets like the ones shown. This tool kit can not be used to crimp butt splices. For a partial list of SDE die sets, please refer to catalog 1773379-1.

Customer Manual 409-32032

CERTI-CRIMP II, Battery Powered Crimp Tool Kit

PN 2217482-1, 110 volts
PN 2217482-2, 220 volts

This battery powered crimp tool kit accepts heads from TE's CERTI-CRIMP II straight action hand tools like the one shown. For a partial list of CERTI-CRIMP II straight action hand tools, please refer to catalog 65780.

Customer Manual 409-32033

Double Action Battery Powered Crimp Tool Kit

PN 2217483-1, 110 volts
PN 2217483-2, 220 volts

This battery powered crimp tool kit accepts heads from TE's double action hand tools like the one shown. For a partial list of double action hand tools, please refer to catalog 65780.

Customer Manual 409-32028

Heavy-Head Battery Powered Crimp Tool Kit

PN 2217484-1, 110 volts
PN 2217484-2, 220 volts

This battery powered crimp tool kit accepts heads from TE's heavy head hand tools like the one shown. For a list of heavy head hand tools, please refer to customer manual 409-32039.

Customer Manual 409-32029

T-HEAD Battery Powered Crimp Tool Kit *

PN 2217485-1, 110 volts
PN 2217485-2, 220 volts

This battery powered crimp tool kit can be used to crimp 22-16 and 16-14 AWG PIDG terminals and splices. The kit can also crimp 22-16 and 16-14 AWG PLASTI-GRIP terminals.

***Crimp head is included.**

Customer Manual 409-32030

The die sets/heads are not included in the kits unless otherwise specified.

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Lithium-Ion Battery-Powered Crimp Tool Kits, 18V, 8,000 lb, 12,000 lb, 24,000 lb

FAST FACTS

Fast, ergonomically-designed tools suitable for use at the bench, on the line, or in the field.

- Pressure-sensitive cycle control
- On-board pressure monitoring with visual (LED) and audible warnings of an incomplete crimp
- Crimp cycle information can be downloaded to a computer via optional USB adapter
- Kits include tool, 2 batteries, charger, case
- Lithium-Ion batteries - no memory effects
- 20 minute charging time

8,000 lb Crimping Tool (with Battery Installed) P/N 2217330-[ ]		12,000 lb Inline Crimping Tool (with Battery Installed) P/N 2280116-[ ]		12,000 lb Pistol Grip Crimping Tool (with Battery Installed) P/N 2161171-[ ]		24,000 lb Pistol Grip Crimping Tool (with Battery Installed) P/N 2280308-[ ]	
Length	337mm [13.25]	Length	413mm [16.26]	Length	327mm [12.9]	Length	412mm [16.2]
Width	73mm [2.87]	Width	75mm [2.95]	Width	75mm [2.95]	Width	75mm [2.95]
Depth	114mm [4.5]	Depth	116mm [4.56]	Depth	325mm [12.8]	Depth	319mm [12.6]
Mass Weight (w/battery)	1.8kg [4.0 lb]	Mass Weight (w/battery)	3.08kg [6.8 lb]	Mass Weight (w/battery)	4.2kg [9.6 lb]	Mass Weight (w/battery)	6.8kg [15.0 lb]
Sound Level	75 dBA at 1 meter	Sound Level	75 dBA at 1 meter	Sound Level	75 dBA at 1 meter	Sound Level	75 dBA at 1 meter
Vibration	< 2.5 m/s²	Vibration	< 2.5 m/s²	Vibration	< 2.5 m/s²	Vibration	< 2.5 m/s²
Hydraulic Oil	Shell Tellus T15	Hydraulic Oil	Shell Tellus T15s or RIVOLTA S.B.H. 11	Hydraulic Oil	Shell Tellus T15s or RIVOLTA S.B.H. 11	Hydraulic Oil	Shell Tellus T15s or RIVOLTA S.B.H. 11
Crimping Capacities		**Crimping Capacities**		**Crimping Capacities**		**Crimping Capacities**	
Max. Crimping Force	35 kn [4 ton]	Max. Crimping Force	60 kn (6 metric ton) [13,500 lbs]	Max. Crimping Force	60 kn (6 metric ton) [13,500 lbs]	Max. Crimping Force	106.6 kn [12 ton]
Avg. Crimping Time	4 sec	Avg. Crimping Time	2-5 sec	Avg. Crimping Time	3-6 sec	Avg. Crimping Time	10-15 sec
Avg. Crimps Per Charge	Approx. 85	Avg. Crimps Per Charge	Approx. 100-300	Avg. Crimps Per Charge	Approx. 100-300	Avg. Crimps Per Charge	Approx. 110

Lithium-Ion Battery-Powered Crimp Tool Kits, 18V, 8,000 lb, 12,000 lb, 24,000 lb Tooling Options

8,000 lb Latch Head Battery Powered Crimp Tool Kit

PN 2217330-1, 110 volts
PN 2217330-2, 220 volts

This battery powered crimp tool kit can be used to crimp the following terminals and splices:

8 to 6 AWG TERMINYL and PLASTI-GRIP
See instruction sheet 408-10051 for a list of available die sets

8-4 AWG SOLISTRAND
See instruction sheet 408-10050
for a list of available die sets

12-10 AWG STRATO-THERM
See instruction sheet 408-10228
for a list of available die sets

Customer Manual 409-32026

12,000 lb Inline & Pistol Grip Battery Powered Crimp Tool Kits

PN 2280116-1, 110 volts (Inline),
PN 2280116-2, 220 volts (Inline)
PN 2161171-1, 110 volts (Pistol Grip),
PN 2161171-2 220 volts (Pistol Grip)

These battery powered crimp tool kits can be used to crimp the following terminals and splices:

SOLISTRAND 8, 6, 4, 2 AWG only

See instruction sheet 408-8691

STRATO-THERM 8, 6, 4 only per TE Instruction Sheet 408-8691 (Ring Tongue Terminals, Butt Splices, and Parallel Splice)

Customer Manual 409-32039 (Inline)

Customer Manual 409-32040 (Pistol Grip)

24,000 lb Pistol Grip Battery Powered Crimp Tool Kit

PN 2280308-1, 110 volts
PN 2280308-2, 220 volts

This battery powered crimp tool kit can be used to crimp the following terminals and splices:

SOLISTRAND 8, 6, 4, 2, 1/0, 2/0, 3/0 and 4/0 AWG only.

See instruction sheet 408-8691

STRATO-THERM 8, 6, 4, 2 and 1/0 only per TE Instruction Sheet 408-8691 (Ring Tongue Terminals, Butt Splices, and Parallel Splice)

Customer Manual 409-32041

Tooling-to-Terminal Cross Reference

LITHIUM-ION BATTERY POWERED TOOLS

3,400 lb

3,500 lb

8,000 lb

12,000 lb

24,000 lb

UNINSULATED TERMINALS

		Wire Range AWG	Wire Range mm²	Max Insul.	Max Dia.	Battery Tools Powered
SOLISTRAND Terminals and Splices		22-16	0.3-1.25	—	—	X
		16-14	1.25-2	—	—	X
		12-10	3-5	—	—	X
		8	7	—	—	X

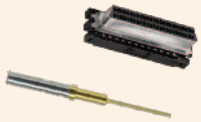
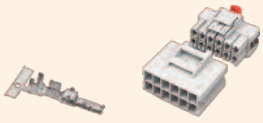
INSULATED TERMINALS

		Wire Range AWG	Wire Range mm²	Max Insul.	Max Dia.	Battery Tools Powered
PIDG FASTON Receptacles (6409□□ Series)		22-18	0.3-0.8	.100	2.54	X
		16-14	1.25-2	.170	4.32	X
		12-10	3-5	.250	6.35	X
PIDG Terminals and Splices, PLASTI-GRIP Terminals		26-22	0.12-0.3	.082	2.08	X
		22-16	0.3-1.25	.125	3.18	X
		16-14	1.25-2	.150	3.81	X
		12-10	3-5	.230	5.84	X
PLASTI-GRIP Butt Splices		26-22	0.12-0.3	.080	2.03	X
		22-16	0.3-1.25	.170	4.32	X
		16-14	1.25-2	.215	5.46	X
PLASTI-GRIP Terminals		8	7	.377	9.58	X

FULLY-INSULATED TERMINALS

		Wire Range AWG	Wire Range mm²	Max Insul.	Max Dia.	Battery Tools Powered
Ultra-Fast Plus FASTON Receptacles		22-18	0.3-0.8	.135	3.43	X
		16-14	1.25-2	.160	4.06	X
Ultra-Fast FASTON Tabs and Receptacles		22-18	0.3-0.8	.230	5.84	X
		16-14	1.25-2	.260	6.60	X

Tooling-to-Terminal Cross Reference

OPEN BARREL TERMINALS		Style	Wire Range AWG	Wire Range mm²	Max Insul.	Max Dia.	Battery Tools Commercial
AMPLIMITE D-Sub. Connectors		Size 20 DF Contacts	28-24	0.08-0.2	.040	1.02	X
			24-20	0.2-0.5	.060	1.52	X
		Size 22 DF Contacts	28-22	0.08-0.3	.040	1.02	X
AMPMODU Connectors		Mod. IV Contacts	26-22	0.12-0.3	.061	1.55	X
			24-20	0.2-0.5	.069	1.75	X
		Locking Clip Contacts	26-22	0.12-0.3	.062	1.58	X
		MTE & Tandem Spring Contacts	32-28	0.03-0.08	.054	1.37	X
			26-22	0.12-0.3	.065	1.65	X
		Short Point Contacts	32-22	0.03-0.3	.060	1.52	X
			24-20	0.2-0.5	.060	1.52	X
CPC Connectors, M Series Connectors		Type II Contacts	28-24	0.08-0.2	.055	1.40	X
			24-20	0.2-0.6	.062	1.57	X
			18-16	0.8-1.4	—	—	X
			14	2	—	—	X
		Type III+ Contacts	30-26	0.05-0.15	.060	1.52	X
			26-24	0.12-0.2	.055	1.40	X
			24-20	0.2-0.6	.080	2.03	X
			24-20	0.2-0.6	.100	2.54	X
			24-20	0.2-0.6	.120	3.05	X
			18-16	0.8-1.25	.100	2.54	X
			18-14	0.8-2	.100	2.54	X
		Type XII Contacts	16	1.25	.160	4.06	X
			14-12	2-3	.160	4.06	X
			10-8	5-7	.220	5.59	X
FASTON Straight Receptacles (Premier Line Only)		250 Series	22-18	0.3-0.8	.130	3.30	X
			18-14	0.8-2	.170	4.32	X
			14-10	2-5	.200	5.08	X
MATE-N-LOK Connectors		Commercial Contacts	30-22	0.05-0.3	.075	1.91	X
			24-18	0.2-0.8	.100	2.54	X
			20-14	0.5-2	.130	3.30	X
		Universal & Universal II Contacts	24-18	0.2-0.8	.100	2.54	X
			20-14	0.5-2	.130	3.30	X
			20-18	0.5-0.8	.200	5.08	X
			16-14	1.25-2	.200	5.08	X
		Mini-Universal	20-16	0.5-1.25	.126	3.20	X
		Mini-Universal II Contacts	26-22	0.12-0.3	.069	1.75	X
			22-18	0.3-0.8	.094	2.39	X
			20-16	0.5-1.25	.126	3.20	X
Power Triple Lock Connectors		Power Triple Lock	22-20	0.3-0.6	.106	2.70	X
			20-16	0.6-1.25	.130	3.30	X
			18-14	0.9-2.1	.146	3.70	X
			12	3.3	.167	4.25	X

626 Pneumatic System Power Unit

FAST FACTS

Effortless crimping for a broad range of terminals, either bench-mounted or hand-held for working in cramped quarters.

- Lightweight; eliminates physical force required by hand tools
- Hand- or foot-switch operation
- Works with existing TE-compatible crimp heads and die sets
- Ratchet control option provides complete crimp cycle, eliminating partial crimps
- Rotating head reaches difficult termination locations
- Engineered and manufactured using processes independently certified to internationally recognized quality standards ISO-9001:2000 and telecommunications industry standard TL 9000

Maximize your productivity while minimizing your effort — replace your manual hand tools with the 626 pneumatic tool system. Terminating wires from 26–6 AWG [0.12–13.0 mm^2] has never been easier. And you can continue to use most, if not all, of your existing TE compatible crimp heads and die sets from TE Connectivity.

Stop Working So Hard

The powerful 626 pneumatic tool system makes crimping as easy as pressing a hand or foot switch. Besides reducing operator fatigue, this means you don't have to design your production bench around your tool. Include the fully adjustable bench mount assembly with the foot switch, and you're completely free to concentrate on aligning the wire and terminal. Now you can crimp faster and with fewer mistakes.

The 626 System Works Where and How You Need It

Using 626 adapters, tools previously restricted to prototype or limited production applications can now be used in low to medium bench production and harness assembly operations. Because the 626 crimp head can be rotated to any angle, you can also work on those difficult terminations in confined tooling cabinets or enclosures.

Looking for the complete crimp cycle control provided by the mechanical ratchet in premium CERTI-CRIMP hand tools? The available 626 System ratchet tool holders produce a complete crimp cycle by simply pressing a switch. Dies will fully bottom before you can open the jaws to release the crimped product.

Protect Your Investment

The 626 system's power unit works with a variety of adapters and tool holders, so you can continue to work with your existing crimp heads and die sets.

www.tooling.te.com

Pneumatic System Tooling Options

626 Pneumatic System Power Unit

PN 189721-1 Hand Actuated Power Unit
PN 189722-1 Foot Actuated Power Unit

Outside Diameter	45mm [1.8 in]
Length	225mm [8.88 in] for foot actuated unit 230mm [9.0 in] for hand actuated unit
Grip Span	55mm [2.19 in] over button/handle
Mass	0.60kg [1.32 lbm] for foot actuated unit 0.72kg [1.58lbm] for hand actuated unit
Air Pressure	6.21-6.89 bar [90-100 psi]
Air Displacement	0.00018 m2 [11.14 in^2]
Air Supply Hose	3.05 m [10 ft] long, 4.8mm [3/16] I.D. with 1/8 in NPT fitting
Cycle Time	0.7-0.8s (for 16-14 AWG [1.3-2mm^2] PIDG Terminals)

Tool and Adapter Holders* (includes head assembly)

Large Tool Holder	100mm [3.88 in] Length	0.76 kg [1.68 lb] Weight
Small Tool Holder	70mm [2.75 in] Length	0.44 kg [0.97 lb] Weight
Adapter Holder	70mm [2.75 in] Length	0.44 kg [0.96 lb] Weight

Bench Mount Assembly*, PN 856402-1

Base Size	200mm x 200mm [8 in x 8 in]
Weight	2.9kg [6.5 lb]
Bench Mounting Dimensions	Base has two, 1/4-20 tapped holes on 150mm [6 in] centerlines

PRO-CRIMPER III Die Set Adapter, PN 679304-1

Request catalog 82276 for a listing of over 75 die sets

Instruction Sheet 408-4070

* Not for use in the European Community.

626 System Crimping Heads and Die Sets

Crimping Heads for Large Tool Holders

626 SYSTEM CRIMPING HEADS AND DIE SETS

Products Applied	Wire Size Range AWG	Wire Size Range mm²	Crimping Head Part Number	Instruction Sheet Number	Die Set Part Number
PIDG FASTON Receptacles (P/N Series 6409 Only)	22-18	0.3-0.9	679305-1† (TETRA-CRIMP)	408-4099	—
	16-14	1.3-2			
	12-10	3-6			
PIDG Terminals and Splices, PLASTI-GRIP Terminals	22-16	0.3-1.3			
	16-14	1.3-2			
	12-10	3-6			
PIDG Terminals and Splices, PLASTI-GRIP Terminals	16-14 HD, 12-10	1.3-2 HD, 3-6	679300-1 CE	408-4071	—
PLASTI-STRIP Terminals, Ultra-Fast Plus FASTON Receptacles	22-18	0.3-0.9	679992-1††	408-4098	58079-3
	16-14	1.3-2			58080-3
Ultra-Fast FASTON Tabs and Receptacles	22-18	0.3-0.9			90390-3
	16-14	1.3-2			90391-3
SOLISTRAND Uninsulated Terminals and Splices	22-10	0.3-6	679301-1 CE	408-4072	—
	8	8	1338757-1 CE		
	6	13	1338758-1 CE		
Closed End Splices (Insulated)	ECV 18-8	0.9-8	189896-1 CE	408-4111	—
	CES 18-10	0.9-6	189466-1 CE	408-4175	
STRATO-THERM Terminals	22-10	0.3-6	217206-1 CE	408-4110	—
COPALUM Terminals and Splices	16-14	1.3-2	189447-1 CE	408-9989	—
	12-10	3-6	189444-1 CE		
TERMINYL Terminals	8	8	904395-1 CE	408-4451	—
TERMI-FOIL Barrel Terminals, Strip Tap Terminals and Splices	8	8	217923-1 CE	408-4171	305956-3 (0.016 [0.40] Max. Foil Thk.)
					305956-8 (0.030 [0.75] Max. Foil Thk.)

† Equivalent to TETRA-CRIMP Hand Tool Part No. 59824-1; die set is NOT interchangeable.

††Uses same die sets as Platform Die Hand Tool Part No. 58078-3.

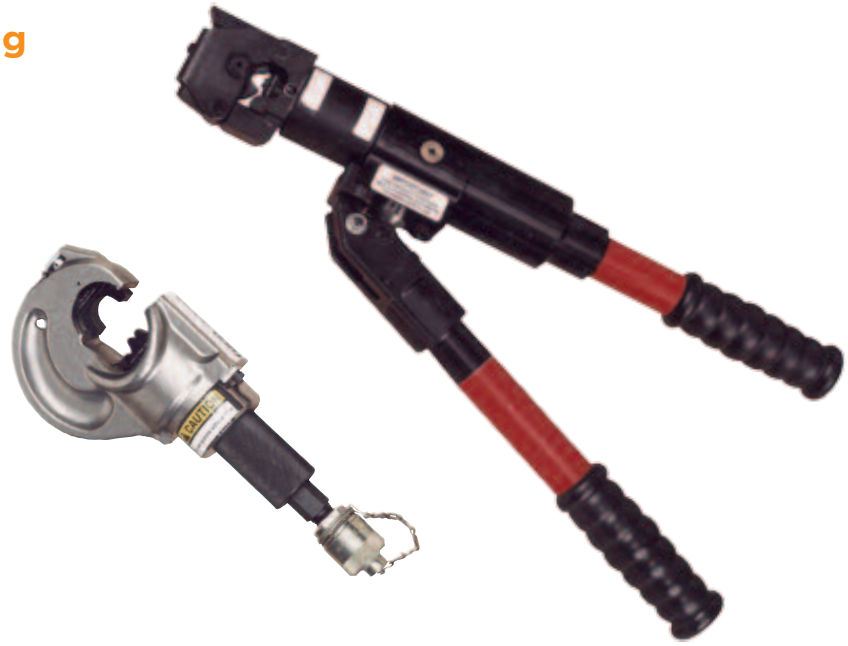
626 System Crimping Heads and Die Sets

Crimping Heads for Small Tool Holders

Crimping Heads and Die Sets for Small Tool Holders

Products Applied	Wire Size Range		Crimping Head Part Number	Instruction Sheet Number
	AWG	mm²		
PIDG Terminals and Splices 	22-16	0.3-1.3	314270-3 CE	408-9586
PLASTI-GRIP Terminals 	16-14	1.3-2	314269-1 CE	408-9586
SOLISTRAND Uninsulated Terminals and Splices 	22-10	0.3-6	189989-1	408-9285

Hydraulic Powered Crimp Tooling



FAST FACTS

- Industry standard 10,000 psi and TE legacy 8,200 psi hydraulic system pumps and crimp heads
- Electric & manual hydraulic pumps for crimping at fixed locations
- 10,000 psi and 8200 psi crimp heads compatible with shank dies available for wire sizes requiring a crimp force up to 33 tons
- 10,000 psi crimp heads compatible with U-dies for wire sizes requiring a crimp force up to 14 tons
- U-die crimp head stroke options of 1 in and 1.5 in
- Hand-held pistol grip tools with rechargeable battery for U dies
- Portable battery operated hydraulic pump for 10,000 psi crimp heads
- Integrated crimp head/die combinations for crimping #8-2 AWG SOLISTRAND terminals

TE Connectivity's line of quality tooling includes industry-standard 10,000 psi [68,950 kPa] and TE legacy 8,200 psi [56,540 kPa] hydraulic tool systems. The basic hydraulic tool system requires a pump, hose (multiple lengths are available with all configurations), crimp head, and crimp die. There is a TE hydraulic pump to meet the demands of any crimping application. For fixed crimping locations, you can choose between a 110 V or 220 V Electric Hydraulic Pump (with optional remote hand control), or manual foot and hand hydraulic pumps. For maximum portability, 10,000 psi hand-held pistol grip crimp tools with rechargeable battery are an effective solution. Or, to power a 10,000 psi crimp head at any location, order a portable battery hydraulic unit.

U-dies for a 10,000 psi hydraulic system are well suited for applications requiring a crimp force of up to 14 tons [125 kN]. For wire sizes requiring up to 33 tons [294 kN], TE offers crimp heads for 10,000 psi and 8,200 psi pumps that are compatible with shank dies.

For a 10,000 psi hydraulic system, there are three light duty and one heavy duty U die crimp heads available. U-die crimp heads are available in two types, with 1 in [25 mm] and 1.5 in [38 mm] strokes, respectively. Two 12 ton [101 kN] crimp heads have a 1 in [25 mm] stroke. Two 14 ton [125 kN] crimp heads are for larger products that require a 1.5 in [38 mm] stroke. Four heavy duty crimp heads for shank dies are available for wire sizes requiring between 14 and 33 tons of crimp force.

For an 8,200 psi hydraulic system, there are eight crimp heads available. These crimp heads accept shank dies. The crimp heads are available for wire sizes requiring up to 33 tons of crimp force.

For both hydraulic systems, an integrated head/die for crimping #8 to #2 SOLISTRAND terminals is available. There are also manual hand held hydraulic tools available for both U and shank die sets.

Note: 10,000 psi hydraulic pumps are not compatible with 8,200 psi crimp heads. 8,200 psi hydraulic pumps are not compatible with 10,000 crimp heads.

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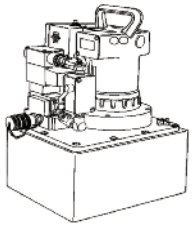
HYDRAULIC TOOLING SELECTION GUIDE for 10,000 psi

Hydraulic Pumps, Controls and Hoses

The Heavy-duty Pump is designed for higher crimp cycle frequency.



Heavy Duty Electric Hydraulic Pump (110V)[1,2] P/N **1804700-1**
OR
Heavy Duty Electric Hydraulic Pump (220V)[1,2] P/N **1804700-2**
CM 409-10081

WITH

Remote Hand Control[3]
(for Heavy-Duty pump)
w/hose attached
P/N **1901775-1** (7 ft hose)
P/N **1901776-1** (15 ft hose)
P/N **1901777-1** (21 ft hose)

OR

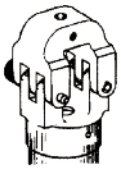
Remote Foot Control[3]
(for Heavy-Duty pump)
P/N **68284-1**

AND

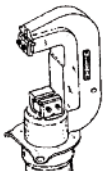
Hydraulic Hoses[4]
(not required for hand control)
P/N **1583662-1** (6 ft)
P/N **1583662-2** (10 ft)
P/N **1583662-3** (20 ft)

Heavy-Duty Crimp Heads (Shank Dies)

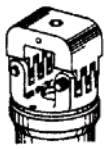
(> 25,000 cycles)



8 - 4/0 AWG
22 ton output force
16 lbs
P/N **1752877-1**
IS 408-8956



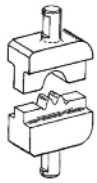
4/0 AWG - 1000 MCM
26 ton output force
29 lbs
P/N **1752786-1**
IS 408-8958



8 - 4/0 AWG
33 ton output force
28 lbs
P/N **1752787-1**
IS 408-8914

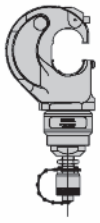
12-10 AWG - 350 MCM
18 ton output force
13 lbs
P/N **1752868-1**
IS 408-8959

Shank Dies

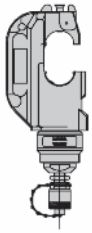


PLASTI-GRIP	8 AWG - 4/0 AWG
AMPOWER	6 AWG - 1500 MCM
AMPOWER Quick Disconnect	1/0 AWG - 600 MCM
Insulation Piercing COPALUM	10 AWG (Cu) - 3/0 AWG)
Sealed COPALUM	10 AWG - 3/0 AWG
Bar COPALUM	10 AWG (Cu) - 400 MCM
SOLISTRAND	8 AWG - 600 MCM
STRATO-THERM	8 AWG - 2/0 AWG
TERMINYL	1/0 AWG thru 4/0 AWG

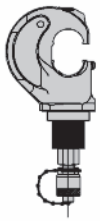
Medium-Duty Crimp Heads & Hand Tools (U-Dies)



12 ton output force
1 stroke;
20,000 cycle
Light Duty
Compression Head[2]
U-Die Compatible
P/N **1490745-1**
IS 408-10111

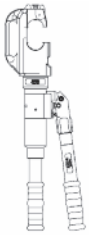


12 ton output force
1.5 stroke;
20,000 cycle
Light Duty
Compression Head
U-Die Compatible
P/N **1490746-1**
IS 408-10112



12 ton output force
1 stroke Titanium
Compression Head
U-Die Compatible
P/N **1490747-1**
IS 408-8715

14 ton output force
1.5 stroke;
Heavy-Duty
Compression Head
U-Die Compatible
P/N **1976230-1**
IS 408-10145



14 ton output force
1.5 stroke
Compression Tool
U-Die Compatible
P/N **1490749-1**
IS 408-8717

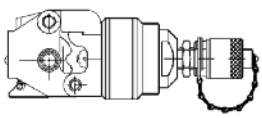
1 stroke Hand
Compression Tool
U-Die Compatible
P/N **1490748-1**
IS 408-8716

U-Dies

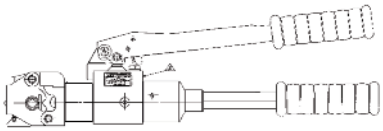
PLASTI-GRIP	8 AWG - 2 AWG
AMPOWER	6 AWG - 4/0 AWG
SOLISTRAND	8 AWG - 4/0 AWG
TERMINYL	8 AWG - 1/0 AWG

- Powered systems require a pump, hand or foot control, hose, crimp head and die except with **1673672-1**.
- The portable battery pump, **180411-1**, includes a hand control.
- Manual systems require hand tools and the battery hand tool requires only dies.

SOLISTRAND (Integrated Crimp Dies)



#8-#2 AWG SOLISTRAND
Compression Head
(No crimp dies required)
P/N **1673672-1**
IS 408-8910



#8-#2 AWG SOLISTRAND
Compression Tool
(No crimp dies required)
P/N **59975-1**
IS 408-6758

[1] Portable Battery Pump **1804111-1**, Foot Pump **1583659-1** OR Hand Pump **1583661-1** can be substituted as manual options for Electro-Hydraulic Pumps.
[2] Includes male screw-to-connect, 3/8 NPT quick couplers
[3] Not required with manual pump options.
[4] Includes female screw-to-connect, 3/8 NPT quick couplers

Dies, Hand Tools, and Hydraulic Heads — Configuration Options for 10,000 psi

The TE Connectivity hydraulic crimping tool line offers a wide array of die, hand tool, and hydraulic head configurations. Use the following tables to determine the configuration that best matches your requirements.

SOLISTRAND Terminals

Hydraulic Crimp Tooling 10,000 psi Operating Pressure						
Wire Size in AWG [mm²]	Hand Tools (U-Die)	Hydraulic Heads (U-Die)	Hydraulic Heads (Shank Die)			
	1490748-1 1490749-1	1490745-1 1490746-1 1490747-1 1976230-1	1673672-1▲	1752868-1	1752788-1	1752786-1
8 [7-8.5]	1490413-1 ⁂ 1490414-1 ⊙	1490413-1 ⁂ 1490414-1 ⊙	▲	69216		
6 [13-15]	1490413-2 ⁂ 1490414-2 ⊙	1490413-2 ⁂ 1490414-2 ⊙	▲	69217		
4 [21]	1490413-3 ⁂ 1490414-2 ⊙	1490413-3 ⁂ 1490414-2 ⊙	▲	69218		
2 [34-35]	1490413-4 ⁂ 1490414-2 ⊙	1490413-4 ⁂ 1490414-2 ⊙	▲	45433		
1/0 [50-60]	1490413-5 ⁂ 1490414-3 ⊙	1490413-5 ⁂ 1490414-3 ⊙		45436		
2/0 [67-70]	1490413-6 ⁂ 1490414-3 ⊙	1490413-6 ⁂ 1490414-3 ⊙		45439		
3/0 [80-95]	1490413-7 ⁂ 1490414-3 ⊙	1490413-7 ⁂ 1490414-3 ⊙		45442		
4/0 [100-125]	1490413-8 ⁂ 1490414-3 ⊙	1490413-8 ⁂ 1490414-3 ⊙		45445		
250-300 MCM [127-152]					48816	69911
300-350 MCM [152-177]					48817	69912
400 MCM [203]					48818	69913
500-600 MCM [253-304]					48819	69914

⁂	Stationary die
⊙	Moving die
▲	Self-Contained die

Dies, Hand Tools, and Hydraulic Heads — Configuration Options for 10,000 psi

Heavy Duty SOLISTRAND Terminals

Wire Size in AWG [mm²]	Hydraulic Crimp Tooling 10,000 psi Operating Pressure	
	Hand Tools (U-Die)	Hydraulic Heads (U-Die)
	1490748-1 1490749-1	1490745-1, 1490746-1 1490747-1, 1976230-1
8 [7-8.5]	1490413-9 ⁂ 1490413-2 ⊙	1490413-9 ⁂ 1490414-2 ⊙
6 [13-15]	1-1490413-0 ⁂ 1490414-2 ⊙	1-1490413-0 ⁂ 1490414-2 ⊙
4 [21]	1-1490413-1 ⁂ 1490414-2 ⊙	1-1490413-1 ⁂ 1490414-2 ⊙
2 [34-35]	1-1490413-2 ⁂ 1490414-3 ⊙	1-1490413-2 ⁂ 1490414-3 ⊙
1/0 [50-60]	1-1490413-3 ⁂ 1490414-3 ⊙	1-1490413-3 ⁂ 1490414-3 ⊙

SOLISTRAND Flag Terminals

Wire Size in AWG [mm²]	Hydraulic Crimp Tooling 10,000 psi Operating Pressure	
	Hand Tools (U-Die)	Hydraulic Heads (U-Die)
	1490749-1	1490746-1 1976230-1
8 [7-8.5]	1752680-8 ⁂ 1752681-2 ⊙	1752680-8 ⁂ 1752681-2 ⊙
6 [13-15]	1752680-7 ⁂ 1752681-3 ⊙	1752680-7 ⁂ 1752681-3 ⊙
4 [21]	1752680-6 ⁂ 1752681-3 ⊙	1752680-6 ⁂ 1752681-3 ⊙
2 [34-35]	1752680-5 ⁂ 1752681-3 ⊙	1752680-5 ⁂ 1752681-3 ⊙
1/0 [50-60]	1752680-4 ⁂ 1752681-1 ⊙	1752680-4 ⁂ 1752681-1 ⊙
2/0 [67-70]	1752680-3 ⁂ 1752681-1 ⊙	1752680-3 ⁂ 1752681-1 ⊙
3/0 [80-95]	1752680-2 ⁂ 1752681-1 ⊙	1752680-2 ⁂ 1752681-1 ⊙
4/0 [100-125]	1752680-1 ⁂ 1752681-1 ⊙	1752680-1 ⁂ 1752681-1 ⊙

⁂	Stationary Die
⊙	Moving Die

Dies, Hand Tools, and Hydraulic Heads — Configuration Options for 10,000 psi

TERMINYL Terminals and Splices

Wire Size in AWG [mm²]	Hydraulic Crimp Tooling 10,000 psi Operating Pressure					
	Hand Tools (U-Die)		Hydraulic Heads (U-Die)		Hydraulic Heads (Shank-Die)	
	1490748-1	1490749-1	1490745-1 1490747-1	1490746-1 1976230-1	1752877-1	1752787-1
8 [7-8.5]	1490597-1	1490597-1	1490597-1	1490597-1		
6 [13-15]	1490598-1	1490598-1	1490598-1	1490598-1		
4 [21]	1490599-1	1490599-1	1490599-1	1490599-1		
4HD					69463	69463
2 [34-35]		1490406-1		1490406-1		
1/0 [50-60]		1490700-1		1490700-1	47824	47824
2/0 [67-70]					47825	47825
3/0 [80-95]					47915	47915
4/0 [100-125]					47918	47918

PLASTI-GRIP Terminals and Splices

Wire Size in AWG [mm²]	Hydraulic Crimp Tooling 10,000 psi Operating Pressure			
	Hand Tool (U-Die)	Hydraulic Head (U-Die)	Hydraulic Heads (Shank Die)	
	1490749-1	1490746-1 1976230-1	1752877-1	1752787-1
8 [7-8.5]	1490534-1	1490534-1	48858-1	48858-1
6 [13-15]	1490535-1	1490535-1	48859-1	48859-1
4 [21]	1490536-1	1490536-1	48860-1	48860-1
2 [34-35]	1490410-1	1490410-1	48861-1	48861-1
1/0 [50-60]			48756-1	48756-1
2/0 [67-70]			48757-1	48757-1
3/0 [80-95]			48758-1	48758-1
4/0 [100-125]			48759-1	48759-1

Dies, Hand Tools, and Hydraulic Heads — Configuration Options for 10,000 psi

STRATO-THERM Terminals and Splices

Wire Size in AWG [mm²]	Hydraulic Crimp Tooling 10,000 psi Operating Pressure
	Hydraulic Head (Shank Die)
	1752868-1
8 [7-8.5]	69211-1
6 [13-15]	69212-1
4 [21]	69213-1
2 [34-35]	69214-1
1/0 [50-60]	69215-1
2/0 [67-70]	69254-1

AMPOWER Quick Disconnect Terminals

Wire Size in AWG [mm²]	Hydraulic Crimp Tooling 10,000 psi Operating Pressure	
	Hydraulic Heads (Shank Die)	
	1752868-1	1752786-1
1/0 [50-60]	68361-1 ○ / 68200-1	
2/0 [67-70]	68253-1 ○ / 68201-1	
3/0 [80-95]	59867-1 ○	
4/0 [100-125]	68304-1 ○	
250 MCM [127]	68203-1	
350 MCM [177]		68204-1
400 MCM [203]		68332-1 ●
500 MCM [253]		68206-1 ●
600 MCM [304]		46757-3

○	With Locator
●	Dual Crimp

Dies, Hand Tools, and Hydraulic Heads — Configuration Options for 10,000 psi

AMPOWER Terminals and Splices

Wire Size in AWG [mm²]	Hydraulic Crimp Tooling 10,000 psi Operating Pressure						
	Hand Tools (U-Die)		Hydraulic Heads (U-Die)		Hydraulic Heads (Shank Die)		
	1490748-1	1490749-1	1490745-1 1490747-1	1490746-1 1976230-1	1752868-1	1752788-1	1752786-1
6 [13-15]	1583092-1	1583092-1	1583092-1	1583092-1	69133-1		
4 [21]	1583093-1	1583093-1	1583093-1	1583093-1	69134-2		
2 [34-35]	1583094-1	1583094-1	1583094-1	1583094-1	46765-3		
1/0 [50-60]	1583095-1	1583095-1	1583095-1	1583095-1	46766-2		
2/0 [67-70]	1583096-1	1583096-1	1583096-1	1583096-1	46767-2		
3/0 [80-95]				1583097-1Ⓣ	46749-2		
4/0 [100-125]				1583098-1Ⓣ	46750-2		
250 MCM [127]					46751-2	46326-2	
300 MCM [152]					46752-2		
350 MCM [177]					46753-2		69653
400 MCM [203]							46754-2
500 MCM [253]							46755-2
600 MCM [304]							46756-2
600 HD							59870-1
700 MCM [355]							46757-2
800 MCM [405]							46758-2
900 MCM [456]							46759-2
1000 MCM [507]							46760-2

Ⓣ	1976230-1 only

Dies, Hand Tools, and Hydraulic Heads — Configuration Options for 10,000 psi

Sealed Crimp COPALUM Terminals and Splices

Wire Size in AWG [mm²]		Hydraulic Crimp Tooling 10,000 psi Operating Pressure			
		Hand Tool (U-Die)	Hydraulic Head (U-Die)	Hydraulic Heads (Shank Die)	
Al	Cu	1490749-1	1490746-1 1976230-1	1752877-1	1752787-1
8 [7-8.5]	10 (5-6]	1490555-1	1490555-1	68006	68006
6 [13-15]	8 [7-8.5]	1490556-1	1490556-1	68007	68007
4 [21]	6 [13-15]	1490557-1	1490557-1	68008	68008
2 [34-35]	4 [21]			68009	68009
1/0 [50-60]	2 [34-35]			68010	68010
2/0 [67-70]	1/0 [50-60]			314964-1	68011-1
3/0 [80-95]	2/0 [67-70]				59877-1
4/0 [100-125]	3/0 [80-95]				314948-1

Bar Crimp COPALUM Terminals and Splices

Wire Size in AWG [mm²]		Hydraulic Crimp Tooling 10,000 psi Operating Pressure			
		Hand Tool (U-Die)	Hydraulic Head (U-Die)	Hydraulic Heads (Shank Die)	
Al	Cu	1490749-1	1490746-1 1976230-1	1752868-1	1752786-1
8 [7-8.5]	10 [5-6]	1490572-1	1490572-1	68043	
6 [13-15]	8 [7-8.5]	1490573-1	1490573-1	68044	
4 [21]	6 [13-15]	1490574-1	1490574-1	68045	
2 [34-35]	4 [21]	1490575-1	1490575-1	68046	
1/0 [50-60]	2 [34-35]			68047	
2/0 [67-70]	1/0 [50-60]			68048	
3/0 [80-95]	2/0 [67-70]			68049	
4/0 [100-125]	3/0 [80-95]				68050
250 MCM [127]	4/0 [100-125]				68034
300 MCM [152]	250 MCM [127]				68035
400 MCM [203]	300 MCM [152]				68036
500 MCM [253]	400 MCM [203]				68037

Dies, Hand Tools, and Hydraulic Heads — Configuration Options for 10,000 psi

Insulation Piercing Crimp COPALUM Terminals and Splices

Wire Size in AWG [mm²]		Hydraulic Crimp Tooling 10,000 psi Operating Pressure			
		Hand Tool (U-Die)	Hydraulic Head (U-Die)	Hydraulic Heads (Shank Die)	
Al	Cu	1490749-1	1490746-1 1976230-1	1752868-1	1752786-1
8 [7-8.5]	10 (5-6]	1490714-1	1490714-1	68084	
6 [13-15]	8 [7-8.5]	1490715-1	1490715-1	68085	
4 [21]	6 [13-15]	1490716-1	1490716-1	68086	
2 [34-35]	4 [21]	1490717-1	1490717-1	68130	
1/0 [50-60]	2 [34-35]	1490718-1	1490718-1	68131	
2/0 [67-70]	1/0 [50-60]			68132	
3/0 [80-95]	2/0 [67-70]			68133	
4/0 [100-125]	3/0 [80-95]			318106-1	68129

Hydraulic Equipment Options for 68,950 kPa / 10,000 psi

Pistol Grip Battery Tool Kit

PN **1213875-1** (12 ton 1 stroke, 110V)
PN **1213875-2** (12 ton 1 stroke, 220V)

PN **1976505-1** (14 ton 1½ stroke, 110V)
PN **1976505-2** (14 ton 1½ stroke, 220V)

- Complete kit with batteries and battery charger
- Accepts U-Dies
- Rotating head 320°
- Excellent power to weight ratio
- Cycle life: 10,000 cycles

Hydraulic Foot Pump, manual

PN **1583659-1**

Hydraulic Hand Pump, manual

PN **1583661-1**

Portability Options for 10,000 psi

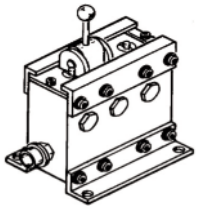
Portable Battery Hydraulic Unit

Portable tools and pump units allow you to perform crimping where its needed - in the factory or in the field.

PN **1804111-1** - Portable Battery Unit (10,000 psi (68,950 kPa)

3-Way Multidirectional Valve

PN **1901782-1** (manual)



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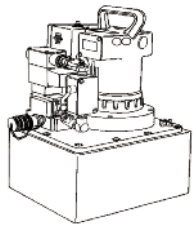
HYDRAULIC TOOLING SELECTION GUIDE for 8,200 psi

Hydraulic Pumps, Controls and Hoses

The Heavy-duty Pump is designed for higher crimp cycle frequency.



Heavy Duty Electric Hydraulic Pump (110V)[1,2], P/N **69120-1**
OR
Heavy Duty Electric Hydraulic Pump (220V)[1,2], P/N **69120-2**
CM 409-1950

WITH

Remote Hand Control[3]
(for Heavy-Duty pump)
w/hose attached
P/N **59907-7** (7 ft hose)
P/N **1-59907-5** (15 ft hose)
P/N **2-59907-1** (21 ft hose)

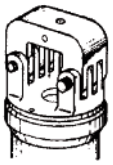
OR

Remote Foot Control[3]
(for Heavy-Duty pump)
P/N **68284-1**

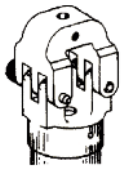
AND

Hydraulic Hoses[4]
(not required for hand control)
P/N **59909-3** (3 ft)
P/N **59909-7** (7 ft)
P/N **1-59909-5** (15 ft)
P/N **2-59909-1** (21 ft)

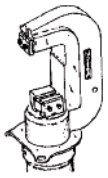
Heavy-Duty Crimp Heads (Shank Dies) (> 25,000 cycles)



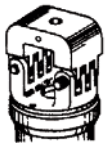
250 MCM - 600 MCM
33 ton output force
28 lbs
P/N **58445-1**
IS 408-9598



8 - 4/0 AWG
22 ton output force
16 lbs
P/N **69066**
IS 408-2453

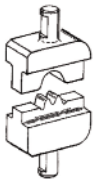


4/0 AWG - 1000 MCM
26 ton output force
29 lbs
P/N **69082**
IS 408-2456



8 - 4/0 AWG
33 ton output force
28 lbs
P/N **58422-1**
IS 408-9535

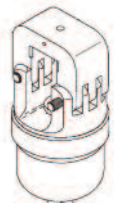
12-10 AWG - 350 MCM
18 ton output force
13 lbs
P/N **69099**
IS 408-2458



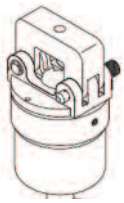
Shank Dies

PLASTI-GRIP	8 AWG - 4/0 AWG
AMPOWER	6 AWG - 1500 MCM
AMPOWER Quick Disconnect	1/0 AWG - 600 MCM
Insulation Piercing COPALUM	10 AWG (Cu) - 3/0 AWG)
Sealed COPALUM	10 AWG - 3/0 AWG
Bar COPALUM	10 AWG (Cu) - 400 MCM
SOLISTRAND	8 AWG - 600 MCM
STRATO-THERM	8 AWG - 2/0 AWG
TERMINYL	1/0 AWG thru 4/0 AWG

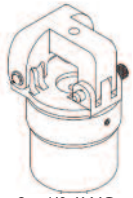
Hydraulic Hand Tools



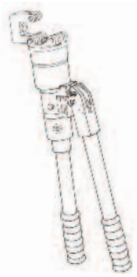
8 - 2 AWG
8 ton output force
5 lbs
P/N **69051**
IS 408-2450



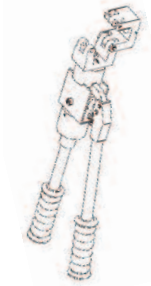
8 - 4/0 AWG
12 ton output force
10 lbs
P/N **69065**
IS 408-2452



8 - 4/0 AWG
12 ton output force
10 lbs
P/N **69067**
IS 408-2454



8-4/0 AWG
12.5 lbs
P/N **59973-1**
IS 408-6803

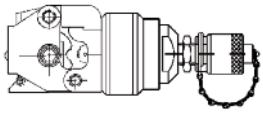


8-2 AWG
8 lbs
P/N **59974-1**
IS 408-6757

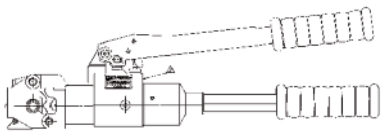
- Powered systems require a pump, hand or foot control, hose, crimp head and die except with **69069**
- Manual systems require hand tools and the battery hand tool requires only dies.

[1] Hand Pump **314979-1** can be substituted as manual options for Electro-Hydraulic Pumps.
[2] Includes female screw-to-connect, 3/8 NPT quick couplers
[3] Not required with manual pump options.
[4] Includes male screw-to-connect, 3/8 NPT quick couplers

SOLISTRAND (Integrated Crimp Dies)



#8-#2 AWG SOLISTRAND
Compression Head
(No crimp dies required)
P/N **69069**
IS 408-1745



#8-#2 AWG SOLISTRAND
Compression Tool
(No crimp dies required)
P/N **59975-1**
IS 408-6758

Dies, Hand Tools, and Hydraulic Heads — Configuration Options for 8,200 psi

The TE Connectivity hydraulic crimping tool line offers a wide array of die, hand tool, and hydraulic head configurations. Use the following tables to determine the configuration that best matches your requirements.

SOLISTRAND Terminals

DYNA-CRIMP System 8,200 psi Operating Pressure						
Wire Size in AWG [mm²]	Hand Tool	Hydraulic Heads	Hydraulic Heads (Shank Dies)			
	59973-1	69065 69067	69069▲	69099	58445-1	69082
8 [7-8.5]	48126⁂ 48355⊙	48126⁂ 48355⊙	▲	69216		
6 [13-15]	48128⁂ 48127⊙	48128⁂ 48127⊙	▲	69217		
4 [21]	48129⁂ 48127⊙	48129⁂ 48127⊙	▲	69218		
2 [34-35]	48130⁂ 48127⊙	48130⁂ 48127⊙	▲	45433		
1/0 [50-60]	48132⁂ 48131⊙	48132⁂ 48131⊙		45436		
2/0 [67-70]	48133⁂ 48131⊙	48133⁂ 48131⊙		45439		
3/0 [80-95]	48134⁂ 48131⊙	48134⁂ 48131⊙		45442		
4/0 [100-125]	300430⁂ 48131⊙	300430⁂ 48131⊙		45445		
250-300 MCM [127-152]					48816	69911
300-350 MCM [152-177]					48817	69912
400 MCM [203]					48818	69913
500-600 MCM [253-304]					48819	69914

⁂	Stationary Die
⊙	Moving Die
▲	Self-Contained Die

Dies, Hand Tools, and Hydraulic Heads — Configuration Options for 8,200 psi

Heavy Duty SOLISTRAND Terminals

Wire Size in AWG [mm²]	DYNA-CRIMP System 8,200 psi Operating Pressure	
	Hand Tools (U-Die)	Hydraulic Heads (U-Die)
	59973-1	69065 69067
8 [7-8.5]	48128-1 ⁂ 48127-1 ⊙	48128-1 ⁂ 48127-1 ⊙
6 [13-15]	48129-1 ⁂ 48127-1 ⊙	48129-1 ⁂ 48127-1 ⊙
4 [21]	48130-1 ⁂ 48127-1 ⊙	48130-1 ⁂ 48127-1 ⊙
2 [34-35]	48132-1 ⁂ 48131-1 ⊙	48132-1 ⁂ 48131-1 ⊙
1/0 [50-60]	48133-1 ⁂ 48131-1 ⊙	48133-1 ⁂ 48131-1 ⊙

SOLISTRAND Flag Terminals

Wire Size in AWG [mm²]	DYNA-CRIMP System 8,200 psi Operating Pressure
	Hydraulic Heads (U-Die)
	69067
8 [7-8.5]	48506 ⁂ 48505 ⊙
6 [13-15]	48508 ⁂ 48507 ⊙
4 [21]	48509 ⁂ 48507 ⊙
2 [34-35]	48510 ⁂ 48507 ⊙
1/0 [50-60]	48652 ⁂ 48511 ⊙
2/0 [67-70]	48805 ⁂ 48511 ⊙
3/0 [80-95]	48806 ⁂ 48511 ⊙
4/0 [100-125]	48807 ⁂ 48511 ⊙

⁂	Stationary Die
⊙	Moving Die

Dies, Hand Tools, and Hydraulic Heads — Configuration Options for 8,200 psi

TERMINYL Terminals and Splices

Wire Size in AWG [mm²]	DYNA-CRIMP System 8,200 psi Operating Pressure			
	Hand Tool	Hydraulic Heads (Shank Die)		
	59974-1	69051	69066	58422-1
8 [7-8.5]	47820	47820		
6 [13-15]	47821	47821		
4 [21]	47822	47822		
4HD			69463	69463
2 [34-35]	47823	47823		
1/0 [50-60]			47824	47824
2/0 [67-70]			47825	47825
3/0 [80-95]			47915	47915
4/0 [100-125]			47918	47918

PLASTI-GRIP Terminals and Splices

Wire Size in AWG [mm²]	DYNA-CRIMP System 8,200 psi Operating Pressure			
	Hand Tool	Hydraulic Heads (Shank Die)		
	59974-1	69051	69066	58422-1
8 [7-8.5]	48752-1	48752-1	48858-1	48858-1
6 [13-15]	48753-1	48753-1	48859-1	48859-1
4 [21]	48754-1	48754-1	48860-1	48860-1
2 [34-35]	48755-1	48755-1	48861-1	48861-1
1/0 [50-60]			48756-1	48756-1
2/0 [67-70]			48757-1	48757-1
3/0 [80-95]			48758-1	48758-1
4/0 [100-125]			48759-1	48759-1

Dies, Hand Tools, and Hydraulic Heads — Configuration Options for 8,200 psi

STRATO-THERM Terminals and Splices

Wire Size in AWG [mm²]	DYNA-CRIMP System 8,200 psi Operating Pressure
	Hydraulic Head (Shank Die)
	69099
8 [7-8.5]	69211-1
6 [13-15]	69212-1
4 [21]	69213-1
2 [34-35]	69214-1
1/0 [50-60]	69215-1
2/0 [67-70]	69254-1

AMPOWER Quick Disconnect Terminals

Wire Size in AWG [mm²]	DYNA-CRIMP System 8,200 psi Operating Pressure	
	Hydraulic Heads (Shank Die)	
	69099	69082
1/0 [50-60]	68361-1 ○ / 68200-1	
2/0 [67-70]	68253-1 ○ / 68201-1	
3/0 [80-95]	59867-1 ○	
4/0 [100-125]	68304-1 ○	
250 MCM [127]	68203-1	
350 MCM [177]		68204-1
400 MCM [203]		68332-1 ●
500 MCM [253]		68206-1 ●
600 MCM [304]		46757-3

○	With Locator
●	Dual Crimp

Dies, Hand Tools, and Hydraulic Heads — Configuration Options for 8,200 psi

AMPOWER Terminals and Splices

Wire Size in AWG [mm²]	DYNA-CRIMP System 8,200 psi Operating Pressure				
	Hand Tool	Hydraulic Heads (Shank Die)			
	59973-1	69065 69067	69099	58445-1	69082
6 [13-15]			69133-1		
4 [21]			69134-2		
2 [34-35]	46321-3	46321-3	46765-3		
1/0 [50-60]	46322-2	46322-2	46766-2		
2/0 [67-70]	46323-2	46323-2	46767-2		
3/0 [80-95]	46324-2	46324-2	46749-2		
4/0 [100-125]	46325-2	46325-2	46750-2		
250 MCM [127]			46751-2	46326-2	
300 MCM [152]			46752-2		
350 MCM [177]			46753-2		69653
400 MCM [203]					46754-2
500 MCM [253]					46755-2
600 MCM [304]					46756-2
600 HD					59870-1
700 MCM [355]					46757-2
800 MCM [405]					46758-2
900 MCM [456]					46759-2
1000 MCM [507]					46760-2

Dies, Hand Tools, and Hydraulic Heads — Configuration Options for 8,200 psi

Sealed Crimp COPALUM Terminals and Splices

Wire Size in AWG [mm²]		DYNA-CRIMP System 8,200 psi Operating Pressure	
		Hydraulic Heads (Shank Die)	
Al	Cu	69066	58422-1
8 [7-8.5]	10 (5-6]	68006	68006
6 [13-15]	8 [7-8.5]	68007	68007
4 [21]	6 [13-15]	68008	68008
2 [34-35]	4 [21]	68009	68009
1/0 [50-60]	2 [34-35]	68010	68010
2/0 [67-70]	1/0 [50-60]	314964-1	68011-1
3/0 [80-95]	2/0 [67-70]		59877-1
4/0 [100-125]	3/0 [80-95]		314948-1

Bar Crimp COPALUM Terminals and Splices

Wire Size in AWG [mm²]		DYNA-CRIMP System 8,200 psi Operating Pressure	
		Hydraulic Heads (Shank Die)	
Al	Cu	69099	69082
8 [7-8.5]	10 [5-6]	68043	
6 [13-15]	8 [7-8.5]	68044	
4 [21]	6 [13-15]	68045	
2 [34-35]	4 [21]	68046	
1/0 [50-60]	2 [34-35]	68047	
2/0 [67-70]	1/0 [50-60]	68048	
3/0 [80-95]	2/0 [67-70]	68049	
4/0 [100-125]	3/0 [80-95]		68050
250 MCM [127]	4/0 [100-125]		68034
300 MCM [152]	250 MCM [127]		68035
400 MCM [203]	300 MCM [152]		68036
500 MCM [253]	400 MCM [203]		68037

Dies, Hand Tools, and Hydraulic Heads — Configuration Options for 8,200 psi

Insulation Piercing Crimp COPALUM Terminals and Splices

Wire Size in AWG [mm²]		DYNA-CRIMP System 8,200 psi Operating Pressure	
		Hydraulic Heads (Shank Die)	
Al	Cu	69099	69082
8 [7-8.5]	10 (5-6]	68084	
6 [13-15]	8 [7-8.5]	68085	
4 [21]	6 [13-15]	68086	
2 [34-35]	4 [21]	68130	
1/0 [50-60]	2 [34-35]	68131	
2/0 [67-70]	1/0 [50-60]	68132	
3/0 [80-95]	2/0 [67-70]	68133	
4/0 [100-125]	3/0 [80-95]	318106-1	68129

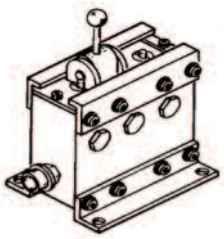
Hydraulic Equipment Options for 56,540 kPa / 8,200 psi

Hydraulic Hand Pump, manual

PN **314979-1**

3-Way Multidirectional Valve

PN **59920** (manual)



Pistol Grip Hand Tool System for IDCs

FAST FACTS

- Terminates 28-16 AWG [0.08-1.2 mm^2] wires
- No wire stripping needed for lower applied cost
- Pistol grip (manual or air) or bench mount (air or electric) power units
- Lightweight; easy to operate
- For prototypes or low- to medium-volume production
- Small size; useful in confined work areas
- Interchangeable terminating heads:
  - Pin and socket connectors (AMPLIMITE HDE and MATE-N-LOK)
  - Printed circuit board connectors (AMPMODU, MT-6/MT-7, 2 mm CT, and MTA)
  - Category 5 connectors (CHAMP)
  - Card edge connectors
- Most terminating heads can be rotated to any angle
- Adjustment available for proper wire insertion depth
- Most terminating heads automatically index connectors to the next contact position, or connectors can be advanced by hand to any position
- Anti-backup pawl prevents connectors from moving in the wrong direction
- Produced under a quality management system certified to ISO 9001

The pistol grip hand tool system uses interchangeable terminating heads to apply a broad range of TE IDC products. The basic tool requires a pistol grip handle assembly and a terminating head; power-assist and bench mount versions are available to suit your specific needs.

This system is well suited for low- to medium-volume production. Simply order the standard or extended-wear terminating heads based on your anticipated needs. Since most terminating heads can be rotated to any angle, the operator can also tackle more difficult terminations in confined work areas.

The terminating force is provided by a manual-, pneumatic- or electric-powered assembly. The wire inserter, inside each head, pushes the end of an unstripped wire into the insulation displacement contact. Then, most tools automatically index the connector to the next contact. The tools offer precise termination depth control.

For maximum productivity, a bench mount power unit (pneumatic or electric) is recommended. Optional feed tracks can increase application rates further. Actual production rate depends on the IDC product, discrete wire or ribbon cable, and operator dexterity.

Technical Documents

Customer Manual

409-5746—
Electric Power Unit

Instruction Sheets

408-6790—
Pistol Grip Manual Handle Assembly

408-6789—
Pistol Grip Pneumatic Handle Assembly

408-9393— Bench Mount Pneumatic Power Unit

Pistol Grip Power Tooling Options

Pistol Grip Manual Handle Assembly, PN 58074-1

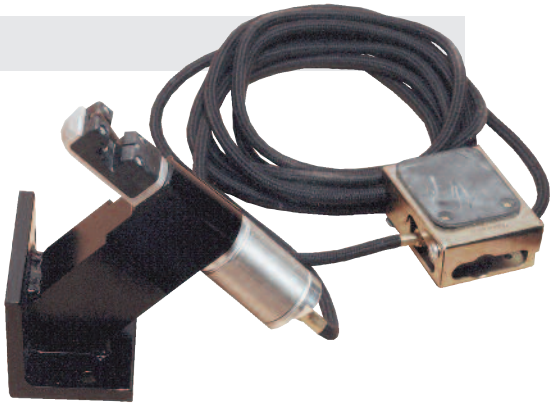
A basic hand tool requires a handle assembly and a terminating head, ordered separately.

- Lightweight, easy to use
- Ratchet control will not release cam trigger until it is fully bottomed
- Ratchet release
- U-shaped key slides into handle to hold interchangeable heads securely
- Material (handle) — molded nylon

Pistol Grip Pneumatic Handle Assembly, PN 58075-1

- Lightweight
- Power assist for less operator effort
- Push-button trigger actuated
- Quiet — 78 dB max.
- U-shaped key slides into handle to secure interchangeable heads
- Material (handle) — molded nylon

Bench Mount Pneumatic Power Unit, PN 58338-1



Assembly consists of a bench mount with attached pneumatic power unit, a foot switch, and two air lines which connect the switch to the power unit and the air source to the switch. Mounting hardware is not included.

- Mounting bracket allows interchangeable heads to be pointed up or down
- Power assist for greater productivity
- Actuated by foot switch
- Key retains heads, or heads and feed tracks

Notes: 1. Interchangeable terminating heads must be ordered separately.
2. Loose-piece or tape (reel) feed track accessories are available.

Wire & Cable Cutting Tools

Diagonal Cutter, PN 1116571-1

- Cut wires flush
- Spring loaded handles

500 MCM Cable Cutter, PN 605742-1

- 21 overall length
- Fiberglass handles
- Not for steel or ACSR

Group Cutter, PN 1490498-1

- Ideal for cutting cable up to 2/0
- Also cuts coax cable up to RG-9

350 MCM Cable Cutter, PN 605744-1

- Steel handles
- Not for steel or ACSR cable

Ratcheted Cable Cutter - Compact, PN 1490489-1

- Ratchet mechanism keeps handle force low
- Handles lock together for safety/storage
- Compact design for easy fit into tight places
- Quick release lever for easy take-up

See page 57 for information on the JacKnack Cable Prep Tool.

Wire & Cable Stripping Tools — Standard

Economy Wire Stripper and Cutter, PN 1490491-1

- Strips 10-24 AWG
- Adjustable to any of 8 wire sizes

Automatic Wire Stripper, PN 734185-1

- Strips PVC, THHN, and THHW
- Adjustable wire stop
- Built-in cutter

Coax Stripper, PN 1490490-1

- 3 blades designed to strip RTG-6, 58, 59 cable in one step
- Replaceable blade cartridges

Rotary Cable Stripper, PN 606700-1

- Round cable tool can be used on single or multiple conductor cable up to 1.75 in diameter

CONTRACTOR HAND TOOLING

All Purpose Tools

Cable Tie Gun, PN 734587-1

- For cable ties 2.2 - 4.8 mm
- Thickness up to 1.6 mm
- Automatic cut-off
- Adjustable tension setting

BNC Connector Removal Tool, PN 1725122-1
F Connector Removal Tool, PN 1725123-1

- For security system use
- Remove BNC/F connectors in high density or hard-to-reach locations

4-Way Indent Tool, PN 1490492-1

- Full ratchet cycle
- Contact locator
- Used for closed-barrel D-Sub contacts

Telecom Products Termination Tools

Butterfly Tool, PN 229378-1 (50 pos),
PN 231880-1 (64 pos)

- Mass terminates and shears all wires in a single operation
- Portable, comes with carrying case
- Base can be bench mounted
- Used for CHAMP connectors

The JacKnack Telecommunications Cable Prep Tool

FAST FACTS

- Cable Jacket Stripper
- Cable Filler Sheer
- JacKnack Clamp
- Wire Placement Tool
- Lightweight Design
- Ergonomic Design
- Portable
- Convenient

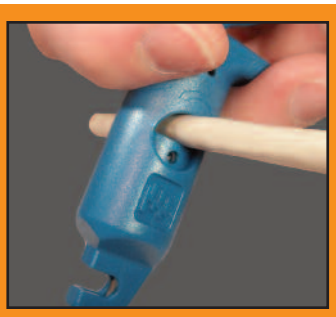
PN 2119000-1

Keep the JacKnack tool hanging around while performing other tasks.

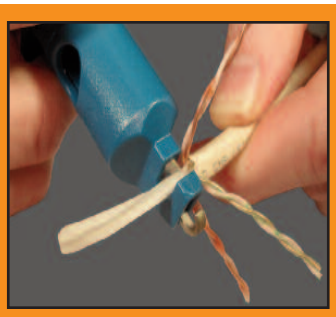
Untwisting wires sounds easy, doesn't it? It might sound easy to anyone who doesn't do a lot of it. The truth is that more time is dedicated to preparing a cable than to actually terminating it, and the longest part of the preparation process is untwisting wires. It is also one of the largest determinates to the ultimate speed, loss, and cross talk. So, proper cable preparation is an absolute necessity in order to obtain the desired performance.

Network installers and anyone who works in the telecommunications industry can quickly understand the amount of time required to prepare Category 5, 5e, or 6 cables for termination. First, the cable jacket must be stripped, then the rip cord and cable filler are trimmed and then comes the untwisting and lacing of the wires. Finally, the termination is made. In total, the process can take 3-4 minutes. Some people will claim it can be done in 1-2 minutes, but this is rarely a pace that can be maintained for an entire day's work. That is, until now.

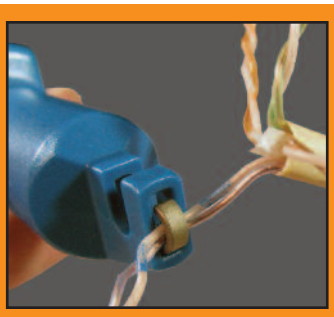
The JacKnack Tool provides a simple method to perform all the basic cable preparation functions including the time consuming untwisting of wires.



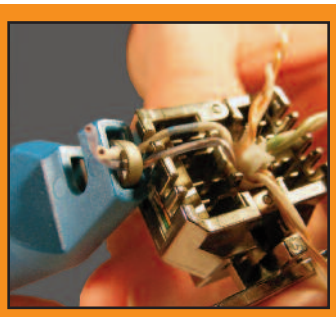
Strips cable jacket on cables with diameters ranging from 4.83-10.16mm [.190-.400 in].



Easily cuts the cable filler with the cable filler shear.



Untwists wire pairs with the innovative wire hook.



Easily places wire in SL mod jack lacing fixture.

INSERTION/EXTRACTION TOOLING

Insertion/Extraction Tools

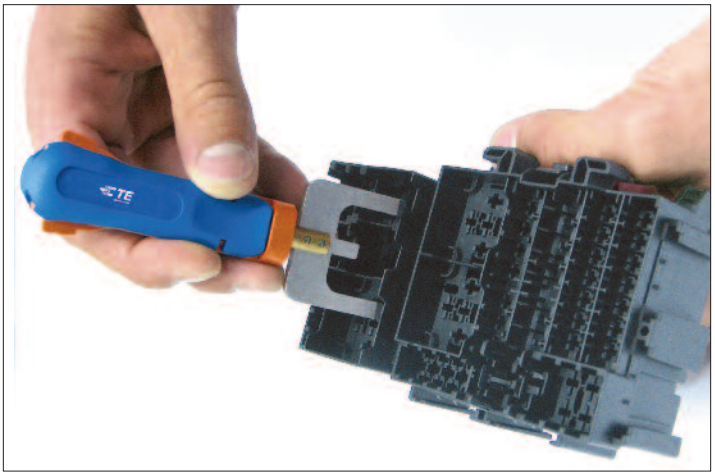
FAST FACTS

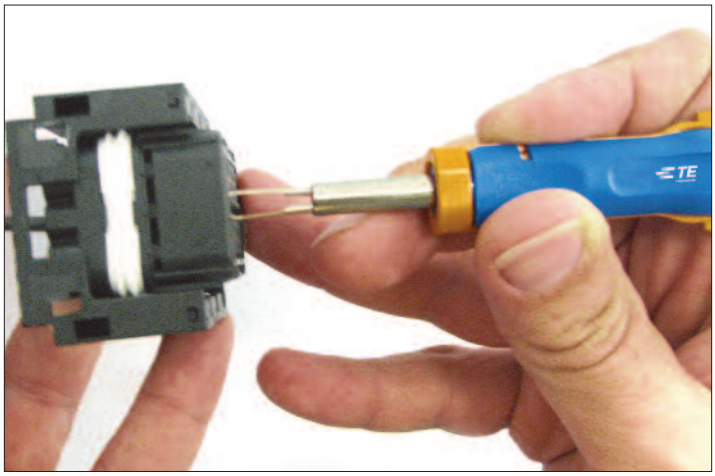
- Insertion / extraction tools are compatible with the vast majority of connectors used by most manufacturers wiring harnesses.
- Tool kits can be customized for further special requirements.
- These tools are used not only for TE Connectivity products but also those from other connector manufacturers.

Insertion/extraction tools are used for inserting discrete terminals into connector housings or removing them, without causing damage to either the terminals or housings.

Our new standard design features a comfortable handle and snap-in/out protective cover that allows users to stow the business end of the tool to help protect from inadvertent personal injury when the tools are not in use.

Many different design types currently exist for our vast terminal product range, which we continue to convert. If you would like the tool you use converted to the new design, want a custom kit or tools in this design for other manufacturers' products – contact us, and where volumes permit, we will be pleased to provide you with a quotation for your requirement.





Insertion/Extraction Tools

Universal Handle, PN 465629-[ ]

*For universal handle (with adjustable strap) with short tip holder (1.87 [47.5]), specify -1 suffix; with long tip holder (5.87 [149]), specify -2 suffix.

Requires installation tip: Part no. **465468-1** (> .185 [4.7] insul. dia. and/or crimp width) or part no. **465488-1** (> .185 [4.7] insul. dia. and/or crimp width).

Insertion/Extraction Tool, PN 91285-1

The tool is designed to insert and extract HD-22 and HD-20 contacts used in AMPLIMITE High Density (HD) Connectors.

Extraction Tool, PN 305183

Extraction Tools **1-305183-1** and **1-305183-2** are designed to remove contacts from MATE-N-LOK connectors. Tool **1-305183-1** is used for the pin contacts, and tool **1-305183-2** for the socket contacts.

Extraction Tool, PN 318851-1

Designed to remove AMP Universal MATE-N-LOK and Universal MATE-N-LOK II pin and socket contacts from the connectors.

Extraction Tool, PN 455822-2

For use with rectangular connector contacts.

Extraction Tool, PN 465644-1

For use in MATE-N-LOK rectangular connector contacts.

Extraction/Lance Reset Tool, PN 843996-3

These tools are designed to remove MTE, Mod IV, Tandem Spring, and Mini Tandem Spring contacts from housings and reset the overly depressed contact locking lances of the removed contact.

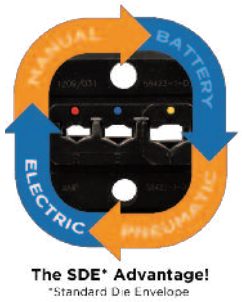
SDE Electric Benchtop Terminator

FAST FACTS

This convenient, powerful terminator is a dependable asset for small-scale bench production or wire harness assembly.

- Compatible with over 100 SDE dies
- Terminates wires to 10 AWG [6 mm²]
- Small footprint—390 x 260 x 200 mm [15.5 x 10 x 8 in]; lightweight—13 kg [29 lb]
- Foot actuated, with jog cycle
- Crimp jaws normally closed
- Power requirement: 110/120V or 220/240V; 0.7 KVA

Machine PN 1490076-2



The SDE* Advantage!
*Standard Die Envelope

The SDE electric terminator offers excellent price to performance ratio in a compact benchtop unit with the features normally found on more expensive models. It is ideally suited for low to medium volume bench production and harness assembly. As part of the SDE family, it is compatible with a broad range of crimp dies that are fully interchangeable among tools and tool platforms.

Versatile. As an SDE tool, the system accommodates dozens of interchangeable dies in an ever expanding range, including those for open-barrel contacts and terminals. Many die sets have multiple cavities for crimping more than one wire or terminal size. The tool can terminate wires up to and including 10 AWG [6mm²].

Convenient. A completely logical, simple arrangement of control switches and connections provides easy setup and requires only minimal operator training. Operator safety is enhanced by a safety reverse switch and safety lock foot pedal.

In addition, crimp jaws are normally closed. The sprung shut jaws grip the terminal prior to wire insertion, to ensure precise positioning. A cycle counter tracks operation, for maintenance planning.

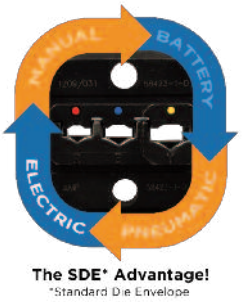
Quality. Every SDE terminator crimps with precision, incorporating the traditional quality of all TE products.

AT-SC MK II Pneumatic Safety Crimping Machine

FAST FACTS

- Pneumatic crimping machine
- Straight action machine
- Parallel closing mechanism
- Safety system / working without protection cover
- Tool less adapter change
- LED work light
- Variable closing speed
- Terminal pre-centering system
- Short cycle time
- Electronics piece counter
- Ergonomic design

Machine PN 1-528050-0



The SDE* Advantage!
*Standard Die Envelope

The AT-SC MK II Pneumatic Safety Crimping Machine provides maximum ease of use with optimum safety when using this machine for crimping loose contacts.

This pneumatic crimping machine features a newly developed safety mechanism. Due to a special safety valve, crimping is not permitted if the size of the opening between the dies exceeds 5.9 mm. Due to this special feature it is not necessary to fit safety guards to protect the operator and is in accordance with legal requirements.

Applications

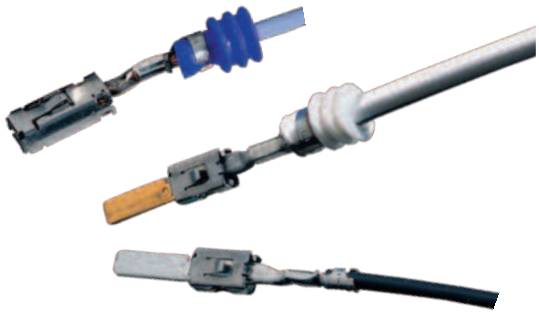
Crimping of insulated and non-insulated LP connectors with stranded wire. Max. crimpforce at 35 kN / 7868 lbs.

Applicable Die Adapters (die holder)

Standard adapter - included with AT-SC MK II Machine

- **2-528051-8*** / AT-SC MK II, SDE die holder

* Accepts SDE die sets (for a list of available SDE die sets, refer to the chart on the following two pages.)



Die sets and special equipment available upon request.

SDE BENCHTOP TOOLING (for loose piece terminals)

Tooling-to-Terminal Cross Reference

ELECTRIC TERMINATOR POWERED TOOLS

AT-SC MK II Pneumatic Safety Crimping Machine

SDE Electric Benchtop Terminator

UNINSULATED TERMINALS

		Wire Range AWG	Wire Range mm²	Max Insul. Dia.	Bench Tools Powered
SOLISTRAND Terminals and Splices		22-16	0.3-1.25	— —	X
		16-14	1.25-2	— —	X
		12-10	3-5	— —	X
		8	7	— —	X

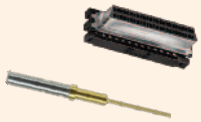
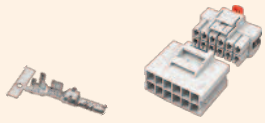
INSULATED TERMINALS

		Wire Range AWG	Wire Range mm²	Max Insul.	Max Dia.	Bench Tools Powered
PIDG FASTON Receptacles (6409□□ Series)		22-18	0.3-0.8	.100	2.54	X
		16-14	1.25-2	.170	4.32	X
		12-10	3-5	.250	6.35	X
PIDG Terminals and Splices, PLASTI-GRIP Terminals		26-22	0.12-0.3	.082	2.08	X
		22-16	0.3-1.25	.125	3.18	X
		16-14	1.25-2	.150	3.81	X
		12-10	3-5	.230	5.84	X
PLASTI-GRIP Butt Splices		26-22	0.12-0.3	.080	2.03	X
		22-16	0.3-1.25	.170	4.32	X
		16-14	1.25-2	.215	5.46	X
PLASTI-GRIP Terminals		8	7	.377	9.58	X

FULLY-INSULATED TERMINALS

		Wire Range AWG	Wire Range mm²	Max Insul.	Max Dia.	Bench Tools Powered
Ultra-Fast Plus FASTON Receptacles		22-18	0.3-0.8	.135	3.43	X
		16-14	1.25-2	.160	4.06	X
Ultra-Fast FASTON Tabs and Receptacles		22-18	0.3-0.8	.230	5.84	X
		16-14	1.25-2	.260	6.60	X

Tooling-to-Terminal Cross Reference

OPEN BARREL TERMINALS		Style	Wire Range AWG	Wire Range mm²	Max Insul.	Max Dia.	Bench Tools Powered
AMPLIMITE D-Sub. Connectors		Size 20 DF Contacts	28-24	0.08-0.2	.040	1.02	X
			24-20	0.2-0.5	.060	1.52	X
		Size 22 DF Contacts	28-22	0.08-0.3	.040	1.02	X
AMPMODU Connectors		Mod. IV Contacts	26-22	0.12-0.3	.061	1.55	X
			24-20	0.2-0.5	.069	1.75	X
		Locking Clip Contacts	26-22	0.12-0.3	.062	1.58	X
		MTE & Tandem Spring Contacts	32-28	0.03-0.08	.054	1.37	X
			26-22	0.12-0.3	.065	1.65	X
		Short Point Contacts	32-22	0.03-0.3	.060	1.52	X
			24-20	0.2-0.5	.060	1.52	X
CPC Connectors, M Series Connectors		Type II Contacts	28-24	0.08-0.2	.055	1.40	X
			24-20	0.2-0.6	.062	1.57	X
			18-16	0.8-1.4	—	—	X
			14	2	—	—	X
		Type III+ Contacts	30-26	0.05-0.15	.060	1.52	X
			26-24	0.12-0.2	.055	1.40	X
			24-20	0.2-0.6	.080	2.03	X
			24-20	0.2-0.6	.100	2.54	X
			24-20	0.2-0.6	.120	3.05	X
			18-16	0.8-1.25	.100	2.54	X
			18-14	0.8-2	.100	2.54	X
		Type XII Contacts	16	1.25	.160	4.06	X
			14-12	2-3	.160	4.06	X
			10-8	5-7	.220	5.59	X
FASTON Straight Receptacles (Premier Line Only)		250 Series	22-18	0.3-0.8	.130	3.30	X
			18-14	0.8-2	.170	4.32	X
			14-10	2-5	.200	5.08	X
MATE-N-LOK Connectors		Commercial Contacts	30-22	0.05-0.3	.075	1.91	X
			24-18	0.2-0.8	.100	2.54	X
			20-14	0.5-2	.130	3.30	X
		Universal & Universal II Contacts	24-18	0.2-0.8	.100	2.54	X
			20-14	0.5-2	.130	3.30	X
			20-18	0.5-0.8	.200	5.08	X
			16-14	1.25-2	.200	5.08	X
		Mini-Universal	20-16	0.5-1.25	.126	3.20	X
		Mini-Universal II Contacts	26-22	0.12-0.3	.069	1.75	X
			22-18	0.3-0.8	.094	2.39	X
			20-16	0.5-1.25	.126	3.20	X
Power Triple Lock Connectors		Power Triple Lock	22-20	0.3-0.6	.106	2.70	X
			20-16	0.6-1.25	.130	3.30	X
			18-14	0.9-2.1	.146	3.70	X
			12	3.3	.167	4.25	X

AT-60 Pneumatic Crimping Machine

FAST FACTS

- Controlled back stroke
- Straight action machine
- Pneumatic safety control mechanism
- Tool less adapter change
- Short cycle time with reduced energy consumption
- Sequence control system
- Electronic work piece counter
- Ergonomic design
- Handy quick-exchange system of the adapter
- LED illumination of the working area

Machine PN 528050-9

The AT-60 machine is a powerful pneumatic machine with a handy quick change system. Due to the control of the return stroke, cycle times are shorter with the benefit of reduced energy consumption.

With increased productivity and an operation simplified with the use of a foot pedal, the operators hands remain free to terminate the contacts and wire.

Adapter changeover is easy and quick as no tools are required. A strategically placed LED worklight illuminates the work area, with this feature failures can be avoided. The AT-60 offers many application possibilities.

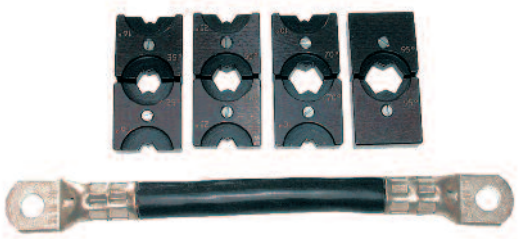
Applications

Crimping of insulated and non-insulated LP connectors with stranded wire. Maximum crimpforce of 75kN / 16,860 lbs

Applicable Die Adapters (die holder)

Standard adapter - included with AT-SC MK II Machine

- **2-528051-3*** / AT-60, U Die Holder 22mm (standard)
- This adapter with the appropriate U die set (ordered separately) can be used to crimp the following:
  - 8-2 SOLISTRAND terminals and splices (no flag terminals)
  - 6-2 AMPOWER terminals



Die sets and special equipment available upon request.

AT-66 Hydraulic Crimping Machine

FAST FACTS

- Programmable
- Adaptive crimp force
- Fast changeover times
- Compact design
- Lockable user interface
- Short cycle time

The AT-66 hydraulic crimping machine features an extremely compact design for low space requirement. The hydraulic power is provided by a separate hydraulic unit with main switch, power distribution and pump.

The AT-66 machine offers possibilities for various applications with a crimp force of 150 kN and an open operating space of 100.0 mm in height. This machine can be easily used for wire sizes from 0.14 mm^2 up to 300.0 mm^2.

Machine PN 528050-5 EUROPE version
Machine PN 528050-6 USA version

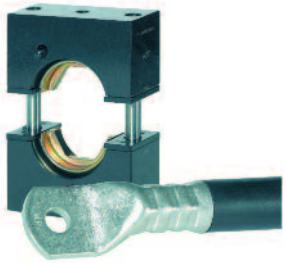
Technical Data

Applications

Crimping of insulated and non-insulated LP connectors with stranded wire. Maximum crimpforce of 150 kN / 33721 lbs.

Standard adapter - included with AT-66 Machine

- **528051-4** / AT-66, U-Die Adapter
- This adapter with the appropriate U die set (ordered separately) can be used to crimp the following:
  - 8-4/0 SOLISTRAND terminals and splices (no flag terminals)
  - 8-2 TERMINYL terminals
  - 6-4/0 AMPOWER terminals



Die sets and special equipment available upon request.

www.tooling.te.com

OCEAN Applicators

FAST FACTS

- One applicator platform — modular family design
- Two styles with 3 feed options: mechanical, pneumatic and servo
- Same wire crimper, insulation crimper and anvil used on both applicator styles
- Open architecture allows for design flexibility
- 60% tighter fit between the ram and housing for improved alignment and crimp consistency
- Finer incremental crimp height adjustment
- Improved and simpler adjustments on all feed units

The lead and harness industry of today is more price and quality competitive than ever before. TE Connectivity OCEAN applicators are designed to meet these demands. We strive to keep our applicators competitively priced while providing the consistent, high-quality terminations you've come to expect from TE Connectivity.

Why a new TE Connectivity Applicator Design?

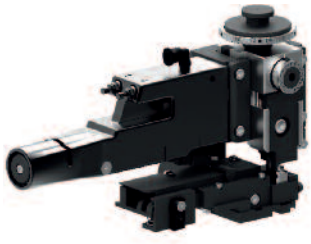
We standardized our applicator offerings to provide global design consistency and to offer the ultimate flexibility with choices in feeding options.

The OCEAN applicator is designed so that all feed options are interchangeable with the common base applicator. Our pneumatic and mechanical feed options have been completely redesigned. They offer finer, more precise terminal positioning along with quicker adjustability while being much more user friendly. The interchangeability also makes it possible to upgrade to smart applicator technology.

Request catalog 9-1773458-6 for more information.

OCEAN Applicator Mechanical Feed

OCEAN Applicator Servo Feed



OCEAN Applicator Pneumatic Feed

OCEAN Applicator Pacific Style

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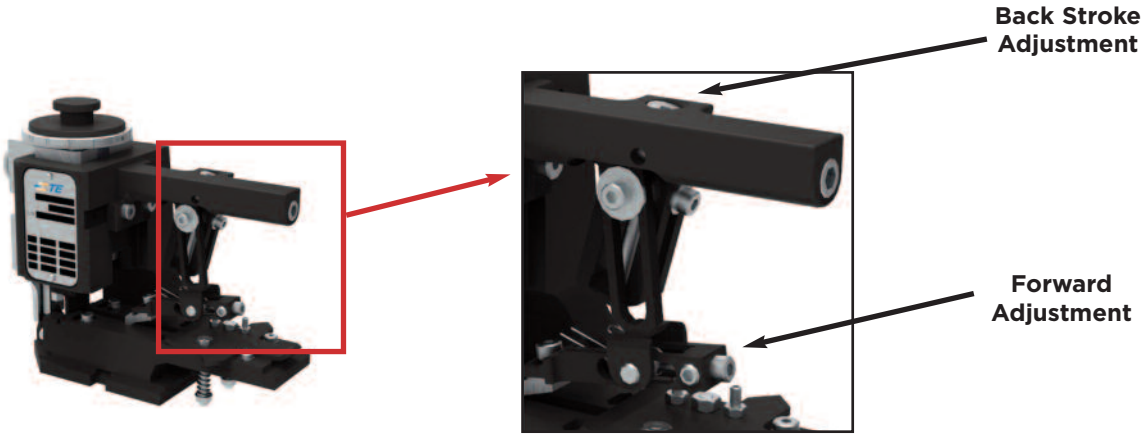
OCEAN Applicators

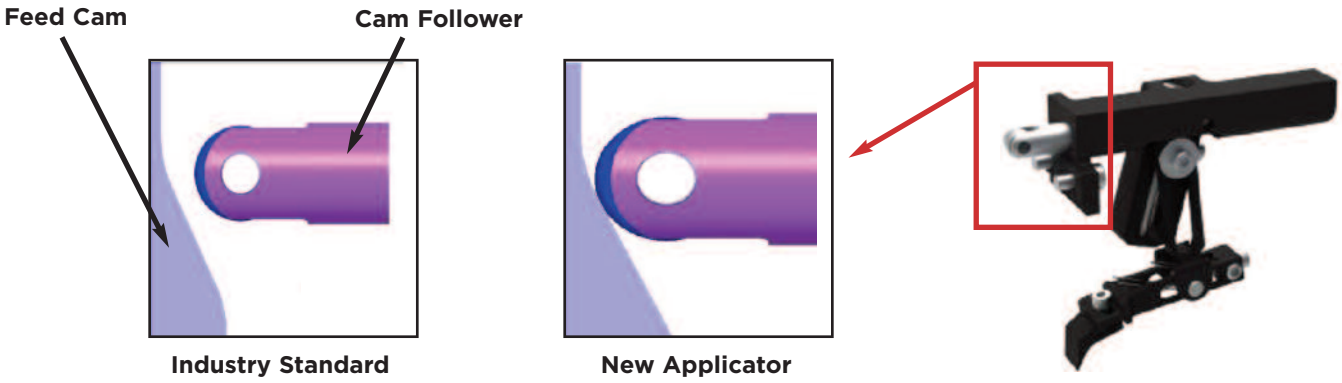
Micro-Adjustment Feature

The mechanical feed design on our Ocean applicator series has been specifically engineered to address the need for fine adjustments to handle todays challenging crimping requirements. Our mechanical feed system allows the operator to make fine adjustments, particularly for small applications that require the terminal to be located very precisely in the crimp area. This easily accessible micro adjustment feature for the forward and back stroke allows for precise and repeatable terminal location in the crimp area.

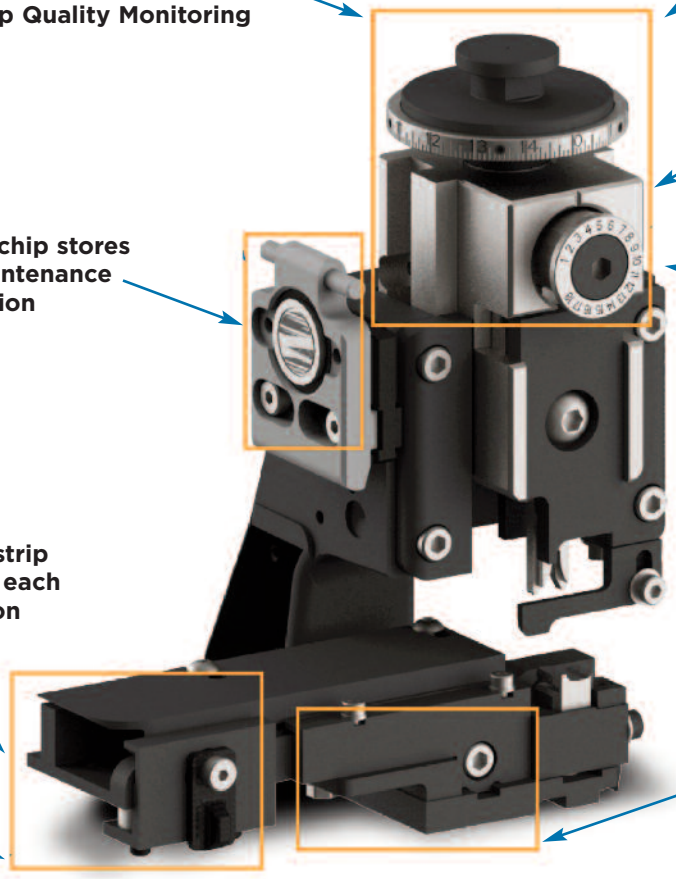


Smooth Cam Design

On many competitive applicator designs the roller (cam follower) that tracks the cam for the feed cycle to start and finish actually leaves the cam surface at the end of the cycle. It does not fully track the gradual slope of the cam. The result is an instantaneous terminal acceleration in the next feed cycle, produced by the sudden contact of the cam follower with the cam. This causes the terminal to be thrown forward instantly and not brought up to speed gradually as is preferred. This violent acceleration can lead to feed inaccuracy. Our mechanical feed design keeps the roller and cam in constant contact for a smooth transition through each feed cycle to offer superior feeding performance.



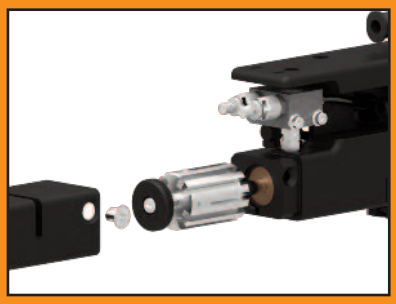
Characteristics of an OCEAN Applicator



Mechanical Feed

New cam/follower design produces the most repeatable feed in the industry. Independant forward / backward adjustment.

Pneumatic Feed



Independent forward / backward adjustments, independent flow controls, repeatable feed.

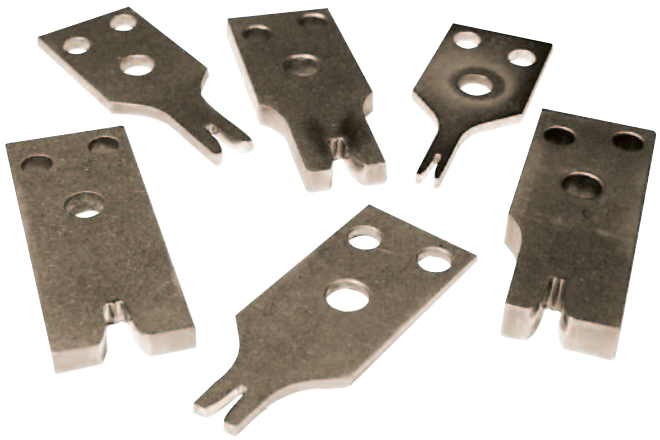
Servo Feed

Machine reads iButton data to adjust stroke and placement positions automatically. Motorized feed allows push a button for precision adjust.

Replacement Crimp Tooling from TE Connectivity

FAST FACTS

- Precision ground, chrome plated working surfaces to reduce jams and improve quality
- Made from specialty alloy steel for maximum strength
- Engineered for compliance with tight specifications
- Bell-mouth shaping to remove a high stress point and allow better metal flow into the crimp area
- Meets OEM Specifications
- Designed to meet Tyco 108 series specifications, UL listed, listed by CSA International as certified
- Engineered and manufactured using processes independently ertified to internationally recognized quality standards ISO-9001:2000 and Telecommunications Industry Standard TL 9000



The Confident Choice for Manufacturing Success

Reliable, high yield crimping performance can be the difference between profit and loss for wire harness builders, whether independent or part of a larger manufacturing operation. Only by using genuine TE replacement crimp tooling can you be assured of optimum performance. This tooling is designed for longer life, more reliable, trouble-free operation, and best conformance to crimp specifications. It is the real system solution for crimp quality and productivity.

Reliability

TE replacement tooling is machined to tight tolerances, with working surfaces ground and polished for a smooth terminal interface. Chrome plating on critical surfaces results in a cleaner crimp and virtually eliminates terminal sticking or jamming in the tool.

Quality

These parts are highly engineered, with dimensional tolerances that guarantee higher crimp yields. Bell-mouth design relieves a high stress point and allows better metal flow into the crimp area, reducing terminal weakness and potential for damage. While a well-maintained applicator is an important part of the system for total success, only TE replacement tooling gives the best performance.

Compliance

Crimping with genuine TE tooling as part of a total system approach ensures compliance with many OEM specifications. These replacement tooling parts are designed to meet TE 108 series specifications, and are UL listed and listed by CSA International as certified.

AMP-O-LECTRIC Model G II Terminator

FAST FACTS

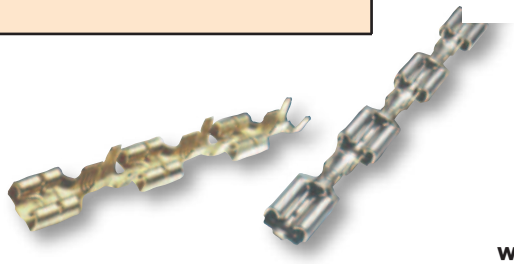
- Quiet operation
- Improved lighting
- Toolless changeover of applicators
- Precision manual adjust for crimp height
- Total and batch counter
- Accepts all existing TE applicators, with minor modifications
- Reduced maintenance requirements
- Split-cycle operation
- Standardized $1^5/_8$ [41.3] stroke
- Operates on either 120 or 220 VAC, 50 or 60 Hz

The Model G II is the latest and most advanced design in the long-standing series of AMP-O-LECTRIC machines for terminating wire using reeled terminals and contacts. It features a reliable and long lasting brush-less motor drive. This unit is designed and built to continue the tradition of work-horse terminators from TE.

For operator convenience and increased visibility of the work area, we've improved access to, and significantly updated lighting in the under cabinet and target area. The Crimp Quality Monitor (CQM II) continues to be located at eye level for bench-top use. The Model G II is one of the quietest machines available, plus improved guarding meets applicable European and domestic safety requirements.

G II Terminator	Part No.
Base unit	2217000-1
Base unit, with CQM II	2217000-2
Base unit, with stripper module	2217001-1
Base unit, with stripper module and CQM II	2217001-2
Base unit, splice machine for end- and side-feed splice applicators	2217002-1
Base unit, splice machine for end- and side-feed splice applicators, with CQM II	2217002-2

Crimp Quality Monitor (CQM II). Optional with many TE Terminators.



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AMP 3K and AMP 5K Terminators

FAST FACTS

- Crimp force for AMP 3K 13.3 kN [3,000 lb];
  for AMP 5K 22.2 kN [5,000 lb]
- Accepts TE applicators
- Tool-less removal of applicators and guards for maintenance and product changeover
- Jog capability
- DC motor with gearbox drive, for small footprint and quiet operation
- Air feed available
- Available equipped with stripping module
- Available equipped with CQM II
- Light weight—68 kg [150 lb]

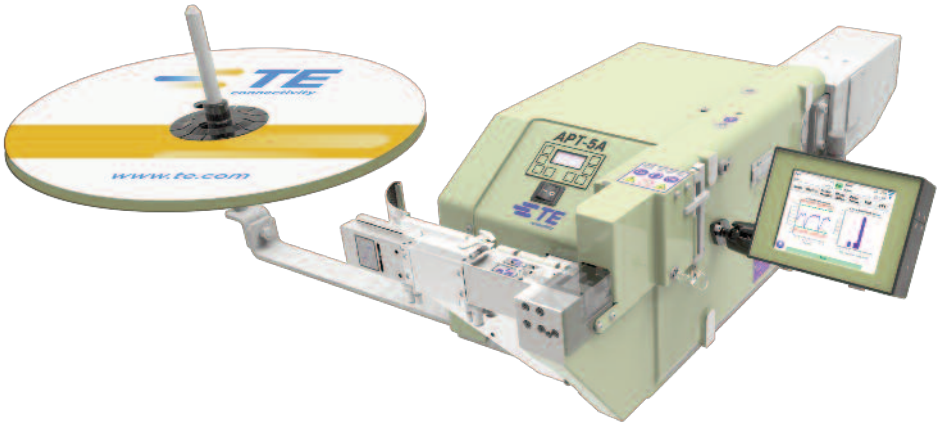
These value-oriented terminators are based on the field-proven AMP-O-LECTRIC Model G terminator. They are the latest in the series of machines for terminating wire using reeled terminals and contacts. The AMP 3K and AMP 5K terminators are designed for customers that require the increased output and quality of a benchtop, semi-automatic machine at a competitive price. Reliability is evident in features like the direct motor drive system and robust construction.

AMP 3K	Part No.
Manual precision crimp height adjust	1725950-2
Manual precision crimp height adj. w/CQM II	3-1725950-0
Manual precision crimp height adj. w/stripping module	1725910-2
Manual crimp height adj. w/stripping module & CQM II	1-1725910-9
AMP 5K	**Part No.**
Manual precision crimp height adjust	1725900-2
Manual precision crimp height adj. w/CQM II	3-1725910-1
Manual precision crimp height adj. w/stripping module	1725910-6
Manual precision crimp height adj. w/stripping module & CQM II	2-1725910-0
Air feed kit for AMP 3K or AMP 5K	1424266-1

AMPLIVAR Product Terminators (APT 5A and APT 5E)

FAST FACTS

- CE Approved
- No need to strip magnet wire
- Improved feed adjustments
- Connects up to 3 wires in 1 splice
- Crimp Quality Monitoring (CQM), auto crimp height adjust and auto sequencing enable 6 Sigma Process Quality
- Quick-change tooling without major shut-height adjustments



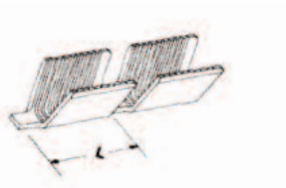
Machine PN 1-2161800-1

The new APT 5A magnet wire pigtail splice machine offers a fast, efficient system, with no need to strip mag-wire insulation. Simply place the wires in the target area and depress the foot switch. The machine automatically shears the splice or Direct Connect contact from the strip, crimps it, shears off excess wire, and advances the next splice or contact into position.

APT bench machines are available in two versions: the APT 5A with automatic precision adjustment controlled by the crimp quality monitor (CQM) and the APT 5E with manual precision adjustment. Using CQM, the APT 5A provides 100% inspection and automatic adjustment of crimp height. If a questionable crimp is detected, visual and audible alarms alert the operator.

The lower cost, manual adjust APT 5E is a simpler version with the advantage of faster set-up times but without CQM capability.

AMPLIVAR Product Terminators (APT 5A and APT 5E)



AMPLIVAR Pigtail-Type Splice Suffix and Prefix Dash Numbers

Pigtail-type Splice Base Number	AWG [mm²]	Wire Range	CMA	Stock Thickness	Crimp Width	APT 5A □-2161800-□	APT 5E □-2161900-□
62000	22-15.5 0.38-1.54	.028-.055 0.70-1.40	600-3000	0.02 0.51	.110[2.79]	1-[]-2	1-[]-2
62001	15.5-12 1.54-3.46	.055-.083 1.40-2.10	3000-7000	0.02 0.51	.140[3.56]	[]-7	[]-7
62001	15.5-12 1.54-3.46	.055-.083 1.40-2.10	3000-7000	0.02 0.51	.180[4.57]	[]-6	[]-6
62201	15.5-12 1.54-3.46	.055-.083 1.40-2.10	3000-7000	0.02 0.51	.140[3.56]	[]-8	[]-8
62002	12-9 3.46-6.38	.083-.112 2.10-2.85	7000-13,000	0.025 0.64	.180[4.57]	[]-3	[]-3
62040	18.5-13.5 0.80-2.54	.039-.071 1.00-1.80	1500-5000	0.02 0.51	.110[2.79]	1-[]-1	1-[]-1
62157	22-15.5 0.38-1.54	.028-.055 0.70-1.40	600-3000	0.02 0.51	.110[2.79]	1-[]-2	1-[]-2
62200	22-15.5 0.38-1.54	.028-.055 0.70-1.40	600-3000	0.02 0.51	.110[2.79]	1-[]-2	1-[]-2
62295	12-10 2.10-6.0	.085-.110 2.10-2.85	7000-12,000	0.025 0.64	.250[6.35]	[]-1	[]-1
62303*	24-18.5 0.26-0.80	.020-.039 0.55-1.00	400-1500	0.016 0.41	.080[2.03]	1-[]-3	1-[]-3
62304*	22-15.5 0.38-1.54	.028-.055 0.70-1.40	600-3000	0.02 0.51	.110[2.79]	1-[]-2	1-[]-2
62305*	22-15.5 0.38-1.54	.028-.055 0.70-1.40	600-3000	0.016 0.41	.110[2.79]	1-[]-2	1[]-2
62306*	18.5-13.5 0.80-2.54	.039-.071 1.00-1.80	1500-5000	0.02 0.51	.140[3.56]	1-[]-0	1-[]-0
62306*	18.5-13.5 0.80-2.54	.039-.071 1.00-1.80	1500-5000	0.02 0.51	.110[2.79]	1-[]-1	1-[]-1
62307*	18.5-13.5 0.80-2.54	.039-.071 1.00-1.80	1500-5000	0.016 0.41	.110[2.79]	1-[]-1	1-[]-1
62308*	15.5-12 1.54-3.46	.055-.083 1.40-2.10	3000-7000	0.02 0.51	.140[3.56]	[]-9	[]-9
62308*	15.5-12 1.54-3.46	.055-.083 1.40-2.10	3000-7000	0.02 0.51	.180[4.57]	1-[]-5	1-[]-5
62309*	13.5-10 2.54-4.90	.071-.098 1.80-2.50	5000-10,000	0.025 0.64	.220[5.59]	1-[]-4	1-[]-4
62309*	13.5-10 2.54-4.90	.071-.098 1.80-2.50	5000-10,000	0.025 0.64	.180[4.57]	[]-5	[]-5
62310*	12-9 3.46-6.38	.083-.112 2.10-2.85	7000-13,000	0.025 0.64	.220[5.59]	[]-2	[]-2
62310*	12-9 3.46-6.38	.083-.112 2.10-2.85	7000-13,000	0.025 0.64	.180[4.57]	[]-4	[]-4

* recommended part number

RBK ILS Processor MKIII

FAST FACTS

- Long life heating elements
- Installation times, temperatures, and product size information (individual selection)
- Sequenced installations
- Operator key lock / password protection levels
- Automatic heater retraction on mains failure (updated safety feature)
- Automatic calibration (single cycle)
- RS232 interface allows time, temperature and product sizes for the next installation to be transferred from a remote machine (e.g. an ultrasonic welding tool)
- Big mechanical protection cover (removable) in front of the feeding / working area
- Pre-installed connection for an optional air-cooling-device
- Second D-SUB-9-connector with a signal output 0 volt (n/c and n/o) where the machine can be connected to a server, local PC or customer intranet
- Machine hours and installation cycle counters
- Software upgradeable to support special applications
- Integrated SW-safety-features to provide a maximum of safeness during processing
- Compliant with newest CE and RoHs requirements

The RBK ILS processor MKIII is a semi-automatic unit designed specifically to install splice sealing products onto ultrasonically welded or crimped splice joints used in automotive harnesses.

The tool can operate in several modes:

- Stand-alone – operator sets time and temperature.
- Sequenced – preset times and temperatures can be sequenced automatically (and can also be randomly selected from sequence stored.)
- Automatic communication with upstream ultrasonic welder can allow time and temperature to be automatically set without operator intervention.

Machine PN 529535-1

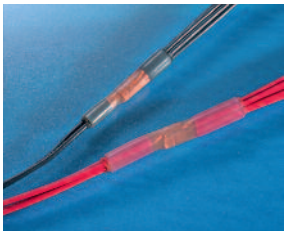
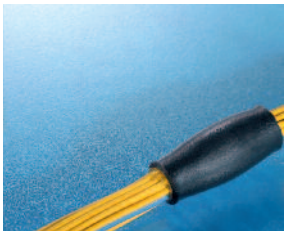
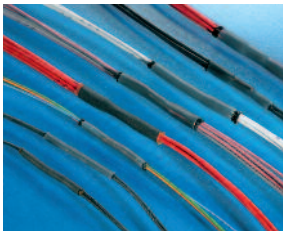
In this way the operator is able to efficiently load both machines and so minimise 'dead time'. Installing Raychem splice sealing products immediately after welding gives reduced installation time and earliest possible mechanical protection for the welded joint.

The operator positions the splice sealing product centrally over the splice joint and then locates the assembly into the gripper mechanism.

Pushing the two start buttons initiates the machine cycle thus bringing the heating chamber into place over the joint area. The heating chamber remains in place for the set period and then returns to the rest position.

The wire assembly is automatically ejected, with the splice sealing product installed and the joint area sealed, insulated and strain relieved.



RBK ILS Processor MKIII

Specifications and Dimensions

Electrical	
Power Requirements	220-240 VAC, 50 Hz
Power Consumption	1.7 A (max)
Operating temperature	500˚C recommended
Cycle times	6 - 20 sec depending on wire size and number of wires used
Total system noise	<80 dB

Dimensions	
Dimensions	390 [15.4] x 365 [14.4] x 225 [8.9] mm
Weight	18 kg

Product Range / Sizes	
QSZH-125 Products	Sizes 1 to 3A
RBK-ILS-125 Products	Sizes 1 to 3A
RBK-ILS-85 Products	Sizes 6/1 to 12/3

For other Raychem products (e.g. RBK-VWS, RBK-ESS, etc) contact TE Application Tooling

Ordering Information	
RBK-Proc-Mk3-Processor	PN **529535-1**

Accessories	
Air cool connection box	PN **1-529533-7** (RBK-ILS-Proc-Air-Cool-Kit)
Stub splice fixture	PN **1-1197585-9** (RBK-ILS-Proc-Stub-Sp-Fix)
8mm ring terminal fixture	PN **9-1190381-2** (RBK-ILS-Proc-Termfix-08mm)

Model 16B Belt Heater

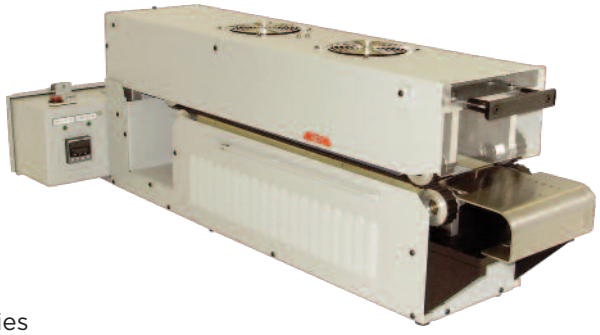
FAST FACTS

- Closed-loop time and temperature control
- Continuous controlled process
- Adaptable for different applications
- Benchtop design
- Heater operation and over temperature alarm lights

Safety Features

- Circuit breaker for current surges
- Pinch points protected by the housing
- An over temperature switch that shuts off all power in the event of an overheat condition
- Automatic cool-down circuit to prevent heat damage to components

Applications



The Model 16B is our smallest (tabletop) conveyor type processor which provides a controlled process for a wide variety of heatshrinkable tubing products. Double-sided timing belts on the top and bottom of the processing chamber draw the assemblies through a thermally controlled infrared heat zone and the through a fan-cooled cooling zone before depositing them into the unloading bin.

Controlled Heating Zone

The Model 16B processor has two stamped foil heating elements that are manufactured to a strict wattage specification. Consistent temperatures (ambient to 650º C) are controlled by a thermocouple embedded into the upper heating element connected to a closed-loop temperature controller. An alarm light illuminates whenever the actual heating element temperature varies from the set point temperature.

Speed Control

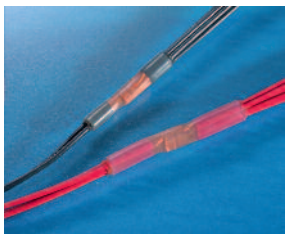
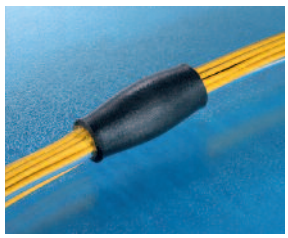
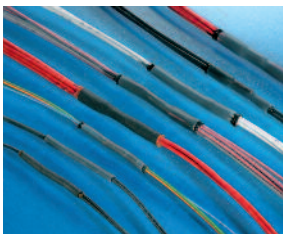
The belt speed is selected using a 3-digit thumb wheel via a closed-loop motor controller and DC gear motor.

Minimal Skill Requirements

There are clearly marked guides for aligning the assembly as well as the tubing or device being processed. The operator only has to center the assembly then the tubing and slide it into the belts. The belts grip and carry the assembly through the heating and cooling zone, depositing them into the unloading bin. Labor costs are reduced significantly because once an operator loads an assembly, that operator can begin preparing another assembly. The throughput rate is usually limited by the rate at which the operator can load assemblies into the processor.

Versatility

The processor is designed to process a broad range of heat shrinkable products up to 19 mm [0.75 in] in diameter and 90 mm [3.5 in] in length. The infrared energy source is well-suited to efficient processing of either single-wall or adhesive-lined tubing. Heat output can be controlled to accommodate a wide variety of products and substrates.

Model 16B Belt Heater

Specifications and Dimensions

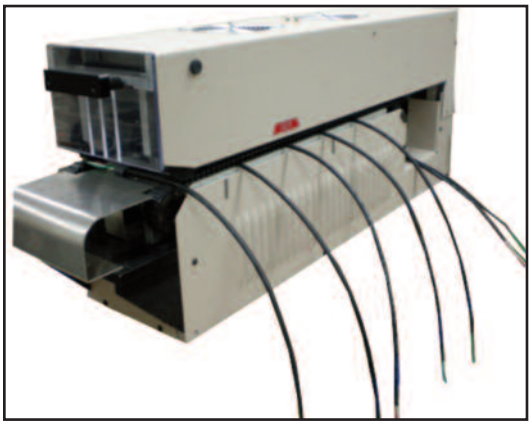
Electrical	
Power Requirements	120 VAC, 1 , 50/60 Hz, 20 A (PN 827429-000) 220 VAC, 1 , 208-240 VAC, 15 A (PN 584313-000, 047143-000)
Heating Elements	2 ea. 1000 watt stamped foil infrared with quartz face
Drive system	DC gear motor with closed loop motor controller, 3-digit thumbwheel
Air flow (cooling)	2 – 100 CFM fans in the upper heater housing

Mechanical	
Conveyor belt system	Double sided timing belts; two on each side of the processor – pitch 9.5 mm [0.375 in]
Belt Speed	Up to 288 cm / min [7.5 ft / min]

Dimensions cm [in.]	
Processor dimensions	48 cm [19 in] W x 109 cm [43 in] L x 33 cm [13 in] H
Processor weight	41 Kg [90 lbs]
Shipping dimensions	61 cm [24 in] W x 112 cm [43 in] L x 56 cm [22 in] H
Shipping weight	68 Kg [150 lbs]

Tubing Sizes	
Tubing diameter (max)	Up to 19 mm [0.75 in]
Tubing length (max)	Up to 90 mm [3.5 in]

Version	**Description**	**Part No.**
Model 16B - 120 volt	CLTEQ-M16B-120V-3WIR	**5-1196462-5**
Model 16B - 220 volt (4-wire)	CLTEQ-M16B-220V-4-WR	**3-1190362-0**



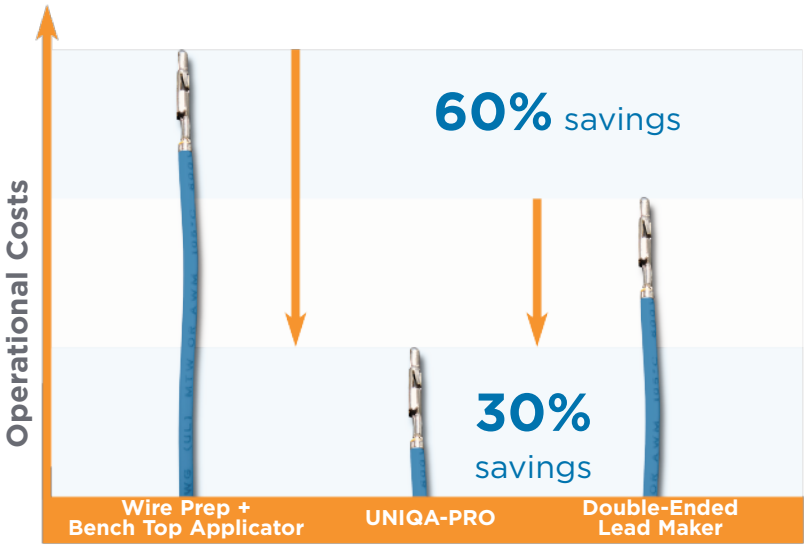
Lead Maker Machine

UNIQA-PRO Single Crimp Wire Processor

FAST FACTS

- 20% smaller footprint than a typical double-ended leadmaker
- Achieves a 4x higher throughput over a standard wire prep and benchtop applicator
- Processes wires ranging from 4mm^2 [12 AWG] - 0.13mm^2 [26 AWG]
- Accepts TE applicators
- Equipped with user-friendly PC control system

The UNIQA-PRO Single Crimp Wire Processor is an ideal cost-effective solution for companies looking to ramp up production from multiple bench top machines without making the large capital investment of a double ended leadmaker. With this single ended leadmaker, you will be able to save labor costs by measuring, cutting, stripping both ends, and crimping one end of a wire lead all with a single machine.



The Power of Automation Without the Cost.

In many regions measuring, cutting, stripping and crimping a lead requires either overspending on a double ended leadmaker to process single ended leads, or spending twice as much on labor costs to run enough wire prep and bench top applicator stations to meet demand. With the UNIQA-PRO, companies now have a cost effective option to automate their wire processing without overspending on labor and equipment costs.

UNIQA-PRO Single Crimp Wire Processor

The Power of Three.

The UNIQA-PRO is available in three different models to fit your needs:

- Basic machine with a passive wire collection system, **PN 2280800-1**
- Intermediate machine with a passive wire collection system, crimp force monitor, and terminal scrap chopper, **PN 2280800-2**
- High force machine with an active wire collection system, crimp force monitor, and terminal scrap chopper, **PN 2280800-3**

Technical Data

Length Range	21 - 100,000mm [1.18" - 328 ft]**
Strip Length	0 - 35mm [0 - 1.38"]
Partial Strip	1 - 35mm [.04 - 1.38"]
Wire Range	4mm^2 [12 AWG] - 0.13mm^2 [26 AWG]*
Operating Diameter	5mm [.210"]
Wire Feed Speed	5 m/s
Noise Level	Less than 70 dB
Electrical Requirements (base machine)	230 ± 10% VAC, 1 Phase, 50/60 Hz, 16 Amps
Electrical Requirements (intermediate transformer)	200/208/230 ± 10% VAC, 1 Phase, 50/60 Hz, 16 Amps
Electrical Requirements (high force machine)	380/415/440 ± 10% VAC, 1 Phase, 50/60 Hz, 10 Amps
Pneumatic Requirements	5 - 6 bar [70-90 psi], 2.5m^3/h [1.5 CFM]
Physical Environment	4-35˚ C [43-95˚F]
Relative Humidity	Less than 95% non-condensing
Programmable Press Stroke	1-40mm

* 5mm^2 [10 AWG] possible with optional heavy duty press
** Practical length capability is dependent on collector system. 1.5m passive collector is standard.

Physical Weights & Dimensions

Weight	590kg [1300 lb] (uncrated) 820kg [1800 lb] (w/crate)
Height (guard up)	1854mm [73"]
Height (guard down)	1676mm [66"]
Length x Width (uncrated)	2718mm [107"] x 889mm [35"]
Width w/end feed terminal reels	1270mm [50"]
Length x Width x Height (crated)	2975mm [117"] x 1452mm [56"] x 1990mm [78"]

Accessories

Manual Crimp Height Adjustment	Micrometer
Automatic Crimp Height Adjust	Manual pull force tester
Terminal scrap chopper	Automatic pull force tester
Powered paper winder	Production batch label printer
Ink jet printer interface	Ram centering calibration tool
1.5 meter motorized conveyor	Gripper jaws for difficult wire
4m conveyor*	Radius blades
Wire splice detector	JAM ram adapter
Line voltage conversion kits**	Sencor
Crimp Quality Monitoring	Gripper flow control kit
Hot Stamp Marker	

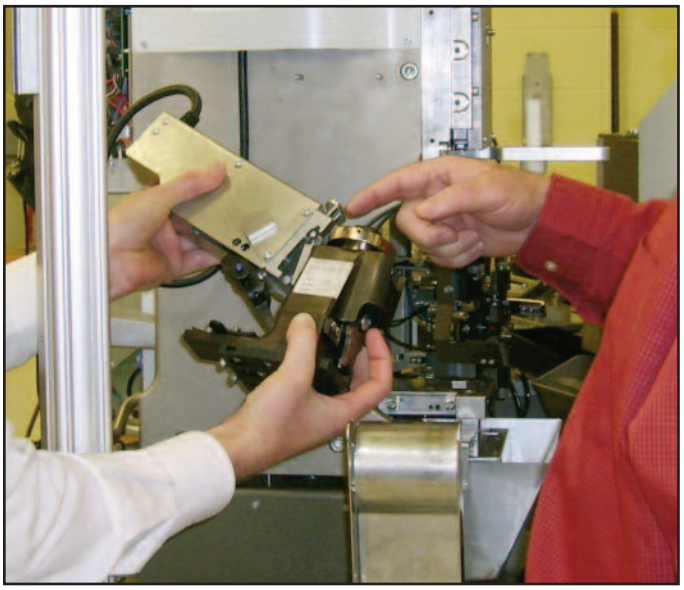
* Not immediately available
** Multi-tap transformer for 200, 208, 230V 50/60Hz, potential for 400/440/480 with panel change and multitap transformer.

Field Engineering Services

TE Connectivity provides global field service support on our application tooling. Field Specialists are located across every continent to provide timely response to customer needs.

In addition to installation, warranty, and repair service, TE field specialists can help you with tooling choices, training of maintenance and operation personnel, troubleshooting and spare parts. Service contracts to cover all your application tooling needs are also available.

We have implemented a service management tool that provides standardization of reporting that gives us the ability to continuously improve our global service organization. Throughout the year we educate our field service engineers on the latest industry technologies and tooling solutions.



Service Offerings:

Standard Service

Includes troubleshooting issues, making repairs, and/or installing parts.

Machine Installations

Providing installation, set-up, and training of application tooling at the time of delivery.

Training

Providing customers with practical training programs addressing machine operation, set-up, maintenance, inspection, and connector application. Training programs can be scheduled at the customer's site or at a TE Connectivity training center. A training certificate will be issued upon the completion of each formal training course.

We are proud to be able to offer a comprehensive range of customer training programs.
The following are some of the standard training programs we offer:

- Basic Crimp Theory
- Hand tool, applicator and equipment set-up, operation and maintenance
- A-620 Certification, General Instructor and Operator/Inspector
- And more!

Service Contracts

Preventive Maintenance and/or Inspection Certification

Provides service for periodic visits to perform preventive maintenance and/or inspection certification service on hand tools, applicators, bench and automatic machines.

Comprehensive Service

Provides for a specified number of field specialist visits. A visit can be used for services such as standard service, installation, set-up and training for all application tooling, preventive maintenance and/or inspection certification, spare parts management, tooling process evaluation, and technical assistance on application tooling and/or product related issues or concerns.

The Key to Crimp Performance

You've already made the right choice in crimp tooling – TE Connectivity quality tooling. TE Connectivity quality certification and maintenance are also the right choices to keep your crimp tooling operating at peak performance. In this catalog you'll find details on the most popular services available at TE Connectivity service centers, complementing our on-site services. To request more information or to schedule a service, refer to the contact information on last cover page.

Applicator and Terminator Service

Services include:

- Warranty services – with no charge for labor or parts
- Certification services
- Tooling repair – to application specifications
- Quick turnaround
- 90-day warranty on repairs

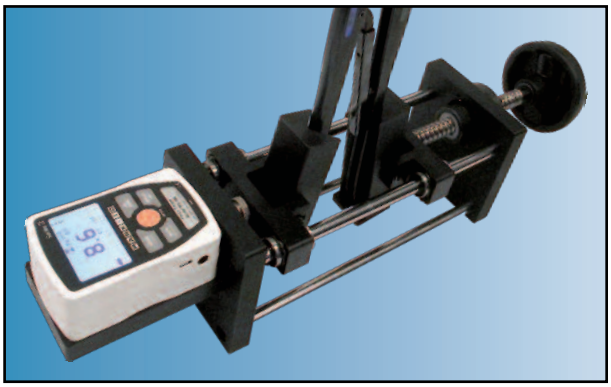
Periodic maintenance, including recalibration, helps ensure compliance with specifications.

Hand Tool Repair and Certification

CERTI-CRIMP hand tools and die sets; pneumatic crimping heads and die sets; and hydraulic hand tools, crimping heads, and die sets all benefit from factory or on-site service.

Services include:

- Recertification – promotes quality improvement per ISO 9000. Recommended every 6 months or 5,000 cycles to verify that tools meet TE Connectivity's application specification.
- Visual inspection – checks tool operation and looks for missing or damaged parts.
- Handle pressure check – measures pressure with calibrated machine or gauge; adjusts to match design specification.
- Quality inspection plan (QIP)
- 90-day warranty on repairs

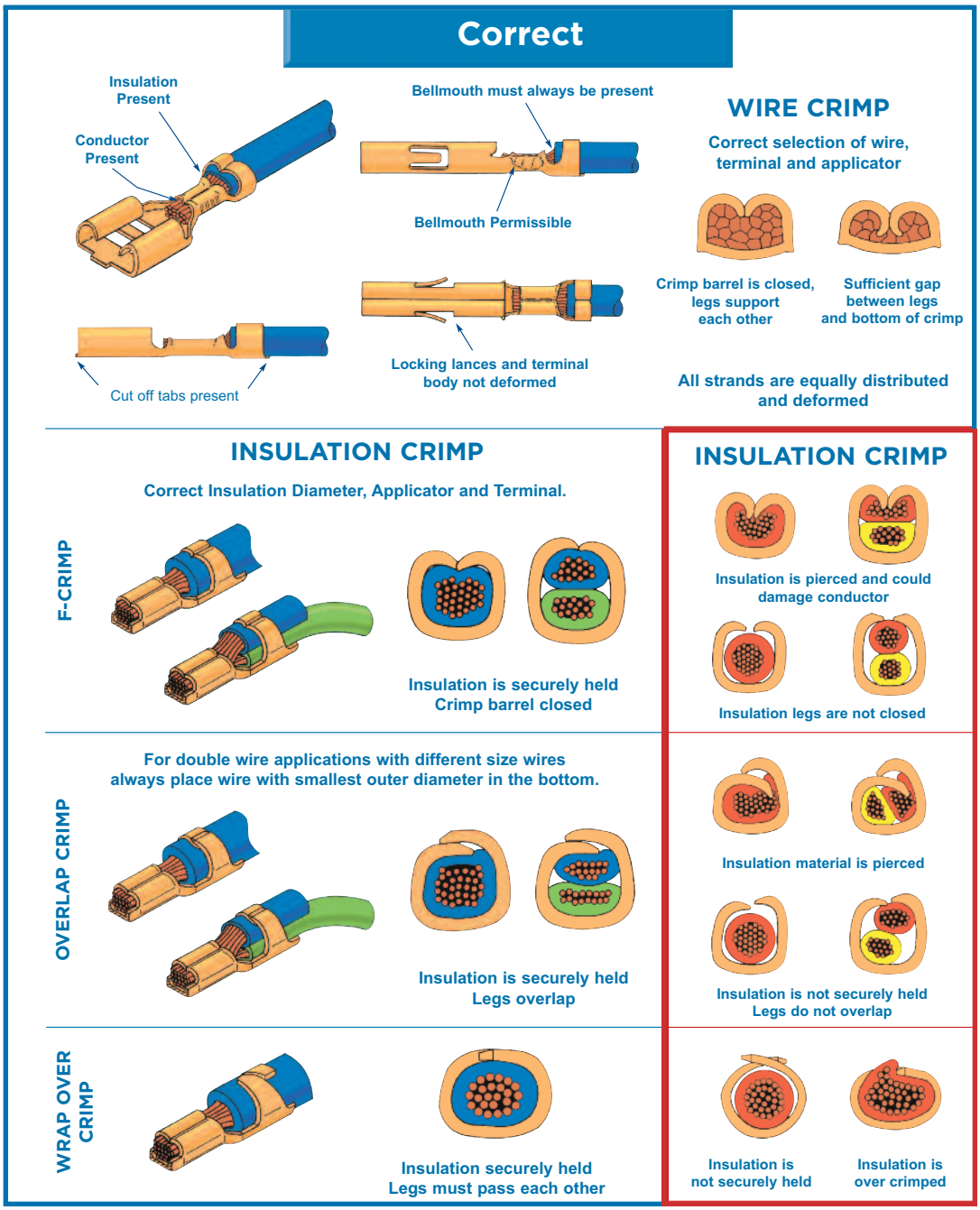


Handle force, measured at the factory, is a critical component of precise, reliable crimping.

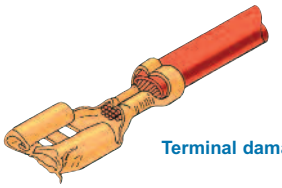
CRIMP QUALITY GUIDELINES

Want to know more about proper crimp techniques? View our Crimp Theory Fundamentals videos on our website at tooling.te.com or find them on our YouTube channel.

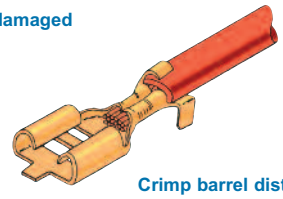
Crimp Theory Fundamentals Video.
https://www.youtube.com/watch?v=foFgl8c17so



Incorrect

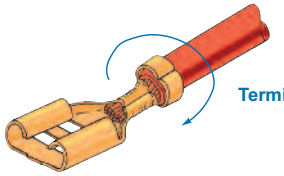


Terminal damaged

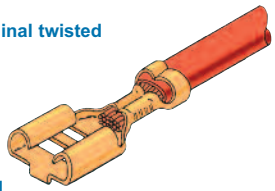


Cut off tab too long

Crimp barrel distorted

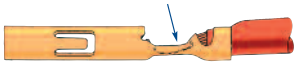


Terminal twisted

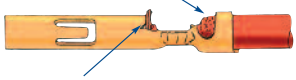


Cut off tab deformed

Crimp height too tight

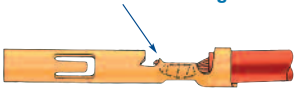


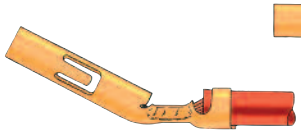
Insulation inside the wire crimp



Conductor Brush protruding into terminal body

Bellmouth on wrong end



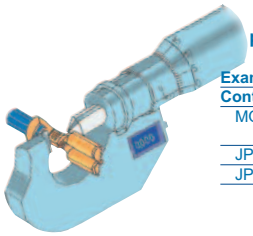


Terminal bend

Test

WIRE CRIMP

Crimp height measurement



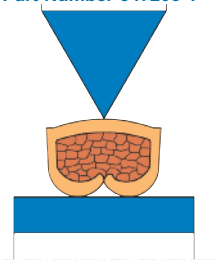
Crimp heights and tolerances

For crimp height tolerances for any given contact, please refer to the relevant application specification.

Examples:

Contact	P/N	Wire Range	Tolerance	Application Spec.
MQS	962885 962886	0,20 - 0,50 mm²	± 0,03 mm	114-18025
JPT	927775	0,50 - 1,00 mm²	± 0,05 mm	114-18050
JPT	927773	1,50 - 2,50 mm²	± 0,05 mm	114-18050

Digital crimp height micrometer (0.001mm increments) according to DIN ISO 9001
Part Number 547203-1



WIRE CRIMP

Incorrect applicator adjustment

Asymmetric crimp

Unacceptable formation excessive flash and/or cracks

Terminal feed incorrectly adjusted

Anvil and crimper not aligned or worn

Incorrect terminal / wire selection

Wire size too large

Wire size too small

Crimp barrel does not close

Legs too close to bottom of crimp. Insufficient deformation of strands, showing voids.

Incorrect crimp height adjustment

Crimp height too loose

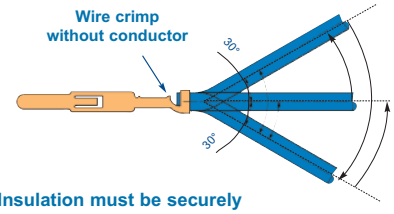
Crimp height too tight

Insufficient deformation, showing voids

Flash at under side of crimp, due to over crimping

INSULATION CRIMP

Wire crimp without conductor



Insulation must be securely held after bend test

Training & Services

Please contact our service hotline for information.

Tel: 1-800-722-1111

www.tooling.te.com

Glossary of Terms

ACTION PIN Contact (connector): Manufactured exclusively by TE Connectivity, having a split pin to provide gas tight retention in a printed circuit board plated-thru hole without solder.

Anvil (tooling): Most commonly used to identify that part of the crimping die — normally stationary — which positions and supports the terminal during crimping. Sometimes referred to as nest.

Arc Voltage: Voltage that continues to pass through a surge protector during activation of GDT (approx. 20 volts).

ASTM (American Society for Testing and Materials): A nonprofit industry-wide organization that formulates test methods and material specifications, and publishes standards, testing methods, recommended practices, definitions and other materials.

AWG (American Wire Gauge): The recognized method (in the United States) of specifying conductor size. The higher the gauge number, the smaller the conductor size.

Bare Conductor: A conductor not covered with insulating material.

Barrel: **1.) Connector Barrel:** The section of the terminal, splice, or contact that accommodates the stripped conductor. **2.) Insulation Barrel:** The section of the terminal, splice, or contact that accommodates the conductor insulation. **3.) Open Barrel:** The section of a cap that accommodates the conductor.

Bellmouth: Flared at the mouth. The rear of a properly crimped wire barrel will have a slight flare (bellmouth) to relieve the strain on the wire strands as they leave the area of high compression and take their natural lay. A bellmouth may also be present in front of the wire barrel.

Breakdown Voltage: The voltage at which an insulator or dielectric fails to maintain the applied voltage.

Breakout: A region in a harness assembly where a wire or a group of wires is detached to form a separate, terminated branch. Also known as a transition.

Bunch Stranding: A method of twisting individual strands to form a finished stranded conductor. Specifically, a number of strands twisted together in a common direction and with a uniform pitch (or twist) per inch.

Butt Splice (electrical): A splice wherein two wires from opposite ends butt against each other, or against a stop, in the center of the splice.

Cable: Two or more wires in a twisted or parallel configuration. Also, a shielded wire.

Cabler: A machine that mechanically assembles a group of insulated wires.

Cabling: The act of twisting together two or more insulated components to form a cable.

Capacitance: The property of an electrical conductor (dielectric in a capacitor) that permits the storage of energy as a result of electrical displacement. The basic unit of capacitance is the farad, however, measurement is more commonly in microfarads or picofarads.

Carrier: A group of strands or ends used to form a finished braid.

Circular Mil Area (CMA): A unit of area equal to the area of a circle whose diameter is 1 mil (0.001 inch). Used chiefly in specifying cross-sectional areas of conductors.

Closed Entry Contact: Female contact designed to prevent entry of a pin or probing device having a cross-sectional dimension (diameter) greater than the mating pin.

Component: A wire or cable that is combined with other wires or cables to make a multi-component cable.

Concentric Stranding: A method of stranding conductor. Specifically, the final conductor is built up in layers so that the inner diameter of a succeeding layer is always equal to the outer diameter of the underlying layer.

Conductivity: The capability of a material to carry electrical current, usually expressed as a percentage of copper conductivity (copper being 100%). Specifically, the ratio of the current flow to the potential difference causing the flow. The reciprocal of resistance.

Conductor: The metallic strand or strands used to carry an electric current.

Conductor Resistance: The resistance to flow of the electrical current along a conductor. Expressed in ohms/1,000 feet (usually referenced to 20°C).

Conduit: A tubular raceway for holding wires or cables.

Connector: A device used to physically and electrically connect two or more conductors.

Contact: The element in a connector that makes the actual electrical connection. Also the parts of a connector that actually carry the electrical current, and are touched together or separated to control the flow.

Contact Crimp: A contact whose rear portion is a hollow cylinder that accepts the conductor. A crimping tool is applied to swage or form the contact metal firmly against the conductor. Sometimes referred to as a solderless contact.

Contact Engaging and Separating Force: Force required to either engage or separate contacts. Values are generally established for maximum and minimum forces.

Contact Resistance: Measurement of electrical resistance of mated contacts when assembled in a connector under typical service use. Electrical resistance is determined by measuring from the rear of the electrical area of one contact to the rear of the contact area of the mating contact (excluding both crimps) while carrying a specified test current.

Contact Size: The diameter of the engagement end of a pin contact; also related to the current carrying capacity of a contact.

Continuity: A continuous path for the flow of current in an electrical circuit.

Core: 1.) In cables, a component or assembly of components over which additional components, such as a shield or a sheath, are applied.
2.) Inner wall of dual-wall heat-shrinkable tubing.

Crimp: The final configuration of a terminal barrel after the necessary compression forces have been applied to cause a functional union between the terminal barrel and the wire.

Crimper (tooling): Often used to identify that part of the crimping die — usually the moving part — which indents or compresses the terminal barrel. Also called indenter.

Crimp Height: A top to bottom measurement of the crimped barrel, using a crimp height comparator in the prescribed manner.

Crimping Chamber: Area of a crimping tool in which a contact or terminal is crimped; the crimping enclosure formed by the mating of the anvil (nest) and crimper (indenter). When the dies or jaws are fully closed or bottomed, it is the crimping chamber that is checked with a go no-go plug gauge to confirm that the crimp produced by the tooling satisfies the crimp height specification.

Crimping Dies: A term used to identify the shaping tools that, when moved toward each other, produce a certain desirable shape to the barrel of the terminal or contact that has been placed between them. Crimping dies are often referred to as die sets or as die inserts.

Crimping Head: Tooling containing jaws and linkage for use in pneumatic or hydraulic powered units to crimp loose-piece contacts/terminals that may be too large for hand tool applications.

Crimping Tool: A term commonly used to identify a hand held mechanical device that is used to crimp a contact, terminal or splice.

Cross Crimp: A crimp that deforms the terminal by exerting on the top and bottom of the terminal barrel without confining the sides. Usually identified by a raised crescent (moon) shaped form on the surface of the crimp.

Current: A movement or flow of electrons. Also, the measure of this flow, expressed in amperes.

Current-carrying Capacity: The maximum current an insulated conductor is capable of carrying without exceeding its insulation- and/or jacket temperature limitations under specified ambient conditions.

Current Rating: The maximum continuous electrical flow of current recommended for a given situation. It is expressed in amperes.

Die: See crimping dies.

Die Closure: Term used to designate a crimping area (crimping chamber) when the dies are fully closed or bottomed. Die closure is checked with go/no go plug gauge to confirm that the crimp produced by the tooling satisfies the crimp height specification.

Dielectric: A material that serves as an insulator. The amount of resistance to voltage in a given insulation.

Dielectric Isolation (IC): Most silicon integrated circuits depend on back biased semiconductor junctions to provide isolation between components on the chip. Dielectric isolation involves a number of additional process steps, which result in silicon dioxide rather than a junction surrounding each component to be isolated. The silicon dioxide, a dielectric, provides the necessary isolation.

Dielectric Strength: Maximum voltage a dielectric can withstand without rupture. Expressed as volts per mil.

Discontinuity: Rated interconnection: broken connection (open circuit) or loss of a specified connection characteristic. Transient phenomena: Short-term interruption or unacceptable variation in current or voltage.

Drain Wire: In a cable, an un-insulated conductor laid over the component, or components, in a foil-shield cable. Used as a ground connection.

Electromagnetic Compatibility (EMC): The ability of an electronic device to operate in its intended environment without its performance being affected by EMI and without generating EMI that will affect other tooling.

Electromagnetic Interference (EMI): Unwanted electrical or electromagnetic energy that causes undesirable responses, degrading performance or complete malfunctions in electronic tooling.

Electromotive Force (emf): See voltage.

EMI: Abbreviation for electro magnetic interference.

Extraction Tool: A tool used for removing contacts from a connector body.

F Crimp: A crimp that brings the center of the barrel along an open seam downward into a V.

Ferrule: A short tube used to make solderless connections to shielded or coaxial cable. Also molded into the plastic inserts of multiple contact connectors to provide strong, wear-resistant shoulders on which contact retaining springs can bear.

FFC: Flexible flat cable; flat flexible cable; or flexible flat conductor. A form of multiple conductor cable consisting of parallel flat metal strips imbedded in a flat flexible insulating material.

Flat Braid: A braided shield composed of flatstrands.

Flat Cable: A cable with each component in a single, flat plane.

Flat Conductor: A conductor having a rectangular cross section, as opposed to a round or square cross section.

Fretting Corrosion: A form of accelerated oxidation that appears at the interface of contacting materials undergoing slight cyclic relative motion. All non-nobel metals (tin) are susceptible to some degree of fretting corrosion and will suffer contact resistance increases.

Gauge: A term used to denote the physical size of a wire. See also AWG.

Ground: A connection, intentional or accidental, between an electrical circuit and the earth or some conducting body (e.g. chassis) serving in place of earth.

Grounding Conductor: A conductor that provides a current return path from an electrical device to ground.

Hardness: A general term that correlates with strength, rigidity, and resistance to abrasion or penetration. Measured on Shore or Rockwell scales.

Harness: A system providing electrical connection between two or more points.

Hertz (Hz): International standard term for cycles per second. Named after the German physicist Heinrich R. Hertz (e.g., 60 cycles per second is equal to 60 hertz or 60 Hz).

Inductance: One cause of reactance. An electromagnetic phenomenon in which the expanding and collapsing of a magnetic field surrounding a conductor or device tends to impede changes in current. The effects of inductance become greater as frequencies increase. The basic unit for inductance is the henry.

Insertion Tool: A tool used to insert removable contacts into a connector.

Insulation Barrel: See barrel.

Insulation Crimp: The area of a terminal splice or contact that has been formed around the insulation of a wire.

Insulation Displacement: A terminating technique whereby an insulated wire is forced into a restrictive slot in a terminal, during which time the wire insulation is displaced, and the bare wire engages the sides of the slot.

Insulation Grip: The ability of certain crimped terminals to hold firmly in place both the conductor and a small portion of insulation. This prevents the conductor from being exposed due to insulation receding away from the terminal.

Insulation Resistance: The electrical resistance between two conductors separated by an insulating material.

Interference: Electrical or electromagnetic disturbance causing undesirable response in electronic tooling.

Jack: A connecting device into which a plug can be inserted to make circuit connections. The jack may also have contacts which open or close to perform switching functions when the plug is inserted or removed. See also: receptacle.

Jacket: 1.) A material covering over a wire or cable assembly. 2.) Outer covering of a dual-wall heat-shrinkable tubing.

Jackscrew: A screw attached to one half of a two-piece, multiple-contact connector and used to draw both halves together and to separate them.

kV (kilovolt): A unit equal to 1,000 volts.

Mega (M): A prefix meaning one million (106).

Multiconductor: More than one component within a single-cable complex.

Nominal: A descriptor applied to a dimension representing the center of the range of tolerance or a value if no tolerance is applied.

O Crimp: An insulation support crimp for open barrel terminals and contacts. In its crimped form it resembles an O and conforms to the shape of the round wire insulation. O crimp is also used to describe the circumferential crimps used on COAXICON ferrules.

Open Barrel: See barrel.

Peripheral Seal: A seal provided around the periphery of connector inserts to prevent the ingress of fluids or contaminants at the perimeter of mated connectors.

Pigtail: A short conductor or wire extending from an electrical or electronic device to serve as a jumper or ground connection.

Pin Contact: Electrical terminal, usually in a connector. Normally smaller termination than a lug.

Pretinned: Description of an electrical component to which solder has been applied prior to soldering.

Primary Insulation: The inner member of a dual wall wire insulation. The insulation applied directly on the conductor.

Printed Circuit Board (PCB): An insulating board serving as a base for a printed circuit. When the printing process is completed, the board may include printed components and printed wiring.

Rated Voltage: The maximum voltage at which an electric component can operate for extended periods without undue degradation.

Receptacle: Usually the fixed or stationary half of a two-piece multiple contact connector. Also the connector half usually mounted on a panel and containing socket contacts.

Removable Contact: A contact that can be mechanically joined to or removed from an insert. Usually special tools are required to lock the contact in place or remove it for repair or replacement.

Resistance: A measure of the difficulty in moving electrical current through a conductor or insulation when voltage is applied. Measured in ohms.

Resonance: A frequency at which captive reactance and inductive reactance

Ribbon Cable: Flat cable with conductors that have been individually insulated together. Its structure is usually characterized by individual colors of insulation for each conductor, although a single color may be used for all conductors.

Serrations: Small grooves or indentations within a terminal wire barrel. The serrations increase the tensile strength and improve the electrical conductivity of the crimped termination.

Sleeve: The insulated or metallic covering over the barrel of a terminal.

Solid Conductor: A conductor composed of one single strand.

Splice: A joint connecting conductors with good mechanical strength and conductivity; a terminal that permanently joins two or more wires.

Strand: A single unit of a conductor.

Strip: To remove insulation from a wire or cable.

Surface Resistance: The ratio of the direct current applied to an insulation system to the current that passes across the surface of the system.

Surface Resistance: Ratio of the direct current applied to an insulation system to the current that passes across the surface of the system.

Tab: Used to scribe the flat blade portion of certain terminals (e.g. FASTON tab, taper tab, solder tab).

Tab-lok Crimp: A type of crimp used on FASTON flag terminals whereby a tab on the wire barrel is inserted through a slot in the terminal. The crimping action flattens the tab between two lances, which in turn are locked over the tab.

Terminal: An electrically conductive item designed to be attached to a circuit or device for convenience in making electrical connections.

Terminal Area: The portion of a printed circuit – usually along the edge – used for making the input-output connections. Sometimes this term is used synonymously with pad.

Terminal Barrel: See barrel.

Trimming: The adjustment of resistor or capacitor values in thick or thin film circuits by pattern changes, irreversible thermally induced changes, or removal of portions of material by laser or abrasive techniques. Dynamic trim is unique to these technologies, and of great value to circuit design and manufacture.

Volt (V): The unit of measurement for electromotive force (emf). It is equivalent to the force required to produce 1 ampere through a resistance of 1 ohm.

Voltage (E): The term most often used to designate electrical pressure that exists between two points and is capable of producing a flow of current when a closed circuit is connected between the two points. Voltage is measured in volts, millivolts, microvolts and kilovolts. The terms electromotive force (emf), potential, potential difference and voltage drop are often referred to as voltage.

Voltage Drop: The voltage developed across a component or conductor by the flow of current through the resistance or impedance of that component or conductor.

Voltage Rating: The voltage that may be continuously applied to wire.

W Crimp: A confined type of crimp that makes two longitudinal indentations which form a W cross section. Used on SOLISTRAND terminals.

Wall Thickness: The thickness of the applied insulation or jacket.

Wire: A single conductor covered with insulation.

Wire Barrel: See barrel.

Wire Crimp: See crimp.

PART NUMBER INDEX

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NOTES

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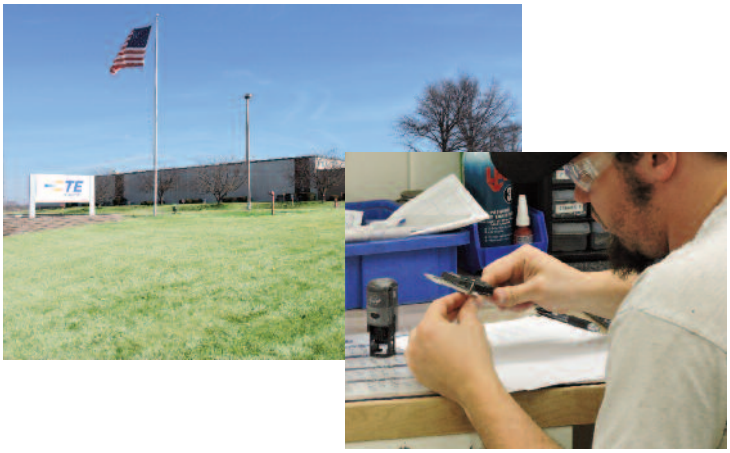

Product + Process = Solution

Ensuring optimal performance for your solution doesn't end with the purchase of the proper component. Every application requires the right tool to confirm that proper connections are being made. Our flexible solutions range from hand tools for prototyping and low production needs up to state-of-the-art lead making equipment that can produce millions of crimps a year. Our OCEAN applicator platform represents the industry's best in accuracy & quality in crimping.

Thanks to our standard die sets customers can easily step up production by switching from our ergonomically designed hand tools to a faster bench machine without purchasing new die sets. And to complete the bundle, we offer field service and customer support that can keep your equipment running smoothly for years. For more information about your tooling options visit tooling.te.com.

Quality Starts Here

The Waynesboro Manufacturing & Assembly Facility uses state of the art equipment and processes to maintain superior quality and ensure expedient delivery. Our in-house support functions can handle both large and small equipment with the flexibility to adapt to changing business needs.

IMPORTANT: INFORMATION ABOUT OUR PRODUCTS

Should any issues arise when the customer first tries to use this tool:

Please verify that they are using the correct wire type, wire size (AWG or MM2), insulation diameter, and terminal combination for their application.

This information can be found on the following documents:

Terminal Application Specification (114-XXXXX)

Hand Tool Instruction Sheet (408-XXXXX) or (409-XXXXX)

Applicator Drawing (TE Part Number)

If not enclosed with the tooling this information can be found on our website www.te.com/help by typing the terminal number being applied into the search bar located at the top right of our website.

After verifying the above information should the customer still have questions or concerns regarding their tool, they can contact our Technical Assistance Center at 800-522-6752, or 717-986-7777.

Tools outside of the warranty period can be repaired by one of our TE Tool Repair Centers.

tooling.te.com

TE Connectivity, Harrisburg, PA 17105, Phone: 888-777-5917
or 717-810-2080; email: toolingsales@te.com