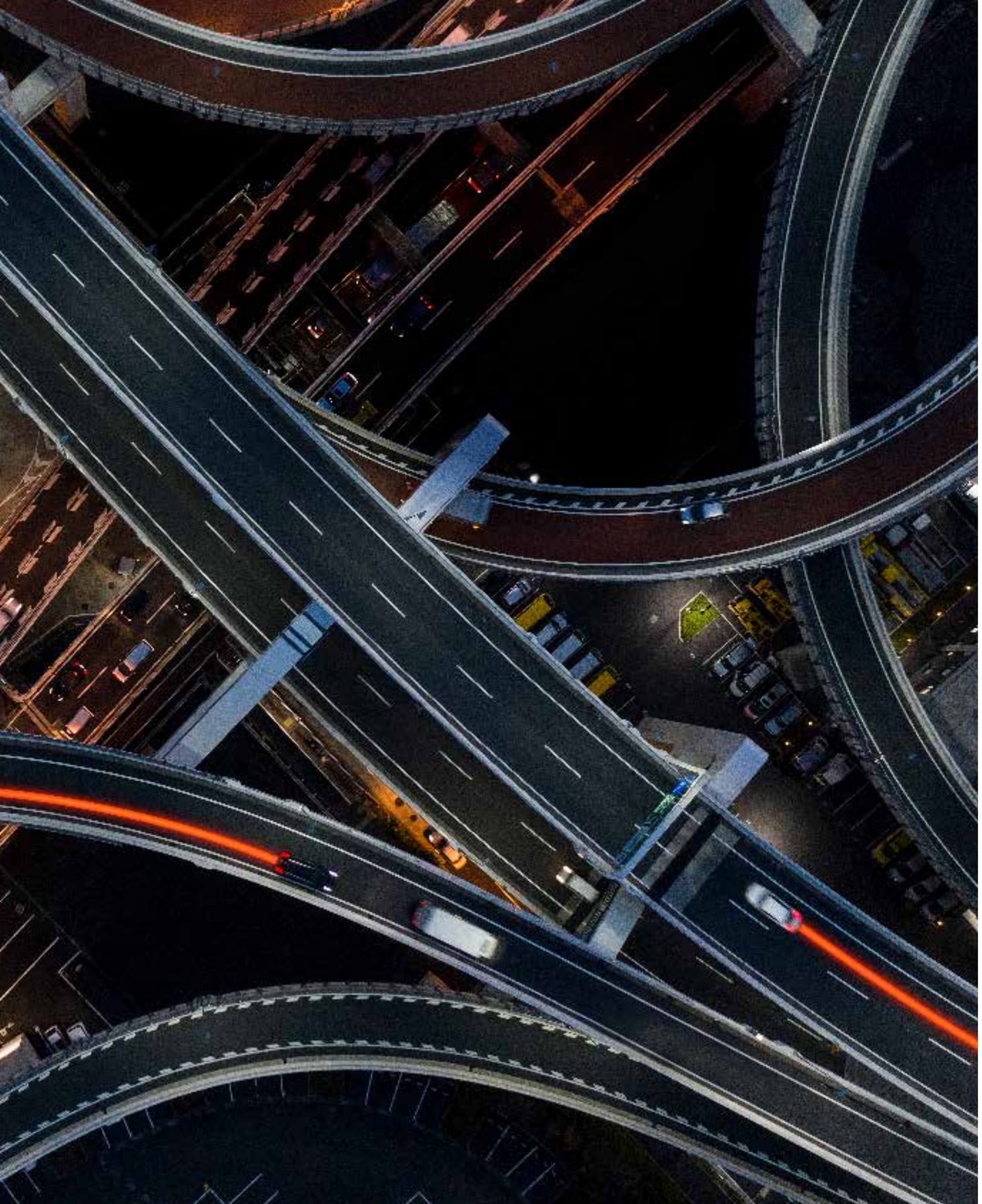
48 VOLT CONNECTORS

Designed for the future of mobility

APTIV



Going Beyond The Possibilities

Aptiv is a global technology company that develops safer, greener and more connected solutions enabling a more sustainable future.

Aptiv has more than 190,000 employees across 140 manufacturing facilities and 11 major technical centers worldwide. With a presence in 49 countries, we address mobility's toughest challenges through our deep software and systems integration expertise, delivering market relevant solutions for our customers.

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Why switch to 48 volt now?

SAME POWER WITH LESS COPPER

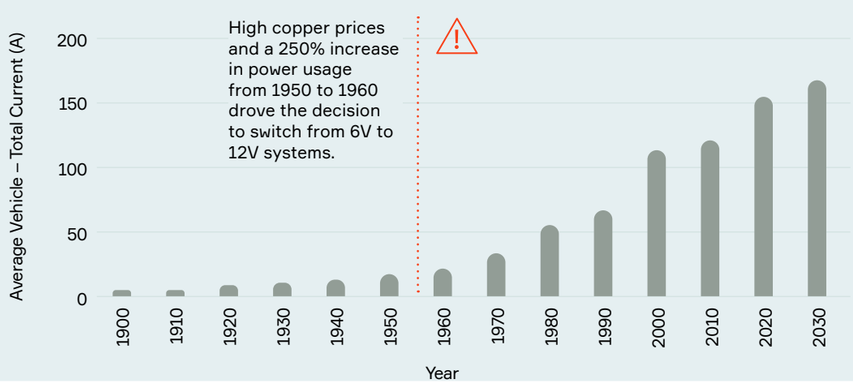
Automakers are increasingly building 48V electrical architectures into their vehicles to take advantage of key benefits, including more efficient power delivery, and weight and mass reductions.

The move to 48V is a natural evolution for automotive. Most cars made before 1950 used 6V electrical systems. The industry transitioned to 12V by the mid-1950s as copper prices rose and cars added more control circuits, motors and electronic devices. Doubling the voltage halves the amount of current required, which means that less copper is needed to deliver the same power.

Today's vehicles are full of high-current devices requiring heavy and expensive copper wiring. Increasing the supply voltage reduces the current, so wiring can be downsized.

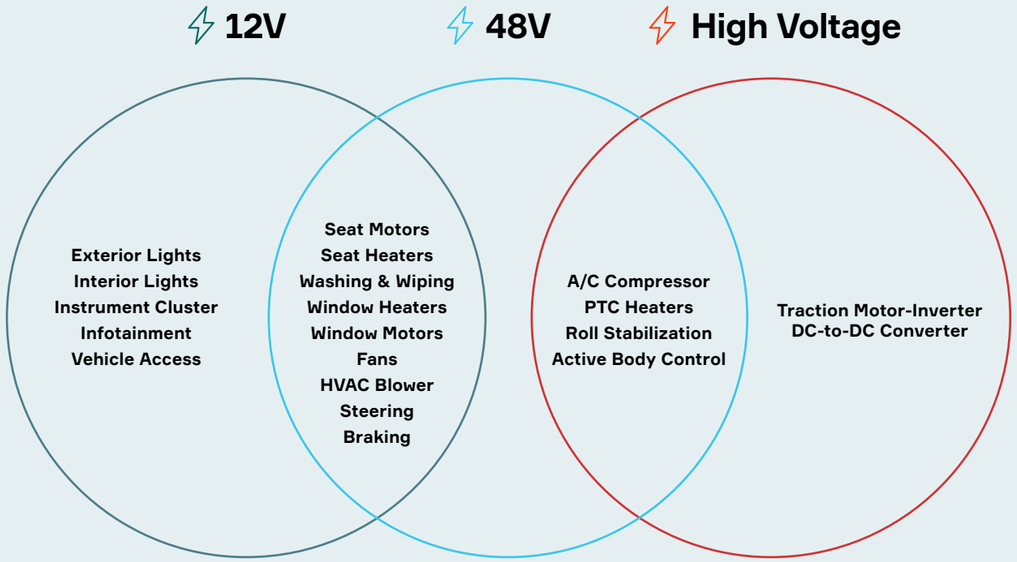
48V architectures are optimal because, even in overvoltage conditions, the voltage will remain below the safe "low voltage" limit of 60V.

Automotive Low-Voltage Architecture Increase in Current (A) Through the Decades



Benefits of Switching from 12V to 48V

The 48V Sweet Spot



Over time, more devices that consume significant power will transition from 12V to 48V or HV.

Advantages of switching from 12V to 48V architectures:

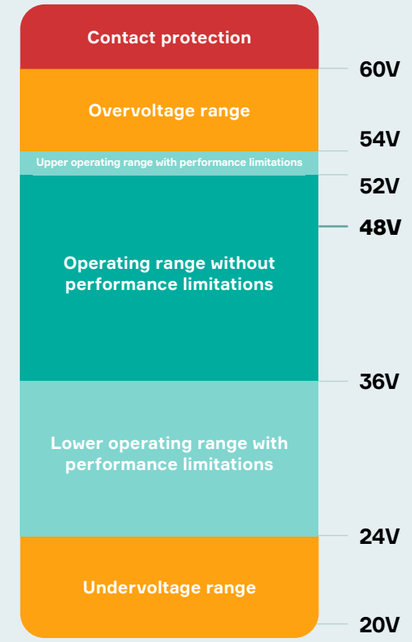
- **Reduces current by a factor of four** to deliver the same power to a device (P = V × I)
- Enables **weight and package size reductions** due to smaller wires, terminals, connectors and devices associated with lower current
- **Increases range** and **lowers CO_2 emissions** because of the weight reduction
- Increases **power delivery efficiency**, as the lower current means resistive losses can be reduced by up to a factor of 16 (P = I2 × R)
- Ensures **proper voltage at the device**, since lower currents reduce the voltage drop along wires (V = I × R)
- Enables motors and other electrical components to be made with **less copper**
- Puts **less stress on batteries** during engine starts for internal combustion engine and hybrid vehicles
- Enables **higher-torque starters** for higher-compression engines and mild hybrids

48V Challenges

AVOID PITFALLS BY FOLLOWING GUIDELINES

There are several factors to keep in mind when it comes to designing vehicles with 48V architectures:

- Circuits must be properly isolated and grounding guidelines followed to avoid interference and possible damage to devices.
- The risk of electrochemical corrosion increases with high-voltage potential across terminals in a connector exposed to an electrolyte.
- Clearance guidelines must be followed for header and connector designs, to prevent arcing and creepage.
- Hot disconnects must be mitigated.



Aptiv's Approach

Aptiv offers connectors that are built to address these challenges. We recommend:

- Avoiding the use of 12V and 48V in the same connector. If an application dictates using both voltages, our connectors can provide walls between the voltages.
- Using sealed connectors wherever there is a risk of spill or contamination.
- Using device headers and connectors that meet creepage and clearance requirements, protecting for 60V (overvoltage).
- Employing terminal secondary locking in connectors to eliminate all risk of terminal pull outs.
- Using proven, robust terminal systems to avoid intermittent contacts.

Table of Contents

Connectors and Terminals

Selector Guide

Aptiv offers a wide range of 48V products for various applications. Please see the table below for an overview of the products featured in this catalog and the pages where you can find further information.

Product Series	LVCS 0.64 and 2.8 Series	CMC 0.64 V0 Connector Series	CTS 1.2 SensoMate	APEX® 2.8 Sealed Series	CTS 9.5 Sealed Series	DCS 9.5 Power Sealed/4.8 Series	Mixed DCS 9.5 & APEX® 1.2 Series	PowerPack LV 1000 Connector	PowerPack LV 2000 Connector	PowerPack 48V Sealed Ring Connector
										
No of Cavities	2, 4, 6	32, 48, 64	2, 3, 4, 5, 6, 8, 10	2, 3, 4, 6, 10, 14	2	4	4	1, 2	1	1
Gender	F, M	F, Header*	F, M (2 to 4)	F, M	F, M	F, M	F, M	F, M, Header	F, M	F
Current at 85° C	13 A (0.64 mm series) 25 A (2.8 mm series)	20 A	18 A	40 A	100 A	80 A	100 A	120 A	210 A	250 A
Temperature	- 40 to + 125°C	- 40 to + 125°C	- 40 to + 150° C	- 40 to + 150°C	- 40 to + 125°C	- 40 to + 125°C	- 40 to + 125°C	- 40 to + 125°C	- 40 to + 125°C	- 40 to + 125°C
CPA (Connector Position Assurance)	Yes	No	Yes	Optional	Yes	No	Yes	Yes	Yes	No
Application	Sealed connector suitable for use anywhere on the vehicle for 12V, 24V or 48V connections	Device applications	Chassis, engine compartment, on-engine mount, severe gearbox applications, sensors/ actuators	On-engine sensors	Device applications	Device applications	Inline and device applications	High current harnesses and devices, sealed pass-through panel mount systems	High current harnesses and devices, sealed pass-through panel mount systems	48V electrical centers, power distribution boxes, Start-stop systems, E-turbo, battery, active suspension, BSG units
Page	10	12	14	16	18	20	22	24	26	28

*Header detail is available upon request

LVCS 0.64 AND 2.8 SERIES

LVCS 2W Female and Male

LVCS 4W Female and Male

LVCS 6W Female and Male

BENEFITS

- Connectors designed to meet the Low Voltage Connector Standard (LVCS)
- Suitable for 48V, 24V and 12V applications
- Mix of power and signal sized terminals for a wide range of applications

FEATURES

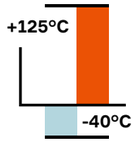
- Designed for use in nominal voltages up to 48V
- Include connector and terminal position assurance (CPA and TPA)
- Sealed systems to prevent corrosion
- Standard footprint that can be used across 12V to 48V applications
- Available in blue or black connector colors

APPLICATIONS

- Sealed connector suitable for use anywhere on the vehicle for 12V, 24V or 48V connections

PERFORMANCE

Temperature



Vibration level

Sealing class

Sealing class with backshell IP69K

Max voltage

AVAILABLE CONFIGURATIONS

Cavity Count (ways)	2, 4, 6
Cavity Configurations (mm)	0.64, 2.8
Genders	Female, Male
Sealing Type	Cable Sealed
Centerline Spacing (mm)	0.64 : X : 2; Y : 3.5 2.8 : X : 4.8; Y : 4.9
Indexes	A, B, C, D, E
TPA Type	Independent Secondary Lock (ISL)
CPA	No

Cavity Count	Blade Size (mm)	Gender	Dimensions W x H x D (mm)	Part Number Black	Part Number Blue	Index	Other Indexes Offered
2	0.64	F	17 x 25 x 27	35941387	35980792	A	B, C, D, E
4	0.64	F	20 x 25 x 27	35941388	35980835	A	B, C, D, E
6	0.64	F	24 x 25 x 27	35941389	35986392	A	B, C, D, E
2	0.64	M	17 x 20 x 42	35941390	35980806	A	B, C, D, E
4	0.64	M	20 x 20 x 42	35941391	35980842	A	B, C, D, E
6	0.64	M	20 x 20 x 42	35941392	35986397	A	B, C, D, E
2	2.8	F	21 x 27 x 32	35942202	35986415	A	B, C, D, E
4	2.8	F	30 x 27 x 32	35941754	35984600	A	B, C, D, E
6	0.64 (4), 2.8 (2)	F	30 x 27 x 32	35941743	35984569	A	B, C, D, E
2	2.8	M	17 x 22 x 48	35942206	35986428	A	B, C, D, E
4	2.8	M	27 x 22 x 48	35941758	35984590	A	B, C, D, E
6	0.64 (4), 2.8 (2)	M	27 x 22 x 48	35941747	35984574	A	B, C, D, E

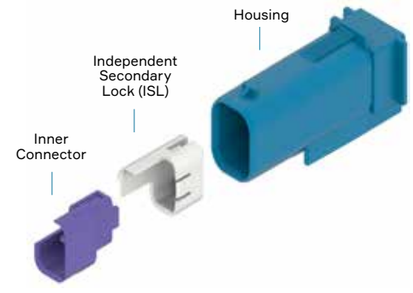
COMPATIBLE PARTS AND ACCESSORIES

Type	Wire Size Range (AWG)	Color	Part Number
Cable Seal	0.35	Black	33120594
Cable Seal	0.35	Red	15327913
Cable Seal	0.75	Gray	15327918
Cable Seal	2.5	White	15339838
Cable Seal	2.5	Yellow	10779161

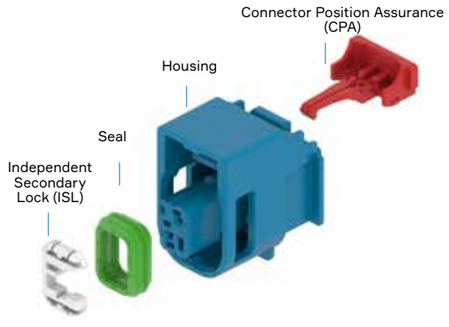
TERMINALS

Type
MTS 0.64
CTS 2.8

EXPLODED VIEW

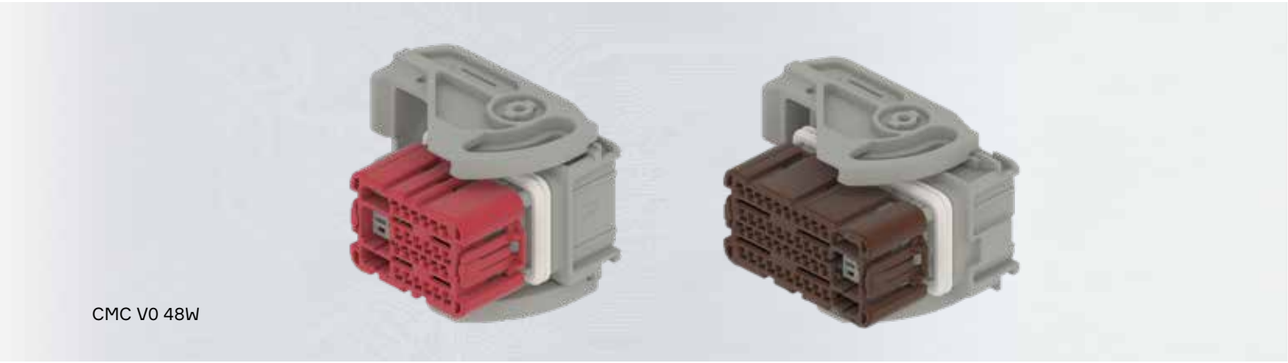


LVCS 0.64 Series Male



LVCS 0.64 Series Female

CMC 0.64 V0 CONNECTOR SERIES



CMC V0 48W

BENEFITS

- Standard interface
- Various combination to meet customer requirements

FEATURES

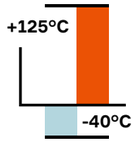
- High compatibility with other supplier
- Robust terminal system

APPLICATIONS

- Device applications

PERFORMANCE

Temperature



Vibration level

USCAR

Sealing class

Max voltage

AVAILABLE CONFIGURATIONS

Cavity Count (ways)	32, 48, 64
Cavity Configurations (mm)	0.64
Genders	Female
Sealing Type	Block Sealed
Centerline Spacing (mm)	0.64 : X : 2.6; Y : 4.2 1.5 : X : 3.6; Y : 4.2
CPA	No
Validation	USCAR-2 *others, please contact us

Cavity Count	Blade Size (mm)	Dimensions W x H x D (mm)	Part Number	Index	Color	Terminal Type	Other Indexes Offered
32	0.64	46.75 x 34.4 x 39.35	35688408	A	Grey	GTS	-
48	0.64	51.75 x 34.3 x 39.6	35688398	A	Grey	GTS	-
64	0.64	61.75 x 36 x 39.5	35741548	101	Nature	GTS	102

COMPATIBLE PARTS AND ACCESSORIES

Terminals

Sealing	Gender	Plating	Wire Size Range (AWG)	Wire Size Range (mm²)	Part Number	Other Available Platings
Block Sealed	F	Sn	18 - 20	0.50 - 0.85	13613755	Ag
Block Sealed	F	Sn	16	1.00 - 1.30	13613762	Ag
Block Sealed	F	Sn	14	2	13647381	Ag
Block Sealed	F	Sn	22	0.35	13955989	Ag
Block Sealed	F	Sn	20	0.5	13648598	Ag

Seals/Cavity Plug

Type	Color	Restraint Ring	Part Number
Block Seal	Grey	No	33508173
Cavity Plug	Blue	No	13826722
Cavity Plug	White	No	13768626
Block Seal*	Green	No	13878244
Cavity Plug*	Grey	No	12065266
Cavity Plug*	Red	No	15489185

*for 64W Connector

CTS 1.2 SENSOMATE™ SERIES

CTS 1.2 10W Female

CTS 1.2 3W Female & OCS 1.2 3W Male

BENEFITS

- VDA/USCAR 1.2 mm at 4 mm, pitch interface compatible (universal)
- Industry standard 1.2 terminal cavity capability
- Short shroud design for small packaging footprint

FEATURES

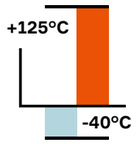
- One-piece molded housing to ensure best-in-class sealing performance
- Patented Smart Locking System version of the CPA to improve assembly cycle time
- Compatible with wire dress backshells
- Inline system uses a male OCS 1.2 blade to mate to CTS 1.2 female connector

APPLICATIONS

- Chassis, engine compartment, on-engine mount, severe gearbox applications, sensors/actuators

PERFORMANCE

Temperature



Vibration level

sine on short shroud versions

Sealing class

500 mBars

Max voltage

AVAILABLE CONFIGURATIONS

Cavity Count (ways)	2, 3, 4, 5, 6, 8, 10
Cavity Configurations (mm)	1.2
Genders	Female, Male (2-4 ways only)
Sealing Type	Cable Sealed
Centerline Spacing (mm)	4.0
Indexes	Varies; see part list
TPA Type	Independent Secondary Lock (ISL)
CPA	Yes
Validation	GMW 3191; RNDS-B-00029 V.2 for short shroud; others, please contact us

Cavity Count	Blade Size (mm)	Gender	Dimensions W x H x D (mm)	Part Number Blue	Part Number Black	Index	Terminal Type	Other Indexes Offered
2	1.2	F	15.2 x 15 x 29.5	35834329	35126363	A	CTS	B, C
3	1.2	F	19.2 x 15 x 29.5	35834330	35126369	A	CTS	B, C, D
4	1.2	F	24.5 x 16.3 x 29.5	35834331	35126375	A	CTS	B, C, D, F*, G*
5	1.2	F	28.5 x 16.3 x 29.5	35834332	35126383	A	CTS	B, C**, D**, E**, F**, G**, H**
6	1.2	F	32.5 x 16.3 x 29.5	35834333	35020435	A	CTS	B, C, E
8	1.2	F	29.8 x 40.45 x 16.25	-	35754499	E	CTS	-
10	1.2	F	32.6 x 22.6 x 29.9	-	35234452	A	CTS	B, C, D, E, Z
2	1.2	M	18.8 x 15.4 x 46.8	35865258	-	A	OCS	B, C, USCAR*** E, F
3	1.2	M	18.8 x 15.4 x 46.8	35865259	-	A	OCS	B, C, D
4	1.2	M	24.1 x 16.5 x 46.8	35888641	-	A	OCS	B, C, USCAR*** E, F, G

*Only for Part Number Blue, **Only for Part Number Black, ***USCAR interface on device

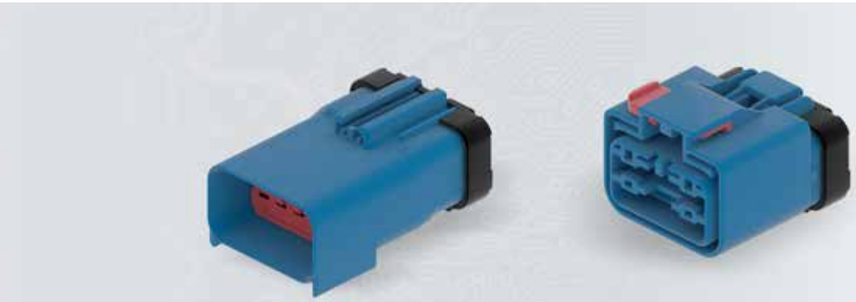
COMPATIBLE SEALS AND ACCESSORIES

Type	Applicable Wire Size (mm²)	Color	Restraint Ring	Part Number
				
Cable Seal	0.13 - 0.35	Black	No	33120594
Cable Seal	0.35 - 0.5	Red	No	15327913
Cable Seal	0.5 - 1.0	Gray	No	15327918
Cable Seal	1.0 - 1.25	Yellow	No	15339412
Cavity Plug	NA	White	No	12198198
				
Cable Seal	0.13 - 0.35	Yellow	Yes	13887349
Cable Seal	0.5 - 1.0	Green	Yes	13887350
Cavity Plug	NA	Blue	Yes	13887353
Fixing Clip for Male Housing Slot	NA	Black	No	33119512
Backshell	NA	-	No	**Contact us**

Terminals

Terminal PN	Gender	Plating	Wire Size Range (mm²)	Cable Seal PN	Other Available Platings
13959120	F	Sn	0.22 - 0.35	15327913	Ag, Au
13959141	F	Sn	0.5 - 0.75	15327918	Ag, Au
13948568	F	Sn	1	15339412	Ag, Au
33265583	M	Sn	0.35 - 0.50	-	Ag, Au
33265584	M	Sn	0.75 - 1.00	-	Ag, Au
33265585	M	Sn	1.25 - 1.50	-	Ag, Au

APEX® 2.8 SEALED SERIES



APEX® 2.8 Sealed 10W Female & Male

BENEFITS

- Heavy-duty performance
- Highest current rating
- Ergonomic design

FEATURES

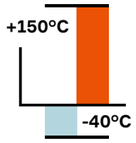
- Most compact 2.8 mm system in the industry
- Fully protected interface seal
- Meets or exceeds USCAR performance standards and GMW3191
- Compliant with USCAR design guidelines and performance standards
- 0.75 mm² (20 AWG) to 4 mm² (10 AWG)
- Primary Lock Reinforcement (PLR)
- Mechanical polarization

APPLICATIONS

- Sealed inline and device applications

PERFORMANCE

Temperature



Vibration level

Sealing class

Max voltage

AVAILABLE CONFIGURATIONS

Cavity Count (ways)	2, 3, 4, 6, 10, 14
Cavity Configurations (mm)	2.8
Genders	Female, Male
Sealing Type	Mat Sealed
Centerline Spacing (mm)	5.25

Cavity Count	Blade Size (mm)	Gender	Dimensions W x H x D (mm)	Part Number	Index	Color	Other Indexes Offered
2	2.8	F	24.8 x 25.7 x 40.1	35838342	A	Royal Blue	B, C, D
2	2.8	M	21.9 x 23.4 x 53.0	35827288	A	Royal Blue	B, C, D
3	2.8	F	28.2 x 21.9 x 40.1	35834937	A	Royal Blue	B, C, D
3	2.8	M	28.2 x 22.5 x 53.0	35834947	A	Royal Blue	B, C, D
4	2.8	F	32.6 x 22.2 x 40.1	35827352	A	Royal Blue	B, C, D
4	2.8	M	31.1 x 22.5 x 53.0	35827356	A	Royal Blue	B, C, D
6	2.8	F	24.8 x 25.3 x 37.7	35827333	A	Royal Blue	B, C, D
6	2.8	M	24.4 x 26.3 x 53.0	35827870	A	Royal Blue	B, C, D
10	2.8	F	35.3 x 31.4 x 40.1	35827363	A	Royal Blue	B, C, D
10	2.8	M	32.4 x 29.1 x 53.0	35827367	A	Royal Blue	B, C, D
14	2.8	F	45.8 x 30.8 x 37.8	35827369	A	Royal Blue	B, C, D
14	2.8	M	46.2 x 29.2 x 53.1	35831205	A	Royal Blue	B, C, D

Please contact an Aptiv representative for the full part number list.

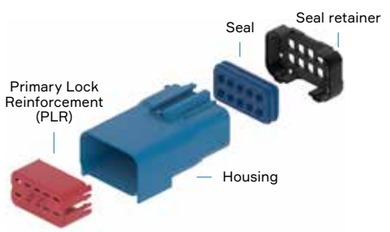
COMPATIBLE SEALS

Type	Color	Restraint Ring	Part Number
Cavity Plug	Blue	Yes	**35478080**
Cavity Plug	White	No	**15305170**

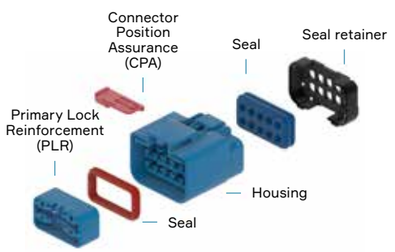
Terminals

Terminal PN	Gender	Plating	Wire Size Range (mm²)	Other Available Platings
10757690	F	Sn	0.5 - 1	Ag, Au
10762803	F	Sn	1.5 - 2.5	Ag, Au
10762776	M	Sn	0.35	Ag, Au
10762775	M	Sn	0.5 - 1	-
10757692	M	Sn	1.5 - 2.5	-
10762774	M	Sn	4.0 - 6.0	-

EXPLODED VIEW

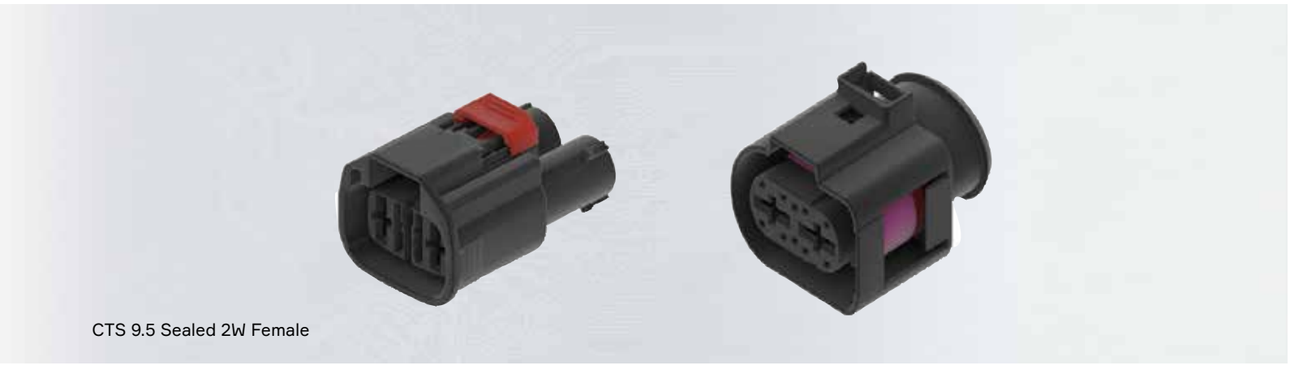


APEX® 2.8 Sealed 10W Male



APEX® 2.8 Sealed 10W Female

CTS 9.5 SEALED SERIES



CTS 9.5 Sealed 2W Female

BENEFITS

- VDA/USCAR 9.5 mm at 17.6 mm, pitch interface compatible (universal)
- Industry standard 9.5 terminal cavity capability
- Short shroud design for small packaging footprint

FEATURES

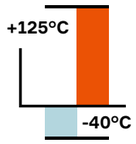
- One-piece molded housing to ensure best-in-class sealing performance
- Patented Smart Locking System version of the CPA to improve assembly cycle time
- Compatible with wire dress backshells
- Header system uses a male CTS 9.5 blade to mate to CTS 9.5 female connector

APPLICATIONS

- Device applications

PERFORMANCE

Temperature



Vibration level

USCAR V2

Sealing class

500 mBars

Max voltage

AVAILABLE CONFIGURATIONS

Cavity Count (ways)	2
Cavity Configurations (mm)	9.5
Genders	Female
Sealing Type	Cable Sealed
Centerline Spacing (mm)	17.6
CPA	Yes
Validation	USCAR

Cavity Count	Blade Size (mm)	Gender	Dimensions W x H x D (mm)	Part Number Black	Index	Terminal Type	Other Indexes Offered
2	9.5	F	56 x 37.5 x 33.5	35592563	A	CTS	B, C, D
2	9.5	F	42.1 x 31.5 x 49.2	35736894	A	CTS	-

COMPATIBLE PARTS AND ACCESSORIES

Terminals

Sealing	Gender	Plating	Wire Size Range (mm²)	Part Number
Y	F	Ag	4 mm²	35256154
Y	F	Ag	6 - 10 mm²	35256151
Y	F	Ag	13 - 16 mm²	35708760

Seals/Cavity Plug

Type	Applicable Wire Size (mm²)	Color	Restraint Ring	Part Number
Cable Seal	4 - 6 mm²	Green	No	**35522042**
Cable Seal	8 - 10 mm²	Green	No	**35522043**
Cable Seal	13 - 16 mm²	Green	No	35522043
Cavity Plug	NA	White	No	**12186633**

DCS POWER SEALED 9.5/ 4.8 SERIES

DCS 9.5/4.8 Sealed 4W

BENEFITS

- High performance connectors

FEATURES

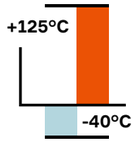
- Max current up to 80A

APPLICATIONS

- Inline and Device applications

PERFORMANCE

Temperature



Vibration level

VW75174

Sealing class

Max voltage

AVAILABLE CONFIGURATIONS

Cavity Count (ways)	4
Cavity Configurations (mm)	4.8, 9.5
Genders	Female, Male
Sealing Type	Cable Sealed
Centerline Spacing (mm)	4.8 : 9.5 9.5 : 24
CPA	No
Validation	VW 75174 *others, please contact us

Cavity Count	Blade Size (mm)	Gender	Dimensions W x H x D (mm)	Part Number Black	Index	Terminal Type
4	9.5 (2) & 4.8 (2)	F	47.75 x 26.3 x 55	15470205	A	DCS
4	9.5 (2) & 4.8 (2)	M	49 x 33.48 x 47.5	13873952	A	DCS

COMPATIBLE PARTS AND ACCESSORIES

Terminals

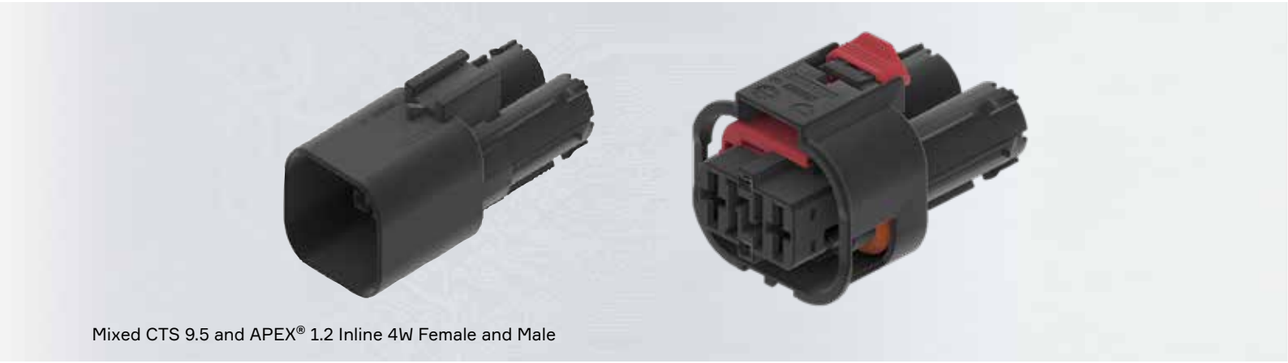
Terminal Type	Gender	Plating	Wire Size Range (AWG)	Wire Size Range (mm²)	Part Number	Other Available Platings
DCS 4.8*	F	Sn	16 - 20	0.5 - 1.0	10811289	Ag
DCS 4.8*	F	Sn	16 - 12	1.0 - 2.5	10811291	Ag
DCS 4.8*	F	Sn	12 - 10	2.5 - 4.0	10811290	Ag
DCS 9.5	F	Sn	8 - 10	6.0 - 10.0	10780234	Ag
DCS 9.5	F	Sn	10	4.0 - 6.0	10780235	Ag
DCS 9.5	F	Sn	12 - 10	2.5 - 4.0	10780236	Ag
DCS 9.5	F	Sn	12 - 14	1.5 - 2.5	13546127	-
DCS 9.5	M	Sn	12 - 10	2.5 - 4.0	10757229	Ag
DCS 9.5	M	Sn	10	4.0 - 6.0	15340597	Ag
DCS 9.5	M	Sn	8 - 10	6.0 - 10.0	10756924	Ag

*Please consult us for Male terminals

Seals/Cavity Plug

Type	Gender	Applicable Wire Size (mm²)	Color	Restraint Ring	Part Number
Cable Seal	F	0.5 - 1.0	Green	No	10788269
Cable Seal	F	1.0 - 2.5	Yellow	Yes	15443869
Cable Seal	F	2.5 - 4.0	White	Yes	12186636
Cavity Plug	F	NA	Brown	No	15448883
Cable Seal	F, M	6.0 - 10.0	Yellow	Yes	10889241
Cable Seal	F, M	4.0 - 6.0	Black	No	15327788
Cable Seal	F, M	2.5 - 4.0	Black	No	15327788
Cable Seal	F, M	1.5 - 2.5	Blue	No	13756673
Cavity Plug	F, M	NA	White	No	12186633

MIXED CTS 9.5 & APEX® 1.2 SERIES



Mixed CTS 9.5 and APEX® 1.2 Inline 4W Female and Male

BENEFITS

- VDA/USCAR 9.5 mm at 17.6 mm, pitch interface compatible (universal)
- Industry standard 9.5 terminal cavity capability
- Short shroud design for small packaging footprint

FEATURES

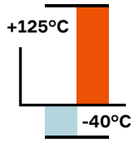
- One-piece molded housing to ensure best-in-class sealing performance
- Patented Smart Locking System version of the CPA to improve assembly cycle time
- Compatible with wire dress backshells
- Header system uses a male DCS 9.5 blade to mate to CTS 9.5 female connector

APPLICATIONS

- Device applications

PERFORMANCE

Temperature



Vibration level

GMW3191

Sealing class

Max voltage

AVAILABLE CONFIGURATIONS

Cavity Count (ways)	4
Cavity Configurations (mm)	1.2, 9.5
Genders	Female, Male
Sealing Type	Cable Sealed
Centerline Spacing (mm)	1.2 : 13 9.5 : 16.5
CPA	Yes
Validation	GMW 3191; *others, please contact us

Cavity Count	Blade Size (mm)	Gender	Dimensions W x H x D (mm)	Part Number Black	Index	Terminal Type
4	1.2(2) & 9.5(2)	F	35.3 x 39.5 x 56.4	35522031	A	CTS & APEX
4	1.2(2) & 9.5(2)	M	33.3 x 33.15 x 74.6	35522025	A	CTS & APEX

COMPATIBLE PARTS AND ACCESSORIES

Terminals

Terminal Type	Gender	Plating	Wire Size Range (AWG)	Wire Size Range (mm²)	Part Number	Other Available Platings
CTS 1.2	F	Sn	16	1	13948568	Ag
CTS 1.2	F	Sn	20 - 18	0.5 - 0.75	13959141	Ag
CTS 1.2	F	Sn	22 - 24	0.22 - 0.35	13959120	Ag
CTS 9.5	F	Sn	8 - 10	6.0 - 10.0	35256152	Ag
CTS 9.5	F	Sn	12 - 10	2.5 - 4.0	35256145	Ag
APEX 1.2	M	Sn	16 - 18	0.75 - 1.25	33219167	Ag
APEX 1.2	M	Sn	20 - 22	0.35 - 0.5	33219166	Ag
DCS 9.5	M	Sn	8 - 10	6.0 - 10.0	10756638	Ag
DCS 9.5	M	Sn	10	4.0 - 6.0	10756639	Ag

Seals/Cavity Plug

Type	Gender	Applicable Wire Size (mm²)	Color	Restraint Ring	Part Number
Cable Seal	F	0.5 - 0.75	Grey	No	15327918
Cable Seal	F	1	Maize	No	15339412
Cable Seal	F	0.22 - 0.35	Wine Red	No	15327913
Cable Seal	M	0.75 - 1.25	Maize	No	15339412
Cable Seal	M	0.35 - 0.5	Wine Red	No	15327913
Cavity Plug	F, M	NA	Green	No	35406279
Cavity Plug	F, M	NA	Black	No	35417448

POWERPACK LV1000 1 AND 2 WAY

1W Inline Connectors

2W Inline Connectors

2W Device and
Pass-Through Connectors

BENEFITS

- High current carrying capacity
- Proven terminal system
- Compact system design
- Field-proven in both automotive and heavy-duty applications

FEATURES

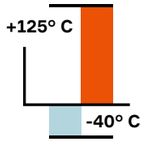
- Silver-plated multi-contact terminal system
- Sealed panel mount pre-stages prior to fastening
- Panel mount secured in place with self-tapping screws
- Pass-through connection accepts both straight and right-angle connectors

APPLICATIONS

- High-current harnesses and devices, sealed pass-through panel-mount systems

PERFORMANCE

Temperature



Max voltage

60V

Max current at 85° C

120A

Sealing class

IP67
IP6K9K

Vibration level

V2

AVAILABLE CONFIGURATIONS

Connector Type	Wire-to-device, wire-to-wire, pass-through
Cable Exit Orientation	180°, 90°
Cable Range (mm²)	8 - 25
Terminal Type	Power Pack 1000
Number of Power Terminals	1 or 2
Shielding Type	Unshielded
HVIL	None
Assembly Assurance	None
Number of Indexes	2

1 WAY INLINE CONNECTORS

Male Connector	Mating Connector	BOM
13882980	13952702	1

2 WAY INLINE CONNECTORS

Index	Male Connector	Mating Connector	BOM
103	13849747	13849756	1
104	13849748	13849757	

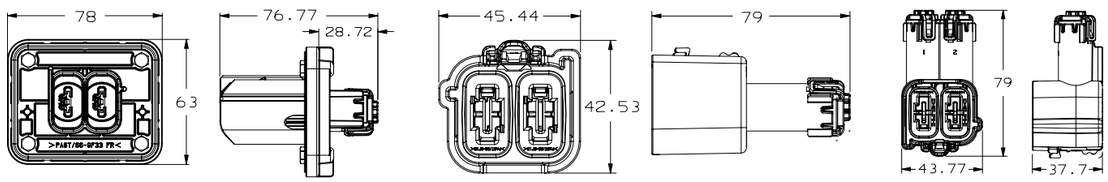
2 WAY DEVICE AND PASS-THROUGH CONNECTORS

Index	Header Connector	Mating Connector		BOM
		180°	90°	
103	13959824	13849756	13849758	1

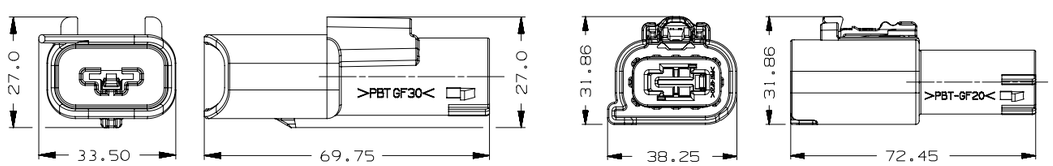
ASSOCIATED PARTS

Part Number	Description	BOM
Header/Male inline		
13675577	PP1000 silver-plated 8 - 10 mm²	1
13675579	PP1000 silver-plated 19 - 25 mm²	
Mating connector		
13675583	PP1000 silver-plated 8 - 10 mm²	1
13675585	PP1000 silver-plated 19 - 25 mm²	
Seals and Retainers*		
13675510	Cable seal PP1000 4.54 - 5.79 dia cable (gray) 8 - 10 mm²	1
13675513	Cable seal PP1000 1.01 - 9.19 dia cable (blue) 19 - 25 mm²	
13849785	Cable seal retainer PP1000 8 - 10 mm²	1
13849788	Cable seal retainer PP1000 19 - 25 mm²	

DIMENSIONS MEASUREMENT SAMPLE



13959824 13849756 13849758



13882980 13952702

POWERPACK LV 2000 INLINE CONNECTOR 1 WAY

1W Inline Connector

BENEFITS

- High current carrying capacity
- PP 2000 proven terminal system
- Compact system design
- Very few parts to assemble

FEATURES

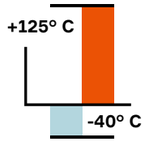
- Up to 35 mm² cross sections
- For applications with needs up to 210A
- Silver-plated multi-contact terminal system
- Ultrasonic weld connection for higher amperage performances

APPLICATIONS

- 48V Applications: High-current harnesses and device

PERFORMANCE

Temperature



Max voltage

60V

Max current at 85° C

210A

Sealing class

IP67
IP6K9K

Vibration level

V1

AVAILABLE CONFIGURATIONS

Connector Type	Wire-to-device
Cable Exit Orientation	180°
Cable Range (mm²)	16, 25, 35
Terminal Type	17.7 mm blade contact
Number of Cavities	1
Assembly Assurance	CPA
Number of Indexes	2

Index	Inline Male Connector	Inline Female Connector	BOM
101	35191198	35191203	1
102	35191202	35191204	

ASSOCIATED PARTS

Part Number			Description	BOM
16 mm² Cable	25 mm² Cable	35 mm² Cable		
Inline male connector				
35228529			PP 2000 180° Sonic Weld Male Terminal	1
35191210	35191211	35191212	Cable Seal	1
35191213	35191214	35191215	Seal Retainer	1
Mating connector				
13815981			PP 2000 180° Sonic Weld Female Terminal	1
35191210	35191211	35191212	Cable Seal	1
35191213	35191214	35191215	Seal Retainer	1

DIMENSIONS MEASUREMENT SAMPLE

35191198

35191203

POWERPACK 48V SEALED RING CONNECTOR 1 WAY

Sealed Ring Connector 1W

BENEFITS

- Fast and easy assembly process
- High robustness against vibrations
- High current carrying capabilities

FEATURES

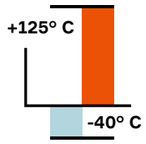
- Ideal solution for 12V to 48V requiring sealed ring connections
- Can be screwed from the top
- Header interface available for system supplier integration on the box
- M8 ring terminal bolted to device

APPLICATIONS

- 48V electrical centers, power distribution boxes, start-stop systems, e-turbo, battery, active suspension, BSG units

PERFORMANCE

Temperature



Max voltage

60V

Max current at 85° C

250A

Sealing class

IP67
IP6K9K

Vibration level

V3

AVAILABLE CONFIGURATIONS

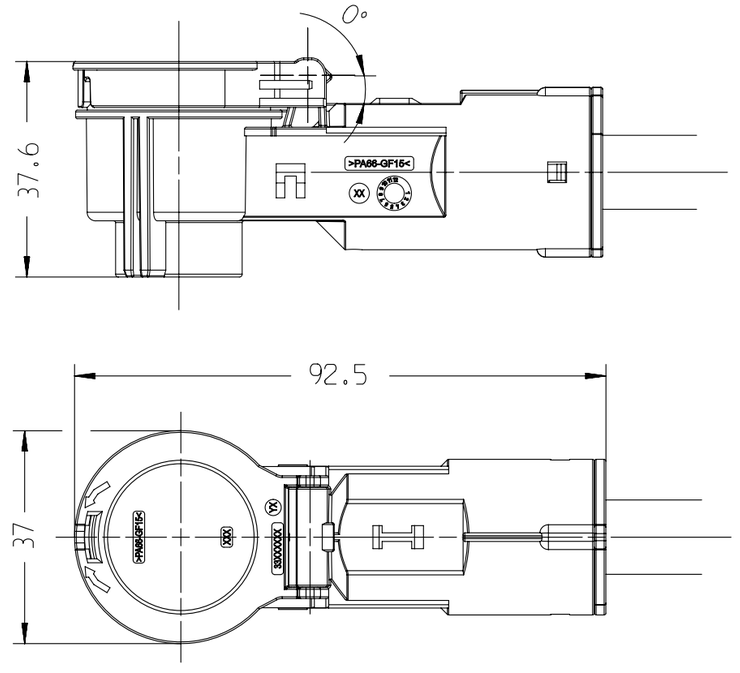
Connector Type	Wire-to-device
Cable Exit Orientation	90°
Cable Range (mm²)	35, 50
Terminal Type	M8 ring terminal
Number of Power Terminals	1
Shielding Type	Unshielded
HVIL	None
Assembly Assurance	None
Number of Indexes	2

Code	Mating Connector	Header Connector	BOM
A	33376962	Please contact your Aptiv representative for more information	1
B	33376953	Please contact your Aptiv representative for more information	1

ASSOCIATED PARTS

Part Number	Type	Applicable Wire Size (mm²)	Cable Type	BOM
33376821	Single wire seal retainer	35 - 50	-	2
33329995	M8 O-ring terminal	35 - 50	-	1
35093138	Single wire seal	35	Unshielded	1

DIMENSIONS MEASUREMENT SAMPLE



33376962

FOR MORE INFORMATION

Visit our website: www.aptiv.com
Browse our e-catalog: www.aptiv.com/en/solutions/connection-systems

Contact your local distributor:

APTIV

CS-SP162-48V-EN0625