1.2mm MCON LL SEALED MALE HOUSING FAMILY

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*Trademark
| Indicates change

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1. SCOPE

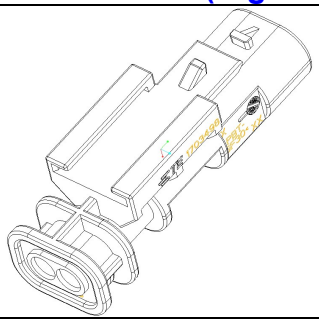
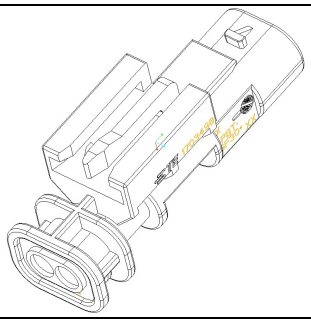
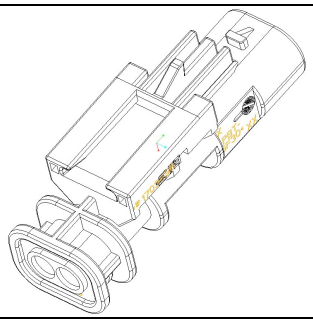
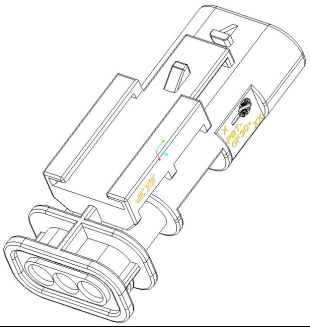
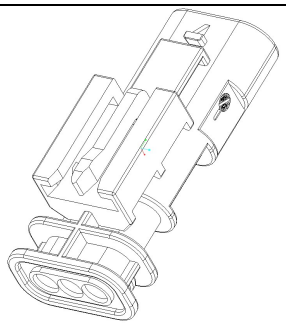
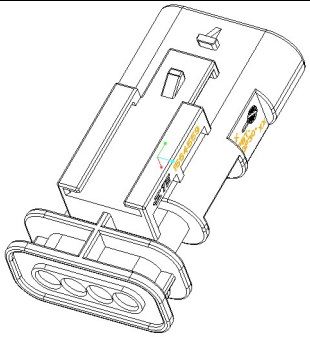
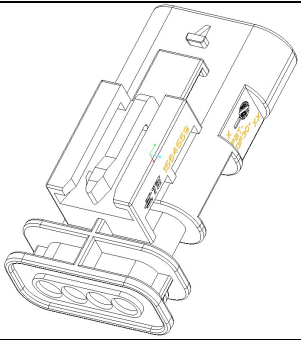
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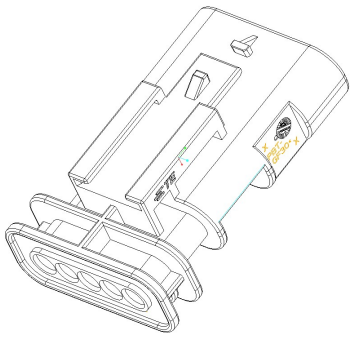
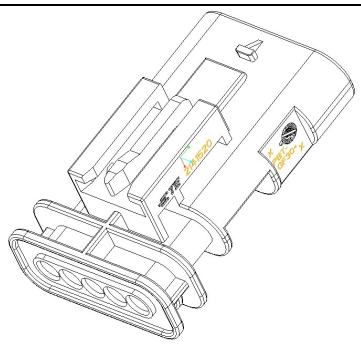
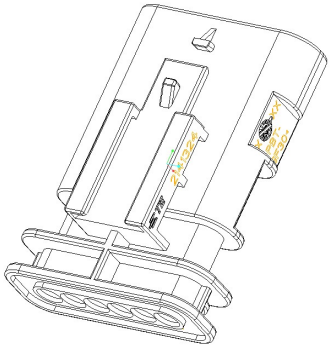
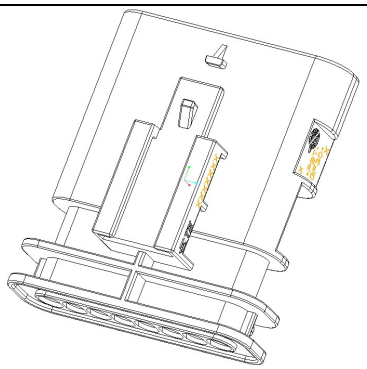
This specification covers the performance, tests and quality requirements for the
1.2mm MCON LL SEALED MALE HOUSING FAMILY

1.2 Qualification

When tests are performed the following specified specifications and standards shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

1.3 Male Housing Overview

Male Housing Overview			
	X-1703498-1	**X-1703498-2**	**X-1703498-3**
	x-2236952-x (High Temp)		
2 way			
	x-1703494-1	**x-1703494-2**	**-**
	x-2236953-x (High Temp)	**-**	**-**
3 way			
	x-1564559-1	**x-1564559-2**	**-**
4 way			

5 way	x-2141520-1	x-2141520-2	-
	x-2236954-x (High Temp)	-	-
			
6 way	x-2141324-1	-	-
			
8 way	x-1703506-1	-	-
			

2. APPLICABLE DOCUMENTS

The following documents from a part of this specification to the extent specified herein. In the events of conflict between the requirements of this specification and the product drawing or of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

2.1 TE Documents

A **109-1: General Requirements for Test Specifications**

B **Customer Drawings**

Low temp (-40°C to 125°C): 1703498, 1703494, 1564559, 2141520, 2141324, 1703506
High temp (-40°C to 150°C): 2236952, 2236953, 2236954

C **Product Specifications for AMP MCP 1.2-Contact**
108-18782

D **Application Specification for AMP MCP 1.2-Contact**
114-18464

E **Application Specification for Male Housings**
114-18910

F **Product Specifications for Female Housings**
108-18969

G **Wire size to be used 0,5 mm² to 1,5 mm²**

H **For the optimum single wire seal option please check**
Application Specification 114-18025

2.2 Other Documents

SAE International; USCAR-2; Revision 6; Revised: February 2013.
PERFORMANCE SPECIFICATION FOR AUTOMOTIVE
ELECTRICAL CONNECTOR SYSTEMS

3. REQUIREMENTS

3.1 Design and Construction

Product shall be of the design, construction and physical dimensions specified on the applicable or customer drawing.

3.2 Materials

Descriptions for material see in customer drawings.

3.3 Ratings

A **Voltage acc.** *IEC 664 (DIN VDE 0110)*

B **Current carrying capability of used contacts see specification 108-18782**

C **Low Temp version: Temperature -40 to +125 °C; US-Car 2 Spec. Temp. Class 3 *)**
High Temp version: Temperature -40 to +150 °C; US-Car 2 Spec. Temp. Class 4 *)

D **Durability depends on contacts see 3.5**
See specification 108-18782

***)** **ambient temperature and heating up by current**

3.4 Performance and Test Description

The product is designed to meet the electrical, mechanical and environmental performance requirements specified in paragraph 3.5.

3.5 Test Requirements and Procedures Summary

Test Description	Requirement	Procedure
Visual- and dimensional examination	Meets requirements of product-customer-drawing	
ELECTRICAL INSPECTIONS		
Current-temperature capability	See TE-Specification Female Housing 108-18969, Dependent of the application and type, different values result for which reason reference should be made to examples in the specification. When a comparable example cannot be found, the application must be investigated and tested on an individual basis.	
Max. temperature rise of contacts		
Change of temperature rise at the end of lifetime		
Voltage proof	See TE-Specification Female Hsg. 108-18969, Value and nature of the test voltage 500V~ No disruptive/breakdown	See TE-Specification Female Hsg. 108-18969,
Insulation resistance	Insulation resistance > 100 MΩ	See TE-Specification Female Hsg. 108-18969,

MECHANICAL INSPECTIONS		
Terminal retention force *US-CAR 2*	**Without secondary lock** **min. 30N** **With secondary lock** **min. 75N** **The required retention forces are absolute values.**	**Acc. to US-Car 2; Rev. 6** **Point 5.4.1** **Testing speed:** **50mm/min**
Terminal insertion force *US-Car 2*	**Tab:** **max. 30N**	**Acc. to US-Car 2; Rev. 6** **Point 5.4.1** **Testing speed** **50mm/min**
Connector to connector mating force (connector fully loaded)	**Mating force :** **max. 75N**	**Acc. to US-Car 2; Rev. 6** **Point 5.4.1** **Testing speed** **50mm/min**
Connector to connector unmating force (with connector lock fully disengaged, connector fully loaded)	**Unmating force:** **max. 75N**	**Acc. to US-Car 2; Rev. 6** **Point 5.4.1** **Testing speed** **50mm/min**
Connector to connector unmating force (with connector lock fully engaged, connector fully loaded)	**Unmating force:** **max. 110N**	**Acc. to US-Car 2; Rev. 6** **Point 5.4.1** **Testing speed** **50mm/min**
Vibration	**No physical damage** **No discontinuities greater than** **t > 1 ms** **change of contact resistance** *200 %* **Gold plated** *300 %* **Silver plated** *350 %* **Tinned**	**See TE-Specification Female Housing 108-18969,**

ENVIRONMENTAL INSPECTIONS		
Sealing test US-Car 2; Rev. 6	**Temp. Class 3 (125°C) Pressure / vacuum leak test (US-Car 5.6.6)** **For High temp versions: Temp. Class 4 (150°C) Pressure / vacuum leak test (US-Car 5.6.6)**	- **10 mating cycles** - **Submersion in salt water (22°C)** - **Air pressure test 48kPa (0.5bar)bend all conductors in the same direction (not performed) Observe samples 15sec. and verify that there no air bubbles** - **Vacuum Test 48kPA 7 15sec.** - **Isolation Resistance Test -5.5.1** - **Dry heat storage at 125°C / 70h** - **Visual inspection after disconnection** - **After heat soak perform immediately Pressure Leak Test up to 28kPa (0.3 bar) Visual inspection after disconnection**
	US-Car 5.6.6) Submersion test (US-Car 5.6.5)	- **10 mating cycles** - **Heat soak at 125°C 7 2h** - **Submersion the samples within 30sec. after removing from the heat chamber in 5% salt water with liquid washing soap (22°C)to a depth of 30-40cm for 30 minutes** - **After 30min. remove samples from salt water solution and perform the Isolation Resistance Test at 500V, DC (min.20MOhm acceptance criteria)** - **Repeat the steps 4 more times**
	High pressure Spray Test	- **Pressure /- Temperature: 80bar / 80°C** - **Test duration per side: 30s for 0°,30°,60°,90°** - **Distance between nozzle and specimen: 100-150mm**

Test sequence:

Pressure / Vacuum Leak Test➔ High Pressure Spray Test➔ Submersion Test ➔High Pressure Spray Test

	NAME	DATE	ORIGINAL FILE	
CREATED	A.Löcser	16DEC2008	Doc-Manager	
CHECKED				
CHANGE HISTORY	**NAME**	**DATE**	**REV**	**CHANGE**
	Székely L.	8JAN2019	B	High temp. versions added, overview table revised