Take Productivity to New Heights with the Next Generation
PAT 4.0 Cable Tie System

Productivity is critical when it comes to high-volume harnessing, assembly, fastening, and packaging applications. To remain competitive, manufacturers are faced with the constant struggle to increase throughput, reduce lead times, and meet customer expectations. The Panduit PAT 4.0 Automatic Cable Tie Installation System addresses these challenges by introducing a series of next generation features and functionality to transform wire bundling and assembly as you know it.

The PAT 4.0 Cable Tie System drives productivity through:

• Industry leading cycle times that are 25% faster than other automatic cable tie systems which provide maximum bundling productivity that is 6X that of conventional manual cable tie installations

• User friendly icon-based LCD touch screen simplifies user navigation and provides intuitive help screens to improve troubleshooting and minimize the earning curve for operators, thus keeping your work force dynamic and productive

• Lightweight Ergonomic Tool Head reduces operator fatigue and maximizes maneuverability while minimizing the risk of repetitive motion injury commonly associated with manual cable tie installation tools.

The PAT 4.0 Cable Tie System can be configured for factory network communication, industrial control applications, and robotics integration through the following components:

• Data Interface (DI)- RJ45 Ethernet connection that provides production data for analysis as well as troubleshooting

• Electronic Interface (EI)- 25 pin D-Sub connection allows the user to remotely control the PAT system through industrial controls and robotic applications

Bundling Systems

PAT/Robot Integration Kit

6X
Faster than conventional manual cable tie installations

Key Features	Benefits
Tool heads for several bundle diameters	Allows user to apply cable ties to a maximum bundle diameter of 0.82", 1.31", 1.94", and 2.75", in three tensile strengths for application flexibility and versatility
Ergonomic, lightweight tool head	Reduces operator fatigue and repetitive motion injuries to increase productivity
Multiple cable tie styles and sizes	Continuously molded cable ties in reels containing up to 5,000 ties-per-reel provide continuous feeding and quick reel changes to reduce downtime and maximize efficiency
LCD touch screen display (PDM4.0)	User friendly display allows for easy user navigation via icon based menus and multiple language options
Microprocessor-based controller	Monitors system performance through user-friendly LCD touch screen display; provides production data and reporting, including error detection and cycle count for improved reliability
Data interface accessory	System monitoring and asset tracking option to maximize system performance
PAT/Robot integration kit	Utilizes the PAT system electronic interface option (PDM-EI) to optimally integrate the PAT system to a robot for a completely automated manufacturing process

PAT Cable Tie System

Selection Guide for Bundling

Maximum Bundle Dia.		Tooling			Reel-Fed Cable Ties*
in	mm	Tool Head	Dispenser	Transfer Hose	
0.82	21	PAT1M4.0			PLT1M-XMR
1.31	33	PAT1.5M4.0	PDM4.0	PHM1, PHM2, PHM3, PHM4	PLT1.5M-XMR
0.82	21	PAT1M4.0-BT			BT1M-XMR
1.31	33	PAT1.5M4.0-BT			BT1.5M-XMR

*See Page 5 for cable tie material options.

Tool Heads

Four sizes accommodate a wide variety of bundling applications.

PAT1M4.0
PAT1M4.0-BT

PAT1.5M4.0
PAT1.5M4.0-BT

Part Number	Maximum Bundle Diameter		Used with Cable Ties	Std. Pkg. Qty.
	in	mm		
PAT1M4.0	0.82	21	PLT1M-XMR	1
PAT1.5M4.0	1.31	33	PLT1.5M-XMR	
PAT1M4.0-BT	0.82	21	BT1M-XMR	
PAT1.5M4.0-BT	1.31	33	BT1.5M-XMR	

Dispenser

PDM4.0

Part Number	Used with Tool Head	Part Description	Std. Pkg. Qty.
PDM4.0	PAT1M4.0, PAT1M4.0-BT, PAT1.5M4.0, PAT1.5M4.0-BT	Stationary dispenser with electronic display. Online help menu. System operates on 65 psig (minimum) non-lubricated filtered air and 100 – 24 FAC/TP or 60 MHz.	1

PAT Cable Tie System

Transfer Hoses

PHM3

Part Number	Used with Tool Head*	Part Description	Length		Std. Pkg. Qty.
			ft	**m**	
PHM1	PAT1M4.0 PAT1.5M4.0 PAT1M4.0-BT PAT1.5M4.0-BT	Transfers cable tie and signal from dispenser to tool head; electrical connectors designed for easy attachment provide a reliable, secure connection.	3.2	1	1
PHM2			6.5	2	
PHM3			10.0	3	
PHM4			13.1	4	

Filter/Regulator and Air Supply Hose

PL283N1 **PDH10-37**

Part Number	Used with Dispenser	Part Description	Std. Pkg. Qty.
PL283N1	PDM4.0	Regulates air flow to dispenser. Filter/regulator 25 micron (maximum) element. Includes a male connector and a 3/8" port.	1
PDH10-37		Air hose from filter/regulator to dispenser; 10' (3m) – includes standard air fittings.	

Bench Mount

PATMBM4.0

Part Number	Used with Tool Head*	Part Description	Std. Pkg. Qty.
PATMBM4.0	PAT1M4.0 PAT1.5M4.0 PAT1M4.0-BT PAT1.5M4.0-BT	Allows hands-free operation for high volume usage. Includes bench mount fixture and foot pedal assembly. PATMBM4.0 features 90° pitch adjustment of the installed tool,	1

* PATMBM4.0 also works with Legacy 3rd gen PAT1M & PAT1.5M tool heads.

PAT Cable Tie System

Data Interface Software and Ethernet-Enabled Dispenser Option

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 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

Electronic Interface Option

• This option provides the capability to remotely control the PAT System
• Applications include robot control of the PAT System

Part Number	Used with Tool Head	Part Description	Std. Pkg. Qty.
PDM4.0	PAT1M4.0, PAT1.5M4.0, PAT1M4.0-BT, PAT1.5M4.0-BT	Electronic interface PDM 4.0 using an input female port added to the unit; this port is a 25 pin D-Sub and is located on the back side of the unit.	1

PAT/Robot Integration Kit*

• Utilizes the PAT system electronic interface option, PDM 4.0, to optimally integrate the
  PAT system to a robot for a completely automated cable tie installation process

• Significantly reduces labor costs while improving installation quality, reliability, and consistency

PATM4.0-RK

PATM-TT

Part Number	Std. Pkg. Qty.	Components	Description
PATM4.0-RK	1	Metallic housing	Includes a pneumatic trigger actuator for remote cable tie installation and a mounting bolt pattern to ease PAT tool integration with a robot end effect or for a robust and accurate grip.
		Transfer hose strain relief kit	Strain relief to maintain transfer hose bend radius reducing tie misfeeds due to sharp hose bend radii during robot motion; also sold separately under part number PATM-RKS (includes two 1-foot strain relief tubes with fastening cable ties).
		Quick start guides	Provides easily understood electrical, network, and mechanical installation instructions minimizing the robot integrator's design time and simplifying the integration process.
		Best practices document	List of best practices when integrating the PAT system to a robot optimizing system performance and productivity.
PATM-TT		Test tool with rubber jaws	This test tool is used during robot cable tie installation programming, providing a safe method to debug robot software without damaging actual PAT tools (test tool is not provided with the PAT/robot integration kit).
PATM-RKS		Transfer hose strain relief kit	Strain relief to maintain transfer hose bend radius reducing cable tie misfeeds due to sharp hose bend radii during robot motion; kit is also included on the PATM-RK kit or sold separately (includes two 1-foot strain relief tubes with fastening cable ties).

Used with the PAT1M4.0 and PAT1.5M4.0 tool heads only.

Reel-Fed Cable Ties

Reel-Fed Cable Ties

- Continuously molded cable ties (up to 5,000 ties/reel) for high productivity and reduced downtime
- Up to 30 lbs. minimum loop tensile strength in miniature cross section; 50 lbs. in standard cross section
- Available in all-nylon and stainless steel locking barb styles
- Available in a variety of materials, colors, and sizes

BT1M-XMR0

PLT1M-XMR0,
PLT1M-XMR

Part Number	Tie Style	Material	Color	Maximum Bundle Dia.		Length		Width		Min. Loop Tensile Str.		Std. Ctn. Qty.
				in	mm	in	mm	in	mm	lbs	N	
Reel-Fed Cable Ties for PAT1M System												
BT1M-XMR	Barbed	Nylon 6.6	Natural							30	133	10,000 Pieces (2 Reels – 5,000 ties per reel)
BT1M-XMR0		Weather Resistant Nylon 6.6	Black									
BT1M-XMR30		Heat Stabilized Nylon 6.6										
PLT1M-XMR	One-Piece, All-Nylon	Nylon 6.6	Natural	0.82	21	4.0	102	.100	2.5	18	80	
PLT1M-XMR0		Weather Resistant Nylon 6.6	Black									
PLT1M-XMR30		Heat Stabilized Nylon 6.6										
PLT1M-XMR00		Mil. Spec. Weather Resistant Nylon 6.6										
Reel-Fed Cable Ties for PAT1.5M and PAT1.5M-ATM System												
BT1.5M-XMR	Barbed	Nylon 6.6	Natural							30	133	10,000 Pieces (2 Reels – 5,000 ties per reel)
BT1.5M-XMR0		Weather Resistant Nylon 6.6	Black									
BT1.5M-XMR30		Heat Stabilized Nylon 6.6										
PLT1.5M-XMR	One-Piece, All-Nylon	Nylon 6.6	Natural	1.31	33	5.6	142	.100	2.5	18	80	
PLT1.5M-XMR0		Weather Resistant Nylon 6.6	Black									
PLT1.5M-XMR30		Heat Stabilized Nylon 6.6										
PLT1.5M-XMR00		Mil. Spec. Weather Resistant Nylon 6.6										

Related Products

Complete your harness assembly with:

Harness Board System

- 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

$$$$$ 65%
COST
REDUCTION
compared to traditional
nail and board methods

18% FASTER
wire harness
build times

50% LESS
square footage space
associated with
storing plywood
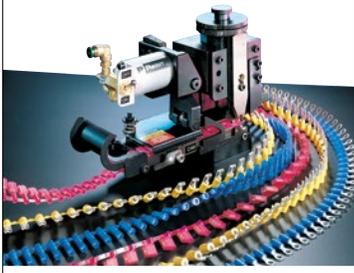
Automated Termination System

- Speeds the process of indexing and crimping connectors resulting in consistent quality terminations to minimize installed cost and boost profits
- Choose from a wide selection of molded disconnects, splices, rings, forks, pins, and ferrules on reels

Measure your productivity gains:

Fast and easy die changeovers save time

UP TO
30% FASTER
crimp cycle time

Identification

- 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

Reduce time for labeling by up to 75%

Abrasion Protection

- 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

Protect from vibration and environmental factors
Bundle and route wires and cables efficiently

For more information
Visit us at www.panduit.com

Contact Customer Service by email: cs@panduit.com
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