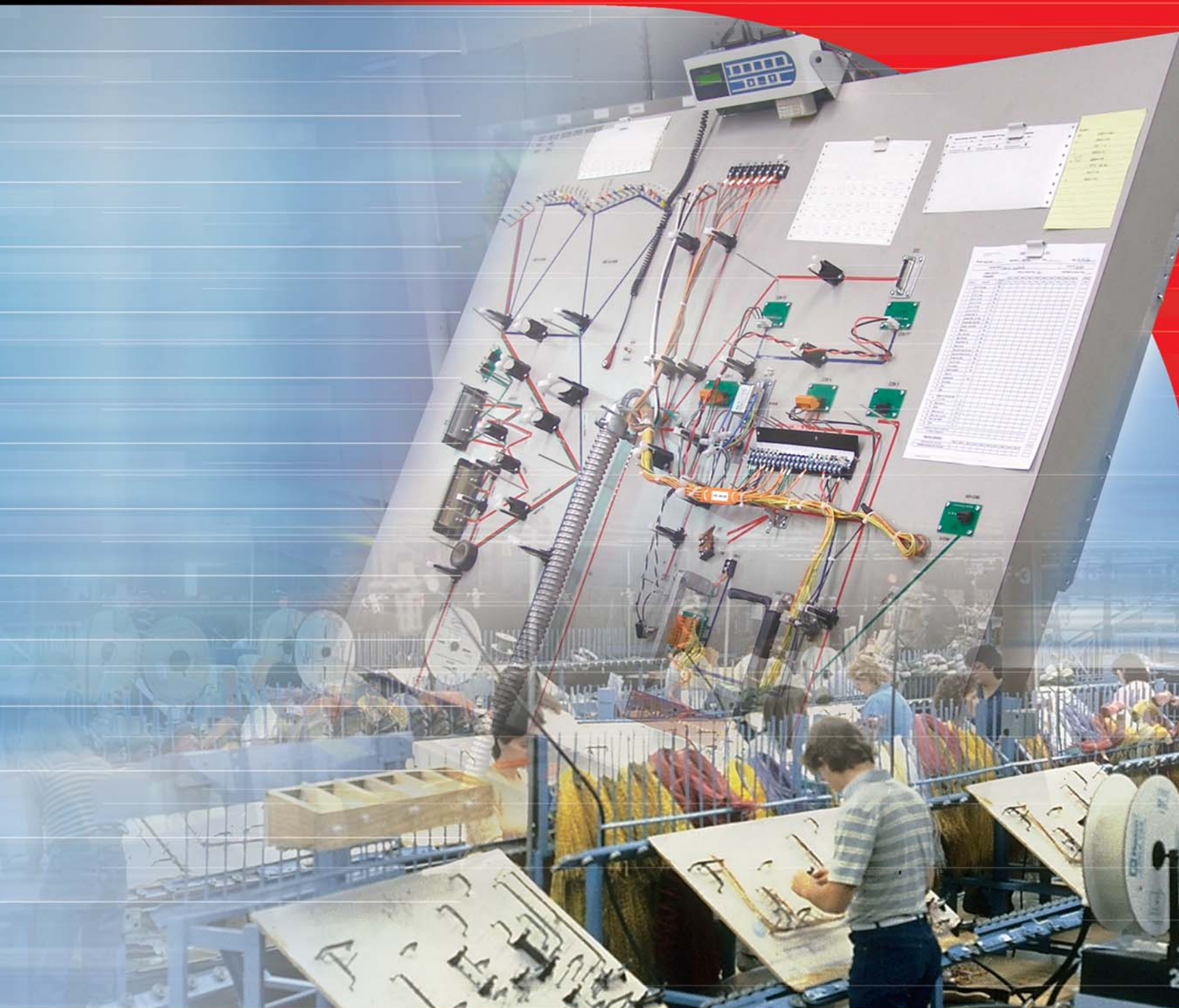




INNOVATIVE WIRE MANAGEMENT SYSTEMS

For Harness Fabrication, Installation, and Automation



Technology Advancements Improve Manufacturing Efficiencies

Continuous improvements in production and design processes that reduce costs, maintain quality and enhance productivity are key to remaining competitive in the global manufacturing market.

Original Equipment Manufacturers (OEM) and Contract Manufacturers (CM) are faced with pressures to improve profitability and time to market. With the increased complexity and sophistication of end products, meeting these strategic objectives and maintaining customer satisfaction is challenging.

Whether you are an OEM or CM, you know that your market is diverse, demanding and ever evolving. To meet the varying needs of your products and end users, and to achieve profitable growth, you require leading edge solutions for the fabrication, installation and automation of the harnesses that support your business.

PANDUIT is your premier problem solving, solutions-based business partner helping you achieve lean manufacturing:

- *Improve quality, reliability and performance*
- *Increase productivity*
- *Eliminate waste and downtime*
- *Enhance worker safety*
- *Utilize automation to improve profitability*
- *Accelerate time to market*
- *Support global needs*



PANDUIT Wire Management Solutions <<<<<< **for Harness Fabrication, Installation and Automation**

PANDUIT is a leading global supplier of wire management solutions for the OEM and CM market, committed to providing innovation and excellence to help customers achieve their strategic objectives. From complete system solutions that provide the lowest installed cost to new product innovations that meet changing application challenges, *PANDUIT* wire management solutions provide everything necessary to bundle, route, protect, terminate and identify wires and cables. Featuring industry leading tooling and automated installation systems, *PANDUIT* solutions meet a wide range of applications, volumes and environments.

When you partner with *PANDUIT* for the supply and application of your wire management solution, you are assured a relationship built on a solid, proven foundation of success.

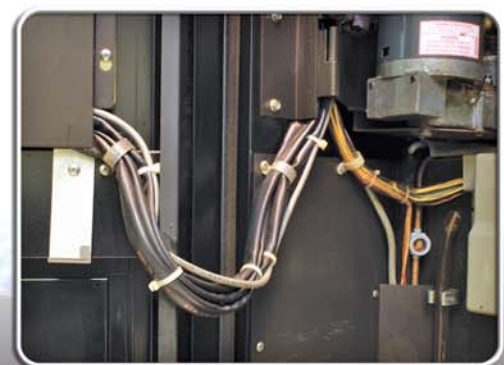
Solution Benefits: <<<<<<

World-Class Quality and Reliability

PANDUIT provides top quality products that deliver the highest reliability and performance. *PANDUIT* achieves continuous improvement of products, programs and processes with a focus on quality initiatives throughout the organization, to continually meet the evolving needs of our customers. Customer applications are the primary focus in product development. All of our wire management solutions are engineered to provide defect-free installations, minimize rework, and lower downtime, which contributes to increased productivity and lower cost of ownership.

Breadth of Product Line

PANDUIT provides extensive solutions for wire management to help our customers achieve a faster, easier and more cost efficient production process. With over 30,000 high-quality, reliable, available parts, supplier standardization is optimized. *PANDUIT* product lines for harness applications include cable ties, wiring accessories, abrasion protection, terminals, power connectors, and identification supported with complementary tooling systems that are second to none in industry performance.





Solution Benefits (cont.):

Lowest Installed Cost

PANDUIT product solutions are designed to work together as a system to provide the lowest installed cost. Quality products are designed for ease of installation and are supported with reliable, high speed automatic and manual tooling systems that increase consistency and productivity, reduce operator fatigue, reduce injuries associated with repetitive operations, and minimize potential rework.



Innovative Products and Automation Tooling

Driven by an understanding of emerging applications and customer needs, PANDUIT invests heavily in R&D to manufacture leading-edge solutions. This design excellence and application leadership delivers products that help increase production, track performance, eliminate waste, reduce downtime, maintain safety, withstand harsh environments, and comply with industry standards, resulting in lower operational costs and competitive advantages for our customers.

Global Manufacturing and Logistics

PANDUIT world-class manufacturing and customer service support our leading global position in the market. All PANDUIT manufacturing facilities are ISO 9001 and ISO 14001 certified. Each location is linked together using a single order management system to optimize global capabilities. PANDUIT has one of the most extensive logistic supply chains in the industry. World-wide, PANDUIT delivers the highest service levels and on-time product availability to meet customer needs.

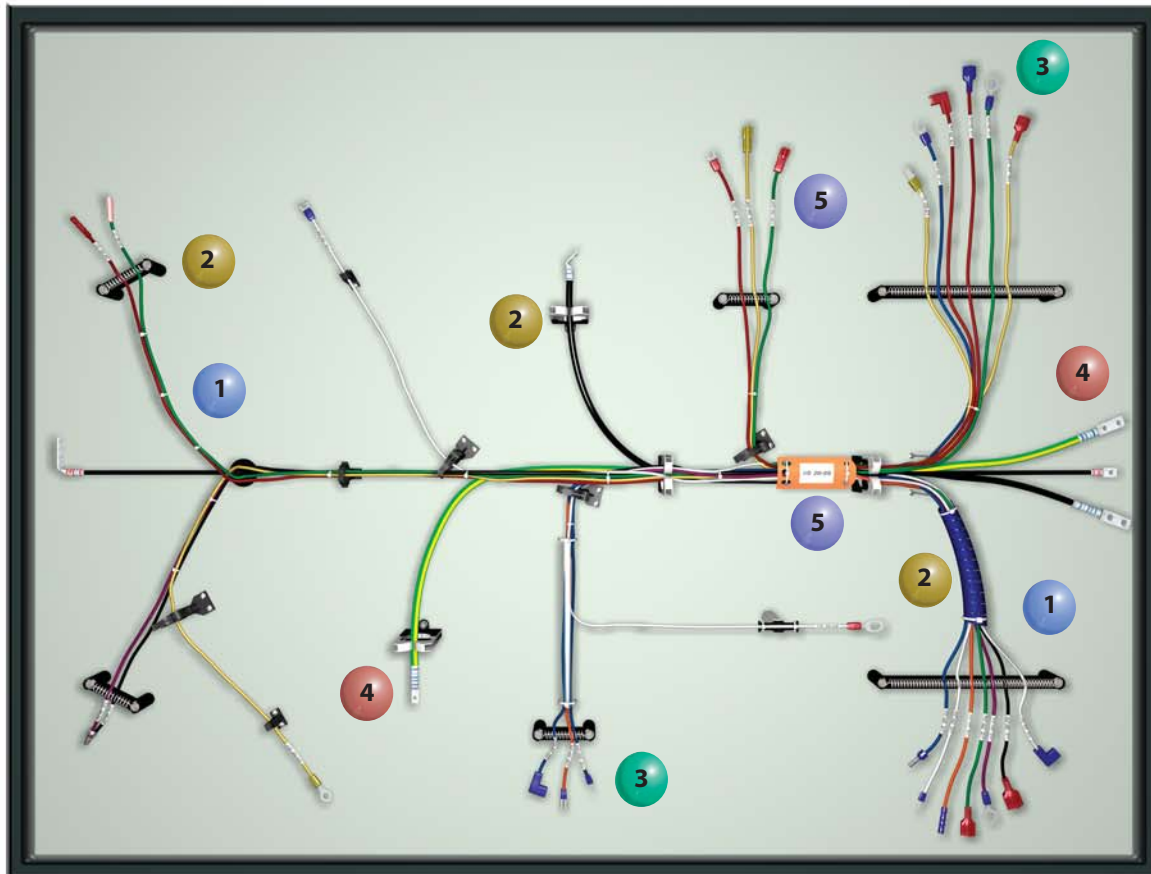
Global Value Engineering Support

From single wire leads to complex harnesses for commercial aircraft, our experienced engineering and sales staff has been providing training, process improvements, and cost saving opportunities to our customers for years. With PANDUIT design assistance and consultation, our customers have reduced tool inventory costs, minimized repetitive motion operations, consolidated piece part inventory, and improved work-in-process efficiencies.



Harness Board Solutions

Bundle, route, protect, terminate, and identify



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- Pneumatic Cable Tie Installation Tools
- Manual Cable Tie Installation Tools



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- CONTOUR CRIMP™ Controlled Cycle Crimping Tools



4 Power Connector SystemsPages 19-20

- CONTOUR CRIMP™ Controlled Cycle Crimping Tool
- Battery Powered Hydraulic Crimping Tool
- Remote Hydraulic Crimp Head



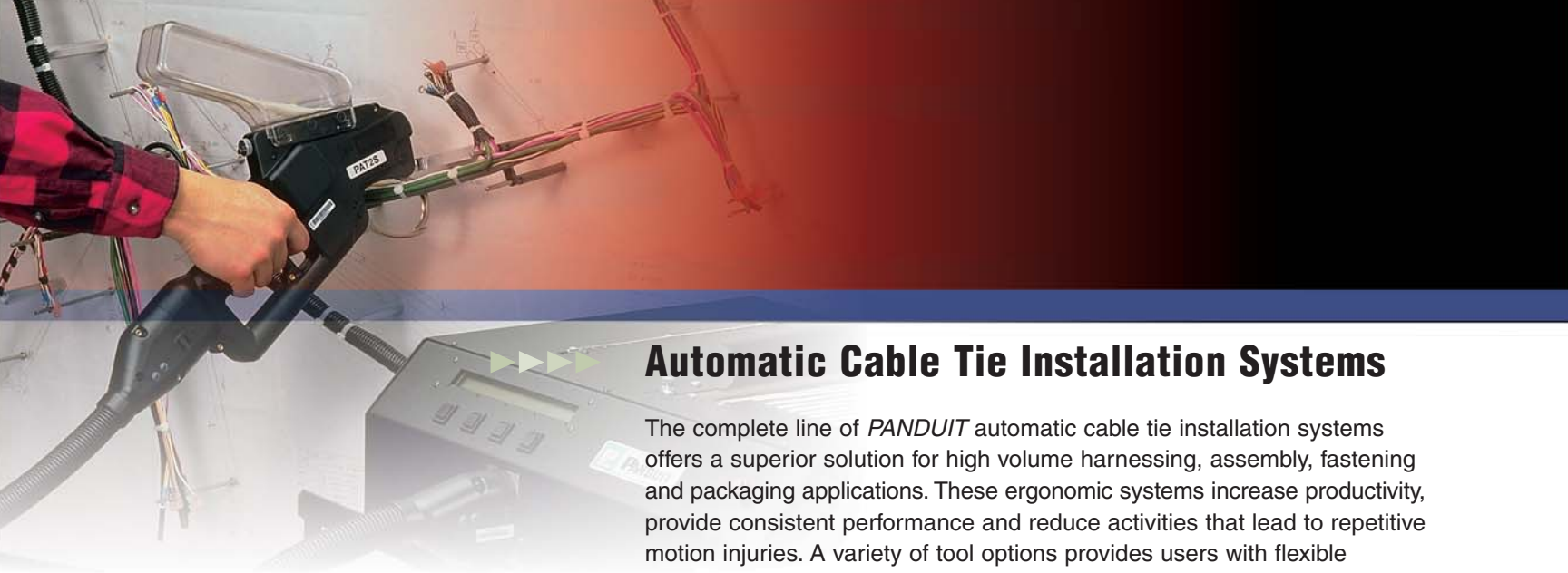
5 Identification SystemsPages 21-23

- Labeling Software
- Desktop and Hand-Held Printers
- Labels and Label Cassettes



For full PANDUIT product offering request *Electrical Solutions Catalog, SA-ELCB03*. Or visit www.panduit.com.

For service and technical support, call 800-777-3300 (outside the U.S. and Canada, see back cover).



Automatic Cable Tie Installation Systems

The complete line of *PANDUIT* automatic cable tie installation systems offers a superior solution for high volume harnessing, assembly, fastening and packaging applications. These ergonomic systems increase productivity, provide consistent performance and reduce activities that lead to repetitive motion injuries. A variety of tool options provides users with flexible solutions for their unique application needs.

Productivity and Reduced Manufacturing Cost

- Cycle times of less than one second are up to six times faster than conventional manual cable tie installation
- Ergonomic design reduces operator fatigue and repetitive motion injuries to increase productivity
- Reels of up to 5,000 continuously molded cable ties reduce downtime due to fewer reel changes

Reliability

- Microprocessor based controller monitors system performance; provides production data and reporting, including error detection and cycle count
- Tool tension adjustment feature allows user to easily set and maintain desired tension for consistent performance

Flexibility and Versatility

- Three systems install a wide variety of cable tie styles and sizes for application versatility
- Multi-language capability in the microprocessor based controller displays easy-to-read text messages through LCD display, providing production data, error detection and cycle count
- Available with the exclusive Ethernet enabled dispenser and data interface software, which provide users with advanced production information and support to measure and track production performance



Three systems built for speed

System Selection Guide

Part Number	Maximum Bundle Diameter	Cross Section
PAT1M	.82 in. (21mm)	Miniature
PAT1.5M	1.31 in. (33mm)	Miniature
PAT2S	2.00 in. (51mm)	Standard

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Automatic Cable Tie Installation Systems –

PAT1M and PAT1.5M

PANDUIT PAT1M and PAT1.5M automatic cable tie installation systems wrap, tension and cut-off Miniature cross section cable ties in less than one second to a maximum bundle diameter up to 1.31 in. and 30 lbs. minimum loop tensile strength. The ergonomic, lightweight design reduces operator fatigue and repetitive motion injuries – no counter balance required. Design allows right or left hand operation. A durable, one-piece cable tie tip collector (for cut-off tips) and tension adjustment capability are built-in.



PAT1M System and PAT1.5M System Technical Data

	PAT1M	PAT1.5M
Power Supply	Electrically powered with air pressure regulation	
Cycle Time	Less than 1 second	
Microprocessor Based Controller	Monitors system performance; provides production data and reporting through LCD display in easy-to-read text	
Tool Weight (with tip collector)	1.75 lbs. (0.79 kg)	
Tension Setting	Adjustable	
Operational Options	Hand-held or bench mount	
Maximum Bundle Diameter	.82 in (21 mm)	1.31 in (33 mm)
Required System Components	PAT1M Tool Head	PAT1.5M Tool Head
	PDM Stationary Dispenser – operates on 65 psig (4.5 bar) minimum, non-lubricated, filtered air and 100-240 VAC/50 or 60 Hz: automatically adjusts within this range	
	PHM* Transfer Hose – available in 3.2 ft. (1m), 6.5 ft. (2m) and 10 ft. (3m), * indicates desired length	
Optional Components	PATMBM Bench Mount – for hands-free operation, ideal for high volume applications PL283N1 Filter Regulator PDH10-37 Air Supply Hose – 10 ft. (3 m) Exclusive Data Interface System – see page 8	





Automatic Cable Tie Installation System – PAT2S



PANDUIT PAT2S automatic cable tie installation system provides the speed and productivity of automatic cable tie installation for Standard cross section ties for bundle diameters up to 2.00 in. and 50 lbs. minimum loop tensile strength. Flexible design allows right or left hand operation. A durable, one-piece cable tie tip collector (for cut-off tips) and tension adjustment capability are built-in.



PAT2S System Technical Data

Power Supply	Electrically powered with air pressure regulation
Cycle Time	Less than 1 second
Microprocessor Based Controller	Monitors system performance; provides production data and reporting through LCD display in easy-to-read text
Tool Weight (with tip collector)	1.75 lbs. (0.79 kg)
Tension Setting	Adjustable
Operational Options	Hand-held or bench mount
Maximum Bundle Diameter	2.00 in. (51mm)
Required System Components	PDS Stationary Dispenser – operates on 65 psig (4.5 bar) minimum, non-lubricated, filtered air and 100-240 VAC/50 or 60 Hz; automatically adjusts within this ranges PHS* Transfer Hose – available in 3.2 ft. (1m), 6.5 ft. (2m) and 10 ft. (3m), * indicates desired length PDSF Dispenser Frame – supports dispenser
Optional Components	PAT2SBM Bench Mount – for hands-free operation, ideal for high volume PL283N1 Filter/Regulator PDH10-37 Air Supply Hose – 10 ft. (3 m) Exclusive Data System Interface – see below



Data Interface Software and Ethernet Enabled Dispenser

PANDUIT exclusive Ethernet enabled dispenser and customized data interface software allow production personnel to monitor real time data in a shop floor environment. The Ethernet enabled dispenser provides a physical connection between the cable tie installation system and an Industrial Ethernet Network via an RJ45 connection and internal Ethernet Card.

- Allows Production and/or Engineering personnel the capability to measure and track production performance such as job tracking, cycle counts, tool and dispenser serial numbers, and routine maintenance
- Provides the ability to send email notifications for specific system messages
- Maintains an exportable electronic log of messages and maintenance

EXCLUSIVE CAPABILITY!



For full *PANDUIT* product offering request *Electrical Solutions Catalog, SA-ELCB03*. Or visit www.panduit.com.

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Reel-Fed Cable Ties – Multiple Styles and Sizes ◀◀◀◀

Continuously molded cable ties (up to 5,000 ties per reel) provide continuous feeding for high productivity and reduced downtime due to fewer reel changes. Available in a full range of tensile strengths, styles, sizes and materials to suit a variety of applications.

All-Nylon Tie (PLT1M-XMR and PLT1.5M-XMR) – Miniature Cross Section

- Reel-fed cable ties in all-nylon (one-piece) locking ties with 18 lbs. minimum loop tensile strength
- Available in a variety of colors and materials
- Maximum bundle diameter up to .82 in. for the PLT1M-XMR and 1.31 in. for the PLT1.5M-XMR

Barbed Tie (BT1M-XMR and BT1.5M-XMR) – Miniature Cross Section

- Reel-fed cable ties with exclusive stainless steel locking barb and 30 lbs. minimum loop tensile strength permit higher tension for demanding applications
- Metal locking barb and tie body design provide greater bundle tightness, reducing both rotational and lateral movement of the tie
- Maximum bundle diameter up to .82 in. for the BT1M-XMR and 1.31 in. for the BT1.5M-XMR

All-Nylon Tie (PLT2S-VMR) – Standard Cross Section

- Reel-fed cable ties in all nylon (one-piece) locking ties with 50 lbs. minimum loop tensile strength
- Maximum bundle diameter up to 2.00 in.
- Standard cross section cable ties (2,500 ties per reel)



Reduced downtime due to fewer reel changes



Reel-fed Cable Ties Technical Data

Material	Color	Styles Available	Continuous Use Temperature
Nylon 6.6	Natural	PLT1M-XMR, PLT1.5M-XMR,	-75°F to 185°F (-59°C to 85°C)
Weather Resistant Nylon 6.6	Black	BT1M-XMR, BT1.5M-XMR,	-75°F to 185°F (-59°C to 85°C)
Heat Stabilized Nylon 6.6	Black	PLT2S-VMR	-75°F to 239°F (-59°C to 115°C)
Flame Retardant Nylon 6.6*	Natural	BT1.5M-XMR	-75°F to 212°F (-59°C to 100°C)
Military Grade WR Nylon 6.6	Black	PLT1M-XMR, PLT1.5M-XMR	-75°F to 185°F (-59°C to 85°C)

*Flammability rating of UL94V-0 on Flame Retardant Nylon 6.6 material.

All PLT-XMR's and PLT-VMR's are **Class 2 Mil. Spec.** with the exception of Weather Resistant and Heat Stabilized Nylon 6.6 material per SAE-AS23190A and SAE-AS33671.



Pneumatic Cable Tie Installation Tools

- Lightweight ergonomic design is comfortable and easy to use, reducing operator fatigue and the potential for repetitive motion injuries
- Fast, consistent installation of Subminiature through Heavy cross section cable ties
- Tension and cut-off mechanism maintains desired tension and provides flush cable tie cut-off, preventing damage to adjacent wire bundles and protecting workers' hands and arms
- Beveled tie entry allows quick side entry of tie into tool which speeds installation
- Controlled tip ejection allows operator to quickly and safely remove excess cut-off material, eliminating the need to clean-up work area after completion of installation
- Narrow nose permits easy access to confined areas, maximizing application flexibility
- Quick connect fitting allows the operator to easily connect tool to any air supply source, improving portability
- Two retractable hangers allow for hanging the tool in the work area for easy access and for safe storage of tool when not in use
- Two adjustment knobs (coarse and fine) allow precision tension settings for consistent, reliable results
- Tension setting label displays easy-to-read instructions right on the tool for operator convenience



Tool Technical Data

Part Number	PTS	PTH
Weight	17.3 oz. (490g)	32.0 oz. (907g)
Used with Cable Ties	Subminiature through Standard	Standard through Heavy
Air Supply	Operates on 70-90 psig (4.8-6.1 bar), non-lubricated air	Operates on 70-100 psig (4.8-6.8 bar), non-lubricated air
Tension Setting	Adjustable	
Optional Tool Accessories	PL289N1 Filter/Regulator	
	PPH10 Hose Assembly – 10 ft. (3 m)	
	PHCAQ and PHCAT Adapter Fittings for Hose	
	KPTSTL Tension Locking Kit	
	KGTSBLD – Blade Replacement Kit	KPTHBLD – Blade Replacement Kit



Easy Tension Adjustment

If compressed air is not readily available, consult factory to discuss optional portable air system kit.

Manual Cable Tie Installation Tools ◀◀◀◀

Tool Controlled Tension and Cut-off – Ergonomic Series (GTS, GTSL, GTH)

- Lightweight, ergonomic design is comfortable and easy to use, reducing operator fatigue and the potential for repetitive motion injuries
- Beveled tie entry allows quick side entry of tie into tool which speeds installation
- Narrow nose permits easy access to confined areas, maximizing application flexibility
- Two adjustment knobs (coarse and fine) allow precision tension settings for consistent, reliable results
- Tension setting label displays easy-to-read instructions right on the tool for operator convenience
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- Controlled tip ejection allows operator to quickly and safely remove excess cut-off material, eliminating the need to clean-up work area after completion of installation



Easy Tension Adjustment

Selection Guide - Tool Controlled Tension and Cut-off Tools

Part Number	Body Style	Used with Cable Ties
GTS	Ergonomic	Subminiature through Standard
GTSL	Ergonomic	Same as GTS (shorter handle reach)
GTH	Ergonomic	Standard through Heavy
GS2B	Metal Tool	Miniature through Standard
GS4H	Metal Tool	Standard through Heavy
GS4EH	Metal Tool	Light-Heavy through Extra-Heavy

Installer Controlled Tension and Cut-off

- Economical series of tools for low volume applications
- Easy to use – Install cable tie around bundle and tension by squeezing tool handle



Selection Guide - Installer Controlled Tension and Cut-off Tools

Part Number	Used with Cable Ties
STS2	Miniature through Standard
STH2	Standard through Heavy
STHV	Light-Heavy through Heavy
ST3EH	Light-Heavy through Extra-Heavy

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Wiring Accessories

PANDUIT supplies OEM and CM customers with innovative wire harness components, systems and installation tooling. Designed to speed installation and lower installed cost, *PANDUIT* offers a broad range of solutions to meet the changing challenges of routing wire in harness assembly production. The full line includes Harness Board Accessories and Abrasion Protection Products.



Fast Routing and Forming

PANDUIT Harness Board Accessories offer unique products for all your wire harness management requirements.

- Provide fast routing and forming of wires during harness fabrication
- Hold wires/cables off the board at a uniform height for easy application of cable ties, labels, and abrasion protection products
- Smooth surfaces and rounded corners will not damage wire during the assembly process
- Quick release features provide fast, easy removal of the harness

Innovative Wire/Cable Protection

PANDUIT Abrasion Protection Products provide a full range of spiral wrap, heat shrink, and grommet edging to insulate, protect and color code, featuring *PAN-WRAP™* Split Harness Wrap.

- *PAN-WRAP™* Split Harness Wrap innovative engineering simplifies wire and cable breakouts with the patented slotted wall pattern design for improved flexibility, abrasion protection and uniform bundle protection
- Achieve the lowest installed cost with the patented *PAN-WRAP™* Tool that opens to 180° allowing for quick, easy loading and installation of maximum bundle diameters



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PANDUIT Harness Board Accessories ◀◀◀◀

Wire Retainers – RER Replaceable Elastic Retainers

As wires are individually inserted, the bundle is pre-formed. When the harness is complete, it can be easily snapped out. Three sizes available for 1/2" (12.7mm), 3/4" (19.0mm) and 1 1/4" (31.7mm) bundles.

Bundle Retainers

Spring fingers with larger lead in, facilitate fast routing of wires and easy removal of completed harness. Three sizes available for 1/2" (12.7mm), 3/4" (19.0mm) and 2.00" (50.8mm) bundles.

ER Elastic Retainers

ER Type retainers form wire bundles as wires are inserted. Completed bundles then snap out. Two sizes available for 1/2" (12.7mm) and 1 1/4" (31.7mm) bundles.

Corner Posts

Designed to pre-form bundles at harness corners and breakouts. The top arm pivots for easy removal of completed harness.

Wire End Holder

Secure wire ends with or without terminations while harness is being fabricated. Wires can be easily added or removed from the top, but will hold the wire from axial movement. Use with #28 thru #16 AWG wires. Two mounting slots .16" (4.1mm) for #8 (M4) screws.

T-Junction Fixture

Using an integral harness board nail, the fixture moves up and down to form "T" junction. Unique design reduces cable tie usage by 1/3 compared to other fixtures.

Fanning Strip System

Assures that wires are held in a particular orientation in sophisticated wiring harnesses. Consists of fanning strip and fanning strip holder.





PANDUIT Harness Board Accessories (cont.)

Spring Wire Breakout System

Consists of harness board springs and spring holders to hold wire ends taut. When harness is removed from board, wires simply pull from spring.

Harness Board Nails

Speeds routing of wires. All have a uniform driving depth insured by collar stop.

Harness Board Standoff Post

Used to hold a push mount accessory or push mount cable tie at a specific location on a harness board. The Standoff Post is placed over a hole in the harness board, a bolt is then threaded into the bottom of the standoff from the backside of the board and tightened. Push mount accessories are inserted into the top of the Standoff Post prior to assembly. When the assembly is complete, the harness and the attached push mount are removed from the Standoff Post.

Tie Harness Mounts – Using Two Cable Ties

Tie Harness Mounts are designed to be attached to the wires harness during assembly with 2 cable ties. Ties can be installed by hand or, more efficiently, with *PANDUIT* Cable Tie Installation Tooling. Available with or without corrugated tubing location tab.



PAN-WRAP™ Split Harness Wrap and Tool

PAN-WRAP™ Split Harness Wrap is Engineered for flexibility and maximum protection of wires and cables. It features slotted walls that provide flexibility and allow for easy breakouts along the length of the harness.

PAN-WRAP™ Tools are available for quick and easy installation.

Innovative slotted wall design
simplifies wire and cable breakouts

REEL SMART™ Termination System ◀◀◀◀

The PANDUIT® REEL SMART™ Termination System provides a superior solution for quality, high volume terminations designed to dramatically reduce set-up time and production downtime. The automated one applicator/press system reduces cost of ownership, lowers inventory levels and decreases lease fees. The PANDUIT® REEL SMART™ Automated Termination System provides OEM and CM customers improved efficiency and productivity in harness fabrication and installation.

Productivity & Reduced Manufacturing Costs

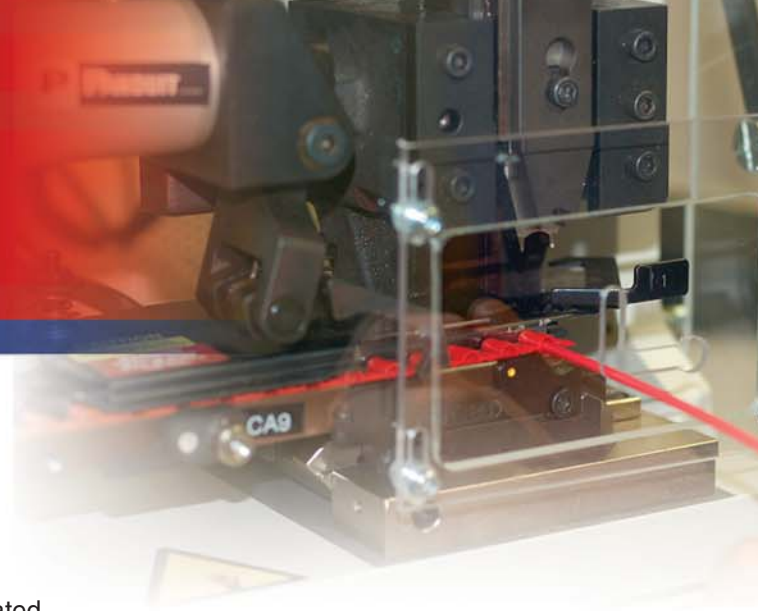
- Cycle times of less than one second are up to six times faster than conventional manual termination
- Automated design lessens operator fatigue and repetitive motion injuries to increase productivity
- Reels of up to 3,000 continuously molded terminals reduce production downtime due to fewer reel changes
- Applicator can be changed without the use of tools to facilitate faster change over to lower cost of ownership

Reliability

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

Flexibility and Versatility

- Multi-language capability in the press's microprocessor based controller displays easy-to-read text messages through LCD display, providing production data, error detection and cycle count
- 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™ System including Universal Applicator

For full PANDUIT product offering request *Electrical Solutions Catalog, SA-ELCB03*. Or visit www.panduit.com.

For service and technical support, call 800-777-3300 (outside the U.S. and Canada, see back cover).



UNIVERSAL APPLICATOR



Only one applicator needed to install all **REEL SMART™** Terminals; interchangeable dies



REEL SMART™ Automated Termination System

PANDUIT® CA9 EzAir™ and CA-800EZ Universal Applicators each have the ability to 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. Terminal loading is fast and easy without special instructions or set-up personnel. Positive stop adjustment rings allow for electrical and insulation crimp adjustments as desired. The CA9 EzAir™ Universal Applicator uses compressed air to advance to the next terminal, while the CA-800EZ Universal Applicator advances by the use of a mechanical system, providing versatility to meet the customer's individual facility requirements. Either applicator can be used in the CP-871 Electric Press. The CA9 EzAir™ Universal Applicator can also be used in commercially available automatic wire processing machines. This automated universal applicator system provides flexibility, versatility and reliability resulting in lower total cost of ownership.

CA9 EzAir™ Universal Applicator Technical Data

Product Feed	Compressed air
Cycle Time	Less than 1 second
Interchangeable Die Sets	18 die sets terminate entire product line
Tool Weight (Without Dies)	15.9 Lbs
Crimp Height Adjust	Micrometer dial adjust
Operational Options	Bench press or automatic wire processing machine
Product Termination Range	#22 AWG -10 AWG Insulated Terminals, Disconnects and Splices

CA800 EZ Universal Applicator Technical Data

Product Feed	Mechanical linkage
Cycle Time	Less than 1 second
Interchangeable Die Sets	18 die sets terminate entire product line
Tool Weight (Without Dies)	14.5 Lbs
Crimp Height Adjust	Micrometer dial adjust
Operational Options	Bench press
Product Termination Range	#22 AWG -10 AWG Insulated Terminals, Disconnects and Splices

CP-871 Electric Press Technical Data

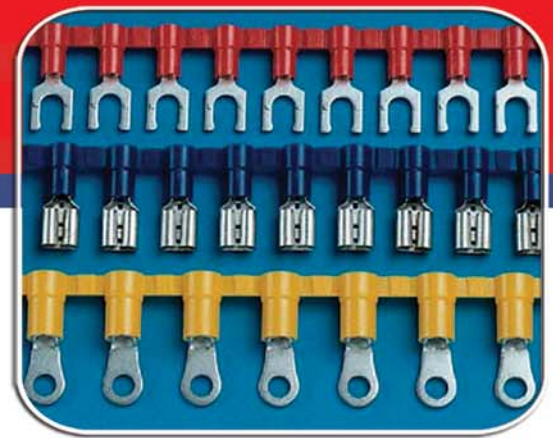
Power Supply	110 VAC/60 Hz, 220 VAC/50 Hz (field convertible)
Crimp Stroke	40mm
Microprocessor Based Controller	Microprocessor touch pad user interface
Tool Weight (Without Applicator)	176 Lbs
Crimp Micro-adjust	Micrometer shut height adjust
Crimping Force	3.7 Tons
Versatility	Split cycle, pneumatic feed option, cycle counter, quick release applicator mounting base

Additional System Components

Die Sharpening Kits	PANDUIT DSF-RS and DSF-NP die sharpening kits available to resharpen cutting edges of the black oxide and nickel-plated cutter dies respectively
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Continuously Molded Reel-Fed Products

The pre-assembled continuously molded reel-fed product design features terminal, disconnect and butt splice housings that are connected by a continuously molded carrier strip in the barrel crimp zone, producing a precise location for each terminal. During termination, these continuously molded components are fed into a universal applicator and terminated. This process produces a reel-fed solution that eliminates a variety of problems associated with other reel-fed designs, providing high capacity product reels for longer, uninterrupted production runs—resulting in the lowest installed cost.



Reduce downtime with longer, uninterrupted production runs

Continuously Molded Reel-Fed Product Technical Data

	Nylon	Vinyl
Temperature Range	105°C	105°C
Flammability Rating	UL94V-2/HB	UL94V-0
RoHS Compliant	Yes	Yes
Halogen Free	Yes	No

Reel-Fed Terminals, Disconnects and Splices

- Faster assembly for increased production and lower installed costs
- Superior wire contact for secure connections
- 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
- Complete line of reel-fed products now available in metric
- CD9 and CD800 series crimp dies available, for description and manufacturer compatibility see the *PANDUIT* Electrical Solutions Catalog (catalog number SA-ELCB03) or www.panduit.com

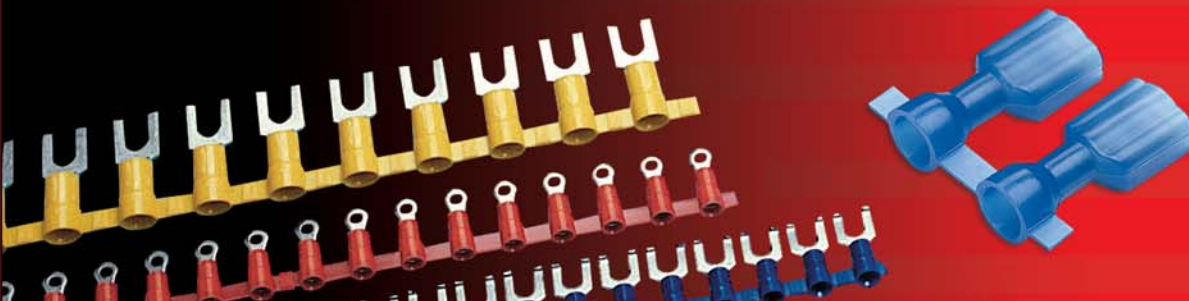


The full offering includes AWG and metric terminals, splices and disconnects in wire ranges of 22AWG-10AWG (.5-6mm²)

- 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
- *DISCO-LOK*™ 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

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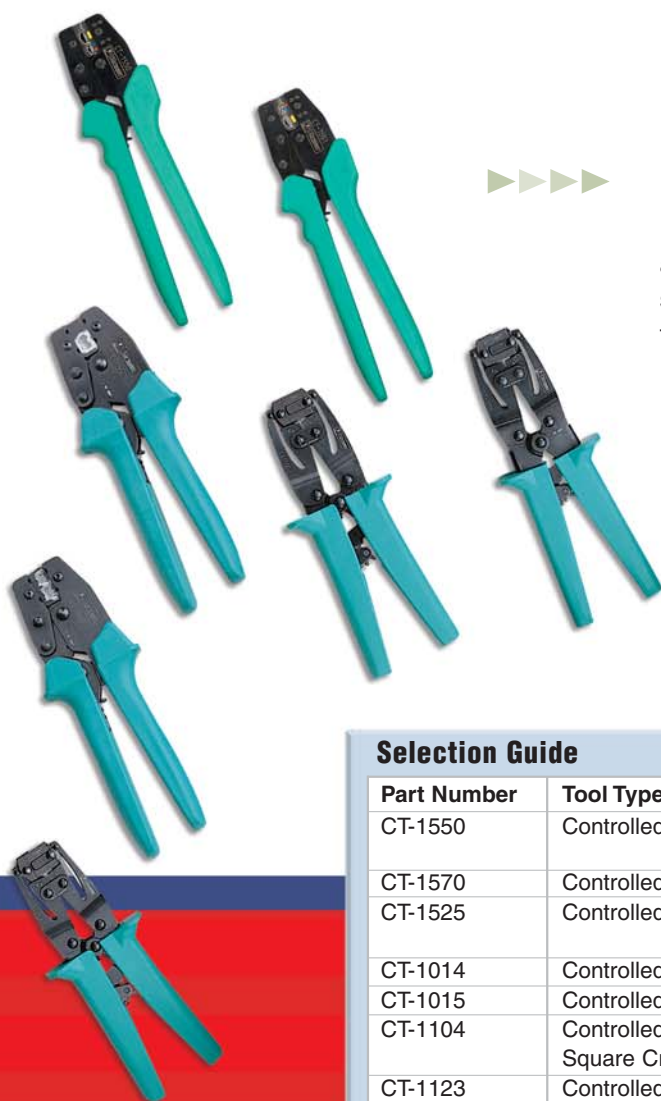
CT-600 Pneumatic Terminal Crimping Tool

PANDUIT pneumatic crimping tools provide a superior solution for quality terminations, every time, ideal for medium volume harness production.

- Cycle times of less than one second are up to six times faster than conventional manual termination
- Interchangeable crimp heads provide versatility in product being terminated, and are quick-changing to reduce change over times
- Quick change air fittings allow portability from one work station to another
- Low maintenance pneumatic cylinder allows trouble-free operation for years of reliable service
- Tool can be activated by on-board trigger, or remote foot pedal, providing flexibility for two handed product and wire placement

Tool Accessories:

- CT-500 Series Crimping Heads
- PD-600 Positioning Device (for bench mounting)
- FPC-600 Foot Actuator



CONTOUR CRIMP™ Controlled Cycle Crimping Tools

CONTOUR CRIMP™ Crimping Tools are ergonomically engineered to provide a superior solution for terminations of *PAN-TERM*® terminals, disconnects, splices and ferrules. Designed to improve reliability and productivity, these tools are ideal for low to medium harness applications.

- Lightweight, contour handle and superior tool balance help reduce operator fatigue and repetitive motion injuries, minimizing downtime
- Tool locator automatically resets to the proper position after each crimp to increase productivity
- The tool locator ensures proper location of the terminal barrel or insulated disconnect to ensure a reliable quality crimp
- Controlled cycle mechanism ensures a complete crimp cycle every time
- Narrow grip span accommodates smaller hands

Selection Guide

Part Number	Tool Type	Tool Used to Terminate
CT-1550	Controlled-Cycle Hand Tool	Most #22-10 AWG nylon and vinyl insulated terminals, disconnects and splices
CT-1570	Controlled-Cycle Hand Tool	Non-insulated #22-10 AWG terminals and disconnects
CT-1525	Controlled-Cycle Hand Tool	#26-#22 AWG insulated terminals and splices, #22-#10 AWG fully insulated disconnects and parallel splices
CT-1014	Controlled-Cycle Hand Tool	#22-#14 AWG loose piece <i>DISCO-LOK</i> ™ disconnects
CT-1015	Controlled-Cycle Hand Tool	#22-#14 AWG loose piece <i>SUPRA-GRIP</i> ™ disconnects
CT-1104	Controlled-Cycle Hand Tool Square Crimp Profile	#8-#6 AWG (10-16mm ²) insulated and non-insulated ferrules
CT-1123	Controlled-Cycle Hand Tool Square Crimp Profile	#26-#8 AWG (.14-10mm ²) insulated and non-insulated ferrules

PAN-LUG™ Copper Compression Installation Systems

PAN-LUG™ Copper Compression Installation Systems are engineered to provide fast and easy termination solutions for high volume harnessing and assembly applications at the lowest installed cost. The systems are ergonomically designed to minimize operator effort and feature controlled cycle mechanisms to ensure reliability and repeatability in every crimp made. PANDUIT compression connector crimping tools are recommended for use with PANDUIT® PAN-LUG™ Compression Connectors for UL Listed and CSA Certified connections.

Productivity

- The CT-1700 crimping tool is ergonomically designed to reduce stress in hand and wrist
- With crimp cycle times of 8 seconds or less, the CT-2001 crimping tool and CT-930LPCH crimp head provide quick terminations to save time

Reliability

- Controlled cycle mechanism in the CT-1700 assures a full crimp cycle every time
- The CT-2001 features an audible pop-off valve to indicate crimp completion
- High quality, durable construction and low pressure hydraulic requirements of the CT-930LPCH provide long-term dependability and tool life

Reduced Manufacturing Costs

- A five pocket rotary die with push button lock-out is integrated into the CT-1700 tool head for fast and easy die changeover to save time and cost of lost crimping dies
- The CT-2001 provides up to 200 crimps on a single battery charge and is supplied with two batteries to allow for continuous operation

Flexible and Versatile

- PANDUIT crimping tools install a wide range of copper and aluminum compression connectors for code and flex conductors
- The CT-1700 and CT-2001 are self-contained units and completely portable
- The CT-930LPCH offers 120 VAC operation with optional foot pedal control for convenient bench crimping

Selection Guide

Part Number	Tool Type	Copper Conductor Size Range
CT-1700	Manual Hand Tool	#8-#1 AWG Code, #8-#2 AWG Flex
CT-2001	Battery Powered Hydraulic Tool	#8 AWG-500 kcmil Code, #8 AWG-350 kcmil Flex
CT-930LPCH	Remote Hydraulic Crimp Head	#8 AWG-250 kcmil Code

For full PANDUIT product offering request *Electrical Solutions Catalog, SA-ELCB03*. Or visit www.panduit.com.

For service and technical support, call 800-777-3300 (outside the U.S. and Canada, see back cover).



Ergonomically Superior
CT-1700



Portable Powered Crimp
CT-2001



Fast Bench Crimping
CT-930LPCH



PANDUIT® Compression Connector Crimping Tools

CT-1700 CONTOUR CRIMP™ Controlled Cycle Tool Technical Data

Application	Medium volume for small conductors
Copper Conductor Size Range	#8 -#1 AWG Code, #8-#2 AWG Flex
Tool Weight	1.25 lbs.
Crimping Dies	5 position color coded rotating die integrated into tool head

CT-2001 Battery Powered Hydraulic Crimping Tool Technical Data

Application	Medium volume for small and large conductors
Copper Conductor Size Range	#8 AWG-500 kcmil Code, #8 AWG-350 kcmil Flex
Cycle Time	6-8 seconds
Output	6 tons
Tool Weight (with battery)	8.5 lbs.
Included with Tool	Two 14.4 VDC rechargeable batteries, battery charger, shoulder strap, plastic tool case, D3 die pocket
Crimping Dies	PANDUIT CD-2001 crimping dies available: color coded to provide easy matching to PANDUIT connectors, embosses die index number on connector barrels for easy post crimp inspection

CT-930LPCH Remote Hydraulic, Low Pressure, Crimp Head Technical Data

Application	Large volume for small and large conductors
Copper Conductor Size Range	#8 AWG-250 kcmil Code
Output	10.5 tons
Tool Weight	11 lbs.
Included with Tool	Steel tool case and male Parker type quick-connect fitting assembled to tool
Crimping Dies	PANDUIT CD-920 crimping dies available: color coded to provide easy matching to PANDUIT connectors, embosses die index number on connector barrels for easy post crimp inspection
Required Additional Components	CT-8250HP Hydraulic Pump, CT-900LPHPH Hose
Optional Component	CT-901RFS Foot Switch

PAN-LUG™ Copper Compression Connectors

Terminations with PAN-LUG™ Power Connectors are approved by UL, CSA and are the first to meet NEBS Level 3 requirements as tested by Telcordia Technologies. PANDUIT® PAN-LUG™ products include copper and aluminum compression and mechanical connectors for use with conductor sizes #14 AWG-1000 kcmil.



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Identification Systems ◀◀◀◀

PANDUIT is a global leader in reliable and innovative solutions for identification and workplace safety. Products are engineered for a wide variety of industries and applications, including a focus on wire/cable harness identification for OEMs and CMs. *PANDUIT* provides enhanced productivity, reliability and value with innovative labeling software, materials and printers.

PANDUIT offers a complete range of industrial products and tools – including hand-held labeling systems, desktop labeling systems, pre-printed labels and workplace safety systems. Use *PANDUIT* for all your identification needs for wire and cable harness fabrication.

Productivity

- *EASY-MARK™* and *CAD-CONNECT™* Software simplify label creation, formatting, and standards compliance, reducing time up to 75%
- Desktop and Hand-Held Printers provide fast label production with high quality

Reliability

- Software functions, such as data file import, serialization, and wizard interview process, reduce errors significantly
- Printers and labels provide quality, crisp, clear legends and graphics with superior legibility and long life

Flexible and Versatile

- Software available in multiple languages and compatible with industry standard programs
- Printers may be connected to any PC quickly and easily, and print a wide variety of label sizes and styles
- Labels available in a full range of styles, sizes and materials to meet all labeling applications

Thermal Transfer Labels and Label Cassettes

PANDUIT Thermal Transfer Labels and Label Cassettes offer crisp, clear legends with superior legibility and are available in a wide variety of materials for various applications such as wire/cable, components, safety and facility identification.



Thermal Transfer Labels and Label Cassettes

Self-Laminating Labels

- Meets UL Standard 969 for Marking and Labeling Systems
- Self-laminating labels supplied on rolls or in cassettes, include a colored print-on area and clear over-laminate to protect the legend for clear and durable identification

Non-Laminated Labels

- Use as a wrap around label or flag style marker for wire/cable labeling
- Available in vinyl cloth material for long-term or temporary labeling and supplied on rolls

Heat Shrink Labels

- Meets UL Standard 224 for flammability, MIL-STD-202F and MIL-M-81531
- Shrink ratio 3:1
- Pre-cut flattened polyolefin is thermal transfer printable and supplied roll mounted on a plastic carrier or continuous in cassettes

Component Labels

- Available in polyester, vinyl cloth and polyimide materials and supplied on rolls or in cassettes

Continuous Tapes

- Available in continuous vinyl or polyester and supplied on rolls or in cassettes

►►►► **EASY-MARK™ Labeling Software**

Generate labels quickly and easily with *EASY-MARK™* Labeling Software featuring new market specific labeling application tools that assist in creating labels for wires/cable, terminal blocks, safety signs, voltage marking and more. *EASY-MARK™* saves time and money in creating labels for wire/cable, circuit board and electrical components and safety identification. Features such as WYSIWYG user interface, data import, symbol import and pre-loaded label formats make label creation easy and flexible.



- Alpha numeric serialization reduces time required to create incremented legend lists
- WYSIWYG (What You See Is What You Get) interface allows you to see labels on-screen as they will appear when printed which improves productivity and reduces errors
- Data file import reduces time and errors by importing data previously created in EXCEL^ (.XLS) files or comma separated value (.CSV) files onto labels
- Pre-loaded *PANDUIT* label formats for thermal transfer, laser/inkjet and dot matrix labels reduce formatting errors

►►►► **CAD-CONNECT™ Labeling Software**

Generate labels quickly and easily within CAD programs such as AutoCAD* or Visio^ using *CAD-CONNECT™* Labeling Software. This program combines the power of an innovative wizard interview process and *EASY-MARK™* Labeling Software to capture and organize identifiers from electronic CAD files to automatically create and print labels. *CAD-CONNECT™* Labeling Software eliminates the steps and time spent manually copying identifiers into labeling software.



- Wizard interview process facilitates quick and easy organization of identifiers from CAD for printing within *EASY-MARK™* Labeling Software
- Accommodates the industry's most common CAD programs (AutoCAD and Visio) providing convenience and flexibility - compatible with AutoCAD 2000i and Visio 2002 and newer versions
- Easily capture and organize CAD data for future use and documentation by exporting identifiers to alternative formats such as EXCEL^ (.XLS) or text (.CSV) files

*AutoCAD is a registered trademark of Autodesk, Inc.

^Visio and EXCEL are registered trademarks of Microsoft Corporation in the United States and/or other countries.

PANDUIT Thermal Transfer Printers and Accessories ◀◀◀

TDP43M Thermal Transfer Desktop Printer and Accessories

The TDP43M Thermal Transfer Desktop Printer is capable of producing component labels, safety and facility markers and self-laminating, heat shrink labels and vinyl cloth wire/cable markers. The 300 dpi thermal transfer print resolution of the TDP43M ensures durable, crisp, clear printing of labels that are professional and robust. Using the flexible and fast TDP43M Thermal Transfer Desktop Printer with **PANDUIT® EASY-MARK™** Labeling Software is the economical way to solve your on-demand labeling needs.

TDP42H, TDP43H, TDP46H Thermal Transfer Desktop Printers

The TDP42H (203 dpi), TDP43H (305 dpi) and TDP46H (609 dpi) Thermal Transfer Desktop Printers are rugged, high-speed industrial printers capable of printing a wide variety of self-laminating, component, heat shrink and non-laminated labels and continuous tapes (4.00" maximum print width). Using the TDP42H, TDP43H or TDP46H Thermal Transfer Desktop Printer with **PANDUIT® EASY-MARK™** Labeling Software is the economical way to solve your on-demand labeling needs.

PANTHER™ LS8 Hand-Held Thermal Transfer Printer with Revolutionary Label Cut-to-Length Functionality

The **PANTHER™ LS8** Hand-Held Thermal Transfer Printer prints high quality, industrial labels on a wide variety of materials for various applications such as wire/cable, components, safety and facility identification. USB interface for importing data, system upgrades and printing labels from a laptop or desktop computer.

- **Label cut-to-length functionality** eliminates label waste and label trimming labor
- Fast loading label cassettes contain both label material and ribbon to make changing labels easy
- Label cassettes contain an integrated memory device for automatic formatting, recall of last legend used and number of labels remaining in cassette
- Unique cutter design allows the flexibility to choose individually cut labels or a strip of tear-apart labels for quicker installation
- One printer for all labeling applications - **prints heat shrink tubing, self-laminating labels, die-cut component labels and continuous tape**



For full PANDUIT product offering request Electrical Solutions Catalog, SA-ELCB03. Or visit www.panduit.com.

For service and technical support, call 800-777-3300 (outside the U.S. and Canada, see back cover).



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WORLDWIDE HEADQUARTERS

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