

Simply Borrow Crimping Tools

Borrow Molex Tooling through Arrow Testdrive™ Program

High-performance contacts are becoming increasingly complex, therefore choosing the right tooling is essential in order to avoid compromising performance.

Arrow has made Molex's best-selling crimp tools available through the Testdrive™ Program.

Testdrive™ evaluation of Molex tooling offers

- Hands-on testing of tools without any initial cost
- Faster prototyping – visibility of available tools and a 2-day lead time
- Tools include literature and full crimping instructions
- Easily compare Molex connector product selection by borrowing different tools and compare the solutions.

Save Time and Money with Arrow Testdrive™ Tool Evaluation Program:

For several years Arrow has offered this service to its European customers, and the Testdrive™ inventory is continuously updated to provide the latest technologies on the market. The laboratory currently comprises around 2,000 tools for any kind of applications the customers need.

To get **more information** or let us know you're ready to take a spin with one of our development tools simply e-mail us on testdrive@arroweurope.com.



For more information, visit arrow.com/borrow-molex-tooling



IP&E by Arrow

Providing components for success

Components – EMEA

Content

	Arrow
2	Simply Borrow Crimping Tools
7	Arrow IP&E Linecard
	Amphenol ICC
4	LED Lighting Solutions – Indoor, Outdoor, Street/Roadway
	AVX
5	Supercapacitors with Ultra Low ESR and High Reliability
	Lumberg Automation
6	M12 Sensor/Actuator Connectors
	Hellermann Tyton
5	Cable Clips for Edges – the EdgeClip
	Kemet
6	R47 Class X1 EMI Suppression Capacitor Series
	Molex
2	Simply Borrow Crimping Tools
11	Maximize IIoT Benefits with 3 Key Connectivity Trends
	Murata
12	Common Mode Choke Coil Classification for Signal
	Omron
13	2SMPP MEMS Pressure Sensor
13	D6T Thermal Sensor
	Panasonic
14	SFM Relay with Forcibly Guided Contacts in a Flat Housing
	Panduit
15	Cable Tie Tools and Systems

LED Lighting Solutions – Indoor, Outdoor, Street/Roadway

Lighting plays a key role in smart cities and intelligent buildings. Amphenol offers lighting connectors for dimming and sensor applications in IIoT-based street lighting applications that meet ANSI/NEMA and Zhaga lighting standards. Amphenol also has Ethernet solutions that support Power over Ethernet (PoE), are capable of Cat5E performance, and protect against harsh weather with IP67 sealing.



FLA Series Dimming Receptacle – ANSI C136-41

FLA Series Dimming Receptacle – ANSI C136-41 is designed with power and dimming/signal contacts to provide a connection between dimmable photocell and the luminaire for commercial and utility lighting. The locking type receptacles are compliant with ANSI C136-10 and the FLA Dimming Receptacle comes with UL94V-0 high temperature resistant housing and are rated up to 15 A per power contact.



Zhaga Book 20 Compliant FLM Series

Amphenol's FLM Series connectors allow modules to connect to the LED driver and control system. The FLM Series connectors are available in Wire-to-Wire and Wire-to-Board configurations. The pin contact connectors (LEX-MR receptacles) are available as right angle or vertical PCB mount with SMT tails, or as wire termination housings for use with crimp contacts. The socket contact connectors (LEX-LP plugs) are available for use with wire crimp contacts or with integrated contacts with poke-in wire termination.



Zhaga Book 18 Compliant FLS Series

The FLS Receptacle is designed with 4 contacts for Power, DALI and Digital I/O, and mounts on a luminaire. The mating FLS Base /Extension Module and Dome together form the housing for a Photocell/Sensor Module assembly. The receptacle is compatible with and mates to all photocells built with an Amphenol Book 18 Base/Extension Module which is available in both 40 mm and 80 mm diameters, as well as any certified Zhaga Book 18 extension module.



FLH Series Mini Sealed 2.50mm Pitch Connectors

FLH Series Mini Sealed 2.50 mm pitch connectors provide a wire-to-wire IP67 sealing in mated conditions. Its waterproof characteristics make it ideal for applications in harsh environments.



MRD Series Rugged Circular Locking Connectors

The MRD series connectors are rated IP67 and available in 2, 3, 4, 5, 6, 8 and 9 position form factors. Housing options include all plastic constructions as well as metal locking bodies for greater durability.

Orderable at arrow.com

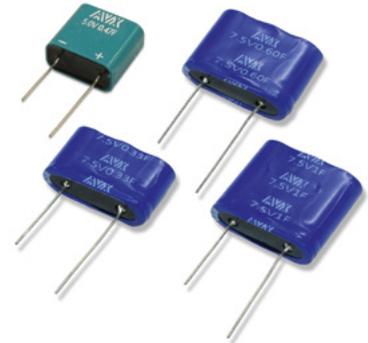
FLA Series
FLM Series
FLS Series
FLH Series
MRD Series

Supercapacitors with Ultra Low ESR and High Reliability



Supercapacitors exhibit unique combination of characteristics, including extremely high pulse power and capacitance densities, as well as rapid charge and discharge capabilities. That allows design engineers to achieve significantly extended battery lifespans and back up times, when used in conjunction with a primary battery. As such, supercapacitors are being broadly employed in the energy harvesting, instantaneous pulse power and power hold-up circuits of a wide variety of applications.

AVX since its entry to Supercapacitor market in 1997 with the Bestcap brandname, proudly continues to expand its product selection to satisfy new market trends. Currently, with the know how gained in the past decades, AVX offers a wide range of product form factors, stretching from different low profile over cylindrical shape to module solutions. Cylindrical series, being build in IATF 16949 certified plant, secures highest levels of process control and quality, typical for all AVX components.



Orderable at arrow.com
SCC/SCM series

Cable Clips for Edges – the EdgeClip



Securely fastening wires, cable harnesses or conduits can be a challenge, especially in confined spaces. Cable clips for panel edges provide a practical alternative wherever drilling holes, bolting to weld studs or using adhesives is not an option.

EdgeClips are tiny cable tie mounts held in place by built-in spring steel barbs. They provide practical anchor points on panel edges for securely tying wires, cable harnesses, conduits and pipes with cable ties.

Utilising component edges makes EdgeClips a flexible solution for engineers designing for secure and efficient cable routing in vehicles, machinery and appliances. They are simple to push on by hand and withstand considerable pull-off forces.

The EdgeClip series covers panel thicknesses ranging from 0.5–2.5 mm up to 6.0–8.0 mm. The smallest EdgeClip can even be secured on edges only 6.0 mm in height. A variety of EdgeClip geometries makes it possible to align the cable tie vertically or horizontally along or across an edge.



Orderable Part Number at arrow.com
**151-00429, 150-40591, 150-76079,
156-05904, 150-92600, 156-00015,
15100174, 151-00464,
EC-Mini: 156-01546, 156-01542,
156-01797**

KEMET R47 Class X1 EMI Suppression Capacitor Series

The R47 is constructed of metallized polypropylene film encapsulated with self-extinguishing resin in a box of material meeting the requirements of UL 94 V-0 and meets Electronics Council's AEC-Q200 qualification requirements. For use as an electromagnetic interference (EMI) suppression filter in across-the-line applications requiring X1 safety classification. Intended for use in situations where exposure to a shock in the event of capacitor failure is not possible.

Benefits

- Approvals: ENEC, UL, cUL
- Class X1 (IEC 60384-14)
- THB Grade IB
- Rated voltage: 440 VAC 50/60 Hz
- Capacitance range: 0.0047–2.2 μ F
- Lead spacing: 10.0 – 37.5 mm
- Capacitance tolerance: \pm 20%, \pm 10%
- Climatic category: 40/110/56, IEC 60068-1
- Tape and reel in accordance with IEC 60286-2
- RoHS Compliant and lead-free terminations
- Operating temperature range of -40 °C to +110 °C
- 100 % screening factory test at 2,700 VDC/1,700 VAC
- Self-healing properties
- Automotive (AEC-Q200) grade



Orderable at arrow.com
R47 Class X1 Capacitors

M12 Sensor/Actuator Connectors



Product Features & Area of Use

- Standardized connector formats, A-, B-, D-, U- and X-coding
- Wide range of integrated connectors, field attachable and overmolded connectors with and without LED
- Shielded and unshielded designs
- 3, 4, 5, 6, 8, and 12-poles
- IP65, IP67, IP68, IP69K
- UL and ECOLAB certification (Wash-Down-Series)
- Various cable versions
- M12 solutions are widely used in machine building, automation industry, material handling, energy generation, and food & beverage industry

Rely on our extensive portfolio of sensor/actuator connectors for your factory or machinery automation setup. You'll find just what you need, including connectors and cordsets – the industry-proven market standard for decades.

- **Flexible and robust** designs offer reliable solutions with a long service life
- Standardized M12 connector technology allows **quick assembly and wiring** and therefore increasing productivity
- Low installation workload and simplified maintenance (screwing on/off) **save time and money**
- **Long lifetime** due to protection against dust and moisture and resistance to many oils and chemical substances

Orderable at
arrow.com

IP&E Linecard

- Connectors
- Passives
- Antennas, Batteries, Emech
- Power Supply

Take out the linecard or download here:
arrow.com/en/ipe/download-area



Maximize IIoT Benefits with 3 Key Connectivity Trends



The industrial internet of things (IIoT) is creating opportunities for people to utilize complex analytics and insights to make better real-time decisions and deploy powerful predictive analytics to address problems before they become a crisis. No doubt, across industries, the IIoT gives users information that drives results and creates change.

More Modularity in a Smaller Space

With such vast opportunity, many users face roadblocks as they try to bring together disparate devices and systems, and need a better way to integrate devices, applications, and systems to maximize the benefits of connectivity.

The next wave of features propelled by IIoT innovation will require increased internal PCB and flex assembly density within the same application profile. This will drive more modularity, with complex circuitry requiring additional semiconductors, memory, capacitors, and resistors on multiple boards, increasing low-profile connector demand.

Assemblies will demand connectors with improved signal integrity (SI) for speed and robustness in tight spaces. And while connectivity is increasing, it must be accomplished without an increase in the product profile. The ability of systems to orchestrate the automation of disparate information – for example, audio/video, security cameras and access systems – dramatically increases the modularity in these applications. In turn, this increases demand for high-performing connection points.

The rise of complex electronic connections has created major trends in application design for any device that will enable the IIoT ...

Scan the QR code to read on and learn more about the connectivity trends impacting the Industrial Internet of Things



Premo-Flex FFC Jumpers

Delivering durable and extra flexible PCB-connection solutions, Premo-Flex Flat-Flexible Cable (FFC) Jumpers are available in a variety of pitches, cable lengths, thicknesses, and formats for use in virtually any industry.



Easy-On FFC FPC Connectors

Easy-On FFC/FPC connectors deliver a versatility unmatched by others with terminal pitches that range from 0.20 mm to 2.00 mm for applications from tiny wireless earbuds to the factory floor.



FiT Family Power Connectors

The FiT Families Power Connectors provide design engineers with fully protected header terminals in a small package. With cutting-edge designs that ensure long-term reliability, the Molex FiT Family has the power connector for your design needs.

Orderable at arrow.com
FFC Jumpers
FFC FPC Connectors
FiT Family

Common Mode Choke Coil Classification for Signal

Common mode choke coils are suited for noise suppression on lines where signal waveform distortion causes a problem, such as video signal lines.

	Signal speed					
	CAN BUS	LVDS	USB 2.0 480 Mbps	MIPI D-phy V. 1.1 1.5 Gbps	HDMI 1.4 1.7 Gbps	MIPI C Phy V. 1.0 2.5 Gsym/s
0.65 × 0.5mm (025020/0605)			DLM0QSN 900HY2	DLM0QSN 500HY2	DLM0QSB 350HY2 NFG0QHB 372HS2 	
0.85 × 0.65 mm (03025/0806)			DLM0NSN900HY2 			NFG0NCN 162HL3 
2.0 × 1.2 mm (0805/2012)		DLW21SN Series	DLW21HN 900SQ2		DLW21SN 900HQ2 	
3.2 × 2.5 mm (1210/3225)	DLW32SH Series 					
4.5 × 3.2 mm (1812/4532)	DLW43SH Series 					

	Signal speed					
	MIPI D Phy V. 1.2 2.5 Gbps	USB 3.1 gen1 5 Gbps	Display Port 1.2 5.4 Gbps	HDMI 2.0 6 Gbps	USB 3.1 gen2 10 Gbps	HDMI 2.1 12 Gbps
0.65 × 0.5mm (025020/0605)	DLM0QSN 500HY2	DLM0QSB350HY2 			DLM0QSB 350HY2 NFG0QHB542HS2	DLM0QSB 120HY2
0.85 × 0.65 mm (03025/0806)	DLM0NSN 500HY2	DLM0NSN 500HY2	DLM0NSB120HY2		DLM0NSB 280HY2	DLM0NSB 120HY2
2.0 × 1.2 mm (0805/2012)		DLW21SN900HQ2				
3.2 × 2.5 mm (1210/3225)		DLW21HN 900SQ2 				
4.5 × 3.2 mm (1812/4532)						

Red Characters mean differential use limitation.

Orderable Part Number at arrow.com. **Please click parts in the table**

Omron 2SMPP MEMS Pressure Sensor

The 2SMPP-02 gauge pressure sensor offers precise measurement in the pressure range up to 37 kPa, with reduced offset voltage and span dispersions of ± 4.0 mV and 3.1 mV, which makes trimming unnecessary. Utilizing MEMS dry etching technology and CMOS process integration, Omron manufactures this piezo-resistive type of pressure sensor by utilizing state-of-the-art 8"/0.35 mm wafer production. This sensor features a MEMS chip size of $1.3 \times 1.3 \times 0.4$ mm. A low power consumption of 0.2 mW provides significant energy savings. The specifications include a non-linearity of <0.8 % F.S. and a hysteresis of 0.5 % F.S. Another outstanding feature is low temperature influence span of ± 1 % F.S. and offset of ± 3 % F.S.

In addition to medical equipment, potential applications include leak detection, pressure indicators, air movement control, level indicators, industrial controls, environmental controls and home appliances such as vacuums.



Orderable Part Number at arrow.com
2SMPP-02

Omron D6T Thermal Sensor



Omron D6T thermal sensors are based on an infrared sensor which measures the surface temperature of objects without touching them, using a thermopile element which absorbs radiated energy from the target object. With suitable calibration, the temperature accuracy on the D6T sensor can reach up to ± 0.2 °C, giving a reliable identification of fever. Practical applications depend on the number of sensor elements and how close the array is to the human body. Using infrared detectors means there is no attenuation of signals by the atmosphere, so resolution depends entirely on the sensor's field of view (FOV). Many applications can be served by established products, ranging from a single sensor element, up to arrays of 1024 elements.

The D6T thermal sensor forms a vital part of an effective infection control regime within buildings, rooms and even crowd-controlled spaces by measuring body temperature, counting people density and reducing the need to touch surfaces.

Orderable Part Number at arrow.com
D6T-1A-01, D6T-1A-02, D6T-32L-01A, D6T-44L-06, D6T-8L-09

SFM Relay with Forcibly Guided Contacts in a flat housing

The portfolio of 4- to 8-pole safety relays – a domain of Panasonic Industry for many decades - has lately been extended by the new 2-pole SFM series which undoubtedly can be considered as a blueprint for the future of safety relay technology.

Interruption-proof circuits: The SFM relay uses forcibly guided contacts according to EN 61810-3 that monitor each other for any kind of safety control or safety application. This enables the safe operation of machinery and other automation, building or transportation equipment – and prevents people from being hurt and assets from being damaged.

It is the first time that 1NO and 1NC power contacts are available in a super flat housing with a height of only 7.8 mm. This makes it possible to miniaturize all kinds of safety modules by switching high loads on both contacts.

Other good news for the the global market is the SFM's reflow soldering capability, including the availability of tape & reel processing. The power contacts can switch 6A on the NO and 4A on the NC side – that means SFM can handle loads like valves directly without any other additional relay employed in between. For signaling, on the other hand, the silver alloy contacts can handle low level loads down to 10 V 1 mA as well. This is important, not only in a vast field of railway applications, but also increasingly also in industrial contexts.

With a permanent magnet coil system contained even in the miniaturized body, SFM guarantees a very high shock and vibration resistance ≥ 20 g and a low coil holding power of 100 mW. Furthermore, an ambient temperature of -40 to 85 °C and reinforced insulation ≥ 5.5 mm (V=230 V overvoltage category III, 6 kV) on NO side make the SFM safety relays from Panasonic an ideal choice where operational safety is an essential prerequisite.

Typical Applications

- Safety relay modules
- Safety controller
- Safe motion control
- Elevator/escalator control
- Railway signaling
- Train door control
- Access control

Key Features

- 1NO/1NC relay with forcibly guided contacts according to EN 61810-3
- Extremely low height of 7.8 mm
- Rating 6A (NO), 4A (NC) @ 250 V & AC, 30V DC
- 100 mW coil holding power
- High shock resistance 20 g
- THT & THR type available
- Reinforced insulation ≥ 5.5 mm (V = 230 V overvoltage category III, 6 kV) on NO side
- Coil voltage from 3 to 24 V
- Ambient temperature range -40 to +85 °C



Orderable Part Number at arrow.com
Series ASFM0*, ASFM1*

Cable Tie Tools and Systems

Ergonomic Cable Tie Installation Hand Tools

Panduit's ergonomic series of hand-operated, tool-controlled tension, and cut-off cable tie installation tools are the most preferred hand-operated tools in the industry. These versatile tools can be used for production, maintenance, or construction applications.

The ergonomic series of tools is excellent for low to medium volume applications (under 50,000 ties/year) and promote worker safety, help reduce downtime, improve productivity, and provide the lowest total installed cost.

- Improved cable tie cut-off mechanism that minimizes the impact to the installer's hand by more than 40 % – the lowest in the industry
- Low handle force required to cut-off the cable tie – 15 % lower handle force than comparable tools

Impact Resistant Resin Tools

- GTS-E Tool installs subminiature (8 lbs.) through standard (50 lbs.) cross section cable ties
- GTH-E Tool installs standard (50 lbs.) through heavy (175 lbs.) cross section cable ties

Metal Resin Tools

- GS2B-E Tool installs subminiature (8 lbs.) through standard (50 lbs.) cross section cable ties
- GS4H-E Tool installs standard (50 lbs.) through heavy (175 lbs.) cross section cable ties
- GS4EH-E Tool installs light-heavy (120 lbs.) through extra-heavy (250 lbs.) cross section cable ties



Orderable Part Number at arrow.com
GTS-E, GTH-E, GS2B-E, GS4H-E, GS4EH-E

Reel-Fed Cable Ties for PAT 4.0 Cable Tie System

Productivity is critical when it comes to high-volume harnessing, assembly, fastening, and packaging applications.

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)- 15 pin D-Sub connection allows the user to remotely control the PAT system through industrial controls and robotic application

6 × faster than conventional manual cable tie installation

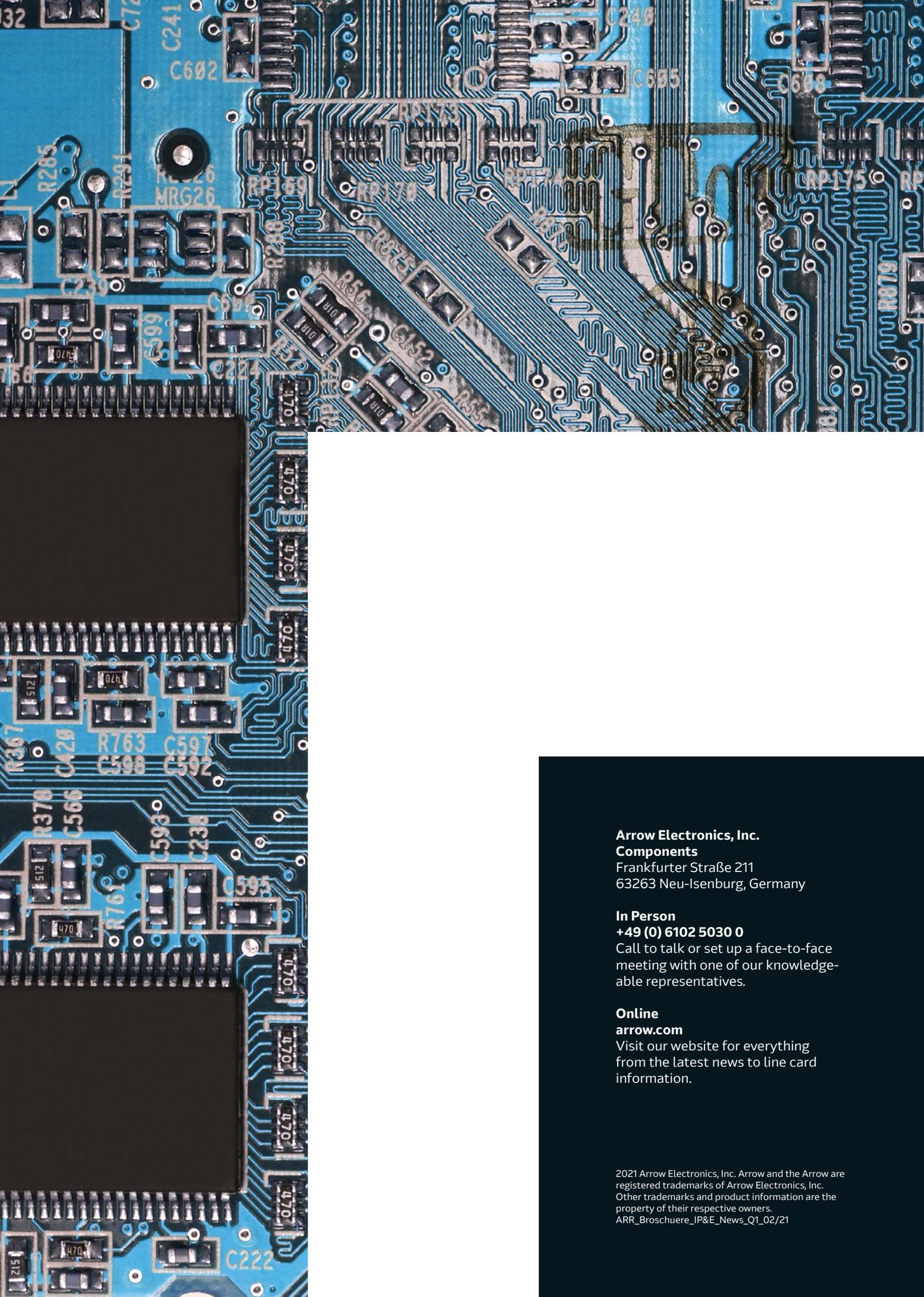
Features Reel-Fed Cable Ties

- 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



More information about the
PAT 4.0 Cable Tie System

Orderable Cable Tie at arrow.com
PLT1M-XMR, PLT1M-XMRO



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