48V READY

MCON 1.2 2 ROW CONNECTORS

Ultra-Robust Connectivity for Exterior Applications

A feature of modern vehicle designs is a growing number of exterior and body mounted sensors, motors and electronic control units (ECUs) aimed at delivering greater levels of safety and increased comfort. Examples include suspension control and transmission control ECUs deployed in the engine bay as well as new electrical components driven by the adoption of new **48V architectures**.

The safety critical nature of these components has led to a growing need for their electrical connectors, transmitting signal and power, to be ultra-robust against moisture, vibration and abrasion.

Connectivity Requirements for Exterior and Body Mounted Components

Electrical connectors for exterior vehicle applications require a high level of robustness ensuring reliability throughout the lifetime of the engine.

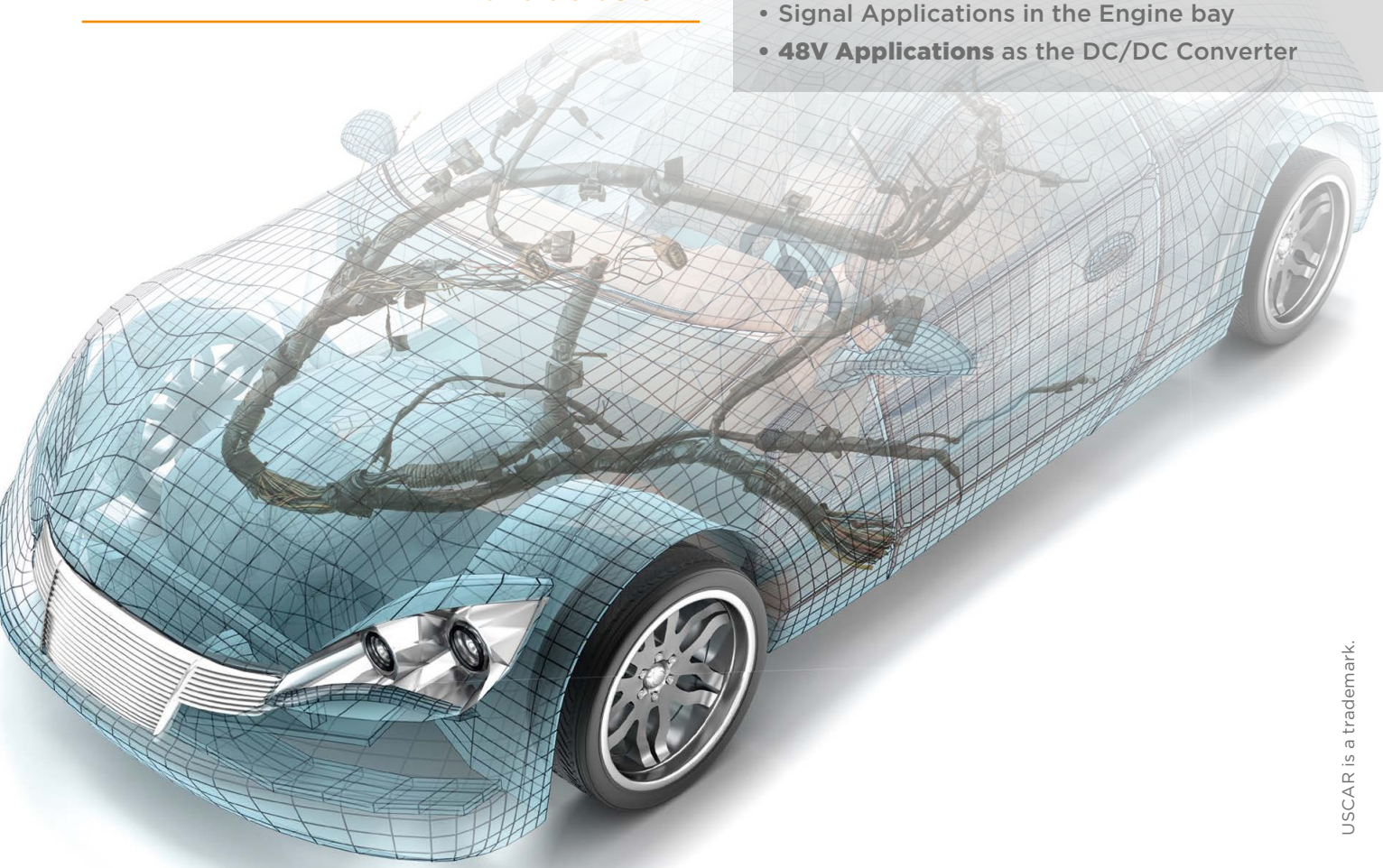
That means a fully sealed design meeting IPx9k standards for moisture resistance, up to level 4 vibration resistance and being validated against the strictest automotive standards such as LV214 and USCAR.

In addition, connector system interfaces need to support the increasing functional sophistication of applications and a greater number of connecting wires – typically from 2 wires up to 8. At the same time, these increasing additional connections must be accommodated within an increasingly limited amount for space.

"Electrical connectors for safety-critical exterior vehicle applications need to be ultra-robust against moisture, vibration and abrasion."

Application Areas

- Suspension Control
- Transmission Control
- Window / Roof Motors
- Signal Applications in the Engine bay
- **48V Applications** as the DC/DC Converter



USCAR is a trademark.

The MCON connector system is specifically designed for electrical and electronic applications for passenger cars and commercial vehicles.

Suitable for tab sizes of 1.2 mm x 0.6 mm, the MCON 1.2 family is a compact connector system for signal and low power up to 17 Amps and is highly suited to exterior vehicle applications. Its two-piece terminal design, separating the electrical and mechanical contact, is designed to maximize performance in high-vibration environments. Its sealed receptacle and tab housings offer IPx9k waterproofing as well as level 4 vibration resistance making it highly suitable for exterior chassis mounted applications.

MCON 1.2 2 Row Connectors

The new 2 row connector variant extends the MCON 1.2 range offering a highly compact connector housing, with up to 12 positions in its standard connector series. In addition, a larger number of positions and other terminal cavities are available for up to 26 position in-line connections. This provides the flexibility to support any low power and signal application within the vehicle with a cost effective highly robust connectivity solution.

MCON 1.2 Locking Lance Terminal

Tab Size	1.2 x 0.6 mm
Mating Interface	VDA 1.2 mm (1 and 2 rows)
Vibration Resistance	Up to SG 4 (LV 214) in conjunction with MCON 1.2 Gen2 and 2 row
Contact Design	2 piece design for high performance in peak conditions
Wire Size	0.13 – 1.5 mm^2
Current Carrying Capacity	Up to 17 Ampere (@ 80° C ambient temperature)
Total Temperature Range	-40° C/+130° C (Sn Plating -1) -40° C/+150° C (Ag Plating -2) -40° C/+150° C (Au Plating -3)
Standards Compliance	LV214 / USCAR
Product Specification	108-18782
Application Specification	114-18464

Part Numbers

2141970-x	MCON 1.2 LL Rec. SWS 0.13-0.22 mm^2
7-1452665-x	MCON 1.2 LL Rec. SWS 0.25-0.35 mm^2
7-1452668-x	MCON 1.2 LL Rec. SWS 0.50-0.75 mm^2
7-1452671-x	MCON 1.2 LL Rec. SWS 1.0-1.5 mm^2

MCON 1.2 Locking Lance 2 row Connector

Terminal Compatibility	MCON 1.2 LL Rec SWS / Tab 1.2 x 0.6 mm
Wire FLR	0.35 – 1.0 mm^2
Sealing	IPx9k integrity
Interface	VDA 1.2 mm (2 rows)
Vibration Resistance (engine mounted)	SG 4 (LV 214) in conjunction with MCON 1.2 LL Terminals Ag plated
Total Temperature Range	-40° C/+150° C Standard housings
Voltage Rating	Up to 48 Volts – **Ready for 48V Architectures**
Product Specification	108-94453
Application Specification	114-94328
Other	Connector position assurance (CPA) and terminal retainer
Other	A Coding available; B and further codings on request
	Clip mount position for Tab housings
	Customized laser printing on request
	Further positions and hybrid/mixed cavity combinations on request

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For the Terminal and Connector performance, please refer to the Product Specification on **TE.com** for exact product characteristics

TE CONNECTIVITY'S MCON 1.2 CONTACT PORTFOLIO (Examples)

	Housing Type	No of Positions	Part Number
	Terminal Receptacle Housing	4	1-2287960-5
	Tab Housing	4	1-2301519-5
	Terminal Receptacle Housing	6	1-2287965-5
	Tab Housing	6	1-2294976-5
	Terminal Receptacle Housing	8	1-2287970-5
	Tab Housing	8	1-2301520-5
	Terminal Receptacle Housing	10	1-2282337-5
	Tab Housing	10	1-2301521-5
	Terminal Receptacle Housing	12	1-2323170-5
	Tab Housing	12	1-2316338-5

TE CONNECTIVITY'S MCON 1.2 EXTENDED PORTFOLIO

HPF 1.2 Sealed Series

- Receptable connectors
- 2-5 positions
- 4 Position 2 row design
- SG6 validated with HPF 1.2
- Temp range up to 150° C
- Short and Long shroud
- No fixation element needed any longer

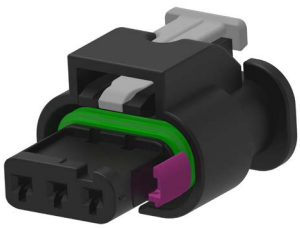
MCON 1.2 Sealed 2 Row Series

- Receptable and Tab connectors
- 4-12 positions
- 14, 16, 18 positions with 2.8 contacts
- SG4 validated
- According new AK 2 row interface
- Improved audible click feature
- Temperature range up to 150° C
- With and without CPA

MCON 1.2 Sealed Gen 2 Series

- Receptable and Tab connectors
- 2-6 positions
- SG4 validated
- Temperature range up to 150° C
- With and without CPA

MCON 1.2 Sealed Standard Series



- Receptable and Tab connectors
- 2-8 Positions
- SG3 validated
- Temperature range up to 125° C
- With and without CPA

Images are representative for the product series. For exact part numbers in the MCON 1.2 series go to **TE.com/MCON**

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