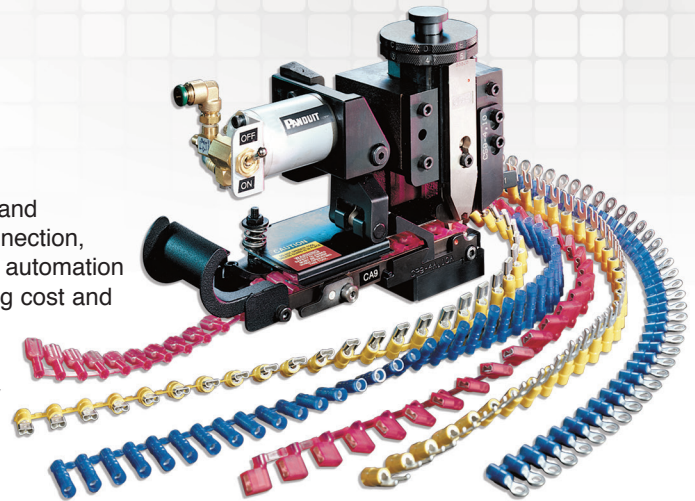


Reel Smart™ Automated Termination System

Wire termination methods are labor intensive requiring the use of hand tools which provide: slower production, a less reliable electrical connection, and an increased risk of repetitive motion injuries. With competitive automation systems, each terminal requires a separate tooling applicator adding cost and complexity to the operation.

The Panduit Reel Smart™ Automated Termination System provides a safe, reliable, and efficient electrical termination with the flexibility of a single tooling applicator. Your production will receive all the benefits of maximized productivity, operator safety, reliability, and tooling options that provide flexibility and versatility.



Maximized Productivity and Operator Safety – Reducing Manufacturing Costs and Risk

- Cycle times of less than one second are up to six times faster than using hand tools
- Automated design reduces operator fatigue and repetitive motion injuries to increase productivity
- Reels of up to 3,000 continuously molded terminals reducing the need to change reels and limiting downtime

Reliability

- Bench press displays system performance; provides production data and reporting, including error detection and cycle count
- Tool crimp height adjustment feature allows users to easily set and maintain desired crimp height for consistent electrical crimp performance
- Continuously molded carrier strip on reel fed terminals guarantees alignment in applicator, assuring proper location every time, thereby reducing downtime

Flexibility and Versatility

- Applicator automatically adjusts feed stroke to the correct pitch and length for the entire product line of over 400 continuously molded terminals
- Versatility of applicator allows use in either bench press, or commercially available Automatic Wire Processing machines
- Applicator does not need to be removed from press, when terminating different size terminals

Reel Smart™ Universal Applicators

Panduit® CA9 EZAIR™ or CA-800EZ Universal Applicator can terminate the entire Panduit® Reel Smart™ product offering, by simply changing to the appropriate die set. This greatly reduces set-up and maintenance time, increasing productivity. The CA9 universal applicator's terminal feed mechanism is pneumatic driven, while the CA-800EZ system requires electric power only. This provides versatility to meet the customer's individual facility requirements.

Either applicator can be used in the Schleuniger UniCrimp 200 Press. Additionally, the CA9 applicator can also be used with the lower cost, entry level Schleuniger UniCrimp 100 Press with air feed kit. The CA9 EZAIR™ Universal Applicator can be incorporated in Cut, Strip, and Termination equipment (CST). This automated universal applicator/press system provides flexibility, versatility and reliability resulting in lower total cost of ownership.

Key Features

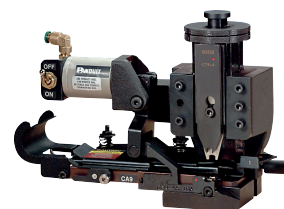
Benefits

| | |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| High volume applications | Designed to terminate all continuously molded terminals, disconnects, and splices in reels of 3,000 or 5,000 for high volume applications |
| Precision terminal indexing through applicator | Allows for for optimum reliability and productivity |
| Universal base plate | Allows compatibility with the Schleuniger electric press, and other commercially available bench presses and CST machines |
| Quick change die sets | allow for fast product change over and reduction in setup time; dies sold separately |

Reel Smart™ Universal Applicators (continued)

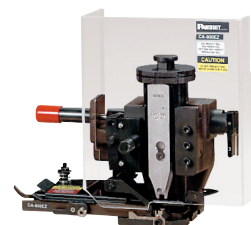
CA9 EZAIR™ Universal Applicator Technical Data

| | |
|---------------------------------|-------------------------------------------|
| Product Feed | Compressed air |
| Cycle Time | Less than one second |
| Interchangeable Die Sets | 18 die sets terminate entire product line |
| Crimp Height Adjust | Micro dial adjust |
| Operational Options | Bench press or CST |



CA-800EZ Universal Applicator Technical Data

| | |
|---------------------------------|-------------------------------------------|
| Product Feed | Mechanical Linkage |
| Cycle Time | Less than one second |
| Interchangeable Die Sets | 18 die sets terminate entire product line |
| Crimp Height Adjust | Micro dial adjust |
| Operational Options | Bench press only or CST |



Schleuniger Electrical Crimp Press

Panduit Reel Smart™ products partner with Schleuniger electric presses to provide one of the best termination systems in the market. The Schleuniger UniCrimp 200 and UniCrimp 100 bench presses are designed to crimp wire sizes up to 10 AWG (6mm²). These presses are fast, quiet, and safe while providing the necessary force to deliver a quality crimp connection. The UniCrimp 200 press comes loaded with high end features like split cycle and adjustable crimp speed. The UniCrimp 100 is a simple, low cost crimping press providing high quality on an affordable price.

UniCrimp 200 Overview:

- Economic and user-friendly
- Quick-release applicator base for easy change-over
- Adjustable crimp speed
- Standard tool-less, incremental crimp height adjustment (micro-adjust)
- Split cycle capability for closed barrel contacts
- Used with both Panduit CA9 and CA-800EZ
- Terminates all Panduit Reel Smart terminals and ferrules

Technical Data

| | |
|---------------------------|--------------------------------------------------------------------------------------------|
| Power Supply | 110 VAC/60Hz, 220 VAC/50Hz |
| Crimp Stroke | 40mm |
| Controller | LED touch pad user interface |
| Crimp Micro-adjust | Micrometer shut height adjust |
| Crimp Force | 3.7 tons |
| Versatility | Split cycle, pneumatic* feed option, cycle counter, quick release applicator mounting base |

*required for use with Panduit CA9 applicator

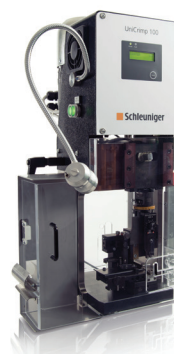


UniCrimp 100 Overview:

- Simple design that is very easy to use
- Extremely cost effective
- High quality results
- For use with Panduit CA9 Applicator only
- Terminates all Panduit Reel Smart Terminals

Technical Data

| | |
|---------------------|-----------------------------------------|
| Power Supply | 110 VAC/60Hz, 220 VAC/50Hz |
| Crimp Stroke | 40mm |
| Controller | LED touch pad user interface |
| Crimp Force | 2.2 tons |
| Versatility | Low cost, basic entry level bench press |



Continuously Molded Reel-Fed Products

The Reel Smart™ Terminal Product Offering is the most complete continuous molded plastic carrier offering in the industry, with over 300 rings, forks, disconnects, and butt splices. The continuously molded carrier strip insures the terminal is in the proper crimp location every time. This eliminates improper positioning of the terminal barrel which can lead to downtime. During termination, these continuously molded components are fed into a universal applicator and can be terminated at rates of over 50 terminations per minute when used in a CST machine.

Part Number System for Reel Smart™ Terminals

| <u>P</u> | <u>NF</u> | <u>14</u> | — | <u>6</u> | <u>R</u> | <u>N</u> | <u>3K</u> |
|------------------|-----------------------------------|---------------|---|------------|-----------------------|--------------------------|-----------------|
| Type | Insulation | Wire Range | | Stud Size | Tongue Configuration | Special Configuration | Std. Pkg. Size |
| P = Terminal | N = Nylon | 18 = #22 – 18 | | 4 = #4 | R = Ring | N = Narrow Tongue | 2K = 2,000 pcs. |
| BS = Butt Splice | Insulated | 14 = #16 – 14 | | 5 = #5 | HDR = Heavy Duty Ring | W = Wide Tongue | 3K = 3,000 pcs. |
| | NF = Nylon Insulated Funnel Entry | 12 = #16 – 12 | | 6 = #6 | F = Fork | B = Butted Seam | |
| | V = Vinyl Insulated | 10 = #12 – 10 | | 8 = #8 | FF = Flanged fork | = Standard (leave blank) | |
| | | | | 10 = #10 | LF = Locking fork | | |
| | | | | 14 = 1/4" | | | |
| | | | | 56 = 5/16" | | | |
| | | | | 38 = 3/8" | | | |

Reel-Fed Terminals, Disconnects and Splices

- Faster assembly for increased production and lower installed costs
- Superior wire connection point for secure electrical terminations
- High mechanical and electrical performance – in high vibration applications, in bending applications, when crimping in any orientation, and other extreme conditions
- Color coded to indicate wire range and proper tooling
- Product markings indicate UL and CSA certifications, rated up to 600V
- CD9 and CD800 series crimp dies available, for description and manufacturer compatibility



The Full Offering of Rings, Forks, Splices, Disconnects, Pin, and Blade Terminals in Wire Ranges of 22AWG – 10AWG

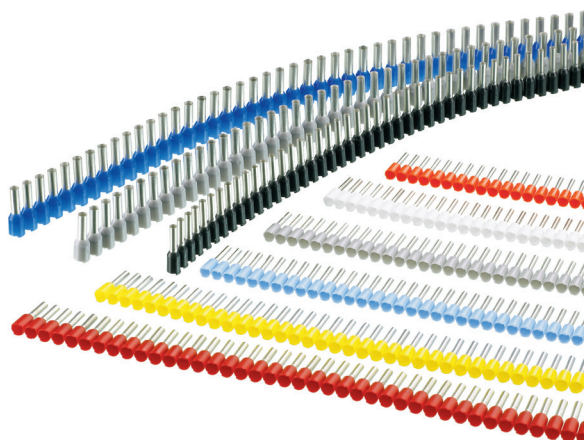
- Nylon insulated terminals with insulation grip sleeve (funnel and non-funnel entry)
- Vinyl insulated terminals with insulation support (funnel entry)
- Supra-Grip™ Disconnects, nylon fully insulated funnel entry, female receptacle
- Standard and premium nylon fully insulated, funnel entry, female receptacles and male tabs
- Vinyl barrel insulated funnel entry, female receptacles and male tabs
- Butt splices, nylon insulated



Continuously Molded Ferrules and Crimping Tools

Panduit continuously molded ferrules and crimping tools deliver speed and reliability for higher volume terminations. The continuously molded design provides quick consistent placement of ferrules in tools to ensure reliable terminations. Ferrules are available in 20 – 14 AWG (0.50 – 2.50 mm²) featuring a seamless barrel design to contain loose wire strands for superior performance. Lightweight and precision applicators and crimping tools deliver efficiency, application flexibility, and reduced installation time.

This termination system includes continuously molded reel and strip ferrules and tooling options, which combine to support wire harness, control panel, and automatic wire processing applications for lowest installed cost.



Reel Smart™ Continuously Molded Ferrules on Strips and Reels

- Continuously molded integrated carrier ensures consistent placement of ferrules in tooling for fast reliable operation
- Seamless barrel design contains stranded wires to eliminate loose strands for superior terminations
- Molded polypropylene housing meets DIN designation 46228, UL 486F and HB rated
- Available in 20 – 14 AWG (0.50 – 2.50 mm²), most popular wire sizes to meet a variety of wiring applications
- Continuously molded ferrules in bulk reels of 3,000 – 5,000 and convenient mini reels of 500 to 1000 piece; these ferrules are designed for use in the Schleuniger Uni-A FA ferrule applicator and Panduit CP-881 automated wire strip and ferrule termination system; delivers reduced production changeover and down time due to fewer reel changes for improved productivity

Ferrules on 500 to 1,000 piece Mini-Reels

| Part Number | Wire Size AWG (mm ²) | DIN Color |
|-------------|----------------------------------------|-----------|
| FSD75-8-K | 20 (0.5) | White |
| FSD76-8-K | 18 (0.75) | Gray |
| FSD77-8-K | 18 (1.0) | Red |
| FSD78-8-K | 16 (1.5) | Black |
| FSD80-8-K | 14 (2.5) | Blue |

Ferrules on 1,500 to 3,000 piece Bulk Reels

| Part Number | Wire Size AWG (mm ²) | DIN Color |
|--------------|----------------------------------------|-----------|
| FSD75-8-3K10 | 20 (0.5) | White |
| FSD76-8-3K8 | 18 (0.75) | Gray |
| FSD77-8-3K2 | 18 (1.0) | Red |
| FSD78-8-2KD0 | 16 (1.5) | Black |
| FSD80-8-KD6 | 14 (2.5) | Blue |

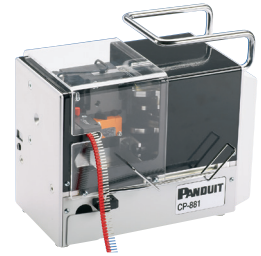
Continuously Molded Ferrules – Tooling Options

Semi-Automated Ferrule Strip and Crimp Tool

Part Number: CP-881

Key Features and Benefits:

- Automated processing delivers:
 - Wire stripping
 - Ferrule placement
 - Ferrule crimping
 - Over six times faster than manual production
 - Process cycle time 1.5 seconds
- Continuously Molded Ferrules
 - Size 20 – 14 AWG (0.5 – 2.5 mm²)
 - Mini-reels of 500 to 1000 pieces
 - Bulk reels of 1500 to 3000 pieces
 - Reduces production changeover and downtime
- Quick setup and changeover
 - Ferrule applicator and wire stripping die sets are designed to easily be removed and installed
 - Provides product changeover in less than ten seconds to improve productivity and reduce setup time
- Digital LCD cycle counter with reset button
- Lightweight with built-in carrying handle for ease of movement

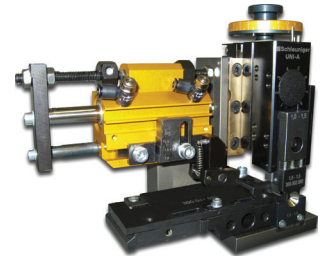


Universal Crimp Applicator for Ferrules

Schleuniger Part Number: UNI-A FA

Key Features and Benefits:

- Lightweight constructions for easy handling and highest precision
- Standard tool-less, incremental crimp height adjustment (micro-adjust)
- Front adjustable transport feed
- Mechanical ejector design avoiding dual crimping
- Continuously Molded Ferrules
 - Size 20 – 14 AWG (0.5 – 2.5 mm²)
 - Bulk reels of 1500 to 3000 pieces
- Works with Schleuniger UniCrimp 200 Bench Top Press and CST systems
- Ideal for 150,000+ crimps per year



Additional Tooling Options

Wire Stripping Machine

Schleuniger Part Number: UniStrip 2300

The Schleuniger UniStrip 2300 programmable stripping machine strips wires ranging in size from 0.03 – 6 mm² (32 – 10 AWG) and jacketed cables up to 5.5 mm (0.22") in diameter. This innovative machine does not require any mechanical adjustments to process different wire sizes.

Overview:

- No mechanical adjustments required when changing wire sizes
- Touch screen user interface with intuitive simple programming
- Very sensitive trigger sensor – works great for small, flexible wires
- Can strip inner conductors of jacketed cables with short break out length
- Preprogrammed cable library



Pull Testing Machine

Schleuniger Part Number: PullTester 20

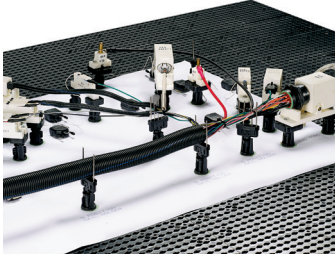








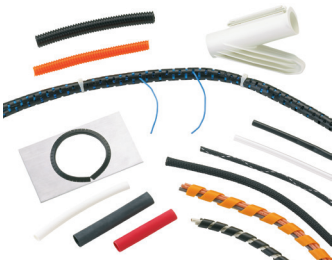

The Schleuniger PullTester 20 is an economical motorized benchtop device for measuring pull forces of electrical crimp connections as well as ultrasonic metal welding connections.

Overview:

- Speed controlled motor for consistent pull rates
- Simple LCD display for easy programming & reading
- Repeatable & accurate data
- Versatile terminal (crimp) holder
- RS 232 interface for curve analysis and statistics with optional WinCrimp PC software



Complete your harness assembly with:

| | |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>Harness Board System</p> <ul style="list-style-type: none"> Modular, reusable solution consists of grid tiles and specially designed, repositionable accessories that improve productivity Easy twist and lock in place accessories allows for faster routing of wires and design flexibility <div> <div>  <p>65% COST REDUCTION compared to traditional nail and board methods</p> </div> <div>  <p>18% FASTER wire harness build times</p> </div> <div>  <p>50% LESS square footage space associated with storing plywood</p> </div> </div> |
|  | <p>Automatic Cable Tie Installation Systems and Reel-Fed Cable Ties</p> <ul style="list-style-type: none"> Engineered for high-volume efficiency and operator ease to minimize installed costs and boost profits Reduce reel-change downtime with Panduit continuous, reel-fed cable ties <div> <div>  <p>6X FASTER than conventional cable tie installation systems</p> </div> <div>  <p>LESS THAN 1 SECOND Wrap, tension and cut cable ties in less than 1 second</p> </div> </div> |
|  | <p>Identification</p> <ul style="list-style-type: none"> Proper wire harness identification improves quality assurance and ensures compliance with industry standards Desktop printers and labeling software provide fast, high-quality label production Available in a wide variety of materials for wire and cable identification, including heat shrink labels, self-laminating labels, turn-tell labels, and marker plates <div>  <p>Reduce time for labeling by up to 75%</p> </div> |
|  | <p>Abrasion Protection</p> <ul style="list-style-type: none"> Insulate, protect, and color code wires to help ensure high-quality performance even in demanding environments Choose from Pan-Wrap™, spiral wrap, corrugated loom tubing and braided sleeving, and heat shrink <div>  <p>Protect from vibration and environmental factors Bundle and route wires and cables efficiently</p> </div> |

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