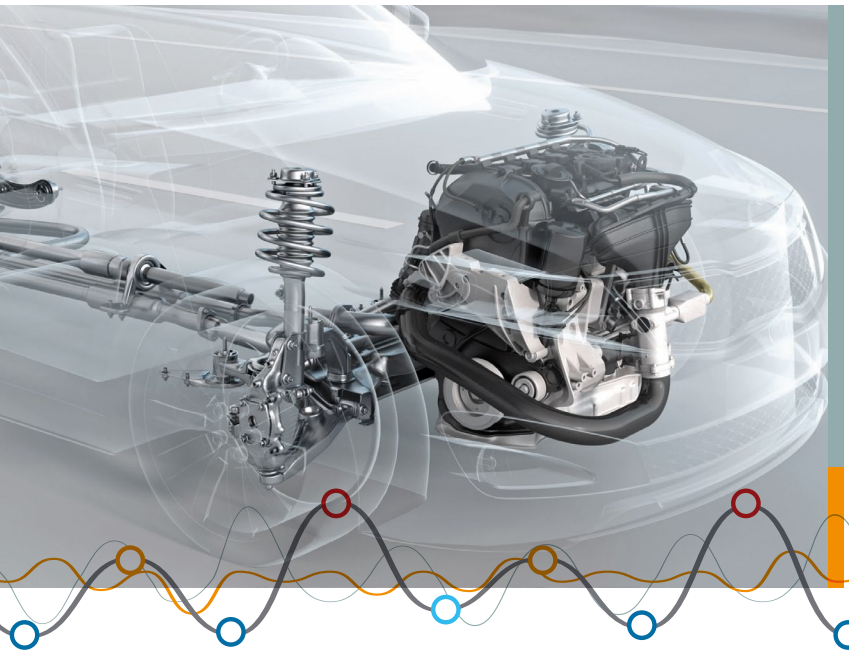
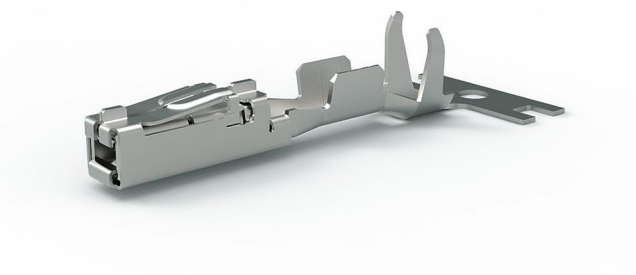


HPF 1.2 INTERCONNECTION SYSTEM

Connectivity for Engine and High Vibration Applications

Driven by the need for increased fuel efficiency and CO_2 emissions reduction while improving performance, the next generation of internal combustion engines in passenger cars is characterized by their reduced size, increased power and higher engine speed (RPM).

However, the higher vibration behavior of these new engine designs means that electrical connectors, that connect the electronics components within the engine bay, require new levels of vibration resistance not provided by the standard connectors traditionally deployed in such applications.



Engine bay applications require sealed connectors capable of operating in temperatures up to 150° C and up to Level 6 vibration severity

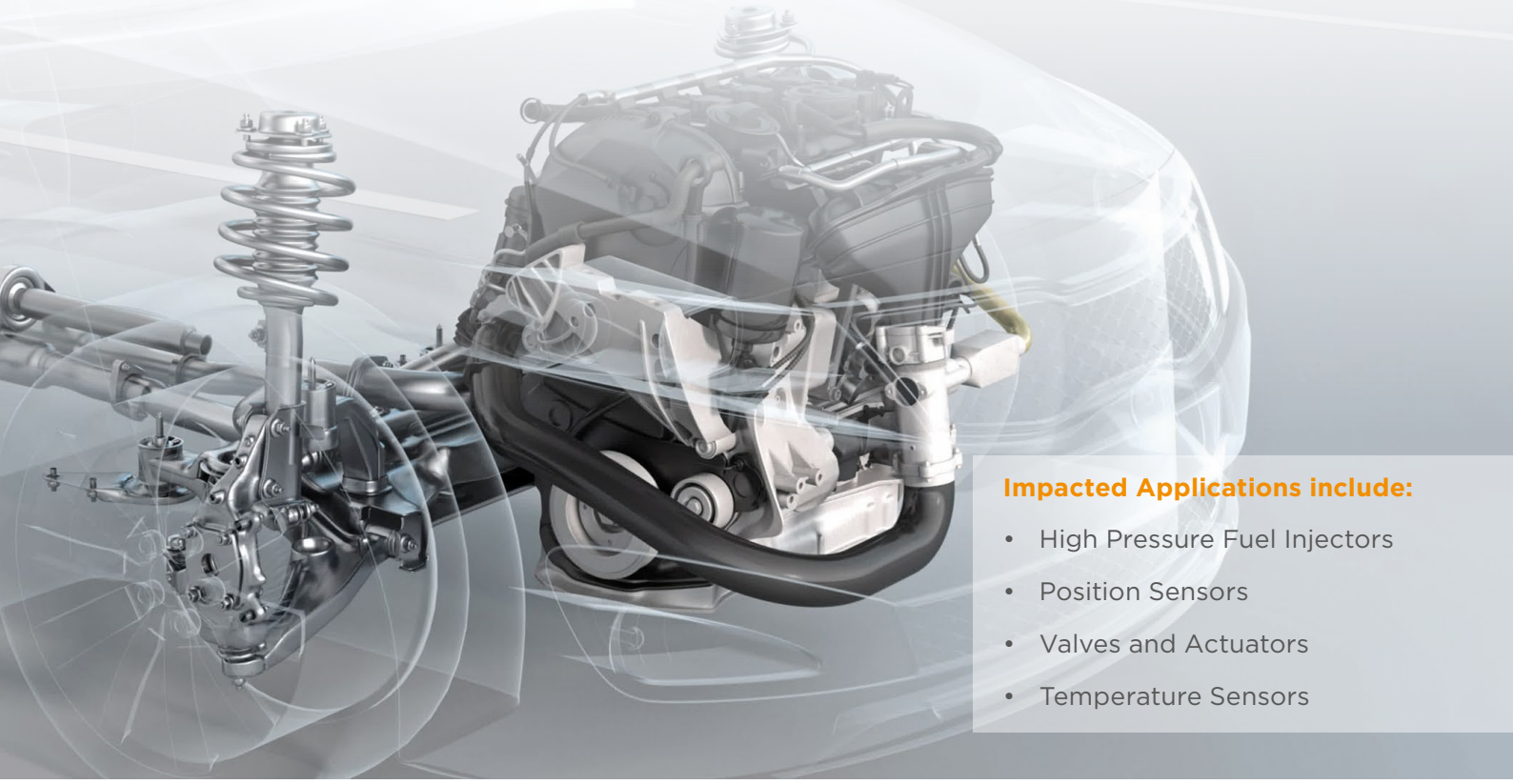
Connectivity Requirements for Engine and High Vibration Components

Engine compartment applications require a high level of robustness, ensuring reliability throughout the lifetime of the vehicle. This requires a fully sealed design capable of operating at 150° C ambient and up to vibration Level 6, while being certified against the strictest automotive standards such as LV 214.

Critically, connectors and contacts must be designed to avoid movement and surface layer degradation of the contact points. This should include:

- Minimization of connector movement at the connection interface
- Contact design enhancements
- Reduction of cable movement

Moreover, the HPF 1.2 connectors are ready for new vehicle architectures by being able to operate with voltages of up to 48 volts.



Impacted Applications include:

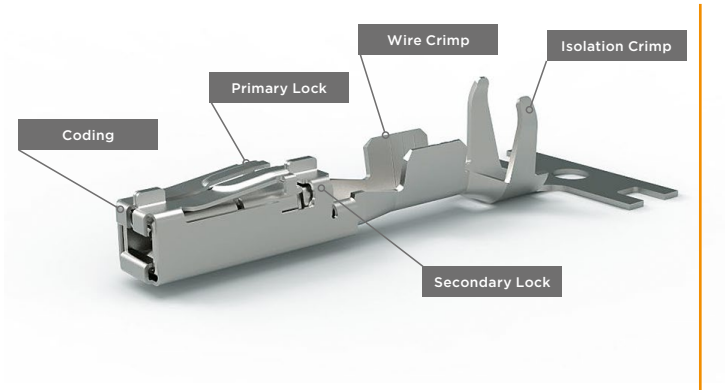
- High Pressure Fuel Injectors
- Position Sensors
- Valves and Actuators
- Temperature Sensors

HPF Interconnection System for High Vibration Applications

TE Connectivity's HPF interconnection system is designed specifically to address the challenges to applications from the vibration profile of smaller sized next-generation engines.

The HPF 1.2 system accommodates 1.2 mm x 0.6 mm tabs. It is designed to avoid micro-movements caused by vibration at the points of contact. This is achieved by the contact zone being mechanically decoupled from the remaining terminal body and by the application of higher normal force to the point of contact. The contact grip is designed for connecting cables with cross-sections ranging between 0.35 mm^2 and 1 mm^2.

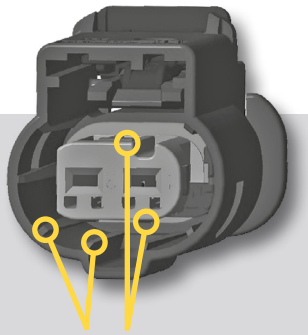
A "meander-shaped" geometry is designed to minimize micro-movements introduced in the axial direction through the cable.



Minimization of connector movement on the interface

Reduction of travel

- of the housing
- of the contact



Connector features for clearance minimization

Key Features HPF Terminals

Tab Size	1.2 mm x 0.6 mm
Mating Interface	VDA 1.2 mm (1 and 2 rows)
Vibration Resistance	Level 6 (LV 214) in conjunction with HPF 1.2 connectors
Contact Design	"Meander" design minimizes external forces and movement
Wire Size	0.35 mm^2 – 1.0 mm^2
Current Carrying Capacity	Up to 17 Amperes (@ 80° C ambient temperature)
Total Temperature Range	-40° C/+150° C (Ag plating)

Part Numbers

2208363-3	HPF 1.2 Rec. SWS Ag 0.35 mm^2
2208362-3	HPF 1.2 Rec. SWS Ag 0.50 mm^2
2208360-3	HPF 1.2 Rec. SWS Ag 0.75 mm^2 – 1.0 mm^2

Key Features HPF Connectors

Terminal Compatibility	HPF 1.2 LL Rec SWS / Tab 1.2 mm x 0.6 mm
Wire FLR	0.35 mm^2 – 1.0 mm^2
Sealing	IPx9k integrity
Interface	VDA 1.2 mm (1 and 2 rows)
Vibration Resistance	Level 6 (LV 214) when deployed with HPF 1.2 terminals
Total Temperature Range	Standard Housings: -40° C/+150° C; up to 180° C housings available on request
Voltage Rating	Up to 48 Volts – ready for 48V architectures
Other Features	Connector Position Assurance (CPA) and terminal retainer Customized laser printing on request

48V READY

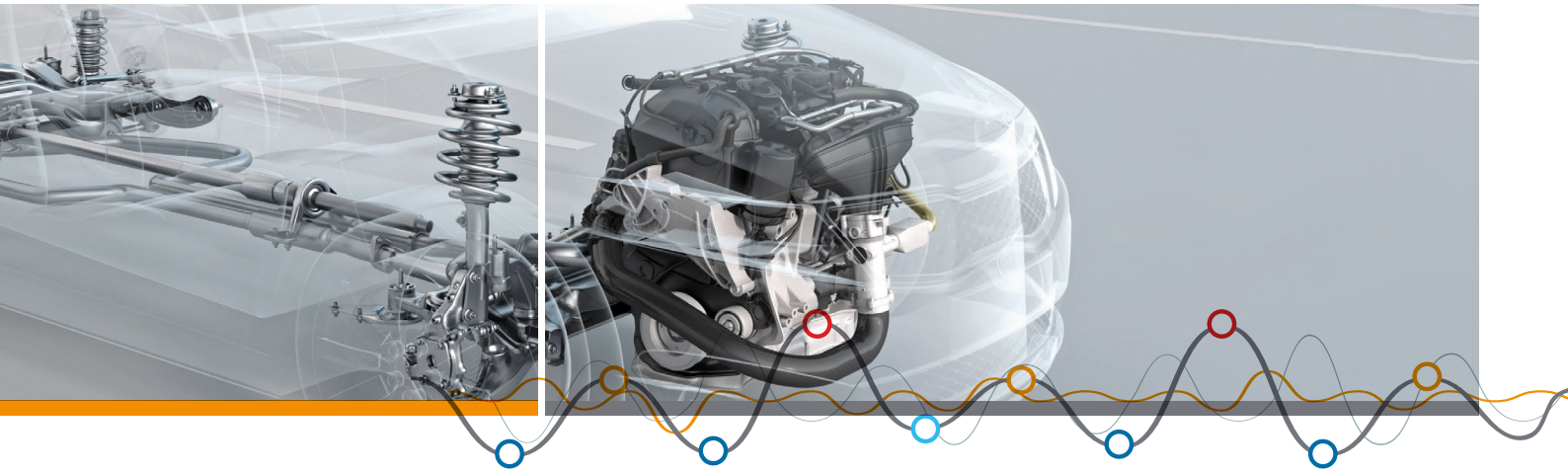
Specifications

Connector Product Specification	108-94615
Connector Application Specification	114-94415
Terminal Product Specification	108-94432
Terminal Application Specification	114-18912

TE CONNECTIVITY'S HPF 1.2 INTERCONNECTION SYSTEM PORTFOLIO (Examples)

	Housing Type	Number of Positions	Part Number
	Short Housing	2	5-2297795-1
	Short Housing	3	5-2297811-1
	Short Housing	4	5-2307329-1
	Short Housing	5	5-2307334-1
	Long Housing	2	5-2297790-1
	Long Housing	3	5-2297807-1
	Long Housing	4 (2 row)	1-2310164-4

NOTES



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