

# IP&E News

4<sup>th</sup> Quarter 2025



# Content

<b>3M</b>	
Cable Assemblies, Industrial Cable, Accessories .....	5
<b>Amphenol</b>	
Modular Cable Assemblies – RJ45 Series .....	6
<b>Aptiv</b>	
Direct Contact Technology (DCT™) Connectors .....	7
<b>HellermannTyton</b>	
Smart Cable Management .....	8
<b>JST</b>	
Series NSH: a multifarious crimp-series .....	9
<b>LAPP</b>	
ÖLFLEX® CLASSIC 110 – The Classic .....	10
<b>Littelfuse</b>	
Connecting Solutions for Aerospace & Defense .....	11
<b>Molex</b>	
UltraWize Power Connectors & Cable Assemblies .....	12
<b>Omron</b>	
Push-In PCB Connectors for High Efficiency .....	13
<b>Panasonic</b>	
Reliable, Compact Detector Switches .....	14
<b>Panduit</b>	
The brand new desktop printers from Panduit .....	15
<b>Samtec</b>	
Samtec Tiger Eye™ Discrete Wire Solutions .....	16
<b>Sumida</b>	
Shielded and/or Impedance- Controlled PANTA® ZIF Flat Cables .....	17
<b>TDK</b>	
TVS diodes .....	18
<b>TE Connectivity</b>	
ERNI SMC and Erni Minibridge .....	19
<b>Yageo/Pulse</b>	
Discover JT4-xCx Series – Compact ICMs for PCIe Cards .....	20
<b>ZF</b>	
New Sub-Subminiature Switch Series from ZF .....	21

Navigating suppliers across the globe.  
**THAT'S SMART.**

Supplying solutions to navigate a disrupted world?  
**THAT'S INTELLIGENT.**

**ARROW**  
Five Years Out

The future is intelligent.  
Let Arrow's supply chain services guide you there.  
See what's possible at [Arrow.com](https://www.arrow.com)



## Cable Assemblies, Industrial Cable, Accessories



### Industrial Cable

Cable is the backbone of any electronic system, and the quality of the cable directly impacts the performance of the entire setup. 3M offers a range of Industrial Cables designed for high-performance electronic applications. 3M Industrial Cable Portfolio has a variety of cable constructions ranging from flat ribbon, color coded, twisted pair, and jacketed with some key products featuring high-flex (Up to 100 million flex cycles), Halogen free and EMI and cross talk protection. They are designed to meet the stringent requirements of electronic systems, ensuring reliability and efficiency in various applications such as data centers, consumer electronics, and industrial equipment.

### Accessories

3M offers a variety of accessories that enhance cable management, signal integrity and performance, specifically for electronic applications. These include EMI/RFI Management Solutions designed to minimize noise and crosstalk and improve signal integrity. As well as 3M™ Bumpont™ Protective Products and ISOLOSS LS Foams which offer cushioning and vibration damping for electronic devices.

### Orderable Part Number at [arrow.com](https://www.arrow.com)

- Interconnect Range



Scan QR-Code to find more information on [arrow.com](https://www.arrow.com)

In the rapidly evolving world of technology, efficient wire management and input/output (I/O) connectivity are crucial for ensuring seamless communication and power distribution across devices. 3M's interconnect portfolio offers a comprehensive range of solutions designed to meet the diverse needs of industries ranging from consumer electronics to industrial automation.

### Cable Assemblies

Cable assemblies are integral components that facilitate the transmission of data and power between devices. 3M provides a variety of cable assemblies, from standard I/O (MDR/SDR), high performance Machine Vision (CameraLink, USB3 and CoaXPress), to High-Speed Data (3M™ TwinAx Cables for PCIe or IEEE 802.3x). These assemblies are engineered for reliability and performance, designed to withstand environmental challenges such as temperature fluctuations, repeated flex motion, electromagnetic interference, and physical stress. By ensuring robust connections, 3M cable assemblies help maintain the integrity of data transmission, which is vital for applications in telecommunications, computing, and Industrial Electronics industries

# Modular Cable Assemblies – RJE1Y Series

RJ45 Cable assemblies in CAT3 to CAT8, with shielding, boot and length options for fast reliable ethernet.



**Applications:**

- **Communications:** 5G wireless, Telephone, Modems, Fax Machines, Copiers/Printers
- **Data:** Storage, Servers, Routers, Switches, Hubs
- **Consumer:** Consumers, security systems, set top box
- **Medical:** Analysis Equipment, Mass Spectrometers
- **Industrial and Instrumentation:** Uninterruptible Power Supply (UPS), ATMs, Vending machines, POS terminals, Industrial IoT Platforms

Amphenol's Modular cable assemblies - RJE1Y series provide high-performance ethernet connectivity through reliable RJ45 plug configurations. these cable assemblies support data rates up to 25Gb/s, depending on the category (CAT5e, CAT6/6a, CAT8) and are ideal for use in data networking, consumer electronics, industrial systems, and communications infrastructure.

**Key Features:**

- Supports data speeds up to 25 Gb/s
- Available in CAT8 to CAT8 for a range of ethernet applications
- Multiple boot styles - Bubble, latch, and non-booted
- Cable gauge options – 24AWG, 26AWG, 28AWG and 30AWG
- Jacket options: PVC and Low-Smoke Zero Halogen (LSZH)

- Available in shielded (single or double) or unshielded versions
- Strain relief and injection-molded design for enhanced durability
- Rated for 750 mating cycles
- Operating temperature: -20 °C to +60 °C (standard), up to +80 °C for SFTP
- Contact resistance ≤ 20 mΩ, insulation resistance ≥ 100 MΩ
- Voltage rating: 30 V DC, dielectric withstand: 300 V DC

With a wide range of configurations and performance levels, Amphenol's modular cable assemblies deliver cost-effective, reliable and durable ethernet solutions for both standard and demanding environments.

**Orderable Part Numbers at arrow.com**

- RJE1Y12305152401
- RJE1Y12610152401
- RJE1Y12915152401
- RJE1Y12A83152401
- RJE1Y12A53152401



Scan QR-Code to find more information on arrow.com

Features	Benefits
<ul style="list-style-type: none"> <li>• Ratings: CAT5e, CAT6/6a, and CAT8</li> </ul>	<ul style="list-style-type: none"> <li>• Customers can customize the selection as per application</li> </ul>
<ul style="list-style-type: none"> <li>• Shielding: unshielded, single-shielded, and double-shielded</li> </ul>	<ul style="list-style-type: none"> <li>• With the modular structure, customer can achieve maximum flexibility with design</li> </ul>
<ul style="list-style-type: none"> <li>• Wire gauges: 24 AWG, 26 AWG, 28 AWG, and 30 AWG</li> </ul>	<ul style="list-style-type: none"> <li>• Customer can select the grade based on application and space</li> </ul>
<ul style="list-style-type: none"> <li>• Jacket materials: PVC and LSZH</li> </ul>	<ul style="list-style-type: none"> <li>• Provides flexibility based on application</li> </ul>
<ul style="list-style-type: none"> <li>• Color: gray, black, blue, red, green, yellow, white, and brown</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced flexibility to customer</li> </ul>

# Direct Contact Technology (DCT™) Connectors

The Future of High-Voltage Interconnects, Powering the Next Generation of Electric Vehicles

As EV platforms evolve, high-voltage (HV) interconnects are critical for delivering power efficiently, safely, and reliably.

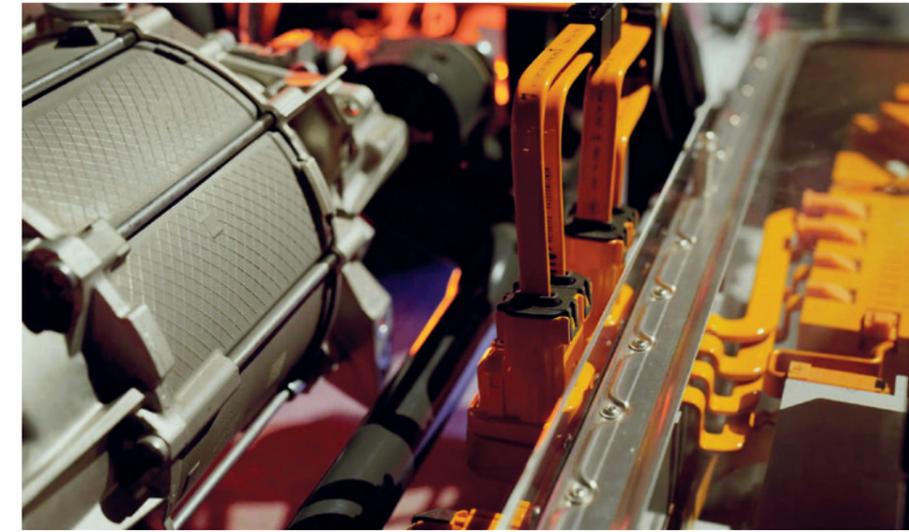
Aptiv's **Direct Contact Technology (DCT™)** sets a new benchmark for performance, scalability, and manufacturing simplicity.

**Why DCT™?**

- **100× Longer Lifespan:** Outlasts conventional copper-alloy terminals with superior durability and stable performance over a longer time.
- **High Power Capability:** Supports up to 1,000 V and 400 A, with cable sizes from 25 mm<sup>2</sup> to 120 mm<sup>2</sup>.
- **Compact & Flexible:** Space-saving design with options for busbars, right-angle or axial orientations, and modular configurations.
- **Manufacturing Made Simple:** Pre-integrated assemblies and compatibility with standard welding processes reduce complexity and cost.

**Key Advantages**

- **Reliability:** Stainless steel spring + pure copper terminal = low resistance, less heat, and consistent contact force.
- **Scalability:** Modular architecture adapts across platforms, reducing design and sourcing costs.
- **Space Efficiency:** Optimized for tight EV packaging and minimal electromagnetic interference.
- **Streamlined Production:** Enables automation and faster assembly for OEMs and Tier 1 suppliers.



**The DCT™ Difference**

- Industry-leading power density in a compact package.
- Direct Mate™ technology for simplified device integration.
- Designed for future EV demands, including autonomy and extended vehicle life.

Ready to accelerate your EV innovation?

Learn more at Aptiv.com

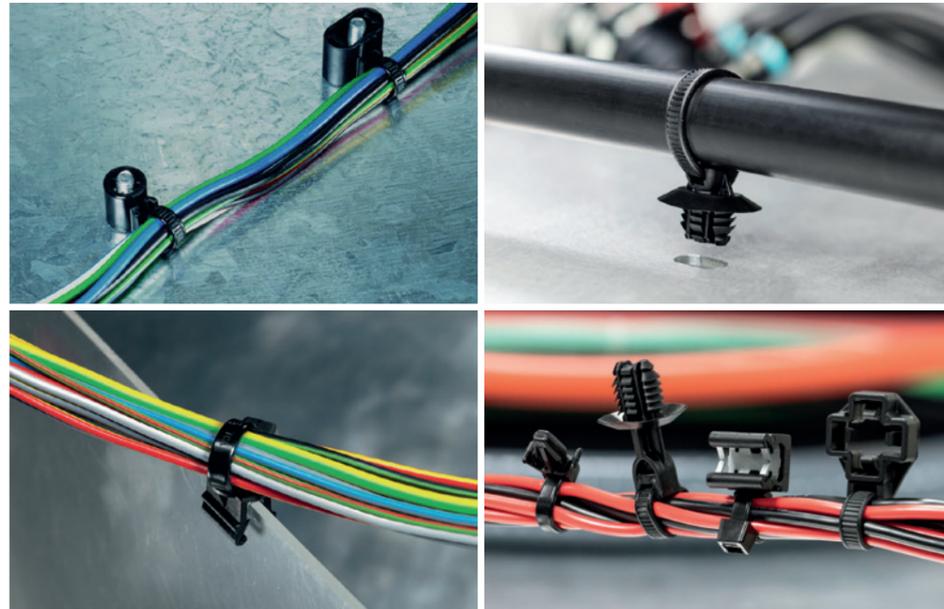


Scan QR-Code to download whitepaper



# Smart Cable Management

Specialized fasteners that use holes, screws, weld studs, or panel edges make cable installation easier and quicker.



Securing cables, wires, hoses, or conduits can be tricky, especially in tight spaces. Specialized fasteners that use holes, screws, weld studs, or panel edges make installation quicker and easier.

EdgeClips offer a flexible solution by using the edge of a component for secure cable routing in vehicles, machinery, and appliances. They fit common edge thicknesses from 0.5 – 2.5 mm up to 6.0 – 8.0 mm. Easy to push on by hand, they resist high pull-off forces and allow cables to be routed in various directions thanks to multiple geometric designs.

Fir trees, designed for round or oval holes, require minimal insertion force while providing strong hold. Discs reduce rattling, while oval designs prevent rotation. Standoffs create vertical space between the mounting point and cables, and offsets increase horizontal clearance.

Arrowheads work best with precise panel thicknesses and click audibly when fully engaged. Stabilizing wings enhance grip, while foam gaskets block moisture and debris.

For heavy-duty tasks, stud mounts are the top choice. They endure higher pull-off forces than fir trees or arrowheads and prevent cable wear by covering bolts or studs.

Whatever your cable routing needs, HellermannTyton has a dependable solution ready for the job.

#### Orderable Part Numbers at arrow.com

- 126-03100
- 157-00145
- 157-00158
- 157-00197
- 157-00119
- 157-00120
- 151-00429
- 150-40591
- 156-01546
- 150-76079
- 156-01543
- 156-05904
- 156-01545
- 150-92600
- 156-01542
- 156-00015
- 156-01797



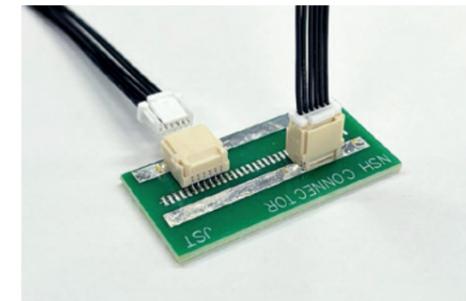
Scan QR-Code to find more information on arrow.com

# Series NSH: a multifarious crimp-series

Robust & secure locking feature, SMT headers top and side entry, also available for Potting, Wire-to-wire Adapter

#### Series NSH

A multifarious crimp-series in 1.0 mm pitch offered from JST Deutschland GmbH



Discover the versatile NSH connector series with a 1.0 mm pitch from JST Deutschland GmbH – the perfect solution for your applications.

This compact and high-performance connection impresses with its flexible use in a wide variety of applications.

Thanks to its small footprint, the NSH series from JST is ideal for tight spaces and sophisticated designs.

The crimp housings of the NSH series are compatible with SMT pin headers in top and side entry versions. In addition to the standard version, the NSH series offers pin headers suitable for potting. Additional this series offers a wire-to-wire adapter that enables 1-N wiring.

The surface of the contact material is tinned, and wires from AWG 32 to AWG 28 can be processed.

The inner locking feature ensures a secure connection that is easy to plug and reliably locked. When plugged in, you immediately recognize the successful connection by the characteristic click – for maximum safety and convenience.

The housing material is UL94-V0 tested, guaranteeing additional safety and quality.

Whether in industrial, consumer electronics, or automotive applications – this connector series from JST offers you a powerful, flexible, and reliable solution for your application.

#### Features:

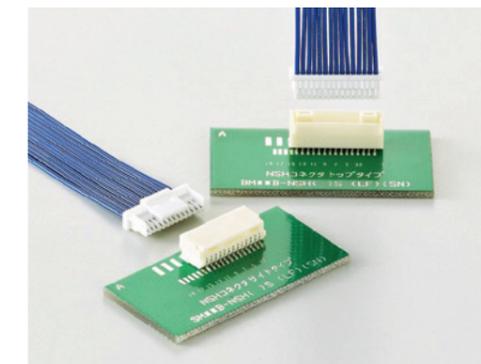
- Voltage rating: 50 V AC/DC
- current rating: 1.0 A AC/DC (AWG 28)
- Applicable wire: AWG 32-28 insulation o.d. 0.4 – 0.8 mm
- Flammability: UL94V-0

#### Benefits:

- Robust & secure locking feature
- SMT headers top and side entry
- Also available for Potting
- Wire-to-wire Adapter
- Handtools available: YRS-859 (AWG 28-30) & WC-SH2832 for mini-reel terminal: SSSL-003T-PO.2-MINI

#### Circuit Nos:

- Standard WtB top & side: 2-15 pins
- Potting type WtB top: 2-7 & 10 pins
- Potting type WtB side: 6 pins
- WtW Adapter: 5 pins



#### Examples of possible applications:

versatile applications where it is important to establish a secure connection with minimal space requirements.

#### Orderable Part Numbers at arrow.com

- Series NSH



Scan QR-Code to find more information on jst.com



## ÖLFLEX® CLASSIC 110 – The Classic

LAPP offers 145 standard articles with 2 to 100 cores, available in standard lengths and custom cuts. These cables feature space-saving reduced wall thicknesses and provide high electrical safety with a test voltage of 4000 V.

They are oil-resistant according to DIN EN 50290-2-22 (TM54) and certified with VDE registration, ensuring tested quality and properties. Additionally, they are resistant to ECOLAB® disinfectants and cleaning agents, emphasizing durability. Their fire behavior is classified under EU Directive 305/2011 (BauPVO/CPR), with article details available on the LAPP website.

The cables are suitable for universal use in wiring machine-internal and cross-plant control circuits. They support fixed installation and occasional flexing without tensile strain. Depending on the article, the design allows continuous movement in machine parts and cable chains. Some models are also suitable for torsion applications in wind turbines.

Designed for medium mechanical stress, they can be used in dry and damp environments and remain flexible at temperatures down to -15 °C. The PVC outer sheath resists acids and alkalis, ensuring reliability in demanding conditions.

### Orderable Part Numbers at arrow.com

- 1119754



Scan QR-Code to find more information on arrow.com



## Connecting Solutions for Aerospace & Defense

### Littelfuse SpaceSplice & AeroSplice wire-to-wire connectors: Fast, reliable, ESA/ESCC & MIL-DTL-24308 certified connectors

In aerospace and defense, wiring systems must operate flawlessly in the harshest conditions. Manual splicing, though widely used, is labor-intensive, difficult to inspect, and vulnerable to inconsistency. Littelfuse has developed two advanced wire-to-wire connector solutions that replace manual methods with standardized, certifiable systems: SpaceSplice™, dedicated to space applications, and AeroSplice®, tailored for aviation and defense platforms.

SpaceSplice™ – Engineered for Space SpaceSplice™ was developed to meet the unique challenges of satellites, payloads, and launch vehicles. It is compliant with ESA/ESCC 3401/097, the European Space Agency's stringent standard for space connectivity. The design uses D\*MA removable crimp contacts and supports AWG20–AWG30 wire sizes, available in one-way and four-way stackable versions.

SpaceSplice™ is built to survive the extreme environment of orbit, offering high resistance to radiation, vibration, and temperature fluctuations. Its low residual magnetism and minimal outgassing make it especially well-suited for spacecraft, where even minor material instability can jeopardize a mission. By replacing manual splicing with a repeatable, certifiable process, SpaceSplice™ ensures the reliability needed for long-duration space operations.

### AeroSplice® – Designed for Aviation and Defense

Launched in 2025, AeroSplice® focuses on commercial aircraft and defense systems, where MIL-SPEC compliance is essential. Certified to MIL-DTL-24308 and equipped with AS39029 removable crimp contacts, AeroSplice® provides high-reliability connections for wiring harnesses, UAVs, radar, and electronic warfare platforms.

The solution supports AWG20–AWG28 wires and comes in one-way and four-way configurations. Its snap-in/snap-off design reduces installation and inspection time by more than 60% compared to manual methods. Ruggedized for vibration, temperature extremes, and field repair, AeroSplice® simplifies maintenance and ensures continuous readiness of mission-critical aviation and defense systems. Distinct Missions, Unified Reliability Though both eliminate manual splicing, their focus differs:

SpaceSplice™ is optimized for space systems, where resistance to radiation and low outgassing are vital.

AeroSplice® is designed for aviation and defense, delivering MIL-SPEC-certified performance in demanding environments.



### Orderable Part Numbers at arrow.com

- C115376-0002



Scan QR-Code to find more information on arrow.com

### Applications:

- Aircraft systems
- Defense equipment
- Mission-Critical Infrastructure
- MRO (Maintenance, Repair, and Overhaul)
- Industrial systems



# UltraWize Power Connectors & Cable Assemblies

UltraWize Power Connectors and Cable Assemblies provide reliable, robust and space-saving power distribution.

**Applications:**

- Power for Data Center
  - Servers (GPU)
  - Switches



Learn more about high power solutions from Molex or contact your Arrow representative for additional support.

Experience exceptional power distribution with UltraWize Power Connectors and Cable Assemblies, designed specifically for demanding data center environments. These products feature advanced COEUR socket technology, which uses conical sockets to create a large conductive surface area. This design lowers contact resistance and voltage drop, reducing heat buildup while supporting high current capacity. Additionally, the cable-side exit layout saves space and improves both efficiency and design versatility.

**Features and benefits**

- Cable side-exit design minimizes stack height
- Enhances electrical performance using COEUR socket technology
- Reduces processing costs and increases speed to market through SMT reflow-capable headers
- Mechanical keying and featuring a positive lock
- Staggered pin design minimizes PCB footprint



**Reliable, robust and space-saving power distribution in data center environments**

The UltraWize connector's design minimizes stack height by eliminating cable-bend radius requirements and improves electrical performance through COEUR socket technology, which reduces voltage drop and contact resistance. SMT reflow-capable headers speed up production by removing post-processing steps. A positive lock secures connector mating, while mechanical keying and locating pegs reduce mis-mating and defects. Additionally, the staggered pin design minimizes PCB footprint, allowing more space for other components.

**Orderable Part Numbers at arrow.com**

- 2262702025



Scan QR-Code to find more information on arrow.com

<b>Current</b>	170.0 A
<b>Voltage</b>	125 V
<b>Mating Cycles</b>	200
<b>Flammability Rating</b>	UL 94V-0
<b>Operating Temperature</b>	Operating Temperature -40 to +125 °C



# Push-In PCB Connectors for High Efficiency

3.5 mm pitch push-in PCB connectors with reliable contact, reflow compatibility, hands-free wiring, and error prevention.



OMRON XW4M/XW4N 3.5 mm-pitch push-in terminal block PCB connectors is designed to significantly improve the efficiency of connector insertion and removal and cable wiring during assembly. The target application is factory automation applications, such as robot controllers, AC servo drivers and CNC machines.

**Features:**

- Easy insertion & removal and high contact reliability are achieved with the unique connector engagement structure. It contributes to enhanced efficiency of inspection, assembly and maintenance.
- Compatible with through-hole-reflow, good for reflow mounting.
- Standard pin-number printed on the top surface of the socket; no extra spaces needed for pin identification such as on the surface of the PCB.

- Wiring efficiency is improved with the "hands-free" mechanism that keeps screwdriver inserted.
- A coding key for preventing erroneous insertion, a short bar, and a release tool are available as optional parts.

**Orderable Part Numbers at arrow.com**

- XW4M-X
- XW4N-X



Scan QR-Code to find more information on XW4M-X



Scan QR-Code to find more information on XW4N-X



# Reliable, Compact Detector Switches

Achieve high reliability with unique contact technology. Panasonic Detector Switches offer a wide, flexible product range

**Applications:**

- Appliance
- Health care Medical
- ICT
- Industry & OA
- Vehicle
- Wearable



Scan QR-Code to find more information on arrow.com

In the fast-paced world of electronics, precision and reliability are non-negotiable. Panasonic Detector Switches offer a smart, cost-effective alternative to traditional encoders, designed to detect internal mechanical movements and convert them into manual operations with remarkable consistency.

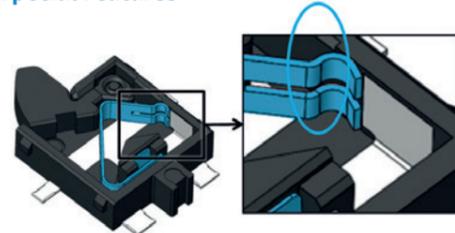
These compact, lightweight switches feature a mechanical sliding spring design that ensures stable signal output. With a wide range of options, including long travel, thin profiles, flexible actuation angles, and various circuit types, Panasonic Industry provides unmatched design flexibility. Mounting choices include surface-mount (SMD) and J-bent terminals, catering to diverse application needs.

Available in both unidirectional and bidirectional variants, the switches support multiple operating forces and travel distances, with models like the ESE-23 and ESE-24 offering dual-direction detection and 1P2T configurations. Their robust design ensures up to 50,000 operating cycles, making them ideal for demanding environments.

**Key Features:**

- High contact reliability via plate spring wiping contacts
- Slim, low-profile designs for compact devices
- Multiple mounting and operating styles
- Double contact and self-cleaning effects

**Special Features**



Double Contact & Self-Cleaning Effect

**Orderable Part Series at arrow.com**

- ESE-16
- ESE-13
- ESE-18
- ESE-31
- ESE-22
- ESE-11
- ESE-58
- ESE-23
- ESE-24

Detector switches									
Series	ESE-16	ESE-13	ESE-18	ESE-31	ESE-22	ESE-11	ESE-58	ESE-23	ESE-24
Dimensions in mm (L x W x H)	2,2 x 3,35 x 1,5	4,2 x 3,6 x 1,2	4,0 x 4,4 x 1,2	5,9 x 5,4 x 1,7	5,7 x 5,0 x 2,1	3,0 x 6,4 x 4,9	3,5 x 3,0 x 3,9	5,0 x 4,4 x 3,9	5,6 x 7,5 x 3,0
Travel in mm	1	2,15	1,5 / 2,15	2,15	2	2,4	1,4	1,5	2,45
Operating Force (N)	250mN (max)	300mN (max)	300mN (max)	390mN (max)	290mN (max)	350mN (max)	350mN (max)	300mN (max)	350mN (max)
Operating Life (Cycles)	50k	50k	50k	50k	50k	50k	50k	50k	50k
Detection	1 way	1 way	1 way	1 way	1 way	1 way	1 way	2 way	2 way
normal open / normal close	normal open	normal open	normal open / normal close	normal open	normal open	normal open	normal open / normal close	normal open	normal open
Poles and Throws *1	1P1T	1P1T	1P1T	1P1T	1P1T	1P1T	1P1T	1P2T	1P2T
Features	vertical type	vertical type	horizontal type, left side operation, right side operation	horizontal type, left side operation, right side operation	vertical / horizontal type	vertical / horizontal type	horizontal type, left side operation, right side operation	horizontal type	vertical / horizontal type
Mounting method	SMD	SMD	SMD	SMD	SMD	SMD / Dip	SMD	SMD	SMD / Dip

\*1: 1P1T=1pole 1throw / 1P2T=1pole 2throw

# The brand new desktop printers from Panduit

DP4300H/E and DP4600H/E from Panduit: High-res, rugged thermal printers – portable, precise, built for industrial labeling



Easy-Mark Plus labelling software eliminates additional investment in software, providing a 'print out of the box' solution. With fast printing speed, rugged design, colour touch screen display, wide variety of label and ribbon options, the DP4300H/E and DP4600H/E are ideal for any high-volume label printing needs.

- DP4300H/E and DP4600H/E expand Panduit's range of thermal printed labelling solutions
- High Volume printing from a rugged durable design for a wide range of environments
- Up to 600 dpi print resolution offering superior print quality across wide selection of industrial labels
- The latest printer technology in an easily transportable lightweight format

Panduit has launched two new fast, high volume, thermal transfer desktop printers, the DP4300H/E and DP4600H/E, offering either 300 dpi or 600 dpi, high quality print on demand labels for industrial electrical and network infrastructure applications. Ideal for data center, enterprise or factory applications and infrastructure labelling requirements these printers create self-laminating labels, heat shrink and marker plates for wire, cable and cabinet marking.

Using the large colour touch screen the user can quickly create, and print raised panel labels, electrical component labels, network component labels, arch flash and other safety signs for equipment and facility identification. Labels up to 105,7 mm (4") width, and for the DP4300H/E a label length of 2,0 m, (78") at 300 dpi, and for the DP4600H/E a label length of 1 m (39"), with the 600 dpi resolution, to ensure even the smallest characters and custom symbols are easily read, at a print speed of up to 300 mm per second. An optional automatic cutter is available for the desktop thermal transfer printers, simplifying operation and eliminating extra steps.

Offering easy ribbon and label installation and wide data connectivity options allowing USB, serial or Ethernet cable connections and with auto-switching internal power supply, the new Panduit thermal printers offer quick set up and wide environment use. Regional power cord included for versatility.



**Orderable Part Numbers at arrow.com**

- DP4300H/E
- DP4600H/E



# Samtec Tiger Eye™ Discrete Wire Solutions

Samtec's Tiger Eye™ delivers high reliability discrete wire solutions for board-to-wire and board-to-board applications.



Compared to mainstream discrete wire products, Tiger Eye™ delivers features that directly translate to application-level benefits:

- High mating cycle durability extends product lifespan and reduces maintenance.
- Shock and vibration resistance to reduce the risk of unexpected failures.
- Secure mating for confidence in mission-critical environments.

Tiger Eye™ bridges the gap between the flexibility of discrete wire solutions and the ruggedness traditionally associated with military- or aerospace-grade interconnects. This delivers high reliability without sacrificing the convenience of cable-to-board or board-to-board solutions.

When performance and durability are paramount, Samtec's Tiger Eye™ system offers peace of mind. Tiger Eye™ proves that discrete wire interconnects can be both durable and adaptable, ensuring reliability in even the most challenging environments.

#### Orderable Part Series at arrow.com

- SFSD

Specifications	
Insulator Material:	Black LCP
Contact Material:	BeCu
Plating:	Au over 50 μ" (1.27 μm) Ni
Operating Temp Range:	-10 °C to +80 °C (PVC) -40 °C to +125 °C (*Teflon™ Fluoropolymer)
Current Rating:	2.9 A per pin (2 pins powered)
Voltage Rating:	275 VAC / 389 VDC
Wire:	28 or 30 AWG

Discrete wire systems are often chosen for their simplicity and flexibility. Most are designed with cost and convenience in mind, not ruggedness. For designers working in high-reliability applications, this trade-off can introduce significant risks. Failures due to vibration, poor mating consistency, and limited mating cycles compromise system performance. Samtec's Tiger Eye™ discrete contacts are built to deliver long-term reliability in demanding environments.

At the heart of the Tiger Eye™ system is a multi-finger contact made of beryllium copper, which provides excellent spring properties. Unlike the stamped contacts of typical connectors, Tiger Eye™ contacts are engineered to ensure a secure connection that resists shock and vibration while offering superior cycle life. This means engineers can rely on Tiger Eye™ assemblies to deliver high cycle life in challenging situations, making them ideal solutions for aerospace, medical, and industrial applications.

The rugged nature of Tiger Eye™ extends beyond the contact system. Locking and latching mechanisms provide secure connections, even when subjected to constant motion or stress. Polarized and keyed housings prevent mis-mating, while strain relief and backshell accessories protect cables from wear and accidental disengagement. Available in a wide range of pitches, from 0.80 mm for space-constrained systems to 2.54 mm for robust power routing, Tiger Eye™ offers flexibility without compromising ruggedness.



Scan QR-Code to find more information on arrow.com



# Shielded and/or Impedance-Controlled PANTA® ZIF Flat Cables

In demanding environments such as industrial systems, automotive applications, or high-performance electronics, data transmission stability is absolutely critical. Signal loss, crosstalk, and EMI disturbances can, in the worst case, lead to complete system failure. SUMIDA flexible connections GmbH addresses these challenges with a well-engineered solution: **PANTA® ZIF – shielded and/or impedance-controlled Flat Cables.**

#### What makes this flat flexible cable stand out?

The PANTA® ZIF cable combines Zero Insertion Force (ZIF) technology with advanced shielding and precise impedance control. It is purpose-built for applications where susceptibility to electromagnetic interference must be minimized, high data rates supported, and mechanical robustness guaranteed.

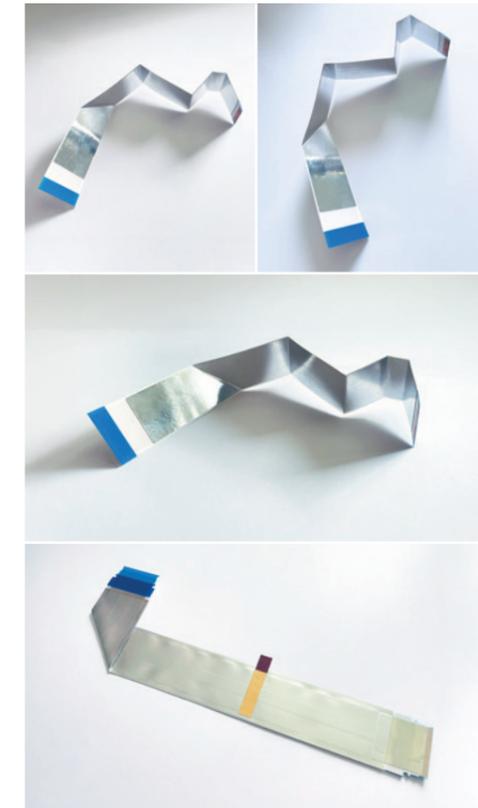
#### Design highlights and key specifications

- **High-precision 100 Ω impedance control**  
The carefully engineered 100 Ω FFC design ensures consistent signal integrity and enables reliable high-speed data transmission.
- **Effective shielding with ground connection**  
An integrated shield combined with a ground plate for connector contact provides robust EMI protection from both internal and external sources – essential for sensitive electronics.
- **Reliable performance under extreme conditions**  
Designed to withstand vibration, bending, and temperature fluctuations, the cable operates reliably from -40 °C up to +105 °C, ensuring durability in harsh environments.
- **Compatibility with standard connectors**  
PANTA® ZIF is easily paired with widely used connectors from manufacturers such as Isiso, Hirose, TE, FCI, and Molex – allowing flexible and straightforward integration.

- **Automated and fully customizable**  
Featuring quick ZIF assembly and compatibility with automated production processes, the cable can be tailored in length, pin count, and material configuration to meet specific application needs.

#### Conclusion

For manufacturers and developers seeking a reliable, flexible, and high-performance flat cable connection, **PANTA® ZIF – shielded and/or impedance-controlled flat cables** is a first-class choice. Combining superior electrical properties with ease of handling and production readiness, it is ideally suited for an era where precision, speed, and stability are non-negotiable.



Scan QR-Code to find more information on sumida.com

#### Typical applications:

- Display interconnections
- Camera systems
- Smart home devices
- Roof module controls
- Electronic control units (ECUs) and inverters
- Medical Devices



## TDK – TVS diodes

Enhance your product lifespan and protect against transients and surges

In today's fast-evolving electronics landscape, safeguarding sensitive components against voltage spikes is more critical than ever.

TVS diodes are strategically placed at junction points or near connectors, acting as the first line of defense against transient voltages. By absorbing sudden voltage spikes, these diodes prevent potentially damaging surges from reaching voltage-susceptible components, safeguarding communication lines, and power lines from electrostatic discharge (ESD), lightning or other transient events and thus maintaining your systems' reliability and longevity.

TDK, known for its protective multilayer varistors, offers since some time also transient voltage suppression (TVS) diodes and has now expanded its lineup to provide a robust solution in the realm of wire management and I/O connectivity, covering connectors, cable assemblies like USB Type-C, HDMI, DisplayPort, and Thunderbolt connections for use in smartphones, laptops, tablets, wearables, and networking devices.

TDK's TVS diodes are designed for low voltage application with "tight space" requirements, and its portfolio features two families: General Purpose (GP) and Ultra Low Capacitance (ULC).

The GP series provides reliable protection for power line interfaces with a working voltage (VRWM) range between 5 V and 20 V. On the other hand, the ULC family is ideal for data lines and circuits where minimal capacitance is crucial. It is available for a VRWM range between 1 V and 5.5 V designed to work with low capacitance up to 0.15 pF.

Two examples of the ULC types are the B74121U2010M060, featuring a compact WL-CSP 0201 package and a working voltage of 1 V, or the B74111U0055M060 in an ultra-miniaturized WL-CSP 01005 package, supporting up to 5.5 V.

These ultra small components are perfect for space constrained designs without compromising protection.

By designing TDK MLVs or TVS diodes into your system, you protect these from unpredictable electrical events and boost their durability and your customer satisfaction.

Protect your innovations and choose TDK TVS diodes for superior transient and surge protection.



Explore the full portfolio and technical details by scanning the QR-code



### Orderable Part Numbers at arrow.com

- B74121U2010M060
- B74121U1020M060
- B74121U1036M060
- B74111G0050M060
- B74121G0160M060
- B74121G0050M060
- B74121G0200M060
- B74111G0055M060
- B74999T9999M099
- B74121U0028M060
- B74121U0055M060
- B74121U0033M060
- B74111U0033M060
- B74111U0055M060



Scan QR-Code to find more information on arrow.com



AUTHORIZED DISTRIBUTOR

## TE Connectivity ERNI SMC and Erni Minibridge

TE Connectivity offers ERNI SMC and ERNI MiniBridge connectors with their reliable cable assembly solution.

### ERNI SMC Connectors

Limited space and high-performance demands are characteristics of many modern electronic systems, all of which the connectors must accommodate. There is a corresponding demand for compact, secure, and reliable connectors, with high signal integrity and a relatively high current-carrying capacity. The comprehensive SMC range helps meet these requirements. The connectors come in a number of different designs in a 1.27 mm grid.

### Advantages

- High Reliable Contact Design
- Polarization / Mating Face
- Robust Solder Clips
- Interlocking Snap-In
- Snap-In B-to-B Adapter
- Locating Pegs

### ERNI MiniBridge Connectors

The compact design of the single-row cable connector systems in a 1.27 mm pitch is excellent for space saving connections between PCBs and decentralised function units such as operator panel displays, switches, motors, fans or fuses. The single row MiniBridge connector Koshiri version with a 1.27 mm pitch offers a high level of mating reliability.

### Advantages

- Easy Assembly
- Guiding Elements
- Interlocking
- SSL-Lighting Technology

### Flat Ribbon Cable Assembly (IDCCS) Minibridge (SRC) Connector Type

### Features

- 1.27 mm pitch
- Current rating per contact up to 8 A (depends on cable)

### Flat ribbon cable assembly (IDCCS) Minibridge (SMC) connector type

### Features

- Cable assemblies with IDC female connectors
- Ribbon cable AWG 30/7
- Three different cable types
- For available part numbers please refer to our website



- Female connector IDC termination technology
- Ribbon cable AWG 26/7
- Variants: Female connector type A with 180° cable outlet. Female connector type P with 90° cable outlet.
- Interlocking: Positive lock - Female connector red (high vibration/shock load) – Unlockable only with a tool, e.g. pen with a round tip. Friction lock - Female connector black / white (normal vibration/shock load) - unlockable without any tool.



### Orderable Part Series at arrow.com

- TE Connectivity ERNI SMC and Erni Minibridge

### Applications:

- Board to Wire and Wire to Board Connections
- Signal and Data transfer - up to 3 Gbit/s
- High number of connections – up to 80 pin
- Reliable connection on higher environmental conditions
- Field of application: Internal wiring, Automation controls, HMI (human machine interface) Connections

### Applications:

- Board to Wire and Wire to Board Connections
- Signal and Data transfer
- Source line – current up to 8A
- Reliable connection on higher environmental conditions
- Field of application: Internal wiring, Automation controls, Internal Sensor Connections



Scan QR-Code to find more information on arrow.com



# Discover JT4-xCx Series – Compact ICMs for PCIe Cards

Designed for engineers who demand performance, efficiency, and reliability.

### Applications:

- Access points
- Base Stations
- Switches
- Routers
- Process control
- Robot control
- Security display
- Smart Grid

The JT4-xCx family of Integrated Connector Modules (ICMs) offers a cutting-edge solution for PCI Express card designs, combining advanced magnetics and RJ45 connectivity in a compact, low-profile format. Whether you're building high-speed networking hardware or optimizing board layouts, JT4-xCx delivers the flexibility and performance you need.



### Technical Highlights

- **Low Profile Form Factor:** Less than 12 mm above PCB – ideal for space-constrained designs without requiring board cutouts.
- **Multi-Gigabit Support:** One footprint supports 1 G, 2.5 G, 5G, and 10 G Ethernet, simplifying design and future scalability.
- **Integrated RJ45 + Transformer:** Combines connector and magnetics in a single component, reducing BOM complexity and saving board space.
- **EMI-Optimized Architecture:** Enhanced internal layout minimizes electromagnetic interference and improves signal integrity.
- **PoE+ Capability:** Supports up to **90 W Power over Ethernet**, enabling high-power applications without additional circuitry.

### Design Flexibility

- Available in fixed and multi-rate configurations
- Multiple LED and EMI shielding options
- Fully compliant with IEEE802.3 and CAT6 standards
- RoHS, REACH certified and halogen-free

### Ideal for:

- High-performance PCIe networking cards
- Embedded and industrial systems
- Compact computing platforms
- Power-demanding Ethernet devices

### Orderable Part Series at arrow.com

- Series JT4

## Electrical Specifications @ 25 °C

Part Number <sup>1</sup>	Data Rate	POE	LEDs <sup>2</sup> (L/R)	EMI Tab	Insertion Loss (dB MAX)		Return Loss (dB MIN)					Comm. to Diff. Mode Rejection (dB MIN)		Cross Talk (dB or better)		Hipot (V <sub>DC</sub> MIN)
					1-125 MHz	125-400 MHz	1-100 MHz	200 MHz	250 MHz	500 MHz	1-200 MHz	200-500 MHz	1-200 MHz	200-500 MHz		
JT4-1121CHL	1 G	Non	Y/G-G	YES	-3	/	-10	/	/	/	-30	/	-28	/	2250	
JT4-1141CHL	1 G	60 W	Y/G-G	YES	-3	/	-10	/	/	/	-30	/	-28	/	2250	
JT4-2504CHL	2.5 G	Non	Y/G-G	YES	-1	/	-14	-9.5	/	/	-30	/	-28	/	2250	
JXT4-2008CHL	2.5 G	90 W	/	YES	-1	/	-14	-9.5	/	/	-30	/	-28	/	2250	
JT4-5004CNL	5 G	Non	Y/G-G	YES	-1	/	-14	-9.5	-8	/	-30	/	-28	/	2250	
JT4-5005CNL	5 G	90 W	Y/G-G	YES	-1	/	-14	-9.5	-8	/	-30	/	-28	/	2250	
JT4-1191CHL	10 G	Non	Y/G-G	YES	-1	-3	-22	-17	-13.5	-8	-30	-22	-28	-19	2250	
JT4-1173CHL	10 G	Non	G-G/Y	YES	-1	-3	-22	-17	-13.5	-8	-30	-22	-28	-19	2250	
JT4-1205CHL	10 G	Non	Y/G-G	No	-1	-3	-22	-17	-13.5	-8	-30	-22	-28	-19	2250	
JT4-1221CHL	10 G	90 W	Y/G-G	No	-1	-3	-22	-17	-13.5	-8	-30	-22	-28	-19	2250	
JT4-1222CHL	10 G	90 W	Y/G-G	YES	-1	-3	-22	-17	-13.5	-8	-30	-22	-28	-19	2250	

Notes: 1. LEDs: (Left/Right) G = green, Y = yellow 2. The Operating Temperature of all part numbers is 0 to 70 °C except for JXT4-2008CHL(-40 to 85 °C) 3. Storage Temperature of all part numbers is -20 to 125 °C except for JXT4-2008CHL(-50 to 125 °C)



# New Sub-Subminiature Switch Series from ZF



Microswitches from ZF have a long tradition and the product range has been constantly extended and adapted to the market requirements. The new sub-subminiature switch series "WG" is a two-pole sliding contact switch with extremely low dimensions whose switching concept is based on the market proven SK/SJ switch series from ZF.

Due to a double redundant contact system, the "WG" switch has a high contact stability and is especially suitable for low switching loads. It comes with many connection possibilities and lead versions are available on request. Therefore, it allows an easy installation and can be used for household (e.g. washing machines, vacuum cleaners), automotive (latches) and industrial applications (e.g. robots, industrial equipment).

The standard version is IP67 protected and allows an operating temperature of up to +85 °C. With regards to the actuator, different options are available either without auxiliary actuators or for example with a simulated roller auxiliary actuator. The "WG" switch series is part of the ZF switch product range which includes other snap action switches like miniature and subminiature switches but also rocker and pushbutton switches. With its switch portfolio, ZF is one of the leading suppliers of components in applications such as household appliances, white goods, power tools, industrial and automotive applications.



Further details on the ZF switches portfolio are available on the website, please scan the QR-code

### Orderable Part Numbers at arrow.com

- WG1E-A6A0
- WG1E-B2B1



Scan QR-Code to find more information on arrow.com

Driving an electric vehicle.  
**THAT'S SMART.**



Driving innovation that  
electrifies every type of vehicle?

**THAT'S INTELLIGENT.**

**ARROW**  
Five Years Out

The future is intelligent.  
Let Arrow guide you there.  
See what's possible at [Arrow.com](https://www.arrow.com)





**Arrow Electronics, Inc.**  
**Components**  
**Frankfurter Straße 211**  
**63263 Neu-Isenburg, Germany**

In Person  
+49 (0) 6102 5030 0  
Call to talk or set up a face-to-face meeting with one of our knowledgeable representatives.

Online  
[arrow.com](http://arrow.com)  
Visit our website for everything from the latest news to line card information.

©2025 Arrow Electronics, Inc.  
Arrow and the Arrow logo are registered trademarks of Arrow Electronics, Inc. Other trademarks and product information are the property of their respective owners.  
ARR\_Broschuere\_IP&E\_09/25

**ARROW**  
**Five Years Out**