

SOLUTIONS GUIDE

# BUILDING SAFETY AND SECURITY SOLUTIONS



<http://www.te.com/usa-en/solutions/safety-and-security.html>

# BUILDING SAFETY AND SECURITY SOLUTIONS

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# **BUILDING SAFETY AND SECURITY SOLUTIONS**

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BUILDING SAFETY & SECURITY SOLUTIONS GUIDE

Browse Products: <https://www.te.com/usa-en/solutions/safety-and-security.html>



## Innovative Solutions for Building Safety & Security

TE Connectivity (TE) is your building safety and security solution provider for electromechanical and electronic components. Whether you are designing a new system or retrofitting an existing system, this solutions guide will help you select the required components with easy access to additional online information through [te.com](http://te.com). TE's reliable, quick to install and industry-proven innovative product solutions will help you stay ahead of the trend for increased building intelligence.

# Design Navigator

Get more information on [te.com](http://te.com) by clicking on the product names below.

	APPLICATIONS						Max Current Rating (A) <sup>1</sup>	Max Voltage Rating (V) <sup>1</sup>	Operating Temperature Range (°C)	Sealing Level <sup>2</sup>	Contact Interface Plating	SMT Compatible	Wire-to-Wire	Wire-to-Board	Standards
	1	2	3	4	5	6									
<a href="#">Antenna Solutions</a>	●	●	●	●	●	●	N/A	N/A	N/A	N/A	N/A	●	●	●	N/A
<a href="#">Battery Connectors</a>	●	●	●	●	●	●	10	30 DC	N/A	N/A	N/A	●	●	●	N/A
<a href="#">Spring Fingers - PCB Grounding Contacts</a>	●	●	●	●	●	●	1.0	5 DC	N/A	N/A	N/A	●	●	●	N/A
<a href="#">Cable Assemblies<sup>3</sup></a>	●	●	●	●	●	●	N/A	N/A	N/A	N/A	N/A				N/A
<a href="#">Polyolefin Heat Shrink Tubing</a>	●	●	●	●	●	●	N/A	600 AC	-55 to +135	N/A	N/A				UL, CSA, cUL, VDE
<a href="#">2Pro Overcurrent/Overvoltage Protection Devices</a>	●	●	●	●	●	●	0.75	240 AC	-40 to +85	N/A	N/A				UL
<a href="#">Chip Fuses</a>	●	●	●	●	●	●	20	250 AC	-40 to +125	N/A	N/A	●			UL
<a href="#">Corcom Power Line Filters</a>	●	●	●	●	●	●	180	480 AC	-40 to +85	N/A	Sn/Ni	●			UL, CSA, VDE
<a href="#">PolySwitch Resettable R-Line Circuit Protectors</a>	●	●	●	●	●	●	15	72 DC	-40 to +85	N/A	N/A				UL, CSA, TUV
<a href="#">PolySwitch Resettable SMD Circuit Protectors</a>	●	●	●	●	●	●	3.0	60 DC	-40 to +85	N/A	N/A	●			UL, CSA, TUV
<a href="#">PolySwitch Resettable T-Line Circuit Protectors</a>	●	●	●	●	●	●	0.4	250 DC	-40 to +85	N/A	N/A	●			UL, CSA, TUV
<a href="#">Corcom Power Inlet Filters &amp; Power Entry Modules</a>	●	●	●	●	●	●	180	480 AC	-40 to +85	N/A	Sn/Ni	●			UL, CSA, VDE
<a href="#">Eurostyle Terminal Blocks</a>	●	●	●	●	●	●	10	300 AC/DC	-30 to +105	N/A	Sn		●		UL, cUL
<a href="#">FASTON &amp; Ultra-FAST Terminals</a>	●	●	●	●	●	●	48	600 AC/DC	-40 to +250	N/A	Au/Ag/Ni/Sn/Brass		●		UL, CSA
<a href="#">Power Triple Lock (PTL) Wire-Applied Connectors</a>			●	●	●	●	20	600 AC	-55 to +150	N/A	Sn		●		UL, CSA
<a href="#">Universal MATE-N-LOCK Wire-Applied Connectors</a>			●	●	●	●	19	600 AC	-55 to +125	IP56/57	Sn/Au		●	●	UL, CSA, VDE
<a href="#">CLOUDSPLITTER Connector System</a>	●	●	●	●	●	●	1.5 signal 50 power	150 AC 20 DC	-40 to +85	N/A	Au	●	●		UL, cUL
<a href="#">Connectors for HDMI Standards</a>		●					0.5	40 AC	-55 to +105	N/A	Au	●		●	Industry**
<a href="#">Connectors for Secure Digital (SD) Memory Cards</a>	●	●	●	●	●	●	0.5	30 AC	-25 to +85	N/A	Au				UL
<a href="#">RJ45 Modular Jacks &amp; Plugs</a>		●					1.5	150 AC	-40 to +85	N/A	Au	●		●	UL, CSA
<a href="#">USB Connectors</a>				●			0.5	40 AC	-55 to +85	N/A	Au	●		●	Industry**
<a href="#">Economy Power (EP) 2.5 Wire-to-Board Connectors</a>	●		●	●			4.5	250 AC	-25 to +105	N/A	Sn		●	●	UL, CSA, TUV
<a href="#">Economy Power (EP) II Wire-to-Board Connectors</a>	●		●	●			11	600 AC	-25 to +105	N/A	Sn		●		UL, CSA, TUV
<a href="#">Micro MATE-N-LOK Wire-Applied Connectors</a>	●		●	●			5.0	250 AC	-40 to +105	N/A	Sn/Au	●	●	●	UL, CSA, VDE
<a href="#">Mini-Universal MATE-N-LOK Wire-Applied Connectors</a>			●	●			9.5	600 AC	-55 to +105	IP56/57	Sn/Au		●	●	UL, CSA, VDE
<a href="#">High Frequency Inductors</a>	●	●	●	●	●	●	1.3	N/A	-40 to +125	N/A	Sn	●			N/A
<a href="#">Power Resistors</a>	●	●	●	●	●	●	N/A	200 AC/DC	-55 to +220	N/A	Sn	●			N/A
<a href="#">Precision Resistors</a>	●	●	●	●	●	●	N/A	200 AC/DC	-55 to +155	N/A	Sn	●			N/A
<a href="#">Communications &amp; Signal Relays</a>	●	●		●	●	●	5.0	250 AC 220 DC	-40 to +85	RT III; RTV	AgNi/PdRu, Au clad	●			UL, cUL
<a href="#">High Frequency Relays</a>		●				●	2.0	250 AC 220 DC	-55 to +85	RT III	Ag, Au clad	●			
<a href="#">High Power PCB Relays</a>			●				40	600 AC	-40 to +105	RT III	AgCdO/AgNi/ AgSnOInO				UL, CSA, cUL, VDE
<a href="#">Miniature Relays</a>					●		1.0	120 AC 30 DC	-40 to +85	RT III	Ru/AgNi				UL, CSA, cUL
<a href="#">PCB Relays</a>	●		●				16	400 AC	-40 to +105	RT III	AgNi/ AgSnO				UL, CSA, cUL, VDE, CQC
<a href="#">Transformers</a>	●		●	●	●	●	N/A	600 AC	N/A	RT 0	N/A				UL, cUL
<a href="#">AMP CT &amp; Mini CT Wire-to-Board Connectors</a>	●	●	●	●	●	●	4.0	125 AC	N/A	N/A	N/A	●	●	●	UL, CSA
<a href="#">AMPMODU Board-to-Board &amp; Wire-to-Board Interconnect System</a>	●	●	●	●	●	●	3.0	250 AC	-65 to +125	N/A	Sn/Au	●	●	●	UL, CSA
<a href="#">AMPMODU System 50 Board-to-Board &amp; Wire-to-Board Connectors</a>	●	●	●	●	●	●	3.0	250 AC	-65 to +125	N/A	Sn/Au	●		●	UI, CSA
<a href="#">Free Height (FH) Board-to-Board Connectors</a>			●	●	●	●	0.5	100 AC	-40 to +85	N/A	Au	●		●	UL
<a href="#">High Performance Interconnects (HPI)</a>	●	●	●	●	●	●	3.0	250 AC/DC	-25 to +85	N/A	Sn	●			N/A
<a href="#">Micro-MaTch Board-to-Board &amp; Wire-to-Board Connectors</a>	●	●	●	●	●	●	1.5	100 AC	-40 to +105	N/A	Sn	●		●	UL
<a href="#">DIP Switches</a>	●	●	●	●	●	●	0.1	50 DC	-30 to +85	N/A	Ag	●	●		N/A
<a href="#">Keylock Switches</a>	●	●	●	●	●	●	6.0	250 AC	-18 to +65	N/A	Ag		●	●	UL, CSA
<a href="#">Pushbutton Switches</a>	●	●	●	●	●	●	6.0	250 AC/DC	-20 to +80	N/A	Ag/Au		●	●	N/A
<a href="#">Rocker Switches</a>		●	●	●	●	●	16	250 AC	-20 to +85	IP40	Ag		●	●	UL, CSA, VDE, ENEC
<a href="#">Tactile Switches</a>	●	●	●	●	●	●	0.05	24 DC	-35 to +105	IP67	Ag	●		●	N/A
<a href="#">Toggle Switches</a>	●	●	●	●	●	●	20	250 AC/DC	-20 to +85	IP67	Sn/Au/Ag		●	●	UL, CSA

<sup>1</sup> May vary based on application and product selection  
<sup>2</sup> RT = Processing protection level according to IEC 61810;  
 IP = Ingress protection rating according to IEC 60529  
<sup>3</sup> Solves the same problems as the applied interconnect

UL - UL Listed  
 CSA - Canadian Standards Association  
 \*\* Industry - Meets product specific industry standards  
 (see product page on te.com for more detail)


## Fire Detection



## Video Surveillance




### Featured Products



- 1 Tactile Switches**
- 2** ■ Achieve system longevity with extended lifecycle design
- 3** ■ Prevent potential liquid or particle contamination with IP67 sealed design
- 4** ■ Save space with ultra-low profile design
- 5**
- 6**

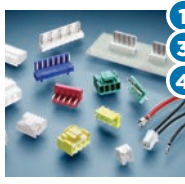
[Website](#)  
[Catalog I](#)  
[Catalog II](#)

### Featured Products




- 1 Communications & Signal Relays**
- 2** ■ Save board space with low profile design
- 4** ■ Closely match relays to drive circuits with both standard and sensitive coil options
- 5** ■ Achieve multiple switching capability with double pole configurations
- 6**

[Website I](#)  
[Website II](#)  
[Catalog](#)  
[Data Sheet](#)  
[eLearning Module](#)



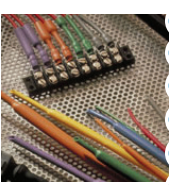
- 1 Economy Power Wire-Applied Connectors**
- 3**
- 4** ■ Achieve easy mating and unmating with positive audible latch
- Prevent post misalignment with polarization tabs
- Facilitate simple retrofit and design-in with intermateable market design

[Website](#)  
[Quick Reference Guide I](#)  
[Quick Reference Guide II](#)  
[Product Presentation](#)  
[eLearning Module](#)




- 1 CLOUDSPLITTER Connector System**
- 2** ■ Offer both Cat 5e signal performance and DC power in one RJ45 standard package
- 3**
- 4** ■ Provide surface mount capability in a Cat 5e connector
- 5** ■ Achieve easy retrofit capability with acceptance of standard RJ45 plugs
- 6**

[Website](#)  
[Data Sheet I](#)  
[Data Sheet II](#)



- 1 Polyolefin Heat Shrink Tubing**
- 2** ■ UL/SCA VW-1 rating supported by flame-retardant materials
- 3**
- 4** ■ Easily identify wires, cables and components using a variety of colors
- 5** ■ Halogen-free polyolefin material prevents toxic emissions in enclosed areas
- 6**

[Website I](#)  
[Website II](#)  
[Catalog I](#)  
[Catalog II](#)



- 2 Connectors for HDMI Standards**
- Support standard, enhanced or high-definition video and multi-channel audio in one cable
- Provide secure electrical contact and smooth cable insertion/extraction with easy-to-use friction lock design
- Gain ESD protection with fully shielded housing

[Website](#)  
[Data Sheet](#)  
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Click on the links above and visit [te.com](http://te.com) for further information 

## Access Control



## Theft Detection



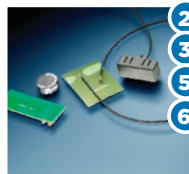
### Featured Products



**1** **Micro MATE-N-LOK Wire-Applied**  
**3** **Connectors**

- 4** ■ Maximize board space with single and dual row, vertical and right angle configurations
- Prevent accidental unmating in high vibration applications with positive latches
- Accommodate wire sizes from 30 to 20 AWG with a broad range of crimp, snap-in, pin and receptacle contacts

[Website](#)  
[Catalog](#)  
[Quick Reference Guide](#)  
[Product Presentation](#)  
[Data Sheet](#)



**2** **Antenna Solutions**

- 3** ■ Accommodate Wi-Fi, Bluetooth, ZigBee and many other frequency bands with broad product offering
- 5** ■ Achieve rapid support with a range of readily available standard antennas
- 6** ■ Optimize placement of standard antenna products using TE's globally dispersed engineering support

[Website](#)  
[Catalog](#)



**2** **FASTON & Ultra-FAST Terminals**

- 3** ■ Achieve higher contact spring properties with thermal stress relief process
- 5** ■ Improve productivity and reliability through quick connect design
- 6** ■ Gain design flexibility and ease of maintenance with broad portfolio

[Website](#)  
[Catalog](#)  
[Quick Reference Guide](#)

### Featured Products



**1** **Micro-MaTch Board-to-Board & Wire-to-**  
**2** **Board Connectors**

- 3** ■ Prevent fretting corrosion and allow for a longer-lasting connection with contact spring design
- 4** ■ Eliminate unnecessary movement in high-vibration applications with high force contact system
- Support wide variety of design options with extensive product offering

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[Catalog](#)  
[Quick Reference Guide](#)  
[eLearning Module](#)



**3** **Universal MATE-N-LOK Wire-Applied**  
**4** **Connectors**

- 6** ■ Achieve design flexibility and polarization with interchangeable contacts
- Improve reliability in high moisture environments with splash proof options
- Maintain ultimate safety with egg-crated, finger-proof design

[Website](#)  
[Catalog](#)  
[Quick Reference Guide](#)  
[Product Presentation](#)



**1** **AMP CT & Mini-CT Wire-to-Board**  
**2** **Connectors**

- 3** ■ Provide PC board self-retention with kinked connector design
- 4** ■ Save space with miniaturized discrete wire interconnect
- 5** ■ Offer design flexibility with IDC and crimp termination methods

[Website I](#)  
[Website II](#)  
[Quick Reference Guide I](#)  
[Quick Reference Guide II](#)

Click on the links above and visit [te.com](http://te.com) for further information

## Intrusion Detection



## Network Systems



### Featured Products



- 1 **High Performance Interconnects (HPI)**
- 2 ■ Achieve low signal/power connections in a 1.0mm to 2.5mm centerline footprint
- 3 ■ Enable interchangeability to industry standard designs with square termination posts
- 4 ■ Prevent contact stubbing with polarized housings

[Website](#)

### Featured Products



- 1 **Corcom Power Line Filters**
- 2 ■ Meet emission standards with EMI/RFI protection
- 3 ■ Gain design flexibility with multiple termination options on high current power filters
- 4 ■ Solve challenges with custom design, testing and qualification capabilities

[Website](#)  
[Catalog](#)  
[Quick Reference Guide](#)



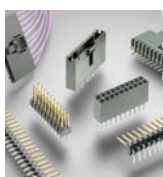
- 1 **Eurostyle Terminal Blocks**
- 2 ■ Easy assembly and expansion with modular design and interlocking features
- 3 ■ Support repeated connect/disconnect cycles with robust clamping technology
- 4 ■ Gain design flexibility with broad product offering

[Website](#)  
[Quick Reference Guide](#)  
[Product Presentation](#)  
[Data Sheet](#)



- 2 **RJ45 Modular Jacks & Plugs**
- 6 ■ Reduce electrical noise and gain up to Cat 5e performance
- Gain additional PCB space with low profile and narrow housing design
- Suitable for a broad range of applications with diverse product configurations

[Website I](#)  
[Website II](#)  
[Catalog I](#)  
[Catalog II](#)  
[Quick Reference Guide](#)



- 1 **AMPMODU Board-to-Board & Wire-to-Board Interconnect System**
- 2 ■ Achieve high vibration performance and reliability with polarized latching receptacles
- 3 ■ Reduce termination time with optional insulation displacement contacts (IDC)
- 4 ■ Satisfy a broad range of signal needs with easy application and competitively priced diverse portfolio

[Website](#)  
[Catalog](#)  
[Quick Reference Guide I](#)  
[Quick Reference Guide II](#)  
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- 4 **USB Connectors**
- 6 ■ Support data transfer rates of standard USB 2.0 or the 10 times faster USB 3.0
- Optimize power efficiencies with improved device interaction and charging time
- Standard and customized styles and orientations available

[Website](#)  
[Quick Reference Guide](#)  
[Product Presentation](#)

Click on the links above and visit [te.com](http://te.com) for further information

## TE'S PRODUCT INFORMATION CENTERS

Need help? Have questions? We are here for you. You choose: call, email or chat with us online. Dedicated technical experts around the world are ready to serve you in English and twelve other languages. Our goal is to provide you with the help you need: nine out of ten questions are answered immediately or within 24 hours.

### te.com/help

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# **BUILDING SAFETY AND SECURITY SOLUTIONS**

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BUILDING SAFETY & SECURITY FACT SHEET

## Fact Sheet

# BUILDING SAFETY & SECURITY

### ▶ What is Building Safety & Security?

- Systems encompassing the key and critical components of a building's infrastructure including a broad range of elements working together to maintain the protection and safety of tenants, customers, employees and assets
- Fire safety products including sensors, switches, enunciators and control panels to detect the presence of smoke or fire and alert building occupants
- Security products made up of access control systems, video monitoring, theft detection, and intrusion detection devices and systems that manage the overall safety of building occupants and assets

### ▶ In-the-Know ↗

- Video surveillance systems are migrating from analog (CCTV) to IP-enabled, direct network attached cameras. These intelligent cameras host local processing power to readily take advantage of Cat5e/Cat6 communication systems, minimizing the need for heavy image processing, allowing for complex image compression with reduced network bandwidth. This results in easier and more cost effective installation as well as improved imaging.
- Increasing building intelligence is driving tighter integration and networking among fire and security elements. Sub-systems are being networked together via BACnet, KNX, or standard Ethernet protocols. These building communication backbones enable a central point of control for building systems making them more manageable and integrated. For example, occupancy sensors designed to enable room lighting may also be integrated with intrusion detection during off-hour operations.
- Due to the need for real-time information and more expansive monitoring capability across campuses and multiple location facilities, the fire and security industry is trending toward wireless and mobile monitoring. This trend is driving the need for wireless functionality and component miniaturization supporting ease of installation with fewer wires.
- The ultimate trend in the industry is establishing systems to eliminate the likelihood of unfortunate events by establishing environments where tenants, customers and employees are ensured ultimate protection and safety.

### ▶ Key Questions to Ask Your Customers

- Which operating environment best characterizes your typical installations - office, retail or commercial?
- Are your devices or systems networked into a building infrastructure?
- Do any of your devices communicate data wirelessly?
- Do you have a need for integrated power and data interconnects?
- How do you protect from and mitigate the negative effects of EMI/RFI noise?
- Are any of your devices designed to function in harsh environments?
- Is the trend toward miniaturization challenging your interconnect options?
- Are your system controllers connected to electrically noisy power supplies?

### ▶ Target Customers

- Security camera & monitoring system manufacturers
- Theft detection system suppliers
- Fire alarm control panel, activation and notification device manufacturers
- Intrusion detection system suppliers
- KNX & BACnet device manufacturers
- Access control system suppliers

### ▶ Building Safety & Security Subsystems

- Fire Detection
- Video Surveillance
- Access Control
- Theft Detection
- Intrusion
- Networking Systems

### ▶ Design Navigator ↗

Inside the Building Safety & Security solutions guide, the Design Navigator will help you select the right TE interconnect and electromechanical products for your customer based on their unique requirements and fire and security design challenges.

TE provides interconnect solutions for fire detection, video surveillance, access control, theft detection, intrusion and networking systems appropriate for use in a broad range of operating environments, from private offices to retail and commercial spaces.

With one of the largest connector portfolios on the market, TE offers a broad range of options to choose from to help accelerate your customer's path to market. Whether your customer is adding or expanding device intelligence with marginal cost impact, bringing power and increased data bandwidth to end point devices, or extending the performance and range of end device communication to the network, TE has the product breadth to provide your customer with the right connector, antenna, relay, switch, passive device, circuit protection, and powerline filters for their application.



# Design Navigator

Get more information on [te.com](http://te.com) by clicking on the product names below.

	APPLICATIONS						Max Current Rating (A) <sup>1</sup>	Max Voltage Rating (V) <sup>1</sup>	Operating Temperature Range (°C)	Sealing Level <sup>2</sup>	Contact Interface Plating	SMT Compatible	Wire-to-Wire	Wire-to-Board	Standards
	1	2	3	4	5	6									
<a href="#">Antenna Solutions</a>	●	●	●	●	●	●	N/A	N/A	N/A	N/A	●	●	●	●	N/A
<a href="#">Battery Connectors</a>	●	●	●	●	●	●	10	30 DC	N/A	N/A	●	●	●	●	N/A
<a href="#">Spring Fingers - PCB Grounding Contacts</a>	●	●	●	●	●	●	1.0	5 DC	N/A	N/A	●	●	●	●	N/A
<a href="#">Cable Assemblies<sup>3</sup></a>	●	●	●	●	●	●	N/A	N/A	N/A	N/A	●	●	●	●	N/A
<a href="#">Polyolefin Heat Shrink Tubing</a>	●	●	●	●	●	●	N/A	600 AC	-55 to +135	N/A	N/A	●	●	●	UL, CSA, cUL, VDE
<a href="#">2Pro Overcurrent/Overvoltage Protection Devices</a>	●	●	●	●	●	●	0.75	240 AC	-40 to +85	N/A	N/A	●	●	●	UL
<a href="#">Chip Fuses</a>	●	●	●	●	●	●	20	250 AC	-40 to +125	N/A	N/A	●	●	●	UL
<a href="#">Corcom Power Line Filters</a>	●	●	●	●	●	●	180	480 AC	-40 to +85	N/A	Sn/Ni	●	●	●	UL, CSA, VDE
<a href="#">PolySwitch Resettable R-Line Circuit Protectors</a>	●	●	●	●	●	●	15	72 DC	-40 to +85	N/A	N/A	●	●	●	UL, CSA, TUV
<a href="#">PolySwitch Resettable SMD Circuit Protectors</a>	●	●	●	●	●	●	3.0	60 DC	-40 to +85	N/A	N/A	●	●	●	UL, CSA, TUV
<a href="#">PolySwitch Resettable T-Line Circuit Protectors</a>	●	●	●	●	●	●	0.4	250 DC	-40 to +85	N/A	N/A	●	●	●	UL, CSA, TUV
<a href="#">Corcom Power Inlet Filters &amp; Power Entry Modules</a>	●	●	●	●	●	●	180	480 AC	-40 to +85	N/A	Sn/Ni	●	●	●	UL, CSA, VDE
<a href="#">Eurostyle Terminal Blocks</a>	●	●	●	●	●	●	10	300 AC/DC	-30 to +105	N/A	Sn	●	●	●	UL, cUL
<a href="#">FASTON &amp; Ultra-FAST Terminals</a>	●	●	●	●	●	●	48	600 AC/DC	-40 to +250	N/A	Au/Ag/Ni/Sn/Brass	●	●	●	UL, CSA
<a href="#">Power Triple Lock (PTL) Wire-Applied Connectors</a>	●	●	●	●	●	●	20	600 AC	-55 to +150	N/A	Sn	●	●	●	UL, CSA
<a href="#">Universal MATE-N-LOCK Wire-Applied Connectors</a>	●	●	●	●	●	●	19	600 AC	-55 to +125	IP56/57	Sn/Au	●	●	●	UL, CSA, VDE
<a href="#">CLOUDSPLITTER Connector System</a>	●	●	●	●	●	●	1.5 signal 50 power	150 AC 20 DC	-40 to +85	N/A	Au	●	●	●	UL, cUL
<a href="#">Connectors for HDMI Standards</a>	●	●	●	●	●	●	0.5	40 AC	-55 to +105	N/A	Au	●	●	●	Industry**
<a href="#">Connectors for Secure Digital (SD) Memory Cards</a>	●	●	●	●	●	●	0.5	30 AC	-25 to +85	N/A	Au	●	●	●	UL
<a href="#">RJ45 Modular Jacks &amp; Plugs</a>	●	●	●	●	●	●	1.5	150 AC	-40 to +85	N/A	Au	●	●	●	UL, CSA
<a href="#">USB Connectors</a>	●	●	●	●	●	●	0.5	40 AC	-55 to +85	N/A	Au	●	●	●	Industry**
<a href="#">Economy Power (EP) 2.5 Wire-to-Board Connectors</a>	●	●	●	●	●	●	4.5	250 AC	-25 to +105	N/A	Sn	●	●	●	UL, CSA, TUV
<a href="#">Economy Power (EP) II Wire-to-Board Connectors</a>	●	●	●	●	●	●	11	600 AC	-25 to +105	N/A	Sn	●	●	●	UL, CSA, TUV
<a href="#">Micro MATE-N-LOK Wire-Applied Connectors</a>	●	●	●	●	●	●	5.0	250 AC	-40 to +105	N/A	Sn/Au	●	●	●	UL, CSA, VDE
<a href="#">Mini-Universal MATE-N-LOK Wire-Applied Connectors</a>	●	●	●	●	●	●	9.5	600 AC	-55 to +105	IP56/57	Sn/Au	●	●	●	UL, CSA, VDE
<a href="#">High Frequency Inductors</a>	●	●	●	●	●	●	1.3	N/A	-40 to +125	N/A	Sn	●	●	●	N/A
<a href="#">Power Resistors</a>	●	●	●	●	●	●	N/A	200 AC/DC	-55 to +220	N/A	Sn	●	●	●	N/A
<a href="#">Precision Resistors</a>	●	●	●	●	●	●	N/A	200 AC/DC	-55 to +155	N/A	Sn	●	●	●	N/A
<a href="#">Communications &amp; Signal Relays</a>	●	●	●	●	●	●	5.0	250 AC 220 DC	-40 to +85	RT III; RTV	AgNi/PdRu, Au clad	●	●	●	UL, cUL
<a href="#">High Frequency Relays</a>	●	●	●	●	●	●	2.0	250 AC 220 DC	-55 to +85	RT III	Ag, Au clad	●	●	●	
<a href="#">High Power PCB Relays</a>	●	●	●	●	●	●	40	600 AC	-40 to +105	RT III	AgCdO/AgNi/ AgSnOInO	●	●	●	UL, CSA, cUL, VDE
<a href="#">Miniature Relays</a>	●	●	●	●	●	●	1.0	120 AC 30 DC	-40 to +85	RT III	Ru/AgNi	●	●	●	UL, CSA, cUL
<a href="#">PCB Relays</a>	●	●	●	●	●	●	16	400 AC	-40 to +105	RT III	AgNi/ AgSnO	●	●	●	UL, CSA, cUL, VDE, CQC
<a href="#">Transformers</a>	●	●	●	●	●	●	N/A	600 AC	N/A	RT 0	N/A	●	●	●	UL, cUL
<a href="#">AMP CT &amp; Mini CT Wire-to-Board Connectors</a>	●	●	●	●	●	●	4.0	125 AC	N/A	N/A	N/A	●	●	●	UL, CSA
<a href="#">AMPMODU Board-to-Board &amp; Wire-to-Board Interconnect System</a>	●	●	●	●	●	●	3.0	250 AC	-65 to +125	N/A	Sn/Au	●	●	●	UL, CSA
<a href="#">AMPMODU System 50 Board-to-Board &amp; Wire-to-Board Connectors</a>	●	●	●	●	●	●	3.0	250 AC	-65 to +125	N/A	Sn/Au	●	●	●	UI, CSA
<a href="#">Free Height (FH) Board-to-Board Connectors</a>	●	●	●	●	●	●	0.5	100 AC	-40 to +85	N/A	Au	●	●	●	UL
<a href="#">High Performance Interconnects (HPI)</a>	●	●	●	●	●	●	3.0	250 AC/DC	-25 to +85	N/A	Sn	●	●	●	N/A
<a href="#">Micro-MaTch Board-to-Board &amp; Wire-to-Board Connectors</a>	●	●	●	●	●	●	1.5	100 AC	-40 to +105	N/A	Sn	●	●	●	UL
<a href="#">DIP Switches</a>	●	●	●	●	●	●	0.1	50 DC	-30 to +85	N/A	Ag	●	●	●	N/A
<a href="#">Keylock Switches</a>	●	●	●	●	●	●	6.0	250 AC	-18 to +65	N/A	Ag	●	●	●	UL, CSA
<a href="#">Pushbutton Switches</a>	●	●	●	●	●	●	6.0	250 AC/DC	-20 to +80	N/A	Ag/Au	●	●	●	N/A
<a href="#">Rocker Switches</a>	●	●	●	●	●	●	16	250 AC	-20 to +85	IP40	Ag	●	●	●	UL, CSA, VDE, ENEC
<a href="#">Tactile Switches</a>	●	●	●	●	●	●	0.05	24 DC	-35 to +105	IP67	Ag	●	●	●	N/A
<a href="#">Toggle Switches</a>	●	●	●	●	●	●	20	250 AC/DC	-20 to +85	IP67	Sn/Au/Ag	●	●	●	UL, CSA

<sup>1</sup> May vary based on application and product selection  
<sup>2</sup> RT = Processing protection level according to IEC 61810;  
 IP = Ingress protection rating according to IEC 60529  
<sup>3</sup> Solves the same problems as the applied interconnect

UL - UL Listed  
 CSA - Canadian Standards Association  
 \*\* Industry - Meets product specific industry standards  
 (see product page on te.com for more detail)

# **BUILDING SAFETY AND SECURITY SOLUTIONS**

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## BUILDING SAFETY & SECURITY



### MONITOR, DETECT, CONNECT

Stay ahead of the trends for increased building intelligence with our proven interconnect solutions. Our products can:

- help you add or expand device intelligence
- bring power and increased data bandwidth to end point devices
- extend the performance and range of end device communication to the network.

Whether you're designing a fire detection, video surveillance or access control system, we offer the right solutions to help accelerate your path to market.

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# BUILDING SAFETY & SECURITY

## INPUT/OUTPUT (I/O) & CABLE ASSEMBLIES

Product satisfaction depends on reliable I/O and cable assembly connectivity

### HDMI Connectors <sup>5G</sup>

Digital audio and video in one popular format available with full shielding for ESD protection



### RJ45 Connectors <sup>5G</sup>

Our broad range of modular I/O jacks and plugs offer reliable and space-saving solutions



### USB Connectors <sup>5G</sup>

Universal and user-friendly, TE offers micro USB, USB 3.0, and the high-power and reversible USB Type-C solutions



### Multimedia Cable Assemblies <sup>5G</sup>

From DVI and HDMI, to DisplayPort and USB, we support the latest high-speed standards



### Bulk Cable

Specialty cables custom-engineered for precision signal integrity and harsh environments



## WIRE-TO-BOARD

We offer a broad array of products for your wire-to-board requirements

### Common Termination (CT) Connectors

2mm centerline connectors feature both crimp and IDC style interconnects with many header options



### Mini CT Connectors

1.5mm centerline connectors feature both crimp and IDC style interconnects with many header options



### High Performance Interconnects (HPI)

Industry standard square-peg technology in single- and dual row post headers available in various pitches and colors



### Flexible Printed Circuit (FPC) Connectors

Space saving solutions for signal routing. Available in 0.25 to 1.25mm centerlines in both ZIF and non ZIF styles.



## ANTENNAS

Antenna performance, reliability and durability are essential

### Embedded Antennas <sup>5G</sup>

A range of products supporting low profile wireless connectivity for 4G and 5 GHz Wi-Fi applications



## BOARD-TO-BOARD

Excellent signal integrity mitigates negative effects of electrical noise

### Free Height Connectors

These versatile connectors may be useful for downsizing applications that require parallel stacked circuit boards



## POWER & GROUNDING

Our miniaturized solutions help reduce and control the effect of EMI in complex systems

### Battery Connectors

Balance current carrying capabilities, provide higher amps, and support fast charging times with a range of solutions



### Spring Fingers

Tiny, scalable, surface mountable contacts allow designers to fit grounding solutions in most places



## CARD & SOCKET

From IC sockets to SD cards, we make it easy to get connected and process, share or store data

### DIP Sockets

Provide a reliable connection between integrated circuits (ICs) and printed circuit boards (PCBs) with contact counts ranging from 6 to 48



### DIMM Sockets <sup>5G</sup>

Dual in-line memory module sockets design to JEDEC industry standards. Enable reliable connection to standard memory modules



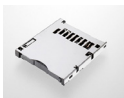
### Mini Spring Sockets

A series of individual sockets provide low contact resistance with a low profile design for tighter board stacking and increased PCB clearance



### SD Card Connectors

Standard, micro, or micro/SIM combos with available push/push and push/pull matings



<sup>5G</sup> These solutions are helping to unlock the potential of 5G. Our portfolio of 5G solutions and capabilities address key challenges faced by design engineers around the world.\*

\* 5G ready solutions may vary within a product family. Please refer to te.com or contact your TE sales representative for additional information.

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