



# LITHIUM-ION BATTERY POWERED CRIMP TOOLS

COMPLETELY PORTABLE POWER CRIMPING

# INTRODUCTION TO TOOLING SOLUTIONS

## TE Connectivity. A 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.

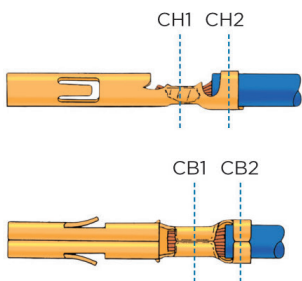
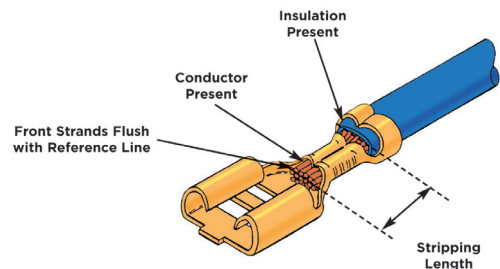
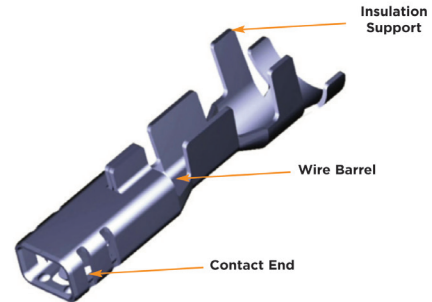
### The Secret to a Successful Crimp.

**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 create 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 too large or small for the wire strand.

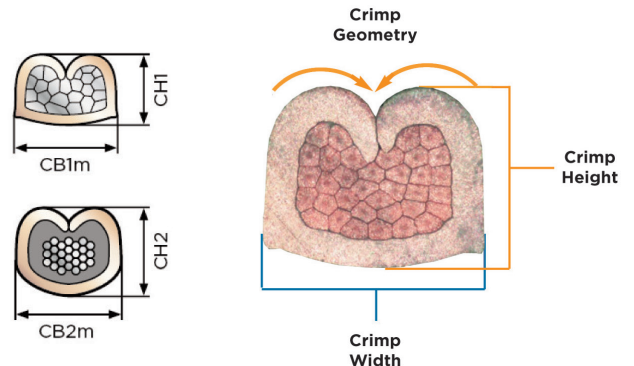
**2. Wire Prep** - In order to properly place a wire in a terminal, the wire insulation must first be stripped to the proper length based on the terminal specifications. If the insulation is cut too short or too long, the wire will not be seated properly into the wire barrel, causing terminal separations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

**3. Crimp Specifications** - To create a proper crimp for a TE connector or terminal you should use a TE 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



# INTRODUCTION TO TOOLING SOLUTIONS

## Standard Die Envelope (SDE) - Technology

### 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) 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.

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

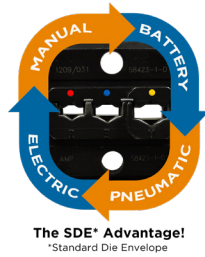


# POWER HAND TOOLING

## Standard 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

### CRIMP FASTER IN 3 EASY STEPS



**1. CLAMP**  
Quick takeup: Pull trigger part way and adjust terminal and wire to the proper position before crimping.



**2. CRIMP**  
Depress trigger completely to activate the motorized crimp feature.



**3. RELEASE**  
Release trigger and the jaws will open automatically.

# POWER HAND TOOLING

## Standard Micro Crimp Hand Tool Kit, 10.8V, 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*	SDE Micro USB Adapter Module

\* CE Certified

### SDE Micro Crimping Tool (w/battery installed) P/N 2280380-[ ]

Length	253mm [9.96"]
Width	93mm [3.66"]
Depth	64mm [2.52"]
Weight (w/battery)	0.96kg [2.12 lb]
Sound Level	70 dBA at 1 meter
Vibration	< 2.5 m/s <sup>2</sup>

### Crimping Capacities

Max. Crimping Force	15 kn (1.53 metric tons) [3,400 lbs] max.]
Avg. Crimping Force	2 sec.
Avg. Crimps Per Charge	Approx. 350

# POWER HAND TOOLING

## 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 (3,500 lb tool)
- Completely portable — Over 150 crimps per charge (3,500 lb tool)
- 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
- 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/s <sup>2</sup>
Hydraulic Oil	Shell Tellus T15

### 3500 lb Crimping Capacities

Maximum Crimping Force	15.6 kn [1.75 ton]
Average Crimping Force	2 sec
Average Crimps Per Charge	Approx. 150



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

# POWER HAND TOOLING

## 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 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** 409-32029



### 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



# POWER HAND TOOLING

## 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]
Weight (w/battery)	1.8kg [4.0 lb]	Weight (w/battery)	3.08kg [6.8 lb]	Weight (w/battery)	4.2kg [9.6 lb]	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/s <sup>2</sup>	Vibration	< 2.5 m/s <sup>2</sup>	Vibration	< 2.5 m/s <sup>2</sup>	Vibration	< 2.5 m/s <sup>2</sup>
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 lb]	Max. Crimping Force	60 kn (6 metric ton) [13,500 lb]	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/Charge	Approx. 85	Avg. Crimps/Charge	Approx. 100-300	Avg. Crimps/Charge	Approx. 100-300	Avg. Crimps/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**



### 24,000 lb Pistol Grip Battery Powered Crimp Tool Kit

**PN 2280308-1, 110 volts**

**PN 2280308-2, 220 volts**

These battery powered crimp tool kits 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 409-32039**



# POWER HAND TOOLING

## Tooling-to-Terminal Cross Reference

LITHIUM-ION BATTERY POWERED TOOLS



3,400 lb



3,500 lb




8,000 lb









12,000 lb




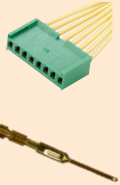



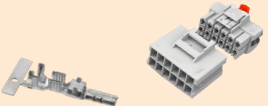
24,000 lb

UNINSULATED TERMINALS	Wire Range		Max.		Battery Tools Powered	
	AWG	mm <sup>2</sup>	Insul.	Dia.		
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		Max.		Battery Tools Powered	
	AWG	mm <sup>2</sup>	Insul.	Dia.		
PIDG FASTON Receptacles (640900 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
PLASTI-GRIP Butt Splices		12-10	3-5	.230	5.84	X
		26-22	0.12-0.3	.080	2.03	X
		22-16	0.3-1.25	.170	4.32	X
PLASTI-GRIP Terminals		16-14	1.25-2	.215	5.46	X
		8	7	.377	9.58	X

FULLY-INSULATED TERMINALS	Wire Range		Max.		Battery Tools Powered	
	AWG	mm <sup>2</sup>	Insul.	Dia.		
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		Max		Battery Tools Powered
			AWG	mm <sup>2</sup>	Insul.	Dia.	
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
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
		Type XII Contacts	18-14	0.8-2	.100	2.54	X
			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
		Mini-Universal	16-14	1.25-2	.200	5.08	X
		Mini-Universal II Contacts	20-16	0.5-1.25	.126	3.20	X
			26-22	0.12-0.3	.069	1.75	X
			22-18	0.3-0.8	.094	2.39	X
Power Triple Lock Connectors		Power Triple Lock	20-16	0.5-1.25	.126	3.20	X
			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



## Let's Connect

To learn more about Commercial Manual hand tooling or our comprehensive bundle of tooling solutions please call us at **717-810-2082** or email us at

**Toolingsales@te.com**

## TE Technical Support Center

USA: 1.800.522.6752

Canada: 1.800.522.6752

Mexico: +52.55.1106.0800

Latin/S. America +54.11.4733.2200

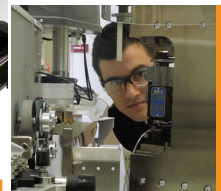
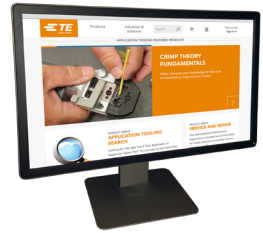
Germany: +49.6151.607.1999

UK: +44.0800.267666

France: +33.1.34.20.8686

Netherlands: +31.73.624.6999

China: +86.400.820.6015



### Use SDE to Step Up Production

If your production needs require faster output consider maximizing the power of the SDE die sets found in your Lithium-ion powered battery hand tools. With an SDE benchtop unit you can quickly transfer the SDE die sets you are already using

into our SDE electric bench terminator or our AT-SC MK II pneumatic safety crimping machine, thereby speeding up your production capacity whenever you need it. For purchasing or leasing options go to [tooling.te.com](http://tooling.te.com) and search for part number **1490076-2** and **1-528050-0**.



### Waste Not. Want Not.

Whether it's time or scrap, in manufacturing everyone knows that waste costs money. With our on-site certification and consultation services, we can help you:

- Reduce downtime
- Reduce scrap
- Maintain crimp quality
- Improve manufacturing efficiency

Connect with us today to learn more.

- E-mail: [fieldservicesnorthamerica@te.com](mailto:fieldservicesnorthamerica@te.com)
- Phone: **800-722-1111 or 717-986-3434**
- For additional information download catalog #1-1307619-0 from [tooling.te.com](http://tooling.te.com).

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