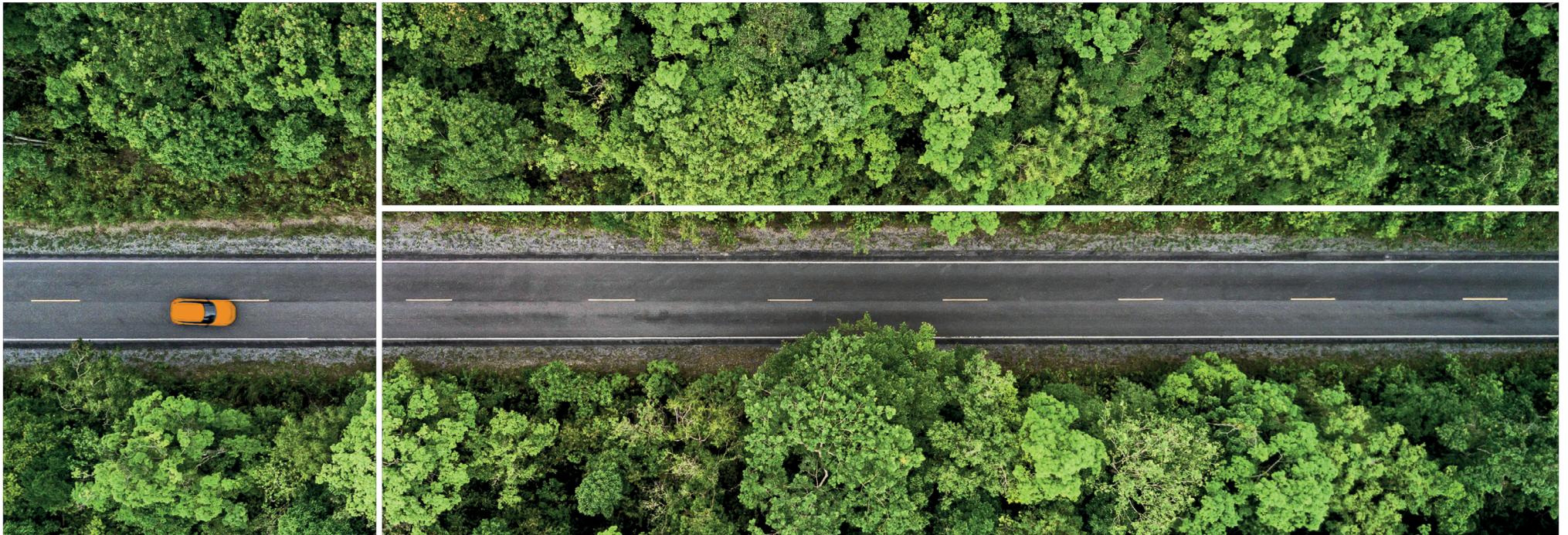


CONNECTOR PORTFOLIO FOR SIGNAL AND POWER

ENABLING INNOVATION WITH AUTOMOTIVE ROBUST CONNECTIVITY



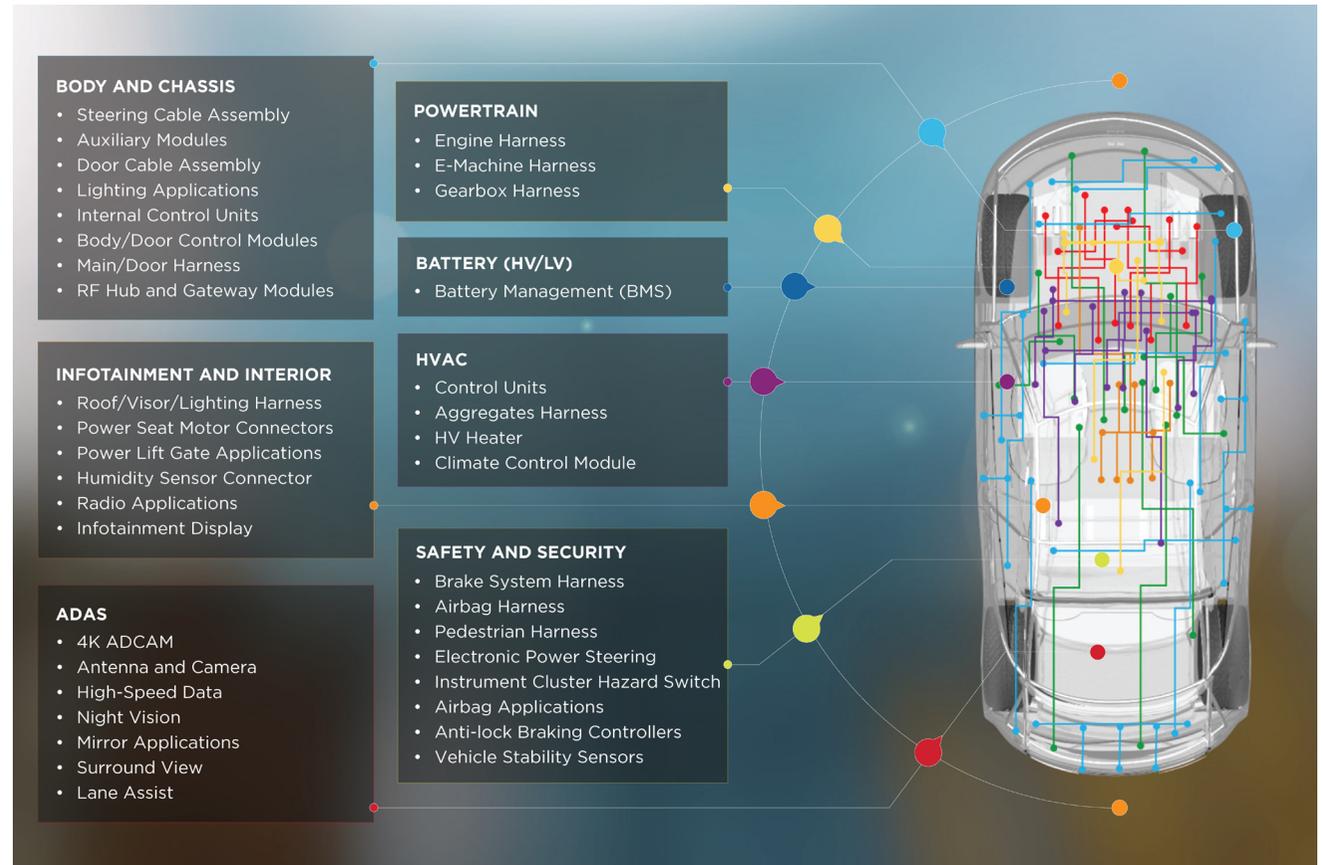
TE Connector Portfolio for Signal and Power

Engineering the Next Generation of Mobility

The next-generation of mobility will be defined by safer, more sustainable and convenient ways of moving around. As a global leader in connectivity and sensor solutions, we collaborate with our customers and other industry technology leaders to co-create engineering solutions that address the physical and wireless automotive connectivity challenges that will enable this vision.

Leveraging 75+ years' experience in the automotive industry; developing highly robust, high-performance connectivity solutions, TE Connectivity's (TE) powerful and flexible portfolio for signal and power ranges from the smallest connectors accommodating wire sizes of 0.08 mm² up to high power connectors supporting wire sizes over 120 mm² and carrying up to 400A.

TE's advanced portfolio incorporates the most advanced features to ensure the highest levels of automotive robustness, geometric flexibility, lightness of weight and ergonomic handling.



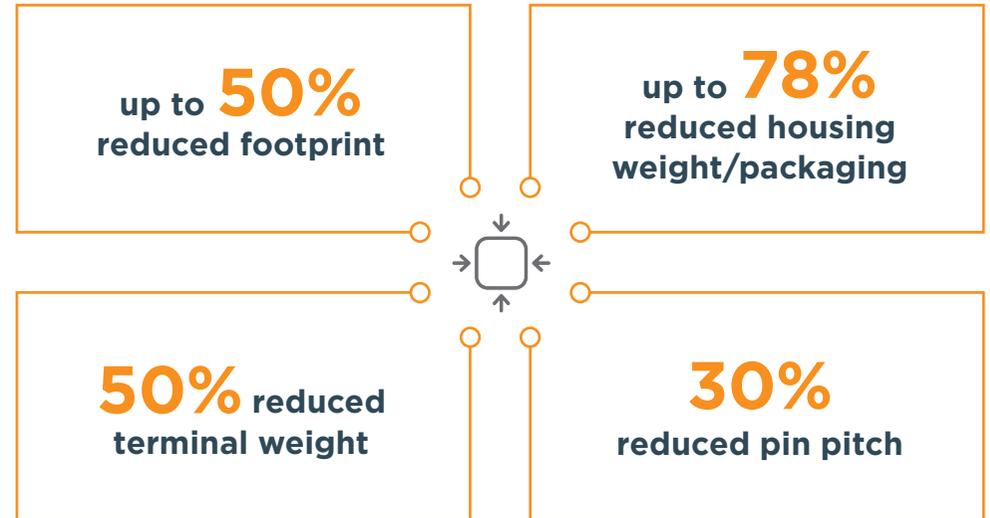
Meeting Connector Challenges

Miniaturization



TE Connectivity offers a comprehensive range of automotive-grade miniaturized connector solutions meeting global OEM specifications for applications throughout the vehicle.

Our global portfolio offers both locking lance and clean body terminal designs with a comprehensive range of 1 and 2 row connector options, that can be hand-mated up to 32 positions. In addition, supporting pin-pitches of 1.27 mm up to 1.8 mm, our portfolio can enable almost 50% reduction in PCB footprint, up to 55% reduction in crimp length and up to 78% reduction in packaging space (compared to MQS) while ensuring the highest levels of automotive robustness and reliability.



PicoMQS Terminal



NanoMQS FFC Connector



MCON 0.50 3 position Plug, Sealed



Generation 50 Header

Meeting Connector Challenges

48 Volt Ready

Our portfolio of sealed 48V ready terminals and connectors covers all the standard 48V current ranges supporting all main powertrain as well as slide aggregate applications.

This ranges from bolt-down integrated power terminals, supporting wire sizes up to 120 mm², large crimp-termination sealed connectors to smaller highly robust connectors, supporting the 48V system side aggregates. Each fulfils industry requirements for sealing and provide the necessary clearance and creepage distance in accordance with DIN 60664-1.

48V Main Powertrain Connectivity



AMP MCP 9.5
Sealed wire connector
carrying up to 70 A



MCON 12
Sealed connector
carrying up to 179 A



IPT Termination System
Bolt-down termination system
carrying up to 400 A

48V Side Aggregate Connectivity



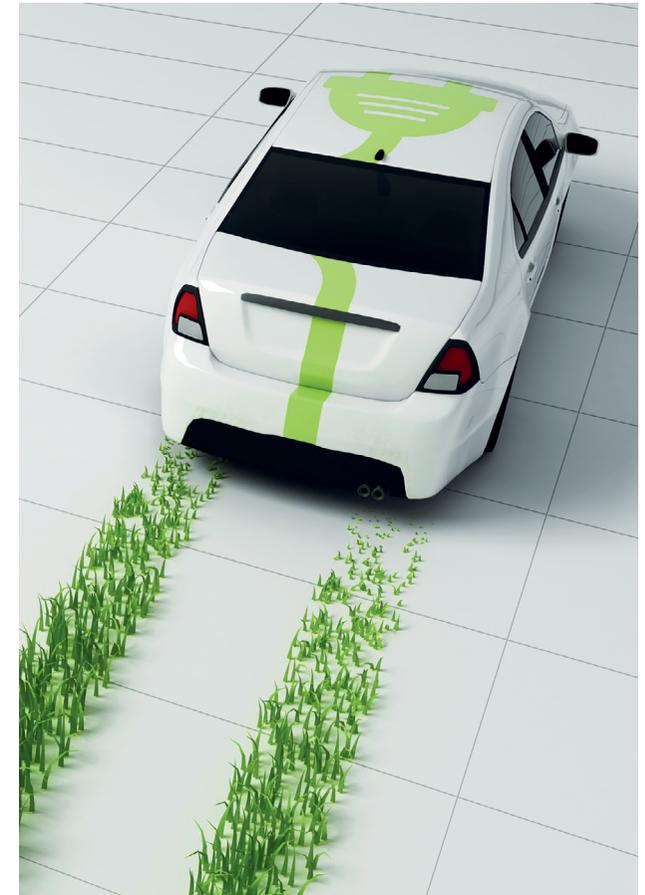
MCON 1.2 | 2.8 | 6.3 | 8 | 9.5 | 12
Sealed connector system
that carries up to 179 A



Accommodating
AMP MCP 1.5K, 2.8, 6.4/4.8K
and 9.5 contacts, **heavy duty**
connectors carrying
up to 80 A



AMP MCP 1.5 | 2.8 | 6.3 | 9.5
Sealed and unsealed
wire connectors,
carrying up to 70 A



Meeting Connector Challenges

Ultra Harsh Environment Connectors

TE's range of MCON and HPF 1.2 connectors offer connectivity solutions for applications in ultra-harsh automotive environments. This includes engine bay applications that require sealed connectors capable of operating in temperatures up to 150°C and up to level 6 (LV214) vibration severity.

HPF 1.2 Contact System



Based on a “meander” shaped geometry, this ultra-robust contact system is designed to prevent micro movements. This enables 17 A current capacity in 150°C/level 6 vibration environments.

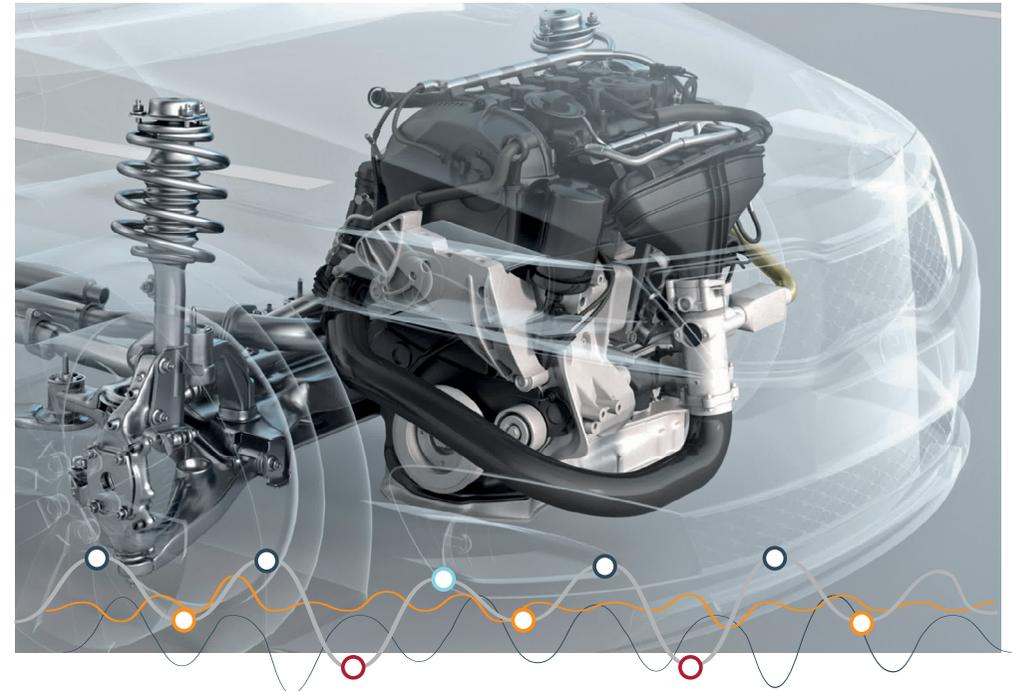
MCON 1.2. Sealed Connector Systems



Ultra-robust contact system carrying up to 17 A in 150°C and level 4 vibration environments.

Addressable Applications

- High Pressure Fuel Injectors
- Position Sensors
- Valves and Actuators
- Temperature Sensors



TE Connectivity Portfolio for Signal and Power

Smart Architectures Hybrid Connectivity Solutions for Automotive Applications

The increase in electronic content is driving the need for reduced scale and complexity of the physical wiring network within vehicles. This is leading to a transformation from electrical/electronic (E/E) architectures that are fragmented and functionally orientated to more centralized and simplified “zonal” architectures.

To meet this need, TE Connectivity has designed and developed a broad range of hybrid connector solutions based on established OEM-released interfaces supporting both signal, power and different types of data connectivity to support a large range of applications.

ZONAL

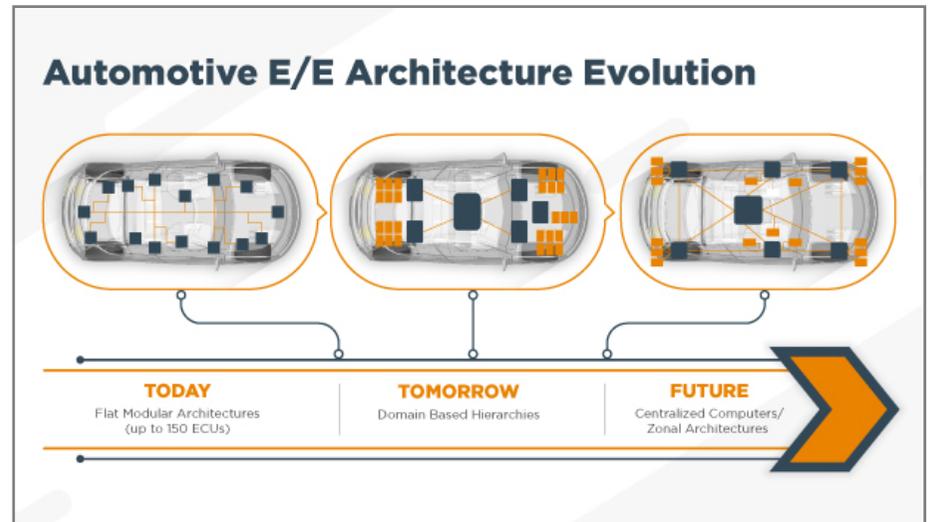
Reduced E/E architecture, complexity, space, weight, and cost.

3-IN-1

Robust solution integrating data, low voltage and signal connections into one single connector.

SPACE

Reduced packaging space and PCB footprint.



TE offers an extensive portfolio of hybrid connectors, based on established OEM approved interfaces, for signal, power and data addressing the needs of a wide range of applications. These feature intelligent designs, in terms of pocket spacing and configuration, that maximizes:

- Heat management / dissipation
- Electromagnetic compatibility
- Anti-stubbing
- Block-loading (automated terminal insertion) readiness

Overview TE Connectivity Contact Families for Signal and Power

Miniaturization and Signal

Terminal Size		Product Family	Minimum Pitch	Max Current @ 80°C	Maximum Vibration Class	Termination Type	Validated Wire Sizes (mm ²)	Sealed/Unsealed	OEM Specification
	0.5 mm	PicoMQS	1.27 mm	4A	SG2	Crimped	0.22 FLU/FLR	Unsealed	LV214 / VW75174
	0.5 mm	NanoMQS	1.8 mm	6A	SG4	Crimped	0.13 - 0.35	Sealed/Unsealed	LV214/USCAR (ongoing)
	0.5 mm	MCON 0.50	1.8 mm	3A	SG4	Crimped	0.13 - 0.35	Sealed	LV214/USCAR (ongoing)
	0.5 mm	Generation 50	1.8 mm	4A	V1	Crimped	0.13 - 0.35	Sealed/Unsealed	USCAR
	0.5 mm	0.50 Series	1.5 mm	5A	V1	Crimped	0.13 - 0.35	Sealed/Unsealed	Japanese OEMs
	0.5 mm	O20K	2.0 mm	3A	SG2 (4.4g)	Crimped	0.22 - 0.35	Unsealed	Korean OEMs
	0.64 mm	MQS	2.54 mm	7.5A	SG3	Crimped	0.08, 0.2, 0.35, 0.5, 0.75	Sealed/Unsealed	LV214/USCAR
	0.64 mm	Generation Y	2.2/2.54 mm	10.5A	V1	Crimped	0.13 - 0.75	Sealed/Unsealed	USCAR/Japanese OEMs
	0.64 mm	GET	2.54 mm	9A	USCAR for entire engine compartment body	Crimped	0.13 - 1.0	Sealed/Unsealed	USCAR
	0.64 mm	MULTILOCK	2.2 mm	3A	USCAR	Crimped	0.13 - 0.75	Unsealed	USCAR
	0.64 mm	NH/TH	2.2 mm	5A	V3	Crimped	0.2, 0.35, 0.5, 0.75, 1.0	Sealed/Unsealed	French/Japanese OEMs
	0.64 mm	TH/025	2.2 mm	5A	V1 (body)	Crimped	0.13, 0.22, 0.35, 0.5, 0.75	Unsealed	French/Japanese OEMs
	1.0 mm	MULTILOCK	2.5 mm	5A	USCAR	Crimped	0.20 - 0.85	Unsealed	USCAR

Overview TE Connectivity Contact Families for Signal and Power

Low to Medium Power

Terminal Size	Product Family	Minimum Pitch	Max Current @ 80°C	Maximum Vibration Class	Termination Type	Validated Wire Sizes (mm ²)	Sealed/Unsealed	Specification	
	1.2 mm	MCON*	2.5 mm	17A	SG4	Crimped	0.5, 0.75, 1.0, 1.5	Sealed/Unsealed	LV214/USCAR
	1.2 mm	HPF*	2.5 mm	17A	SG6	Crimped	0.5, 0.75, 1.0, 1.5	Sealed	LV214/USCAR
	1.5 mm	AMP MCP	4 mm	18A	30g	Crimped	0.2, 0.35, 0.5, 0.75, 1.0, 1.5	Sealed/Unsealed	LV214/USCAR
	1.5 mm	SFC	4 mm	18A	SG4	Crimped	0.35, 0.5, 0.75, 1.0	Sealed	LV214/USCAR
	1.5 mm	MQS	2.54 mm	10A	SG3	Crimped	0.35, 0.5, 0.75, 1.0, 1.5	Sealed/Unsealed	LV214/USCAR
	1.5 mm	SUPERSEAL	2.54 mm	14A	SG3	Crimped	0.35, 0.50, 0.75, 1.50, 2.5,	Sealed	LV214/USCAR
	1.6 mm	Micro Timer	4 mm	10A	20g	Crimped	0.2, 0.35, 0.5, 0.75, 1.0, 1.5	Sealed/Unsealed	LV214/USCAR
	1.8 mm	Sealed Sensor Connectors	5 mm	17A	USCAR V2	Crimped	0.5, 0.75, 1.5, 2.0	Sealed	USCAR
	1.8 mm	MULTILOCK	3.5 mm	10A	USCAR	Crimped	0.20 - 1.25	Sealed/Unsealed	LV214/USCAR
	2.3 mm	MULTILOCK	3.5 mm	15A	USCAR	Crimped	0.30 - 2.00	Sealed/Unsealed	LV214/USCAR
	2.8 mm	MPQ	5 mm	26A	SG3	Crimped	0.35, 0.5, 0.75, 1.0, 1.5, 2.0, 2.5, 4.0	Sealed/Unsealed	LV214/USCAR
	2.8 mm	MCON*	5.5 mm	36A	SG2	Crimped	0.5, 0.75, 1.0, 1.5, 2.5, 4.0	Sealed/Unsealed	LV214/USCAR
	2.8 mm	AMP MCP	5 mm	40A	30g	Crimped	0.35, 0.5, 0.75, 1.0, 1.5, 2.5, 4.0	Sealed/Unsealed	LV214/USCAR
	2.8 mm	SFC	5 mm	40A	SG4	Crimped	0.5, 0.75, 1.0, 1.5, 2.5, 4.0	Sealed/Unsealed	LV214/USCAR
	2.8 mm	Timer*	5 mm	23A	20g	Crimped	0.35, 0.5, 0.75, 1.0, 1.5, 2.5	Sealed/Unsealed	LV214/USCAR
	5.2 mm	PQ	5.5 mm	37A	SG2	Crimped	1.5, 2.0, 2.5, 4.0, 6.0	Unsealed	LV214/USCAR

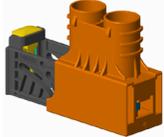
* Automotive preferred contact systems

Continued ...

Low to Medium Power

Terminal Size	Product Family	Minimum Pitch	Max Current @ 80°C	Maximum Vibration Class	Termination Type	Validated Wire Sizes (mm ²)	Sealed/Unsealed	Specification	
	6.3 mm	NG	11.6 mm	45A	15g	Crimped	2.5, 4.0, 6.0	Unsealed	French OEMs
	6.3 mm	AMP MCP	8 mm (unsealed)	52A	30g	Crimped	0.35, 0.5, 0.75, 1.0, 1.5, 2.0, 2.5, 4.0, 6.0	Sealed/Unsealed	LV214/USCAR
	6.3 mm	Timer	7.5 mm	33A	20g	Crimped	0.35, 0.5, 0.75, 1.0, 1.5, 2.5, 4.0	Sealed/Unsealed	LV214/USCAR

High Power

Terminal Size	Product Family	Minimum Pitch	Max Current @ 80°C	Vibration Class	Termination Type	Validated Wire Sizes (mm ²)	Sealed/Unsealed	Specification	
	8 mm	MCON	15.7 mm	109A	SG3	Crimped	2.5, 3.0, 4.0, 5.0, 6.0, 8.0, 10, 12, 16	Sealed/Unsealed	LV214
	8 mm	NG	8.4 mm	90A	25g	Crimped/Welded	4.0, 5.0, 6.0, 10, 12, 16	Sealed/Unsealed	French OEMs
	9.5 mm	AMP MCP	12.5 mm (unsealed)	78A	Class 1		10, 16	Sealed/Unsealed	LV214/USCAR
			16.5 mm (sealed)						
	9.5 mm	Timer	11.5 mm	55A	20G	Crimped	2.5, 4.0, 6.0, 10,	Sealed/Unsealed	LV214/USCAR
9.5 mm	MCON	16.5 mm	78A	Class 1	Crimped/Welded	4.0, 5.0, 6.0, 8.0, 10	Sealed/Unsealed	US OEMs	
	12 mm	MCON	15.7 mm	179A	SG4	Welded	6.0, 8.0, 10, 12, 16, 20, 25, 30, 35	Sealed/Unsealed	LV214
	12 mm	NG	15.7 mm	133A	25g	Crimped/Welded	10, 16, 25, 35	Sealed/Unsealed	French OEMs
	12 mm+	NG	15.7 mm	170A	25g	Crimped/Welded	10, 16, 25, 35	Sealed/Unsealed	
	12 mm	PCON		117A	V2	Crimped	5.0, 6.0, 8.0, 10, 12, 16	Sealed	USCAR
	18 mm	PCON	22.5 mm	180 A	V2	Crimped	20, 25, 30, 35	Sealed	USCAR
21 mm	PCON	54 mm	380A	SG3	Crimped	25, 35, 50, 70, 95	Sealed	LV214	

Overview TE Connectivity Header Families for Signal and Power

	Terminal Size	Product Family	Minimum Pitch	Max Current @ 80°C	Orientation	No. Positions	Through Hole	Pin-in Paste	SMD	Press-Fit	OEM Specification
	0.5 mm	PicoMQS	1.27 mm	4A	90°	2 - 10			Yes		LV214 / VW75174
	0.5 mm	NanoMQS	1.8 mm	6A	90° & 180°	4 - 32	Yes	Yes	Yes		LV214/USCAR (ongoing)
	0.5 mm	Generation 50	1.8 mm	4A	90° & 180°	2 - 28			Yes	Yes	USCAR
	0.5 mm	0.50 Series	1.5 mm	5A	90° & 180°	16 - 40	Yes		Yes		Japanese OEMs
	0.63 mm	MQS	2.54 mm	7.5A	90° & 180°	3 - 96	Yes	Yes	Yes	Yes	LV214/USCAR
	0.64 mm	TH	2.2 mm	5A	90° & 180°	4 - 75	Yes	Yes	Yes		French/Japanese OEMs
	0.64 mm	GET	2.54 mm	9A	90°	2, 66	Yes			Yes	USCAR
	0.64 mm	Generation Y	2.2/2.54 mm	10.5A	90° & 180°	10 - 40	Yes			Yes	USCAR/Japanese OEMs
	1.2 mm	MCON	2.5 mm	17A	90°	5	Yes			Yes	LV214/USCAR
	1.5 mm	AMP MCP	4 mm	18A	180°	92	Yes				LV214/USCAR
	1.6 mm	Micro Timer	4 mm	10A	180°	16	Yes				LV214/USCAR
	2.8 mm	AMP MCP	5 mm	40A	90° & 180°	4-16	Yes				LV214/USCAR
	2.8 mm	Timer	5 mm	23A	90° & 180°	4 - 69	Yes				LV214/USCAR
	1.0 mm	MULTILOCK	2.5 mm	5A	90° & 180°	2 - 122	Yes				USCAR
	1.7 mm	MULTILOCK	3 mm	5A	90° & 180°	3 - 30	Yes				LV214/USCAR
	1.8 mm	MULTILOCK	3.5 mm	10A	90° & 180°	20, 30	Yes				LV214/USCAR
	2.8 mm	(Unsealed) AMP MCP (ICT)	5 mm	40A	90°	6 - 21	Yes				LV214/USCAR

Delivering Crimp Quality

Application Tooling

Creating a quality crimp connection is essential to delivering high performance and reliability in extreme environments. From low to high volume wire processing, TE Connectivity has you covered with a full range of application tooling and a global field service team.

Mid to High Volume Wire Processing



High Voltage Wire Processing Equipment

The TE high force lineup gives you the power needed to process large wire applications in a fast, flexible and affordable format.



Benchtop Crimping Machines

Our extensive line of terminators provides flexibility, performance and reliability.



Applicators

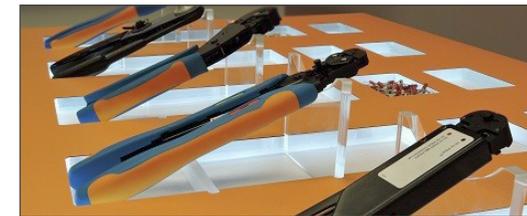
Designed to crimp a vast range of terminals from TE and other manufacturers, our applicators are engineered for high repeatability and fast throughput.



Flat Flexible Cable (FFC) Processing

FFC terminators from TE provide quick change, interchangeable applicators for different products, along with an operator-friendly touch screen capability.

Low Volume Wire Processing



Portable Crimp Tools

Whether you need manual tooling or something with more power, TE has the tool for you.



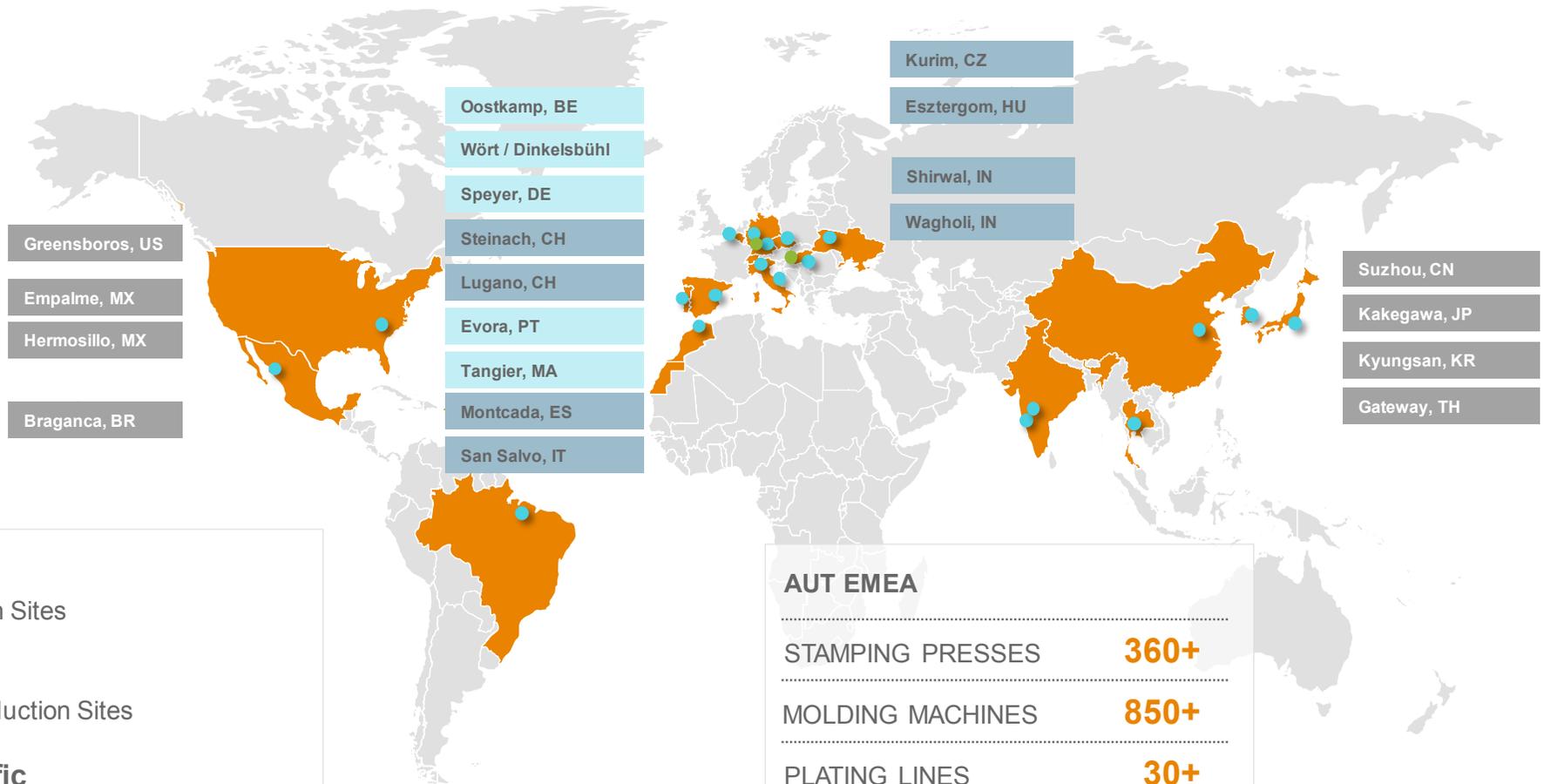
Insertion and Extraction Tools

Designed to insert and extract a terminal from the connector housing without damaging the terminal or housing, our tool kits help you carry out precision tasks to the highest standards.

Get Connected with Application Tooling

Visit [tooling.te.com](https://www.te.com/tooling) to view our entire portfolio. Need assistance or recommendations? Contact our [product experts](#) today to find the right tooling solution for your application.

TE Automotive Global Production



Americas

4 Production Sites

EMEA

16 (17) Production Sites

Asia/Pacific

4 Production Sites

AUT EMEA

STAMPING PRESSES **360+**

MOLDING MACHINES **850+**

PLATING LINES **30+**

ASSEMBLY LINES/CELLS **1000+**

Status 10-2021

ABOUT TE CONNECTIVITY

TE Connectivity is a global industrial technology leader creating a safer, sustainable, productive, and connected future. Our broad range of connectivity and sensor solutions, proven in the harshest environments, enable advancements in transportation, industrial applications, medical technology, energy, data communications, and the home. With more than 85,000 employees, including over 8,000 engineers, working alongside customers in approximately 140 countries, TE ensures that EVERY CONNECTION COUNTS. Learn more at www.te.com and on LinkedIn, Facebook, WeChat and Twitter.

CONNECT WITH US

We make it easy to connect with our experts and are ready to provide all the support you need.

Visit te.com/support to chat with a Product Information Specialist.

te.com

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