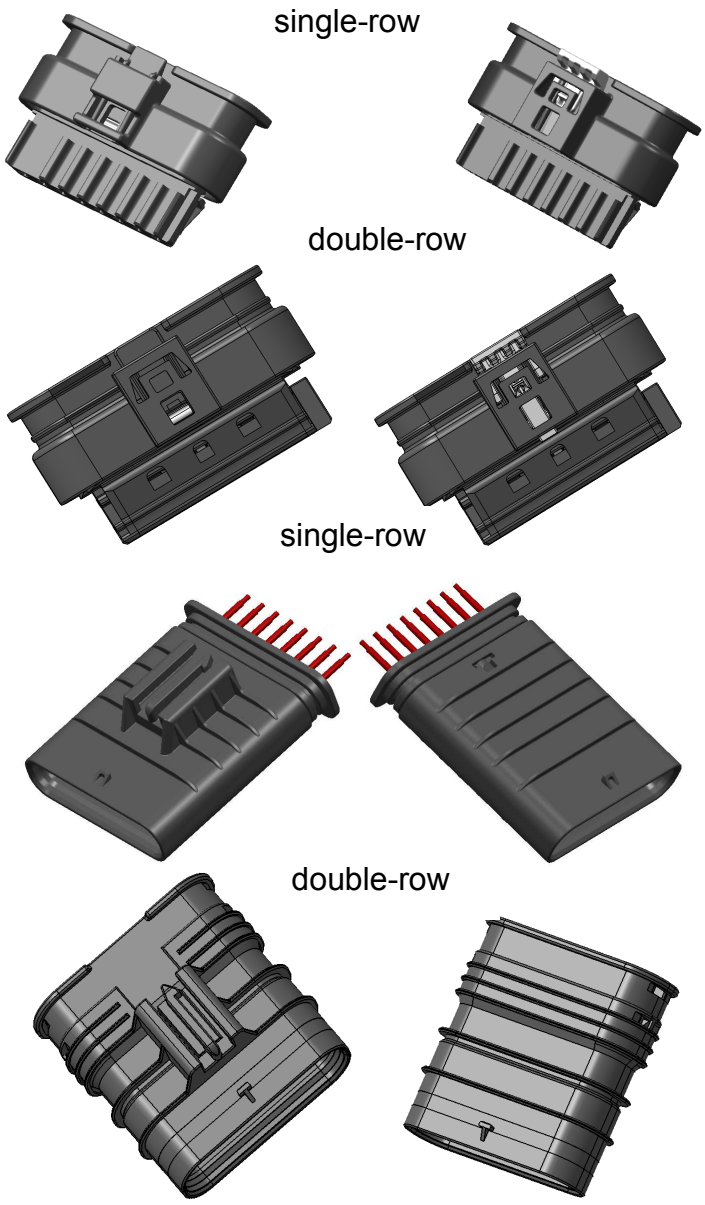
HIRSCHMANN
AUTOMOTIVE

Product Specification

1.2 Seal Star Female and Male Housings single-row or double-row



EPS-100011-00
Edition 02

Hirschmann Automotive GmbH
Oberer Paspelsweg 6-8
A-6830 Rankweil
Tel. +43 5522 / 307-0
Fax +43 5522 / 307-552

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1. Index

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2. General Information

2.1. Introduction

This product specification is valid for all 1.2 seal star female and male housings and describes the product components and delivery condition, the technical data as well as executed quality tests.
In case of inappropriate, deviating application and subsequent quality problems the right of recourse will be rejected.

2.2. Applying relevant Information/Documentation

a)	Processing Specification EVS-100013-00	1.2 Seal Star Female Housing
b)	Processing Specification EVS-100014-00	1.2 Seal Star Male Housing
c)	Product Specification Kostal DOC00076784	Mini lamina contacts MLK 1.2
d)	Processing Specification Kostal DOC00061540	Mini lamina contacts MLK 1.2
e)	Product Specification Tyco 108-18782	Multi Contact point MCP 1.2
f)	Processing Specification Tyco 114-18464	Multi Contact point MCP 1.2
g)	„Deutsche Norm“ DIN EN 60352-2	solderfree electrical connection part 2: crimp connection
h)	test guideline	Working Committee test guideline for Motor Vehicle connectors edition 04-96
i)	MCON 1.2-LL Contact MCON 1.2-LL: C-145267	MCON 1.2-LL socket contact Tyco
j)	MLK Contact MLK-S: DOC00072546 MLK-Sm: DOC00079128	MLK 1.2 jacks Kostal

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3. Technical Characteristics

3.1. Operating Temperature

Built-in space : Engine category

Allowed temperature range for the plastic material.
Operating temperature: -40°C up to +130°C for a time range of 3000h.
Can withstand exposure up to 150°C at intermittent periods and up to a total of max. 300 hours.
See plastic material data sheet.

Functionality see DVP.

3.2. Tightness of Socket and Plug Housing

When using 1.2 Contacts with seal: **IPX9K**
The single wire seal must not be exposed unprotected to the steam jet.

3.3. Retention Force of Contacts in Connector Housing

The contact tear forces from the male / female housing are $F_{Primary} \geq 40N$ and $F_{Secondary} \geq 60\ N$

3.4. Mounting and Demounting Forces

Max. mounting force of socket housing up to 10-pin into unit connection / male connector: 80N
Max. mounting force of socket housing 12 to16-pin into unit connection / male connector : 120N

Min. retention force of female housing in unit connection / male connector :
version with protective shroud (in secure latched position): 100N
version without protective shroud (manual disconnecting through pulling): 50N

Min. / max. mounting force of CPA from pre-engaged to locked position 10N - 60N
Min. / max. demounting force of CPA from locked to pre-engaged position 10N - 60N

Max.locking force of the secondary locking mechanism 80N
Min. / max. opening force of the secondary locking 10N - 80N

3.5. Characteristic of Contact System

Max. permitted conductor cross section: 1mm² with seal
Max. permitted conducter diameter 2,1mm with seal

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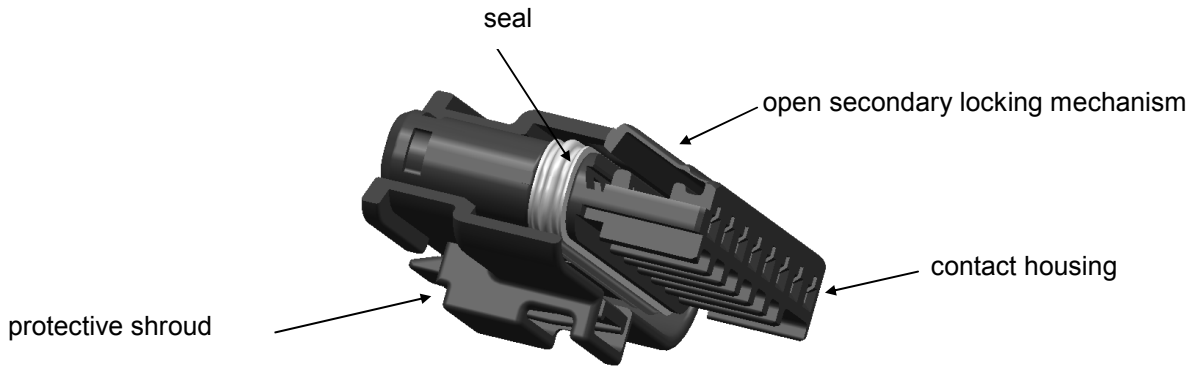
4. Delivery Condition / Product Components

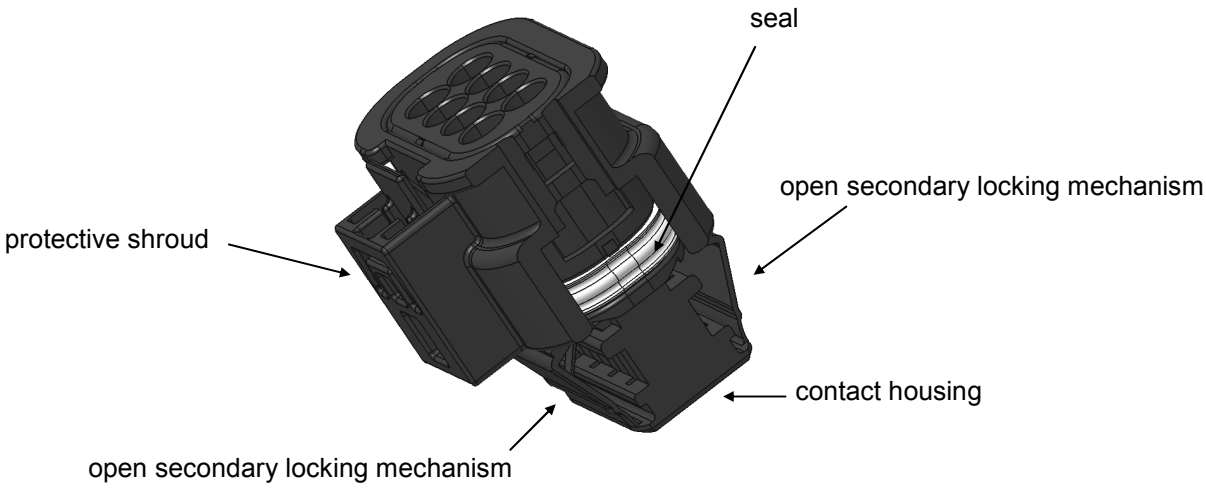
4.1. Delivery Condition the 1.2 Female connector single-row without CPA

The connector, consisting of contact housing, seal as well as additional protective shroud is delivered in assembled condition, with open secondary locking mechanism.



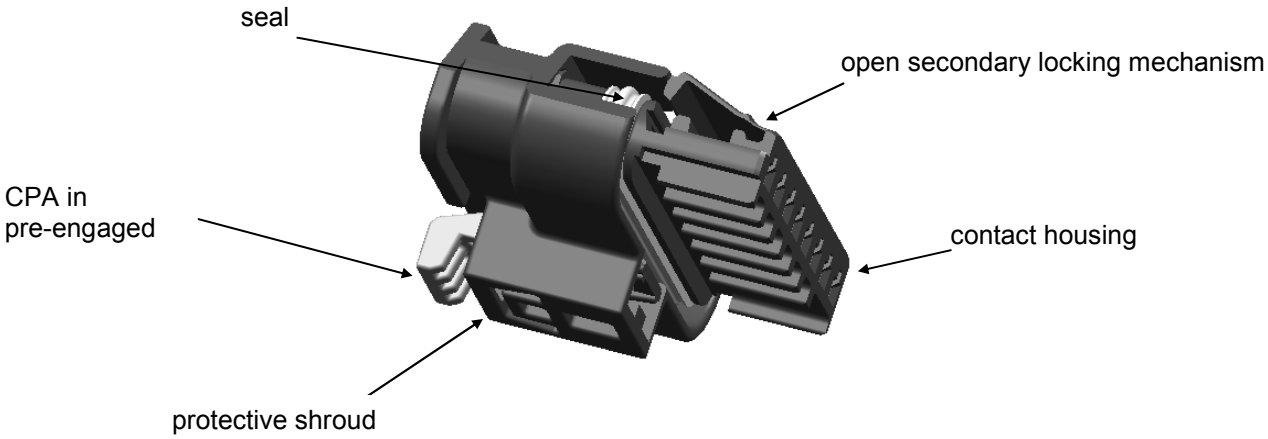
4.2. Delivery Condition the 1.2 Female connector double-row without CPA

The connector, consisting of contact housing, seal as well as additional protective shroud is delivered in assembled condition, with open secondary locking mechanism.



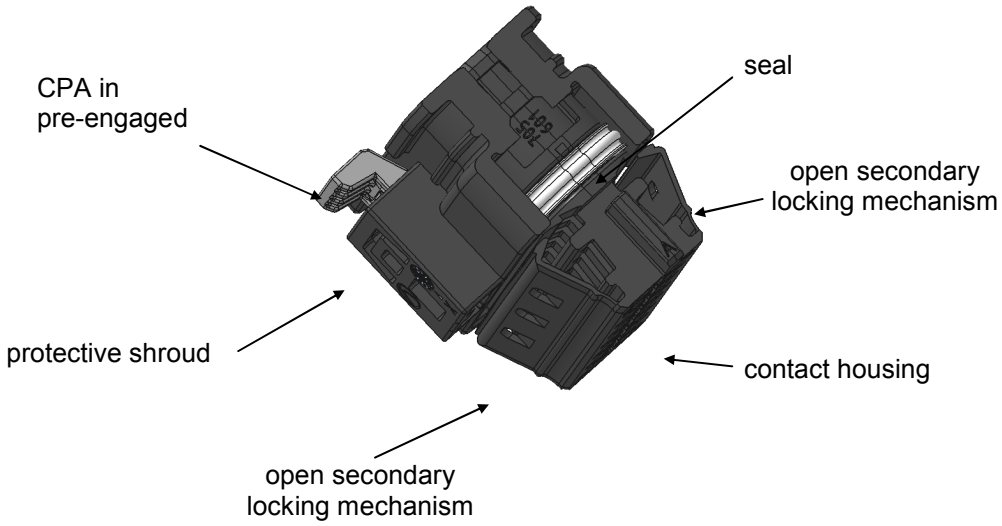
4.3. Delivery condition the 1.2 Female connector single-row with CPA

The connector, consisting of contact housing, seal as well as additional protective shroud and CPA is delivered in assembled condition, with open secondary locking mechanism and pre-engaged CPA in different versions.



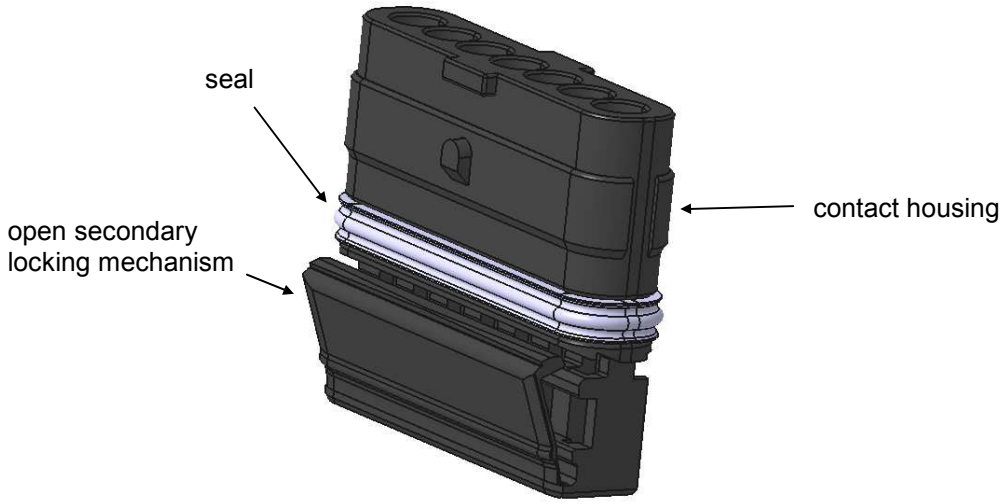
4.4. Delivery Condition the 1.2 Female connector double-row with CPA

The connector, consisting of contact housing, seal as well as additional protective shroud and CPA is delivered in assembled condition, with open secondary locking mechanism and pre-engaged CPA in different versions.



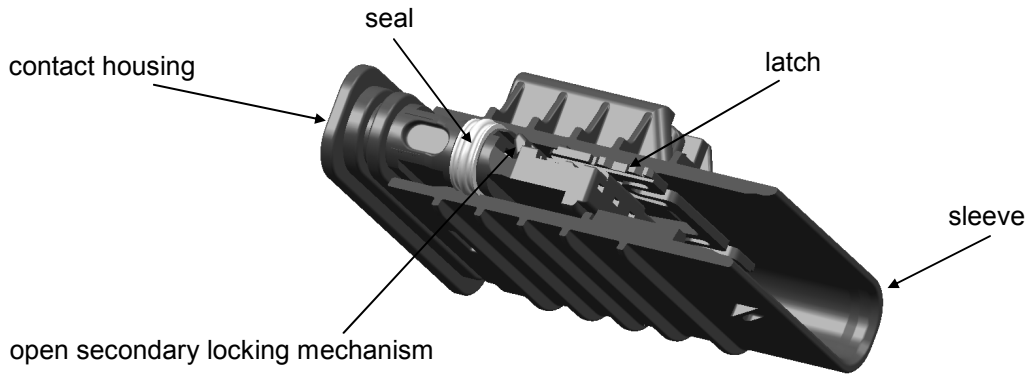
4.5. Delivery Condition of 1.2 Female connector

The connector, consisting of contact housing and seal is delivered in assembled condition, with open secondary locking mechanism.



4.6. Delivery Condition of 1.2 Male Housing single-row

The connector, consisting of contact housing, latch, seal and sleeve is delivered in assembled condition, with open secondary locking mechanism and pre-engaged latch.



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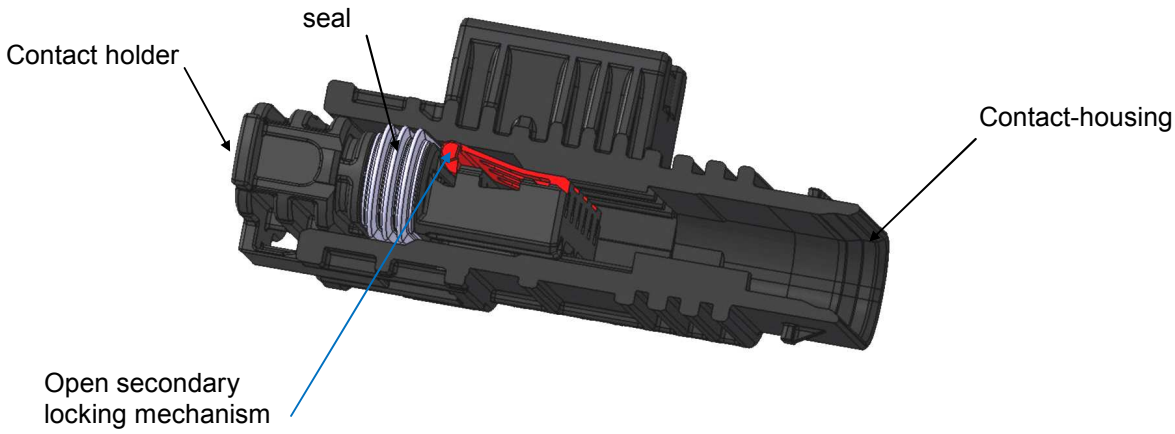
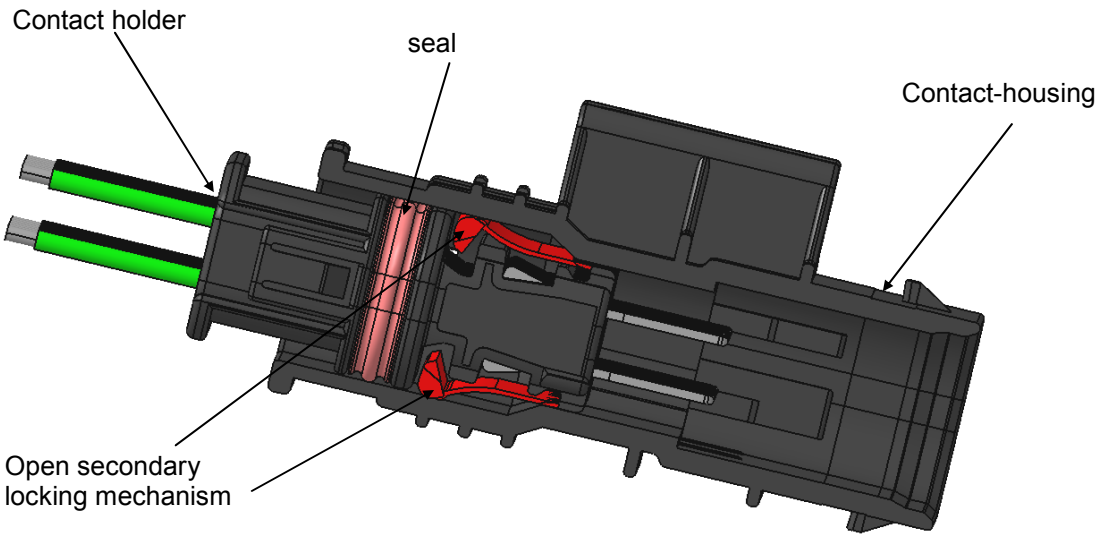
4.7. Delivery Condition of 1.2 Male Housing single-row without latch

The connector, consisting of contact housing, seal and sleeve, is delivered in assembled condition, with open secondary locking mechanism and pre- locked contact holder.



4.8. Delivery Condition of 1.2 Male Housing double-row

The connector, consisting of contact holder, seal and sleeve is delivered in assembled condition, with open secondary locking mechanism and pre-engaged contact holder.



5. Executed Tests

Tests according to MBN 10384 Working Committee Test Guidline for motor vehicle connectors. Tests according contacts are mentioned in the Contact Manufacturer-Productspecification	
PG 0	Receiving inspection and testing
PG 1	Dimensions
PG 3	Material and surface analysis, housings
PG 4	Contact overlap
PG 6	Wechselwirkung zwischen Kontakt und Gehäuse
PG 7	Handling and Function Safety of Connector Housing
E 7.2	Retention force of housing locking mechanism
E 7.2 / E 11.1	Mounting and Dismounting Forces
PG 8	Assembling and Disassembling Forces of Contacts
E 8.2	Tear out resistance of contacts from housing
E 8.2.1 E 8.2.2	Tear out resistance of contacts from housing, only primary locking mechanism Tear out resistance of contacts from housing, only secondary locking mechanism
PG 17A	Dynamic Stress
B 17.1	Dynamic Stress, sinusoidal
PG 19	Environmental Simulation
B 19.1, B 19.2, B 19.3, B 19.5	Temperature-shock, Temperature-change, storage dry warmth, humidity warmth cycles
PG 20A	Climatic Testing of Housing
PG 20C	Climatic Testing of Housing
PG 21C	Long Term Temperature Storage
PG 22B	Chemical Durability, Extended Testing
PG 23	Water Tightness

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Dynamic Stress according to Common Rail Profile 24.07.1996
Vibration Profile according to DDC Standard Sensor Mest 7.5 Grms profile
Dynamic Stress according to ISO / DIS 16750

Additional tests according to SAE/USCAR-2 Revision 3	
5.4	**Connector Mechanical Tests**
5.4.3	**Polarization Feature Effectiveness**
5.4.5	**Dynamic Stress**
5.6	**Connector-Environmental Test**
5.6.1	**Thermal Shock**
5.6.2	**Temperature / Humidity Cycling**
5.6.3	**High Temperature Exposure**

Additional tests according to Specification for Multipolar plug-in Connectors for truck engines	
ISO/DIS 16750	**Free Fall**
Static load on single connector (500N / 60sec in each stable position)	
Impact Resistance (height of fall 1m, wire length 2m)	

Product specific deviations are shown in the DVP-overview !

Not all tests were executed on all housings.

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6. Index change table

Edition	Index	Editing
00	first edition	Kalb M.
01	3.1+3.2 over-worked	Kalb M.
02	Addition of one-row male connector completion and assembly forces updated	Denz A.

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