

# LOW VOLTAGE 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.

[VISIT APTIV.COM](https://www.aptiv.com)

**INTELLIGENTLY CONNECTED  
FROM END TO END  
ONE OF THE MOST COMPREHENSIVE  
PORTFOLIO IN THE MARKET**

At Aptiv, we understand the full electrical architecture of today's vehicles. This unique perspective gives us the expertise to design the most robust and innovative connection systems available, optimizing the cost and performance of the entire electrical system.

Aptiv never stops innovating when it comes to our complete portfolio of automotive connectors, terminals, seals and headers. Our wide range of robust, reliable and easy-to-use connection systems can address any application in the vehicle and enable future advancements in automotive design.

# A COMPREHENSIVE PRODUCT PORTFOLIO



## TERMINAL SYSTEMS

Aptiv's full range of terminals provides the perfect combination of electrical and provides mechanical performance for nearly any automotive application.

Our terminal options include standard one-piece and two-piece terminals, ring terminals, bus bars, and more. We also offer a variety of plating options as well as terminals that support single wire sealing.



## HOUSINGS

Aptiv offers a large variety of connectors and housings, with options for device (wire-to-board) and in-line (wire-to-wire) connections.

Our portfolio includes solutions for connections in the powertrain & engine area, active and passive safety systems, body and chassis electronics, multimedia systems, and interior functions, with various termination options to meet application requirements.

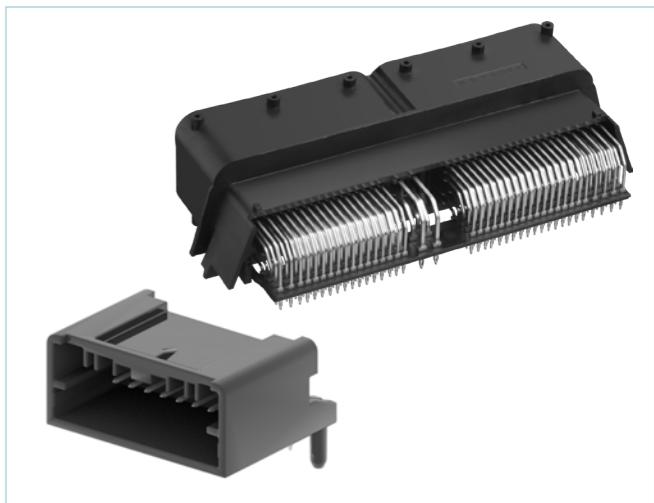


## SEALS

Aptiv manufactures a broad spectrum of cable seals which offer protection from particle and moisture intrusion.

Aptiv offers more than 250 different single wire seals for all types of connector cavities.

We have in-house capability of production and a global footprint.



## HEADERS

Aptiv offers a wide range of state of the art headers featuring high pin count solutions for harsh environment applications as well as solder & press-fit (compliant pin) applications.

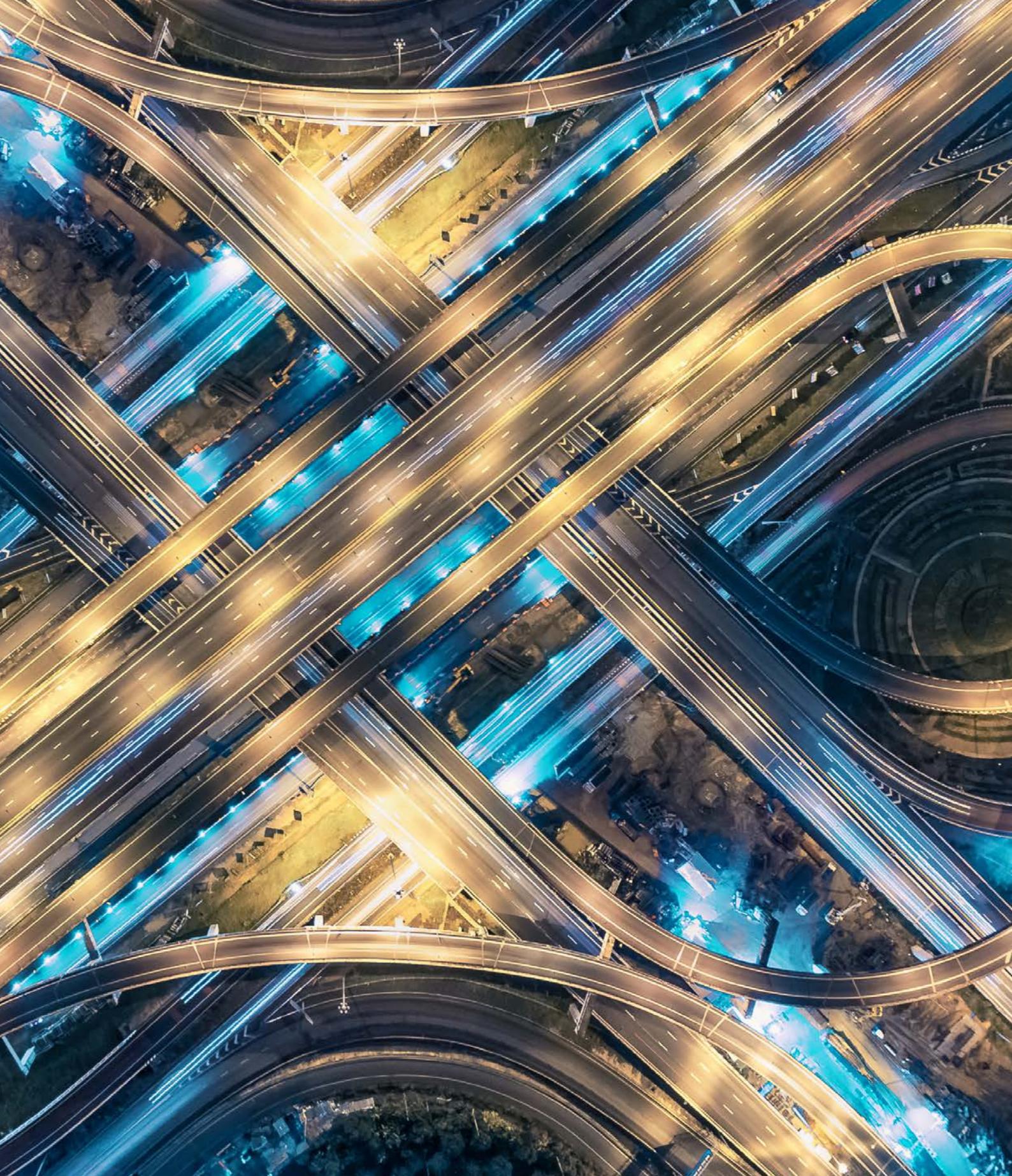
We also offer miniaturized headers featuring 0.5 pitch.

# TABLE OF CONTENTS

<b>Terminals selector guide</b>	<b>p.10</b>		
<b>APEX® Terminals and Connectors</b>	<b>p.12</b>		
<b>APEX® Connectors selector guide</b>		<b>p.14</b>	
APEX® 1.2 Female Terminals		p.16	
APEX® 1.5 Terminals		p.18	
APEX® 150 Terminals		p.20	
APEX® 2.8 Terminals		p.22	
APEX® 6.35 Terminals		p.24	
APEX® 9.5 Terminals		p.26	
APEX® 1.2 SensoMate™ Series		p.28	
APEX® 150 Sealed Series		p.30	
APEX® 2.8 SensoMate™ Series		p.32	
APEX® 2.8 Sealed Series		p.34	
APEX® 2.8 Unsealed Series		p.36	
APEX® Mixed Series		p.38	
APEX® ErgoMate™ Series		p.40	
APEX® Halogen Bulb Series		p.42	
<b>CMC Connectors and Headers</b>	<b>p.44</b>		
CMC Connectors 32, 48, 64, 86 Way		p.46	
CMC Headers 32, 48, 64 Way		p.48	
CMC Headers 112 Way		p.50	
<b>CTS Terminals and Connectors</b>	<b>p.52</b>		
<b>CTS Connectors selector guide</b>		<b>p.54</b>	
CTS 0.5 Locking Lance Terminals		p.56	
CTS 0.5 Female Clean Body Terminals		p.58	
CTS 1.2 Female Locking Lance Terminals		p.60	
CTS 1.2 Male Locking Lance Terminals		p.62	
CTS 1.5 Locking Lance Sealed Terminals		p.64	
CTS 1.5 Locking Lance Unsealed Terminals		p.66	
CTS 2.8 Locking Lance Terminals		p.68	
CTS 6.3 Female Locking Lance Terminals		p.70	
CTS 9.5 Female Locking Lance Terminals		p.72	
CTS 12 Female Locking Lance Terminals		p.74	
NanoPack™ CTS Unsealed Series USCAR		p.76	
NanoPack™ CTS Unsealed Series AK		p.78	
NanoPack™ CTS Sealed Series AK		p.80	
CTS 1.2 SensoMate™ Series		p.82	
CTS 2.8 Sealed Series		p.84	
<b>CTCS Connectors</b>	<b>p.86</b>		
<b>CTCS Connectors selector guide</b>		<b>p.88</b>	
CTCS Unsealed Series		p.90	
CTCS SP Series		p.92	
CTCS XP Series		p.94	
<b>ErgoMate™ Connectors</b>	<b>p.96</b>		
ErgoMate™ 38 Way		p.98	
ErgoMate™ 55 Way		p.100	
<b>GTS Terminals and Connectors</b>	<b>p.102</b>		
GTS 0.64 Terminals		p.104	
GTS 1.5 Terminals		p.106	
GTS 1.5 SensoMate™ Series		p.108	
<b>HDK Terminals and Connectors</b>	<b>p.110</b>		
HDK Female 1.2 Terminals		p.112	
HDK Female 2.8 Terminals		p.114	
HDK 1.2 Sealed Series		p.116	
HDK 2.8 Sealed Series		p.118	
<b>HES Connectors</b>	<b>p.120</b>		
HES Series		p.122	
<b>OCS Terminals and Connectors</b>	<b>p.124</b>		
<b>OCS Connectors selector guide</b>		<b>p.126</b>	
OCS 0.64 Terminals		p.128	
OCS 1.2 Terminals		p.130	
OCS 1.5 Sealed Terminals		p.132	
OCS 1.5 Unsealed Terminals		p.134	
OCS 2.8 Sealed Terminals		p.136	
OCS 2.8 Unsealed Terminals		p.138	
OCS 1.2 Unsealed Series		p.140	
OCS 1.5 Sealed Series		p.142	
OCS 1.5 Unsealed Series		p.144	

# TABLE OF CONTENTS

<b>SICMA Terminals, Connectors and Headers</b>	<b>p.146</b>
SICMA Connectors selector guide	p.148
SICMA 0.64 Terminals	p.150
SICMA 1.5 Terminals	p.152
SICMA 2.8 Terminals	p.154
SICMA Inline Sealed Series	p.156
SICMA Inline Unsealed Series	p.158
SICMA Mini-Sealed Series	p.160
SICMA Panel-Through Sealed Series	p.162
SICMA Panel-Through Unsealed Series	p.164
SICMA 1.5 SensoMate™ Series	p.166
SICMA Sealed Relays	p.168
SICMA OBD (On-Board Diagnostics) Series	p.170
SICMA Headers Interconnect Sealed	p.172
<b>Headers</b>	<b>p.174</b>
CMC Headers 32, 48, 64 Way	p.176
CMC Headers 112 Way	p.178
SICMA Headers Sealed	p.180



# TERMINALS SELECTOR GUIDE

Aptiv's terminals provide the perfect combination of electrical and mechanical performance for nearly any automotive application. Our terminal options include **standard one- and two-piece terminals**, **ring terminals**, **bus bars**, and more.

We also offer a variety of plating options as well as terminals that support single wire sealing.



	Miniature		
	0.5 mm	0.64 mm	1.2 mm
<b>APEX</b>			18 A
<b>CTS</b>	3 A		16.9 A
<b>GTS</b>		13 A	
<b>HDK</b>			11 A
<b>OCS</b>		7.5 A	16.5 A
<b>SICMA</b>		13 A	

Maximum current carrying capacity at 80°C is given for reference only. This document is non contractual

	Mid Current		Power		
	1.5 mm	2.8 mm	6.3 mm	9.5 mm	12 mm
	18 A	40 A	55 A	120 A	
	19 A	25 A	60 A	63 A	165 A
	27 A				
	29.5 A				
	22 A	32 A			
	19 A	22.6 A			



## APEX® TERMINALS AND CONNECTORS

# APEX® CONNECTORS SELECTOR GUIDE

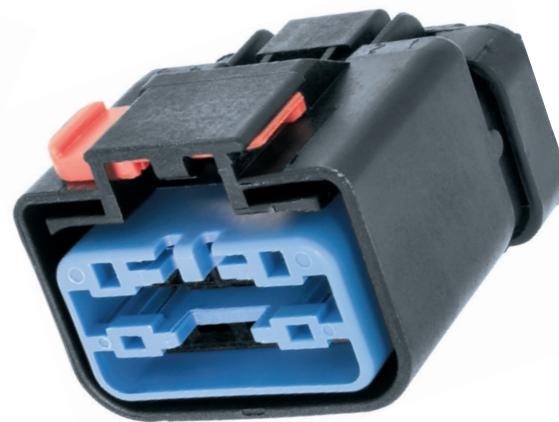
APEX electrical connection systems incorporates proven technology for harsh environments in automotive, off-highway, and specialty vehicles. These connectors are designed for applications where heat, vibration and moisture are a concern.

Our time-tested high performance and ergonomic solution delivering **the industry's highest current rating**.

- Heavy-duty performance
- High current capacity
- Ergonomic design

					
<b>Product Series</b>	<b>APEX® 1.2 SensoMate™</b>	<b>APEX® 150 Sealed</b>	<b>APEX® 2.8 SensoMate™</b>	<b>APEX® 2.8 Sealed</b>	<b>APEX® 2.8 Unsealed</b>
<b>Applications</b>	On-engine sensors and actuators	Sealed inline and device applications	On-engine sensors	On-engine sensors	Unsealed inline and device applications
<b>Blade Size</b>	1.2	1.5	2.8	2.8	2.8
<b># of Cavities</b>	2, 3, 4, 5, 6	10, 16	2, 3, 4	2, 3, 4, 5, 6, 10, 14	2, 3, 4, 5, 6, 10, 14
<b>Gender</b>	F, M (2 to 4)	F, M	F	F, M	F, M
<b>Temperature Class</b>	T4	T3	T3	T3	T3
<b>IP Rating</b>	IP69K	IP69K	IP69K	IP68	NA
<b>CPA</b>	Optional	Optional	Optional	Optional	Optional
<b>See Pages</b>	28-29	30-31	32-33	34-35	36-37

This document is non-contractual and is for information purpose only



		
<b>APEX® Mixed</b>	<b>APEX® ErgoMate™</b>	<b>APEX® Halogen Bulb</b>
Sealed inline applications	Sealed inline applications	Halogen Bulb
1.5 and 2.8	1.5 and 2.8	2.8
14	24	2
F, M	F, M	F
T3	T3	T4
IP69K	IP69K	IP69K
Optional	Optional	Optional
38-39	40-41	42-43

# APEX® 1.2 FEMALE TERMINALS



APEX® 1.2 Female & Male Terminals

## BENEFITS

- Heavy-duty performance
- Highest current rating

## FEATURES

- Two-piece construction
- Integrated floating spring made of beryllium copper or copper nickel silicon

## AVAILABLE CONFIGURATIONS

Terminal Type	Box & Blade
Terminal Construction	Two-piece
Locking Mechanism	Tangless / Lanceless
Terminal Cavity	APEX® 1.2 SensoMate™
Blade Size (mm)	1.2
Wire Gage Range (AWG)	22 - 16
Wire Gage Range (mm <sup>2</sup> )	0.35 - 1.5
Genders	Female, Male
Sealing Options	Unsealed, Mat Sealed, Cable Sealed
Plating Options	Sn, Sn/Ag, Ag, Au

## CHARACTERISTICS

Contact Resistance	< 0.5 mΩ
Contact Mating Force	< 5 N
Contact Unmating Force	< 1 N



Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings	Other available configurations
Unsealed	F	Au	20	0.35 - 0.5	15504560	-	-
Cable Sealed	F	Sn	20	0.35 - 0.5	13806233	Sn/Ag, Ag, Au	Rewind A
Cable Sealed	F	Sn	18	0.75 - 1.5	13576990	Sn/Ag, Ag, Au	Rewind A

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

## COMPATIBLE SEALS

Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.35 - 0.5	Gray	Yes	33318278
Cable Seal	0.5 - 0.85	Gray	Yes	33318279
Cable Seal	1.0 - 1.5	Black	Yes	33318275

## COMPATIBLE WITH



APEX® 1.2 SensoMate™ Series Housings

# APEX® 1.5 TERMINALS



APEX® 1.5 Female & Male Terminals

## BENEFITS

- Heavy-duty performance
- Highest current rating

## FEATURES

- Two-piece construction
- Integrated floating spring made of beryllium copper or copper nickel silicon

Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings	Other available configurations
Unsealed	F	Sn	24 - 20	0.35 - 0.5	15521509	Au	-
Unsealed	F	Sn	20 - 18	0.75 - 1.25	13679770	Au	-
Unsealed	F	Sn	16 - 14	1.5 - 2.5	15521507	-	-
Unsealed	M	Au	22 - 20	0.35 - 0.5	15520991	-	Rewind A, C
Unsealed	M	Sn	20 - 18	0.75 - 1.25	15438399	-	-
Cable Sealed	F	Au	24 - 20	0.35 - 0.5	33337935	-	-

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

## COMPATIBLE SEALS

Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.35 - 0.5	Blue	No	15344938
Cable Seal	0.35 - 0.75	Yellow	Yes	10736278



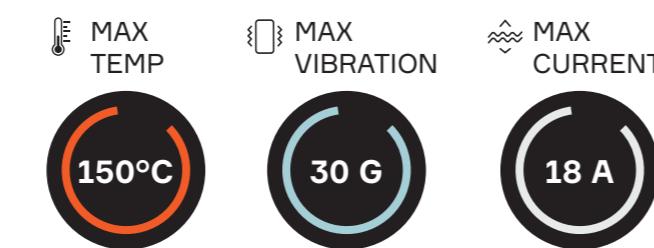
## AVAILABLE CONFIGURATIONS

Terminal Type	Box & Blade
Terminal Construction	Two-piece
Locking Mechanism	Tangless / Lanceless
Terminal Cavity	APEX®
Blade Size (mm)	1.5
Wire Gage Range (AWG)	22 - 16
Wire Gage Range (mm <sup>2</sup> )	0.35 - 1.5
Genders	Female, Male
Sealing Options	Unsealed, Mat Sealed, Cable Sealed
Plating Options	Sn, Au



## CHARACTERISTICS

Contact Resistance	< 0.5 mΩ
Contact Mating Force	< 5 N
Contact Unmating Force	< 1 N



# APEX® 150 TERMINALS

USCAR



APEX® 150 Female & Male Terminals

## BENEFITS

- Heavy-duty performance
- Highest current rating

## FEATURES

- Two-piece construction
- Integrated floating spring made of beryllium copper or copper nickel silicon
- Meets or exceeds USCAR performance standards

Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings	Other available configurations
Unsealed	F	Sn	22 - 20	0.35 - 0.5	13624983	Au	Rewind A, C
Unsealed	F	Sn	18 - 16	0.75 - 1.25	13613157	Au	Rewind A, C
Unsealed	M	Sn	22 - 20	0.35 - 0.5	13624759	Au	Rewind A
Unsealed	M	Sn	18 - 16	0.75 - 1.25	13630404	Au	Rewind A, C

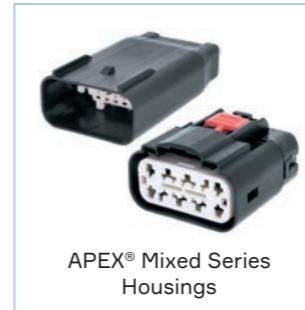
Please, contact an Aptiv representative for the full part number list.



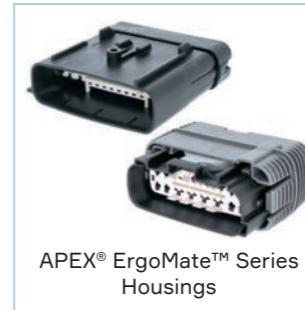
## COMPATIBLE WITH



APEX® 150 Sealed Series Housings



APEX® Mixed Series Housings



APEX® ErgoMate™ Series Housings



## AVAILABLE CONFIGURATIONS

Terminal Type	Box & Blade
Terminal Construction	Two-piece
Locking Mechanism	Tangless / Lanceless
Terminal Cavity	APEX®
Blade Size (mm)	1.5
Wire Gage Range (AWG)	22 - 16
Wire Gage Range (mm <sup>2</sup> )	0.35 - 1.0
Genders	Female, Male
Sealing Options	Unsealed
Plating Options	Sn, Au



## CHARACTERISTICS

Contact Resistance	< 0.5 mΩ
Contact Mating Force	< 3.5 N
Contact Unmating Force	< 1 N

MAX TEMP



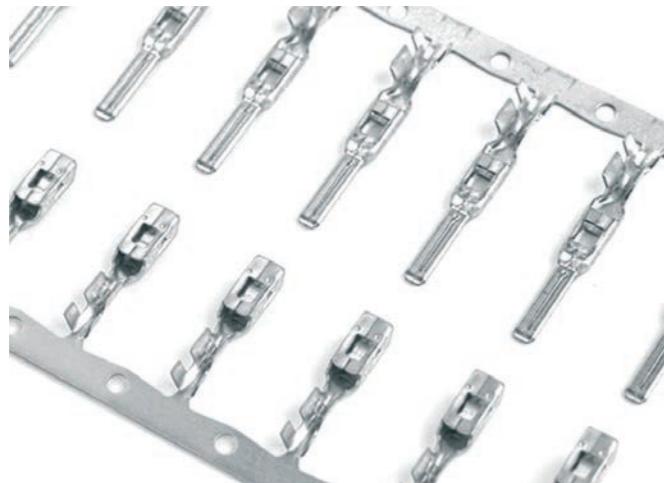
MAX VIBRATION



MAX CURRENT



# APEX® 2.8 TERMINALS



APEX® 2.8 Female & Male Terminals

## BENEFITS

- Heavy-duty performance
- Highest current rating

## FEATURES

- Two-piece construction
- Integrated floating spring made of beryllium copper or copper nickel silicon
- Low contact mating force

## AVAILABLE CONFIGURATIONS

Terminal Type	Box & Blade
Terminal Construction	Two-piece
Locking Mechanism	Tangless / Lanceless
Terminal Cavity	APEX®
Blade Size (mm)	2.8
Wire Gage Range (AWG)	22 - 10
Wire Gage Range (mm <sup>2</sup> )	0.35 - 6.0
Genders	Female, Male
Sealing Options	Unsealed, Mat Sealed, Cable Sealed
Plating Options	Sn, Ag, Au

## CHARACTERISTICS

Contact Resistance	< 2 mΩ
Contact Mating Force	< 5 N
Contact Unmating Force	< 2 N



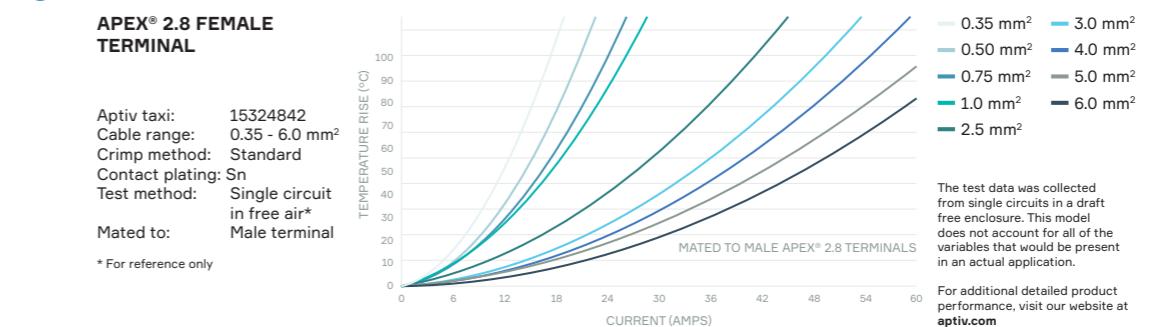
Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings	Other available configurations
Unsealed	F	Sn	12 - 10	4.0 - 6.0	10762802	Au	Greased/Ungreased, Rewind A, C
Unsealed	F	Sn	12	3.0	15422738	Au	Greased/Ungreased, Rewind A, C
Unsealed	F	Sn	16 - 14	2.0	10762803	Au	Greased/Ungreased, Rewind A, C
Unsealed	F	Sn	20 - 18	0.5 - 1.0	10757690	Au	Greased/Ungreased, Rewind A, C
Unsealed	F	Sn	22	0.35	10757691	-	Greased/Ungreased, Rewind A, C
Unsealed	M	Sn	12 - 10	4.0 - 6.0	10762774	Au	Rewind A, C
Unsealed	M	Sn	16 - 14	1.5 - 2.5	10757692	Au	Rewind A, C
Unsealed	M	Sn	20 - 18	0.5 - 1.0	10762775	Au	Rewind A, C
Unsealed	M	Sn	22	0.35	10762776	Au	Rewind A, C
Cable Sealed	F	Sn	12	3.0	10810733	-	Greased/Ungreased, Rewind A, C
Cable Sealed	F	Sn	16 - 14	1.5 - 2.5	13627267	Ag, Au	Greased/Ungreased, Rewind A, C
Cable Sealed	F	Sn	20 - 18	0.5 - 1.0	10810375	Ag, Au	Greased/Ungreased, Rewind A, C

## COMPATIBLE SEALS

Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.35 - 1.0	Pink	Yes	35296484
Cable Seal	1.0 - 2.0	Black	Yes	15518641
Cable Seal	2.5 - 4.0	Brown	Yes	15458498

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

## TEMP RISE CURVE



## COMPATIBLE WITH



Part numbers, specifications, dimensions and performance data in this document are for general references only and are subject to change without notice. To verify product information, please contact an Aptiv representative.

# APEX® 6.35 TERMINALS



APEX® 6.35 Female & Male Terminals

## BENEFITS

- Heavy-duty performance
- Highest current rating

## FEATURES

- Two-piece construction
- Integrated floating spring made of beryllium copper or copper nickel silicon

## AVAILABLE CONFIGURATIONS

Terminal Type	Box & Blade
Terminal Construction	Two-piece
Locking Mechanism	Tangless / Lanceless
Terminal Cavity	APEX®
Blade Size (mm)	6.35
Wire Gage Range (AWG)	20 - 8
Wire Gage Range (mm <sup>2</sup> )	0.5 - 8.0
Genders	Female, Male
Sealing Options	Unsealed, Cable Sealed
Plating Options	Sn, Sn/Ag, Ag

## APPLICATIONS

High current/high power unique applications

## CHARACTERISTICS

Contact Resistance	< 2 mΩ
Contact Mating Force	< 10 N
Contact Unmating Force	< 5 N



Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings	Other available configurations
Unsealed	F	Sn	8	8.0	35213380	-	Greased/Ungreased ReRewind A, C
Unsealed	F	Sn	10	4.0 - 6.0	13843152	-	Greased/Ungreased ReRewind A, C
Unsealed	F	Sn	14 - 12	2.0 - 3.0	13600463	-	Greased/Ungreased ReRewind A, C
Unsealed	F	Sn	18 - 16	0.75 - 1.5	13965582	-	Greased/Ungreased ReRewind A, C
Unsealed	F	Sn	20 - 18	0.5 - 0.75	13872174	-	Greased/Ungreased ReRewind A, C
Unsealed	M	Sn	10	4.0 - 6.0	33386358	-	-
Cable Sealed	F	Sn	10	4.0 - 6.0	10863886	Ag	Greased/Ungreased, Rewind A, C
Cable Sealed	F	Sn	14 - 12	2.0 - 3.0	13658862	Ag	Greased/Ungreased ReRewind A, C
Cable Sealed	F	Sn	18 - 16	0.75 - 1.5	13673119	Ag	Greased/Ungreased ReRewind A, C

## COMPATIBLE SEALS

Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.75 - 1.25	Natural	No	15324997
Cable Seal	1.25 - 2.0	Red	No	15324995
Cable Seal	2.5 - 4.0	Gray	No	15324994
Cable Seal	4.0 - 6.0	Blue	No	15324996
Cable Seal	2.0 - 3.0	Black	Yes	35308322

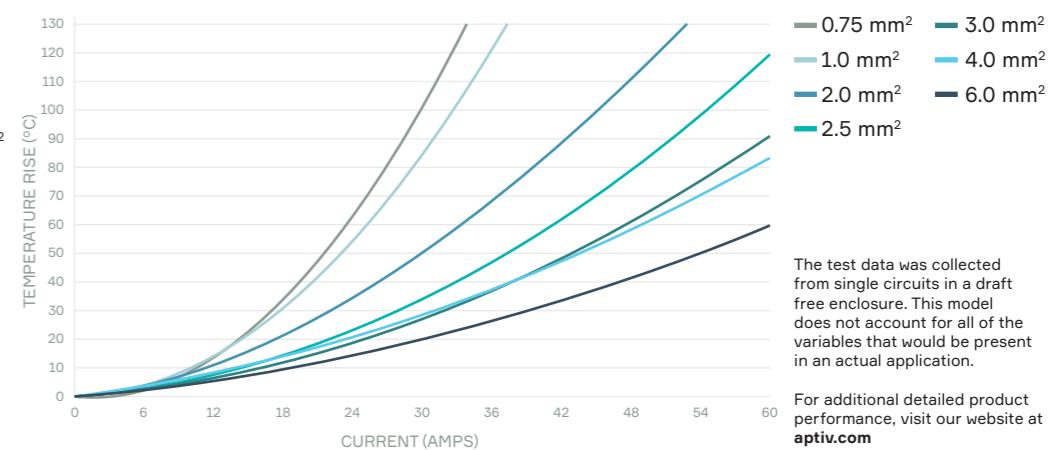
Please, contact an Aptiv representative for the full part number list.

## TEMP RISE CURVE

### APEX® 6.3 FEMALE TERMINAL

Aptiv taxi: 13707625  
 Cable range: 0.75 - 6.0 mm<sup>2</sup>  
 Crimp method: Standard  
 Contact plating: Sn half  
 Test method: Single circuit in free air\*  
 Mated to: Male terminal

\* For reference only



# APEX® 9.5 TERMINALS



APEX® 9.5 Female & Male Terminals

## BENEFITS

- Heavy-duty performance
- Highest current rating
- Suitable for high power and high voltage applications

## FEATURES

- Two-piece construction
- Integrated floating spring made of stainless steel
- Large cable size capability

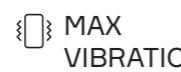


## AVAILABLE CONFIGURATIONS

Terminal Type	Box & Blade
Terminal Construction	Two-piece
Locking Mechanism	Tangless / Lanceless
Terminal Cavity	APEX®
Crimp Validated to	RSA/PSA
Blade Size (mm)	9.5
Wire Gage Range (AWG)	7 - 3
Wire Gage Range (mm <sup>2</sup> )	10 - 16
Genders	Female, Male
Sealing Options	Unsealed, Cable Sealed
Plating Options	Sn
Mating Tab Dimension (mm)	9.5 x 1.2

## CHARACTERISTICS

Contact Resistance	< 0.3 mΩ
Contact Mating Force	< 30 N
Contact Unmating Force	< 10 N
Mating Cycles Tin/Silver	10
Cavity Pullout Force	> 150 N
Center Line Spacing (mm)	18 (sealed) 14 (unsealed)



Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number
Unsealed	F	Sn	5 - 3	16 - 25	13862251
Cable Sealed	F	Sn	7 - 5	10 - 16	33514387
Cable Sealed	M	Sn	7 - 5	10 - 16	33514386

## COMPATIBLE SEALS

Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	6	Green	Yes	35239048
Cable Seal	10	Blue	Yes	33503294
Cable Seal	16	Yellow	Yes	33503295

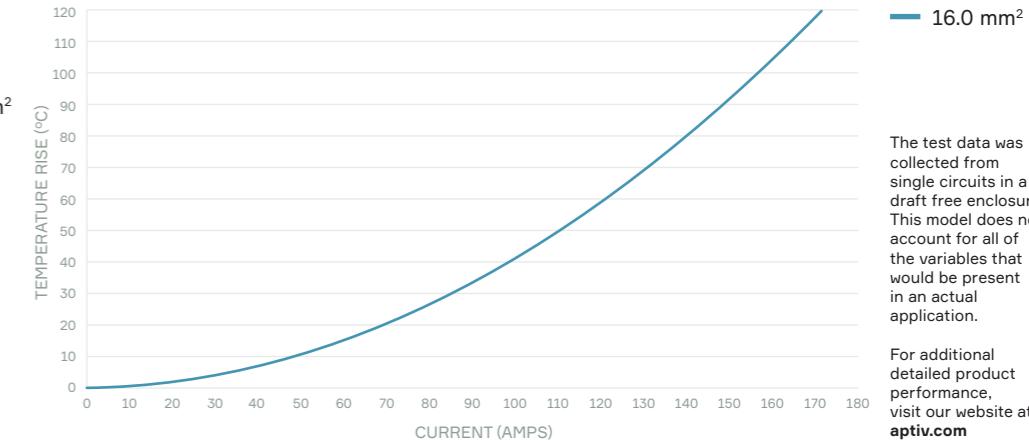
Please, contact an Aptiv representative for the full part number list.

## TEMP RISE CURVE

### APEX® 9.5 FEMALE TERMINAL

Cable range: 10.0 - 16.0 mm<sup>2</sup>  
 Crimp method: Standard  
 Contact plating: Sn  
 Test method: Single circuit in free air\*  
 Mated to: Male terminal

\* For reference only



The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

# APEX® 1.2 SensoMate™ SERIES



APEX® 1.2 SensoMate™  
2W Female & Male



APEX® 1.2 SensoMate™  
4W Female

## BENEFITS

- Heavy-duty performance for engine vibration and temperature
- Highest current rating of APEX two-piece performance technology
- Ergonomic design including Connector Position Assurance (CPA)

## FEATURES

- Compatible with VDA (AK) 1.2 and USCAR 120 device interfaces (1.2 mm male blade)
- Compliant with Hyundai ES 91500-00/02
- Compliant with USCAR design guidelines and performance standards
- Compliant to Renault-Nissan-Mitsubishi RNDS-B-00029 performance standards
- Terminal Position Assurance (TPA) based on Primary Lock Reinforcement (PLR) to detect partially installed terminals



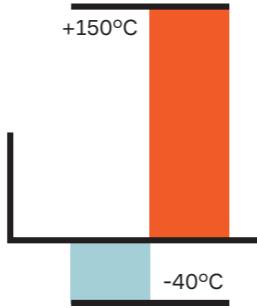
## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	2, 3, 4, 5, 6
Cavity Configurations (mm)	1.2
Blade Size (mm)	1.2
Genders	Female, Male
Sealing Type	Cable Sealed
Centerline Spacing (mm)	4.0
TPA	PLR
CPA	Optional
High Temperature T5 (175°C)	Version available

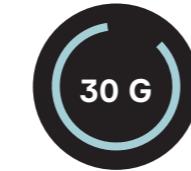
## APPLICATIONS

On-engine sensors and actuators

## TEMPERATURE



## VIBRATION



## SEALING CLASS



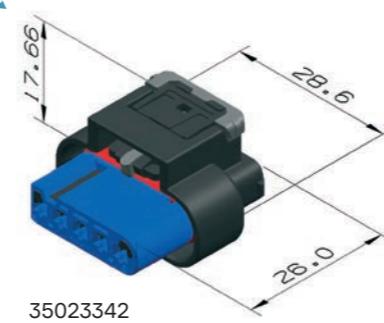
Cavity count	Gender	Dimensions W x H x D (mm)	Part number	Index	CPA	Color	Generation	Shroud Length	Other indexes offered
2	F	16.4 x 17.6 x 32.0	13806231	A	No	Black	One	Short (half)	B, C
2	F	17 x 16.45 x 28.3	33401217	A	No	Black	Two	Short (half)	B, C, D
2	F	17.4 x 16.45 x 28.3	33401221	A	Yes	Black	Two	Short (half)	B, C, D
2	F	17 x 16.45 x 28.3	33384128	A	No	Black	Two. Clip-Type	Long (full)	B, C, D
2	F	17.4 x 16.45 x 28.3	35050101	A	Yes	Black	Two. Clip-Type	Long (full)	B, C, D
2	F	17 x 16.45 x 28.3	33318607	A	No	Black	Two	Long (full)	B, C, D
2	F	17.4 x 16.45 x 28.3	33318611	A	Yes	Black	Two	Long (full)	B, C, D
2	F	17 x 16.45 x 28.3	35259417	A	No	Black	Two. High Temp T5	Long (full)	B, C
2	F	17.4 x 16.45 x 28.3	35259421	A	Yes	Black	Two. High Temp T5	Long (full)	B, C
3	F	19.3 x 17.6 x 31.0	13578335	A	No	Black	One	Short (half)	B, C, D
3	F	19.3 x 16.45 x 28.3	33242572	A	No	Black	Two	Short (half)	B, C, D
3	F	19.3 x 16.45 x 28.3	33242576	A	Yes	Black	Two	Short (half)	B, C, D
3	F	19.3 x 16.45 x 28.3	33317676	A	No	Black	Two	Long (full)	B, C, D
3	F	19.3 x 16.45 x 28.3	33317681	A	Yes	Black	Two	Long (full)	B, C, D
4	F	24.5 x 17.6 x 32.1	13820427	A	No	Black	One	Short (half)	B, C, D
4	F	24.6 x 17.7 x 28.3	33218537	A	No	Black	One	Short (half)	B, C, D
4	F	24.6 x 17.6 x 28.3	35172690	A	No	Black	Two	Long (full)	B, C, D
4	F	24.6 x 17.6 x 28.3	35172708	A	Yes	Black	Two	Long (full)	B, C, D
5	F	28.6 x 17.6 x 28.7	35023342	A	No	Black	Two	Short (half)	B, C, D
5	F	28.6 x 17.6 x 28.7	35032599	A	Yes	Black	Two	Short (half)	B, C, D
5	F	28.6 x 17.6 x 28.7	33241268	A	No	Black	Two	Long (full)	B, C, D
5	F	28.6 x 17.6 x 28.7	33241269	A	Yes	Black	Two	Long (full)	B, C, D
5	F	28.6 x 17.6 x 28.7	35288140	A	No	Black	Two*	Short (half)	B, C, D
5	F	28.6 x 17.6 x 28.7	35288144	A	Yes	Black	Two*	Short (half)	B, C, D
6	F	32.6 x 17.65 x 28.45	33355813	A	No	Black	Two	Long (full)	B, C, D
6	F	32.6 x 17.65 x 28.45	33356199	A	Yes	Black	Two	Long (full)	B, C, D
2	M	12.6 x 13.45 x 43.4	33219402	A	x	Black	One	N/A	B, C, D
3	M	15.2 x 13.45 x 43.4	33355759	A	x	Black	One	N/A	B, C, D
4	M	21.9 x 18.7 x 43.4	35078036	A	x	Black	One	N/A	B, C, D

\* 180° polarization oriented

Type	Applicable Wire Size (mm²)	Color	Restraint Ring	Part Number
Cavity Plug	N/A	White	No	12198198
Cable Seal	0.35 - 0.5	Gray	Yes	33318278
Cable Seal	0.5 - 0.85	Gray	Yes	33318279
Cable Seal	1.0 - 1.5	Black	Yes	33318275

\* 180° polarization oriented

## DIMENSION MEASUREMENT SAMPLE



Part numbers, specifications, dimensions and performance data in this document are for general references only and are subject to change without notice. To verify product information, please contact an Aptiv representative.

## COMPATIBLE WITH



APEX® 1.2 Series Terminals

# APEX® 150 SEALED SERIES



APEX® 150 Sealed 10W Female & Male

## BENEFITS

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

## FEATURES

- Waterproof application with interfacial and mat seal
- Compliant with USCAR design guidelines and performance standards
- USCAR footprint compatible
- Primary Lock Reinforcement (PLR)
- Mechanical polarization

## AVAILABLE CONFIGURATIONS

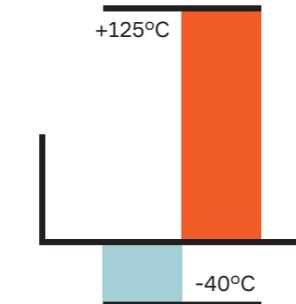
Cavity Count (ways)	10, 16
Cavity Configurations (mm)	1.5
Genders	Female, Male
Sealing Type	Mat Sealed
Centerline Spacing (mm)	3.5
CPA	Optional

## APPLICATIONS

Sealed inline and device applications

See back page for representative part numbers and packaging dimensions.

## TEMPERATURE



## VIBRATION



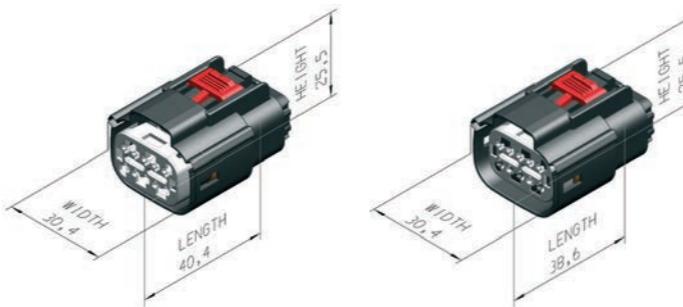
## ENVIRONMENTAL PROTECTION

IP69K

Cavity count	Blade size (mm)	Gender	Dimensions W x H x D (mm)	Part number	Index	Color	Other indexes offered
10	1.5	F	28.7 x 24.7 x 38.6	13737245	A	Black	B, C, D
10	1.5	M	25.9 x 23.3 x 53.0	13763996	A	Black	B, C, D
16	1.5	F	39.2 x 24.7 x 38.6	13625159	A	Black	B, C, D
16	1.5	M	36.4 x 23.3 x 53.0	13625160	A	Black	B, C, D

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

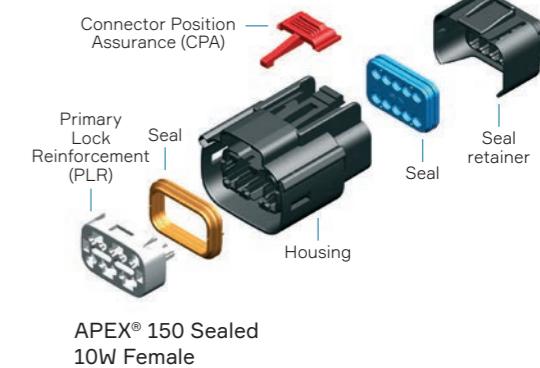
## DIMENSION MEASUREMENT SAMPLE



APEX® 150 Sealed 10W Female pre-assembly

APEX® 150 Sealed 10W Female assembly

## EXPLODED VIEW



APEX® 150 Sealed 10W Female

## COMPATIBLE WITH



APEX® 150 Series Terminals

# APEX® 2.8 SensoMate™ SERIES



APEX® 2.8 SensoMate™  
4W Female

## BENEFITS

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

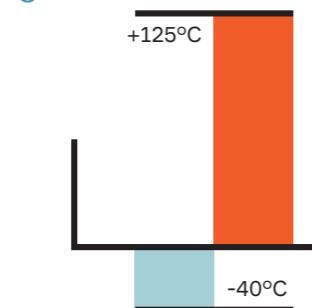
## FEATURES

- Compliant with USCAR design guidelines and performance standards
- Industry standard footprint
- Superior single-piece housing construction
- Primary Lock Reinforcement (PLR) to detect partially installed terminals

## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	2, 3, 4
Cavity Configurations (mm)	2.8
Genders	Female
Sealing Type	Cable Sealed
Centerline Spacing (mm)	5.0

## TEMPERATURE



## VIBRATION



## APPLICATIONS

On-engine sensors

## ENVIRONMENTAL PROTECTION

IP69K

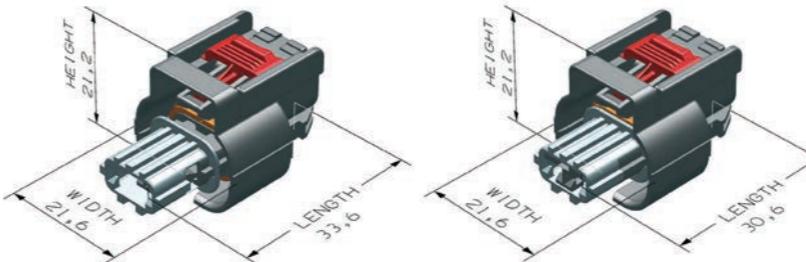
Cavity count	Blade size (mm)	Gender	Dimensions W x H x D (mm)	Part number	Index	Color	Other indexes offered
2	2.8	F	21.6 x 21.2 x 31.0	13821046	A	Black	B
3	2.8	F	26.6 x 21.2 x 31.0	13791661	A	Black	B
4	2.8	F	31.6 x 23.2 x 31.0	33513154	A	Black	B

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

## COMPATIBLE SEALS

Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.35 - 1.0	Pink	Yes	35296484
Cable Seal	1.0 - 2.0	Black	Yes	15518641
Cable Seal	2.5 - 4.0	Brown	Yes	15458498
Cavity Plug	N/A	Blue	Yes	35478080
Cavity Plug	N/A	White	No	15305170

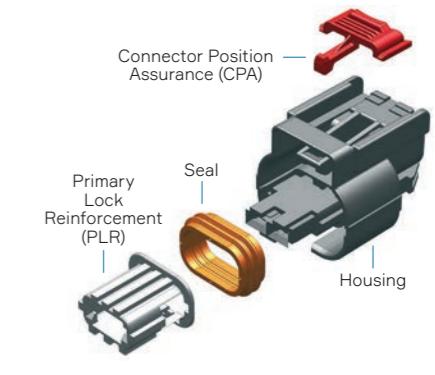
## DIMENSION MEASUREMENT SAMPLE



APEX® 2.8 SensoMate™  
2W Female pre-assembly

APEX® 2.8 SensoMate™  
2W Female assembly

## EXPLODED VIEW



APEX® 2.8 SensoMate™  
2W Female

## COMPATIBLE WITH



APEX® 2.8 Series Terminals

# 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 mm<sup>2</sup> (20 AWG) to 4 mm<sup>2</sup> (10 AWG)
- Primary Lock Reinforcement (PLR)
- Mechanical polarization

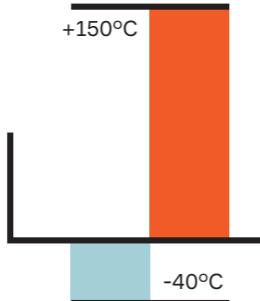


### AVAILABLE CONFIGURATIONS

Cavity Count (ways)	2, 3, 4, 5, 6, 10, 14
Cavity Configurations (mm)	2.8
Genders	Female, Male
Sealing Type	Mat Sealed
Centerline Spacing (mm)	5.25



### TEMPERATURE



### VIBRATION



## APPLICATIONS

Sealed inline and device applications



## ENVIRONMENTAL PROTECTION



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	10757672	A	Black	B, C, D
2	2.8	M	21.9 x 23.4 x 53.0	15488574	A	Black	B, C, D
3	2.8	F	28.2 x 21.9 x 40.1	10757671	A	Black	B, C, D
3	2.8	M	28.2 x 22.5 x 53.0	15394689	A	Black	B, C, D
4	2.8	F	32.6 x 22.2 x 40.1	15425692	A	Black	B, C, D
4	2.8	M	31.1 x 22.5 x 53.0	15489820	A	Black	B, C, D
5	2.8	F	36.0 x 23.4 x 41.3	33513170	A	Black	B, C, D
6	2.8	F	24.8 x 25.3 x 37.7	35063643	A	Black	B, C, D
6	2.8	M	24.4 x 26.3 x 53.0	15430633	A	Black	B, C, D
10	2.8	F	35.3 x 31.4 x 40.1	15316895	A	Black	B, C, D
10	2.8	M	32.4 x 29.1 x 53.0	15425612	A	Black	B, C, D
14	2.8	F	45.8 x 30.8 x 37.8	10763414	A	Black	B, C, D
14	2.8	M	46.2 x 29.2 x 53.1	10757674	A	Black	B, C, D

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

## COMPATIBLE SEALS

Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.35 - 1.0	Pink	Yes	35296484
Cable Seal	1.0 - 2.0	Black	Yes	15518641
Cable Seal	2.5 - 4.0	Brown	Yes	15458498
Cavity Plug	N/A	Blue	Yes	35478080
Cavity Plug	N/A	White	No	15305170

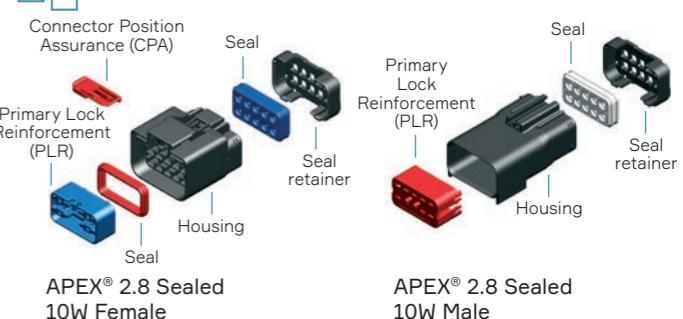
## DIMENSION MEASUREMENT SAMPLE



## COMPATIBLE WITH



## EXPLODED VIEW



# APEX® 2.8 UNSEALED SERIES



APEX® 2.8 Unsealed 10W Female & Male

## BENEFITS

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

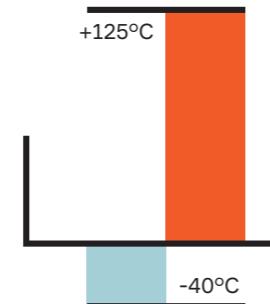
## FEATURES

- Meets or exceeds USCAR performance standards and GMW3191
- 0.35 mm<sup>2</sup> (22 AWG) to 5 mm<sup>2</sup> (10 AWG)
- Fully assembled connector for ease of use
- Primary Lock Reinforcement (PLR)
- Mechanical polarization

## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	2, 3, 4, 5, 6, 10, 14
Cavity Configurations (mm)	2.8
Genders	Female, Male
Centerline Spacing (mm)	5.25
CPA	Optional

## TEMPERATURE



## VIBRATION



## APPLICATIONS

Unsealed inline and device applications

## ENVIRONMENTAL PROTECTION

IP40

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	13869306	A	Black	B, C, D
2	2.8	M	21.9 x 23.4 x 50.7	33500082	A	Black	B, C, D
3	2.8	F	28.2 x 21.9 x 37.8	13576040	A	Black	B, C, D
3	2.8	M	28.2 x 22.5 x 50.7	33500093	A	Black	B, C, D
4	2.8	F	32.6 x 22.2 x 37.8	33517234	A	Black	B, C, D
4	2.8	M	31.1 x 22.5 x 50.7	33500099	A	Black	B, C, D
5	2.8	F	36.0 x 23.4 x 39.0	33513166	A	Black	B, C, D
6	2.8	F	24.8 x 25.3 x 37.8	15441804	A	Black	B, C, D
6	2.8	M	24.4 x 26.3 x 50.7	33500104	A	Black	B, C, D
10	2.8	F	35.3 x 31.4 x 37.8	15492288	A	Black	B, C, D
10	2.8	M	32.4 x 29.1 x 50.7	33500112	A	Black	B, C, D
14	2.8	F	45.8 x 30.8 x 37.8	13582973	A	Black	B, C, D
14	2.8	M	46.2 x 29.2 x 50.7	13581869	A	Black	B, C, D

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

## DIMENSION MEASUREMENT SAMPLE

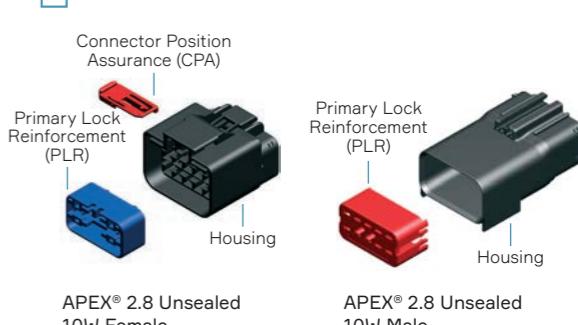


APEX® 2.8 Unsealed 10W Female pre-assembly

APEX® 2.8 Unsealed 10W Female assembly

APEX® 2.8 Unsealed 10W Male assembly

## EXPLODED VIEW



APEX® 2.8 Unsealed 10W Female

APEX® 2.8 Unsealed 10W Male

## COMPATIBLE WITH



APEX® 2.8 Series Terminals

Part numbers, specifications, dimensions and performance data in this document are for general references only and are subject to change without notice. To verify product information, please contact an Aptiv representative.

# APEX® MIXED SERIES



APEX® Mixed 14W Female & Male

## BENEFITS

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

## FEATURES

- APEX 150 and APEX 2.8 terminals for power and signal delivery
- Compliant with USCAR design guidelines and performance standards
- Primary Lock Reinforcement (PLR)
- Shorting Bar version available for safety circuit protection (where electro-static discharge must be prevented)

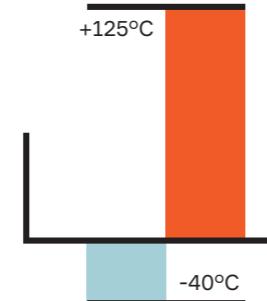
## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	14
Cavity Configurations (mm)	1.5, 2.8
Genders	Female, Male
Sealing Type	Mat Sealed
CPA	Optional

## APPLICATIONS

Sealed inline applications

## TEMPERATURE



## VIBRATION



## ENVIRONMENTAL PROTECTION

IP69K

Cavity count	Blade size (mm)	Gender	Dimensions W x H x D (mm)	Part number	Index	Color	Other indexes offered
14	1.5 (10) + 2.8 (4)	F	38.3 x 25.1 x 37.9	13878050	A	Black	B, C, D, E, F
14	1.5 (10) + 2.8 (4)	M	36.2 x 23.3 x 61.5	13694022	A	Black	B, C, D, E, F

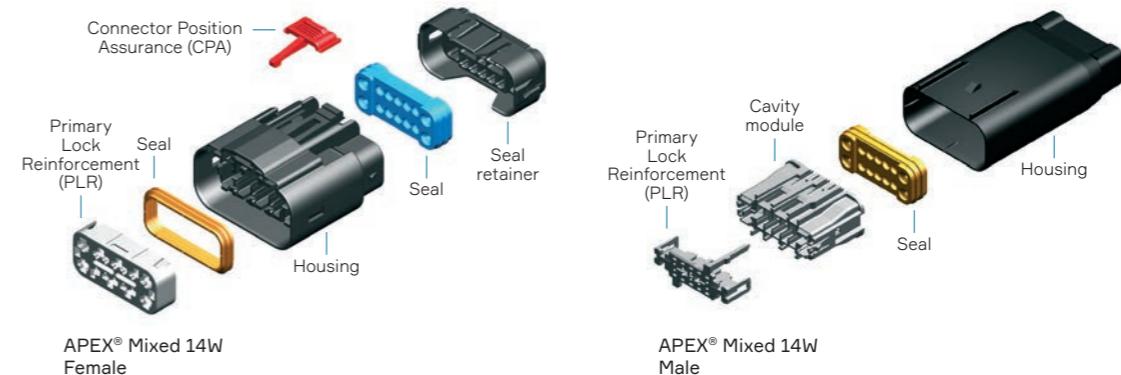
Please, contact an Aptiv representative for the full part number list.

## DIMENSION MEASUREMENT SAMPLE



APEX® Mixed 14W Female  
APEX® Mixed 14W Male

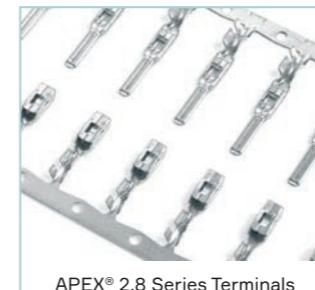
## EXPLODED VIEW



## COMPATIBLE WITH



APEX® 150 Series Terminals



APEX® 2.8 Series Terminals

# APEX® ErgoMate™ SERIES



APEX® ErgoMate™ 24W Female & Male

## BENEFITS

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

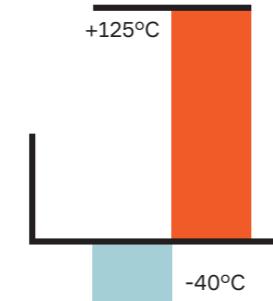
## FEATURES

- High reliability one-handed mating
- Simplified engagement system reduces the possibility of mis-mating the connection system
- Unique geared cam and slider system is fully self-contained, provides a 3:1 mechanical advantage
- A lower-profile ergonomically friendly alternative to traditional lever assist
- Low connector mating force at ~55N
- Primary Lock Reinforcement (PLR)

## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	24
Cavity Configurations (mm)	1.5, 2.8
Genders	Female, Male
Sealing Type	Mat Sealed

## TEMPERATURE



## VIBRATION



## APPLICATIONS

Sealed inline applications

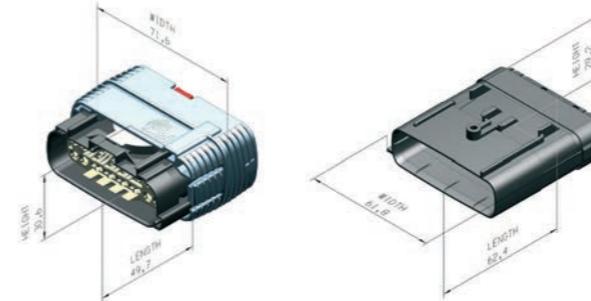
## ENVIRONMENTAL PROTECTION



Cavity count	Blade size (mm)	Gender	Dimensions W x H x D (mm)	Part number	Index	Color	Other indexes offered
24	1.5 (16) + 2.8 (8)	F	71.6 x 30.7 x 49.7	13795018	A	Black	B, C, D, E, F
24	1.5 (16) + 2.8 (8)	M	60.7 x 29.4 x 62.4	13672210	A	Black	B, C, D, E, F

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

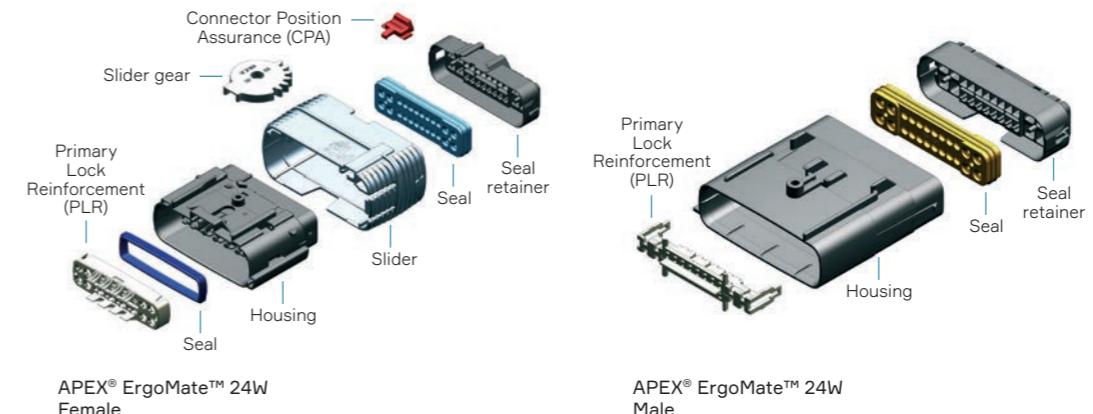
## DIMENSION MEASUREMENT SAMPLE



APEX® ErgoMate™ 24W Female

APEX® ErgoMate™ 24W Male

## EXPLODED VIEW



APEX® ErgoMate™ 24W Female

APEX® ErgoMate™ 24W Male

## COMPATIBLE WITH



APEX® 150 Series Terminals



APEX® 2.8 Series Terminals

# APEX® HALOGEN BULB SERIES



APEX® Halogen Bulb  
2W Female HB3/HIR2

## BENEFITS

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

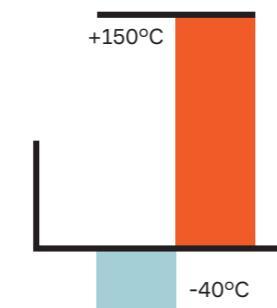
## FEATURES

- Meets USCAR-12 & USCAR-25 design & ergonomic guidelines:
  - Ergonomic large thumb latch provides ease of de-latching with a gloved hand
  - Optional axial mate CPA feature reduces mis-mating frequency
  - Axial PLR device secures locking of female terminal in connector housing
- Footprint defined by ISO IEC60061-1
- Primary Lock Reinforcement (PLR)

## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	2
Cavity Configurations (mm)	2.8
Genders	Female
Sealing Type	Cable Sealed

## TEMPERATURE



## VIBRATION



## APPLICATIONS

Halogen bulb

## ENVIRONMENTAL PROTECTION



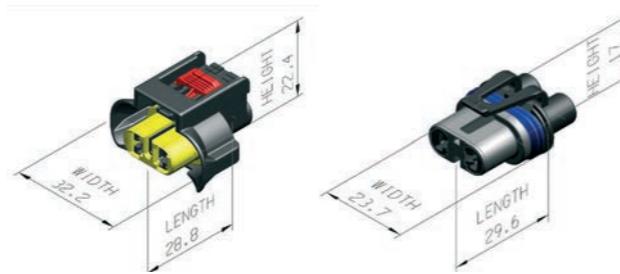
Bulb type	Blade size (mm)	Gender	Dimensions W x H x D (mm)	Part number	Index	Color	Other indexes offered
H8, H11, H16	2.8	F	32.3 x 22.5 x 31.9	13930730	A	Black	B
H9	2.8	F	32.3 x 22.5 x 31.9	33517462	A	Black	B
HIR2, HB4, HB4A	2.8	F	29.7 x 17.0 x 33.0	33503725	A	Black	B
HIR1, H12, H10, HB3	2.8	F	29.7 x 17.0 x 33.0	33503726	A	Black	B

## COMPATIBLE SEALS

Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.35 - 1.0	Pink	Yes	35296484
Cable Seal	1.0 - 2.0	Black	Yes	15518641
Cable Seal	2.5 - 4.0	Brown	Yes	15458498
Cavity Plug	N/A	Blue	Yes	35478080
Cavity Plug	N/A	White	No	15305170

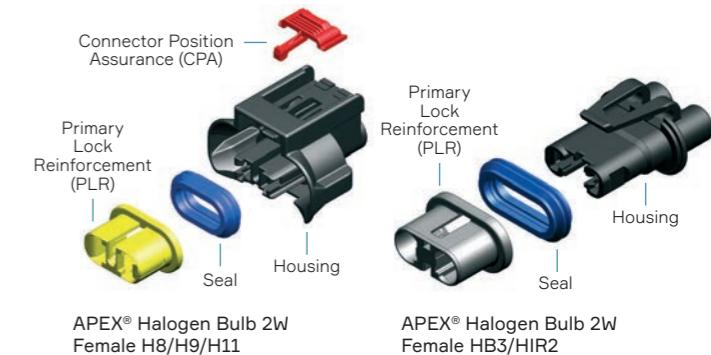
Please, contact an Aptiv representative for the full part number list.

## DIMENSION MEASUREMENT SAMPLE



APEX® Halogen Bulb 2W Female H8/H9/H11      APEX® Halogen Bulb 2W Female HB3/HIR2

## EXPLODED VIEW



APEX® Halogen Bulb 2W Female H8/H9/H11

APEX® Halogen Bulb 2W Female HB3/HIR2

## COMPATIBLE WITH



APEX® 2.8 Series Terminals

Part numbers, specifications, dimensions and performance data in this document are for general references only and are subject to change without notice. To verify product information, please contact an Aptiv representative.



## CMC CONNECTORS AND HEADERS

# CMC CONNECTORS

## 32, 48, 64, 86 Way



CMC 48W Connector

### BENEFITS

- TPA\* front holder latch for lock & unlock
- Smooth guided terminal insertion
- Clean body terminals do not damage mat/block seal
- High retention force
- Standard interface interchangeable with multiple suppliers

### FEATURES

- Polarized terminals
- Mat seal is pre-closed on the 0.64 mm terminal cavities
- Easy cable assembly
- First mate last break lay-out for safe connection

\*Terminal position assurance

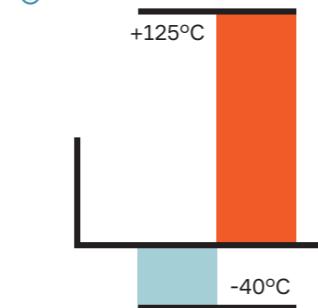
### TECHNICAL CHARACTERISTICS

Cavity Count (ways)	32, 48, 64, 86
Materials	PBT
Genders	Female

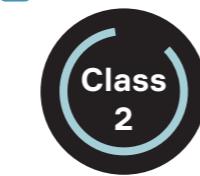
### APPLICATIONS

Engine management
Gas converter
Body control

### TEMPERATURE



### VIBRATION



### SEALING PROTECTION

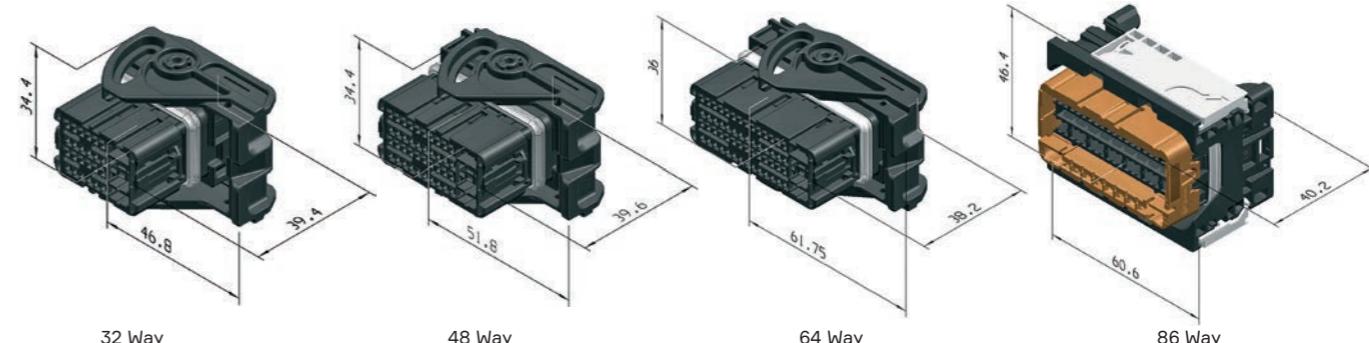
IP68  
IPX9K

### MATING/UNMATING CYCLES

20  
(with tin plated terminals)

Part number	Cavity Count (ways)	Color coding	Mating cover part number		
13851306	32	Black	13851307		
13956255	48	Black	13956254	0°	33517228
13648596	64	Black	13648597		
33156001	86	Grey	33121915		

### DIMENSION MEASUREMENT SAMPLE



### COMPATIBLE WITH



# CMC HEADERS

## 32, 48, 64 Way



CMC 32W Pin Header

### BENEFITS

- Compact and small form factor
- Sealable pin header by cover and gasket
- Tin-plated pins, silver-plated upon demand
- Through hole solder type

### FEATURES

- Standard interface interchangeable with multiple female housing suppliers
- Easy solder process to a PCB\*
- Small occupancy on the PCB\*

\* Printed circuit board

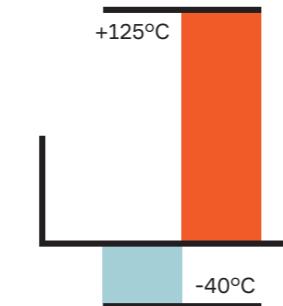
### TECHNICAL CHARACTERISTICS

Orientation	90°
Materials	PA4.6 GF30%, CuZn30
Genders	Male

### APPLICATIONS

Engine management
Gas converter
Body control

### TEMPERATURE



### VIBRATION



### SEALING PROTECTION

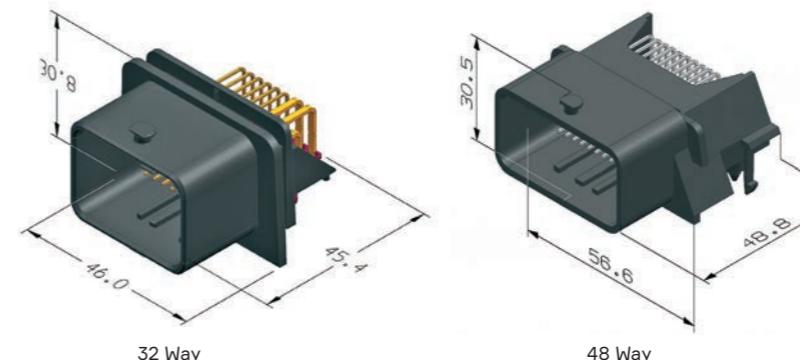
IP68  
IPX9K

### CONNECTOR MATING FORCE

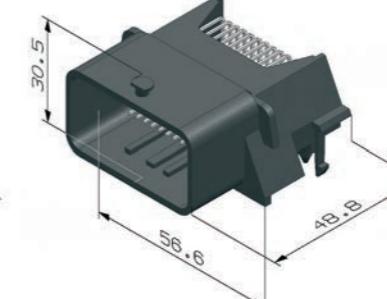
< 60 N

Part number	Cavity count (ways)	Color coding
33503152		Blue
33503150		Black
33503149	32	Grey
33503151		Brown
33503457	48	Black
35110623		Grey
33504510	64	Black

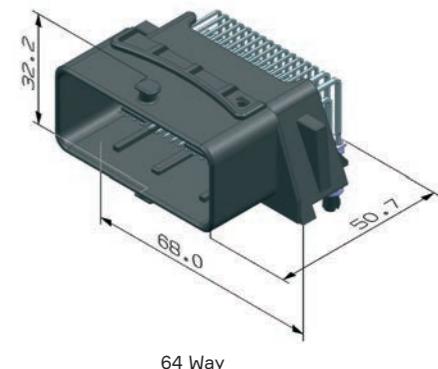
### DIMENSION MEASUREMENT SAMPLE



32 Way



48 Way



64 Way

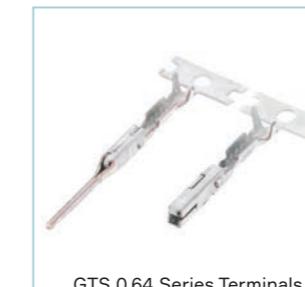
### COMPATIBLE WITH



CMC Covers



CMC Housings



GTS 0.64 Series Terminals



GTS 1.5 Series Terminals

# CMC PIN HEADER

112 Way



CMC 112W Pin Header

## BENEFITS

- Compact and small form factor
- Sealable pin header by cover and gasket
- Tin-plated pins, silver-plated upon demand
- Through hole solder type

## FEATURES

- Standard interface interchangeable with multiple female housing suppliers
- Easy solder process to a PCB\*
- Small occupancy on the PCB\*

\* Printed circuit board

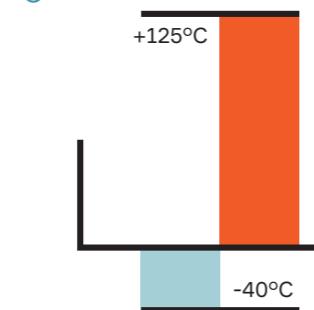
## TECHNICAL CHARACTERISTICS

Orientation	90°
Materials	PA4.6 GF30%, CuZn30
Genders	Male

## APPLICATIONS

Engine management
Gas converter
Body control

## TEMPERATURE



## VIBRATION



IP68  
IPX9K

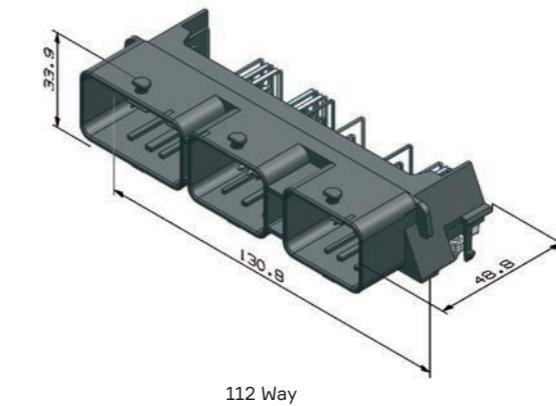
## SEALING PROTECTION

## CONNECTOR MATING FORCE

< 60 N

Part number	Cavity count (ways)	Color coding
33504045	112 (48+32+32)	Black + Grey + Brown

## DIMENSION MEASUREMENT SAMPLE



## COMPATIBLE WITH



CMC Covers



CMC Housings



GTS 0.64 Series Terminals



GTS 1.5 Series Terminals



## CTS TERMINALS AND CONNECTORS

# CTS CONNECTORS SELECTOR GUIDE

Compact Terminal System - The CTS Terminal Automotive Connectors offer a robust terminal design, improved ergonomics for protected and easier mating, and withstand high vibration up to V4. CTS Terminal series are widely used in engine sensors and harsh environment applications. These terminals provide the perfect combination of electrical and mechanical performance for nearly any automotive application.



	<b>NanoPack™ CTS Unsealed USCAR</b>				
<b>Product Series</b>	<b>NanoPack™ CTS Unsealed USCAR</b>	<b>NanoPack™ CTS Unsealed AK</b>	<b>NanoPack™ CTS Sealed AK</b>	<b>CTS 1.2 SensoMate™</b>	<b>CTS 2.8 Sealed</b>
<b>Application</b>	Interior, Multimedia, HVAC	Cockpit, Dashboard, Ambiant lightning, Ethernet	Radars, Cameras, Tire pressure sensors exposed to humidity and liquid splashes	Chassis, Engine compartment, On-Engine-Mount, Severe Gearbox applications, Sensors/Actuators	Sealed inline and device applications
<b>Blade Size</b>	0.5	0.5	0.5	1.2	2.8
<b># of Cavities</b>	4, 8, 12, 16*, 20	2, 3, 4, 5, 6*, 7, 8*, 9*, 10, 11, 12*, 14, 16*, 18*, 20, 22	8, 12	2, 3, 4, 5, 6	2, 3, 4
<b>Gender</b>	F	F	F	F, M (2 to 4 way)	F
<b>Temperature Class</b>	T1	T2	T2	T4 up to 175°C	T3
<b>IP Rating</b>	NA	NA	IPX9K IP67	IPX9K IP68	IP69K
<b>CPA</b>	Yes	Optional	Optional	Yes	Yes
<b>See Pages</b>	76-77	78-79	80-81	82-83	84-85

\* available upon request

This document is non-contractual and is for information purpose only

# CTS 0.5 LOCKING LANCE TERMINALS



CTS 0.5 Locking Lance  
Female & Male Terminals

## BENEFITS

- Compatible with industry standard cavities
- Robust terminal design with several design features providing a perfect electrical function
- 100% vision controlled manufacturing

## FEATURES

- Protected mating area
- One robust primary locking lance
- High performance copper alloy

Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings
Block Seal	F	Sn	26	0.08 - 0.14	33124946	Ag
Block Seal	F	Sn	24 - 22	0.17 - 0.35	33124945	Ag
Unsealed	M	Sn	26	0.08 - 0.14	35195964	Ag
Unsealed	M	Sn	24 - 22	0.17 - 0.35	35195966	Ag

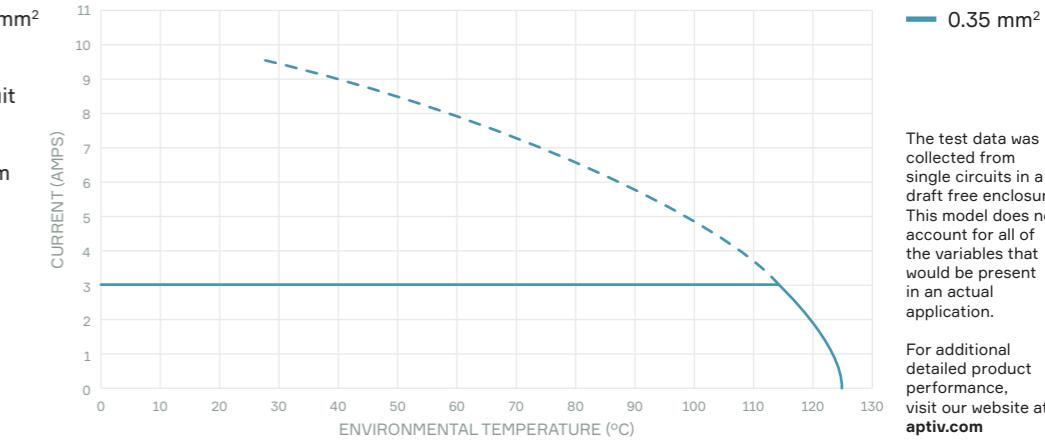
## DERATING CURVES

Cable range: 0.08 - 0.35 mm<sup>2</sup>  
Crimp method: Standard  
Contact plating: Sn  
Test method: Single circuit in free air\*  
Mated to: Pin 0.5 x 0.4 mm

\* For reference only

Terminal without housing

acc. to DIN EN 60512-5-2



The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

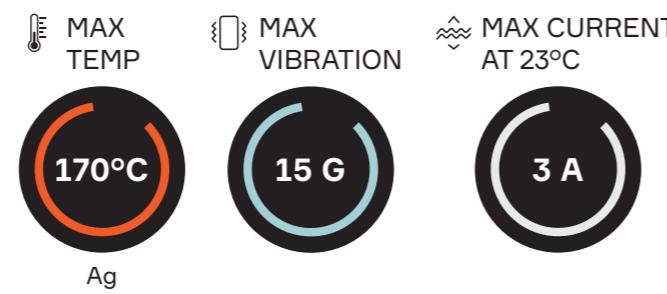
For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

## AVAILABLE CONFIGURATIONS

Terminal Construction	One-piece Female Two-piece Male
Locking Mechanism	Tanged / Lanced
Crimp Validated to	LV214 / USCAR-21
Blade Size (mm)	0.5
Wire Gage Range (AWG)	26 - 22
Wire Gage Range (mm <sup>2</sup> )	0.08 - 0.35
Genders	Female, Male
Sealing Options	Block Seal, Unsealed
Plating Options	Sn, Ag
Mating Tab Dimension (mm)	0.4 x 0.5

## TECHNICAL CHARACTERISTICS

Contact Resistance	7 mΩ
Contact Mating Force	2.0 N
Contact Unmating Force	2.0 N
Mating Cycles	20 (Sn) / 50 (Ag)
Cavity Pullout Force	> 30 N
Center Line Spacing	1.2 x 1.8 mm



## COMPATIBLE WITH



# CTS 0.5 FEMALE CLEAN BODY TERMINALS



## BENEFITS

- Compatible with industry standard cavities
- Robust terminal design with several design features providing a perfect electrical function
- 100% vision controlled manufacturing

## FEATURES

- Protected mating area
- Robust one side cavity flex lock feature
- High performance copper alloy

## AVAILABLE CONFIGURATIONS

Terminal Construction	One-piece
Locking Mechanism	Tangless / Clean Body
Crimp Validated to	VW60330, VW75174
Blade Size	0.5
Wire Gage Range (AWG)	26 - 22
Wire Gage Range (mm <sup>2</sup> )	0.08 - 0.35
Genders	Female
Sealing Options	Mat Seal
Plating Options	Ag, Sn
Mating Tab Dimension	0.5 x 0.4

## TECHNICAL CHARACTERISTICS

Contact Resistance	10 mΩ
Contact Mating Force	4.5 N
Contact Unmating Force	4.5 N
Mating Cycles	20 (Sn) / 50 (Ag)
Cavity Pullout Force	55 N
Center Line Spacing	1.8 x 1.5 mm

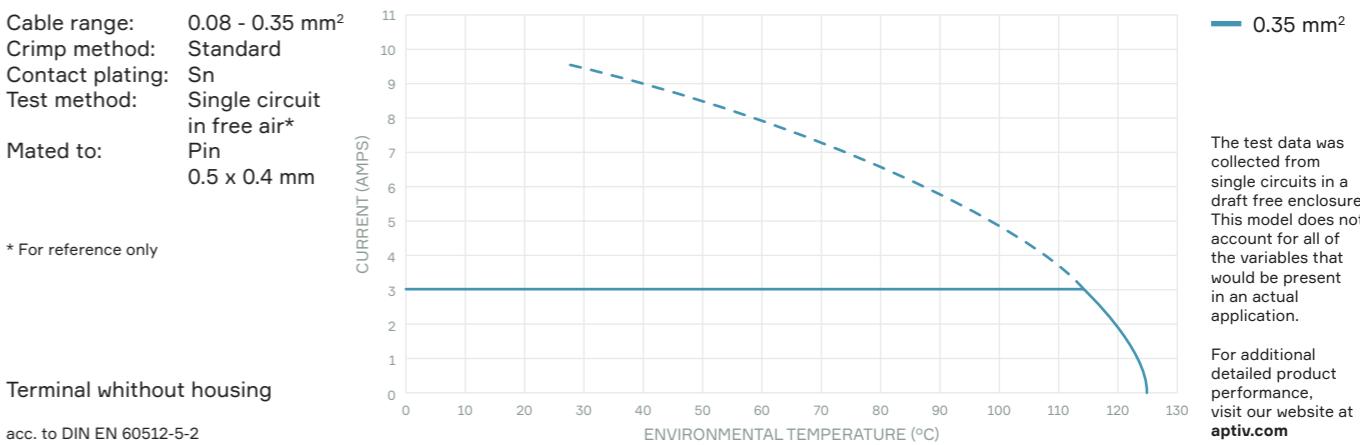


\*with 0.13 mm<sup>2</sup>

\*\*with 0.35 mm<sup>2</sup>

Sealing	Gender	Plating	Wire Size Range (AWG)	Wire Size Range (mm <sup>2</sup> )	Part Number
Block Seal	F	Sn	26	0.08 - 0.14	33367567
Block Seal	F	Ag	24 - 22	0.17 - 0.35	33367568
Block Seal	F	Sn	26	0.08 - 0.14	33389499
Block Seal	F	Ag	24 - 22	0.17 - 0.35	33389500

## DERATING AND TEMP RISE CURVE



The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

## COMPATIBLE WITH (COMPATIBLE FAMILIES)



NanoPack™ CTS USCAR Unsealed



NanoPack™ CTS AK Unsealed



NanoPack™ CTS AK Sealed

# CTS 1.2 FEMALE LOCKING LANCE TERMINALS



CTS 1.2 Locking Lance  
Female Terminals

## BENEFITS

- Compatible with industry standard cavities
- Robust terminal design with several design features providing a perfect electrical function for two different tab thicknesses in one part
- 100% vision controlled manufacturing

## FEATURES

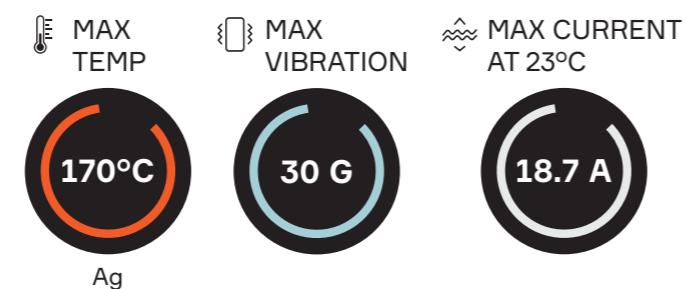
- Protected mating area
- One robust primary locking lance
- High performance copper alloy
- Shape inside four electrical contact points
- Ultrasonic welding ability according to AK 43-2

## AVAILABLE CONFIGURATIONS

Terminal Construction	Two-piece
Locking Mechanism	Tanged / Lanced
Crimp Validated to	VW60330, VW75174-2
Blade Size (mm)	1.2
Wire Gage Range (AWG)	24 - 16
Wire Gage Range (mm <sup>2</sup> )	0.13 - 1.5
Genders	Female
Sealing Options	Unsealed, Cable Sealed
Plating Options	Sn, Ag
Mating Tab Dimension (mm)	1.2 x 0.6 (up to 0.64)

## TECHNICAL CHARACTERISTICS

Contact Resistance	2.5 mΩ
Contact Mating Force	4.2 N
Contact Unmating Force	4.2 N
Mating Cycles	20 (Sn) / 30 (Ag)
Center Line Spacing	Unsealed: 2.5 x 2.5 mm Sealed: 4.5 x 4.5 mm



Sealing	Gender	Plating	Wire size range(AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings
Unsealed	F	Sn	24	0.13	13948572	Ag, Au
Unsealed	F	Sn	22	0.20 - 0.35	13959129	Ag, Au
Unsealed	F	Sn	20	0.50 - 0.75	13959126	Ag, Au
Unsealed	F	Sn	18 - 16	1.0 - 1.5	13959123	Ag, Au
Cable Sealed	F	Sn	24	0.13	13959117	Ag, Au
Cable Sealed	F	Sn	22	0.20 - 0.35	13959120	Ag, Au
Cable Sealed	F	Sn	20	0.50 - 0.75	13959141	Ag, Au
Cable Sealed	F	Sn	18 - 16	1.0	13948568	Ag, Au

## COMPATIBLE SEALS

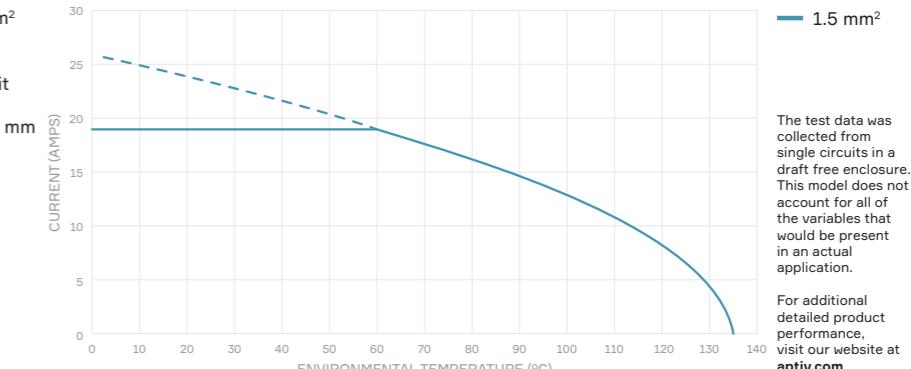
Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.13 - 0.35	Yellow	Yes	13887349
Cable Seal	0.5 - 1.0	Green	Yes	13887350
Cable Seal	0.13 - 0.35	Black	No	33120594
Cable Seal	0.35 - 0.5	Red	No	15327913
Cable Seal	0.5 - 1.0	Gray	No	15327918
Cable Seal	1.0 - 1.25	Yellow	No	15339412

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

## DERATING CURVES

Cable range: 0.13 - 1.5 mm<sup>2</sup>  
Crimp method: Standard  
Contact plating: Sn  
Test method: Single circuit in free air\*  
Mated to: Pin 1.2 x 0.6 mm

\* For reference only



The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

## COMPATIBLE WITH



Part numbers, specifications, dimensions and performance data in this document are for general references only and are subject to change without notice. To verify product information, please contact an Aptiv representative.

# CTS 1.2 MALE LOCKING LANCE TERMINALS



## BENEFITS

- Compatible with industry standard cavities
- Robust terminal design with several design features providing a perfect electrical function for two different tab thicknesses in one part
- 100% vision controlled manufacturing

## FEATURES

- One robust primary locking lance
- High performance copper alloy
- Ultrasonic welding ability according to AK 43-2



## AVAILABLE CONFIGURATIONS

Terminal Construction	Two-piece
Locking Mechanism	Tanged / Lanced
Crimp Validated to	VW60330, VW75174-2
Blade Size	1.2
Wire Gage Range (AWG)	24 - 16
Wire Gage Range (mm <sup>2</sup> )	0.13 - 1.5
Genders	Male
Sealing Options	Unsealed, Cable Sealed
Plating Options	Sn, Ag, Au
Mating Tab Dimension	1.2 x 0.6



## TECHNICAL CHARACTERISTICS

Contact Resistance	≤ 5mΩ
Contact Mating Force	4.2 N
Mating Cycles	20 (Sn) / 30 (Ag)
Cavity Pullout Force	min. 55 N
Center Line Spacing	2.5 - 4.5mm



MAX TEMP  
170°C  
Ag



MAX VIBRATION  
30 G



MAX CURRENT  
AT 80°C  
18 A

Blade Size (mm)	Sealing	Gender	Plating	Wire Size Range (AWG)	Wire Size Range (mm <sup>2</sup> ) <sup>2</sup>	Part Number	Other Available Platings
1.2	Unsealed	M	Sn	24	0.13	35350104	Ag, Au
1.2	Unsealed	M	Sn	22	0.22 - 0.35	35350105	Ag, Au
1.2	Unsealed	M	Sn	20	0.50 - 0.75	35350106	Ag, Au
1.2	Unsealed	M	Sn	18	1	35505514	Ag, Au
1.2	Unsealed	M	Sn	16	1.5	35350107	Ag, Au
1.2	Cable Sealed	M	Sn	24	0.13	35350198	Ag, Au
1.2	Cable Sealed	M	Sn	22	0.22 - 0.35	35350202	Ag, Au
1.2	Cable Sealed	M	Sn	20	0.50 - 0.75	35350200	Ag, Au
1.2	Cable Sealed	M	Sn	18	1	35350201	Ag, Au



## COMPATIBLE SEALS

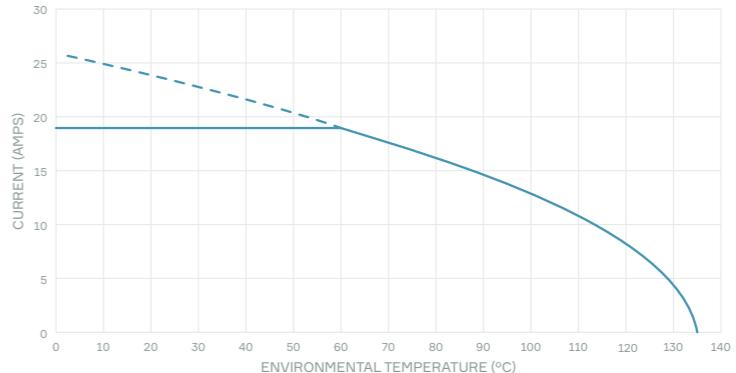
Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.13 - 0.35	Yellow	Yes	13887349
Cable Seal	0.5 - 1.0	Green	Yes	13887350
Cable Seal	0.13 - 0.35	Black	No	33120594
Cable Seal	0.35 - 0.5	Red	No	15327913
Cable Seal	0.5 - 1.0	Gray	No	15327918
Cable Seal	1.0 - 1.25	Yellow	No	15339412



## DERATING CURVES

Cable range: 0.13 - 1.5 mm<sup>2</sup>  
Crimp method: Standard  
Contact plating: Sn  
Test method: Single circuit in free air\*  
Mated to: Pin 1.2 x 0.6 mm

\* For reference only



The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.  
For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)



## HOUSING COMPATIBILITY (COMPATIBLE FAMILIES)



CTS 1.2 SensoMate

# CTS 1.5 LOCKING LANCE SEALED TERMINALS



CTS 1.5 Locking Lance Sealed Female & Male Terminals

## BENEFITS

- Compatible with industry standard cavities
- Robust terminal design with several design features providing perfect electrical function for two different tab thicknesses in one part
- 100% vision controlled manufacturing

## FEATURES

- Usable for tab thicknesses of 0.6 mm and 0.8 mm
- Protected mating area
- Two-tang primary lock
- Stainless steel spring
- High pre-loaded contact area



## AVAILABLE CONFIGURATIONS

Terminal Type	Box & Blade
Locking Mechanism	Tanged / Lanced
Crimp Validated to	LV 214
Blade Size (mm)	1.5
Wire Gage Range (AWG)	28 - 16
Wire Gage Range (mm <sup>2</sup> )	0.08 - 1.5
Genders	Female, Male (TTS)
Sealing Options	Cable Sealed
Plating Options	Sn, Ag, Au



## TECHNICAL CHARACTERISTICS

Contact Resistance	< 2 mΩ
Contact Mating Force	< 7.0 N
Contact Unmating Force	< 7.0 N
Mating Cycles	20 (Sn) / 50 (Ag) / 100 (Au)
Cavity Pullout Force	> 55 N (Primary lock) > 90 N (Secondary lock)
Center Line Spacing	4.0 x 4.0 mm / 3.5 x 4.0 mm with 2.0 mm displacing



Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings
Cable Sealed	F	Sn	24 - 22	0.22 - 0.35	15432208	Ag, Au
Cable Sealed	F	Sn	20 - 16	0.5 - 1.0	15432210	Ag, Au
Cable Sealed	F	Sn	16	1.0 - 1.5	15432212	Ag, Au
Cable Sealed	M	Sn	24 - 22	0.22 - 0.35	15482330	Ag, Au
Cable Sealed	M	Sn	20 - 16	0.5 - 1.0	15482331	Ag, Au
Cable Sealed	M	Sn	16	1.0 - 1.5	15482332	Ag, Au

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

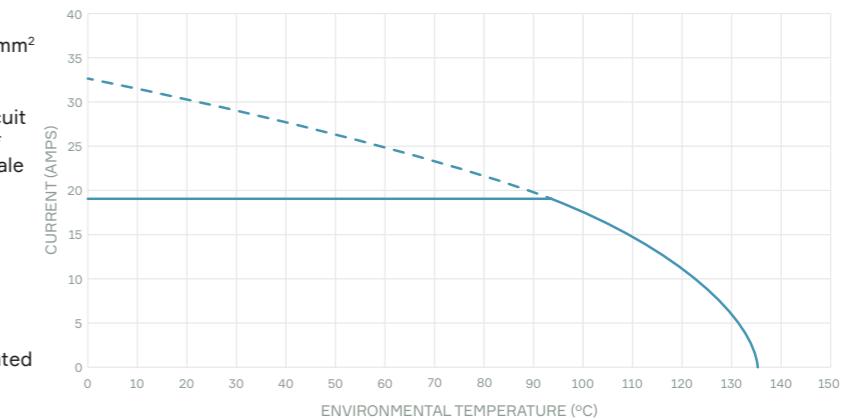
## COMPATIBLE SEALS

Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.13 - 0.35	Yellow	Yes	13887349
Cable Seal	0.5 - 1.0	Green	Yes	13887350
Cable Seal	1.0 - 1.5	Red	Yes	35297210
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

## DERATING CURVE

Aptiv taxi: 15432214  
Cable range: 0.08 - 1.5 mm<sup>2</sup>  
Crimp method: Standard  
Contact plating: Sn  
Test method: Single circuit in free air\*  
Mated to: CTS 1.5 male terminals

\* For reference only



The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

## COMPATIBLE WITH



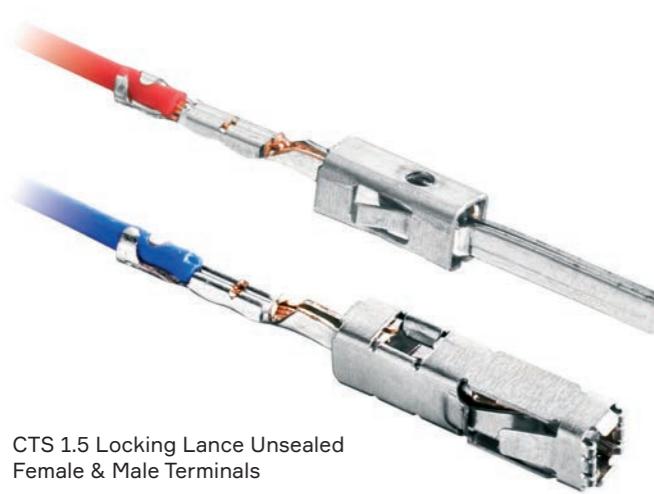
CTCS SP Series Housings



CTCS XP Series Housings

Part numbers, specifications, dimensions and performance data in this document are for general references only and are subject to change without notice. To verify product information, please contact an Aptiv representative.

# CTS 1.5 LOCKING LANCE UNSEALED TERMINALS



CTS 1.5 Locking Lance Unsealed Female & Male Terminals

## BENEFITS

- Compatible with industry standard cavities
- Robust terminal design with several design features providing perfect electrical function for two different tab thicknesses in one part
- 100% vision controlled manufacturing

## FEATURES

- Usable for tab thicknesses of 0.6 mm and 0.8 mm
- Protected mating area
- Two-tang primary lock
- Stainless steel spring
- High pre-loaded contact area



## AVAILABLE CONFIGURATIONS

Terminal Type	Box & Blade
Locking Mechanism	Tanged / Lanced
Crimp Validated to	LV 214
Blade Size (mm)	1.5
Wire Gage Range (AWG)	28 - 16
Wire Gage Range (mm <sup>2</sup> )	0.08 - 1.5
Genders	Female, Male (TTS)
Sealing Options	Unsealed
Plating Options	Sn, Au



## TECHNICAL CHARACTERISTICS

Contact Resistance	< 2 mΩ
Contact Mating Force	< 7.0 N
Contact Unmating Force	< 7.0 N
Mating Cycles	20 (Sn) / 50 (Ag) / 100 (Au)
Cavity Pullout Force	> 55N (Primary lock) > 90N (Secondary lock)
Center Line Spacing	4.0 x 4.0 mm / 3.5 x 4.0 mm with 2.0 mm displacing



MAX TEMP

150°C



MAX VIBRATION

30 G



MAX CURRENT AT 23°C

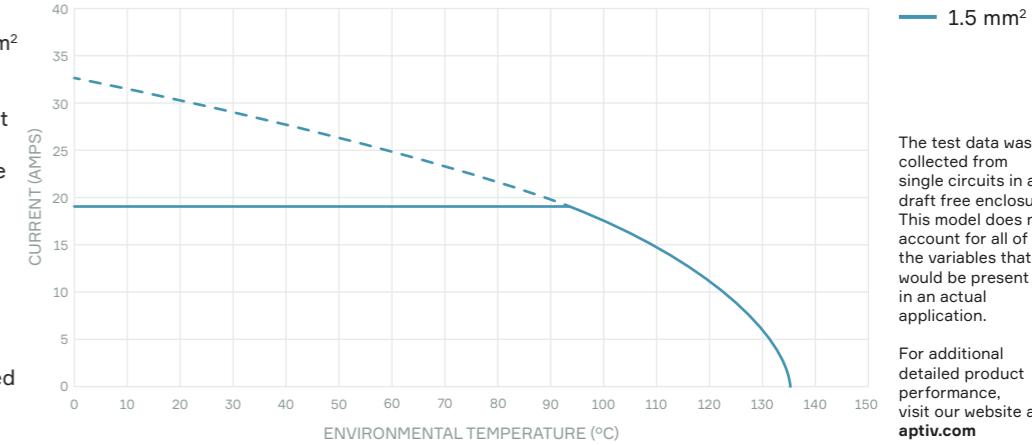
19 A  
with 1.5 mm<sup>2</sup>

Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings
Unsealed	F	Sn	28 - 26	0.08 - 0.18	13819159	Au
Unsealed	F	Sn	24 - 22	0.22 - 0.35	15432237	Au
Unsealed	F	Sn	20 - 16	0.5 - 1.0	15432235	Au
Unsealed	F	Sn	16	1.0 - 1.5	15432233	Au
Unsealed	M	Sn	28 - 26	0.08 - 0.18	13733481	Au
Unsealed	M	Sn	24 - 22	0.22 - 0.35	15396711	Au
Unsealed	M	Sn	20 - 16	0.5 - 1.0	15396712	Au
Unsealed	M	Sn	16	1.0 - 1.5	15482337	Au
Unsealed	M	Sn	(2)22 - (2)20	(2)0.35 - (2)0.50	15396713	Au

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

## DERATING CURVE

Aptiv taxi: 15432239  
 Cable range: 0.08 - 1.5 mm<sup>2</sup>  
 Crimp method: Standard  
 Contact plating: Sn  
 Test method: Single circuit in free air\*  
 Mated to: CTS 1.5 male terminals  
\* For reference only



The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

## COMPATIBLE WITH



CTCs Unsealed Series Housings

Part numbers, specifications, dimensions and performance data in this document are for general references only and are subject to change without notice. To verify product information, please contact an Aptiv representative.

# CTS 2.8 LOCKING LANCE TERMINALS



CTS 2.8 Locking Lance  
Female Terminals

## BENEFITS

- Compatible with industry standard cavities
- Robust terminal design with several design features providing a perfect electrical function for two different tab thicknesses in one part
- 100% vision controlled manufacturing

## FEATURES

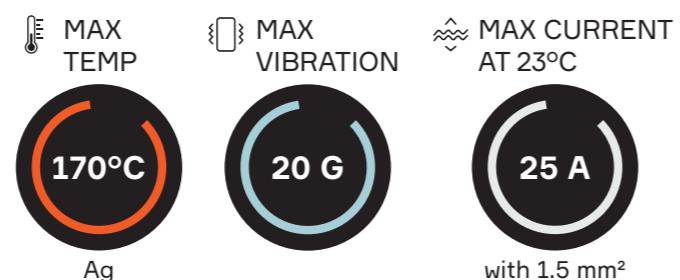
- Protected mating area
- Usable for tab thicknesses of 0.6 and 0.8 mm
- Two-tang primary lock
- Stainless steel spring
- High pre-loaded contact area

## AVAILABLE CONFIGURATIONS

Terminal Construction	Two-piece
Locking Mechanism	Tanged / Lanced
Crimp Validated to	USCAR 14 / LV214 (slow motion)
Blade Size (mm)	2.8
Wire Gage Range (AWG)	24 - 14
Wire Gage Range (mm <sup>2</sup> )	0.22 - 2.5
Genders	Female
Sealing Options	Unsealed, Cable Sealed
Plating Options	Sn, Ag
Mating Tab Dimension (mm)	2.8 x 0.8

## TECHNICAL CHARACTERISTICS

Contact Resistance	< 4 mΩ
Contact Mating Force	< 10 N
Contact Unmating Force	> 2 N
Mating Cycles	10 (Sn) / 25 (Ag)
Cavity Pullout Force	> 80 N
Center Line Spacing	Unsealed: 5 x 5.5 mm Sealed: 5 x 6 mm



Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings
Unsealed	F	Sn	24 - 22	0.22 - 0.35	15457847	Ag
Unsealed	F	Sn	20 - 18	0.5 - 1.0	15457848	Ag
Unsealed	F	Sn	16 - 14	1.5 - 2.5	15457849	Ag
Cable Sealed	F	Sn	24 - 22	0.22 - 0.35	15446673	Ag
Cable Sealed	F	Sn	20 - 18	0.5 - 1.0	15446674	Ag
Cable Sealed	F	Sn	16 - 14	1.5 - 2.5	15446675	Ag

## COMPATIBLE SEALS

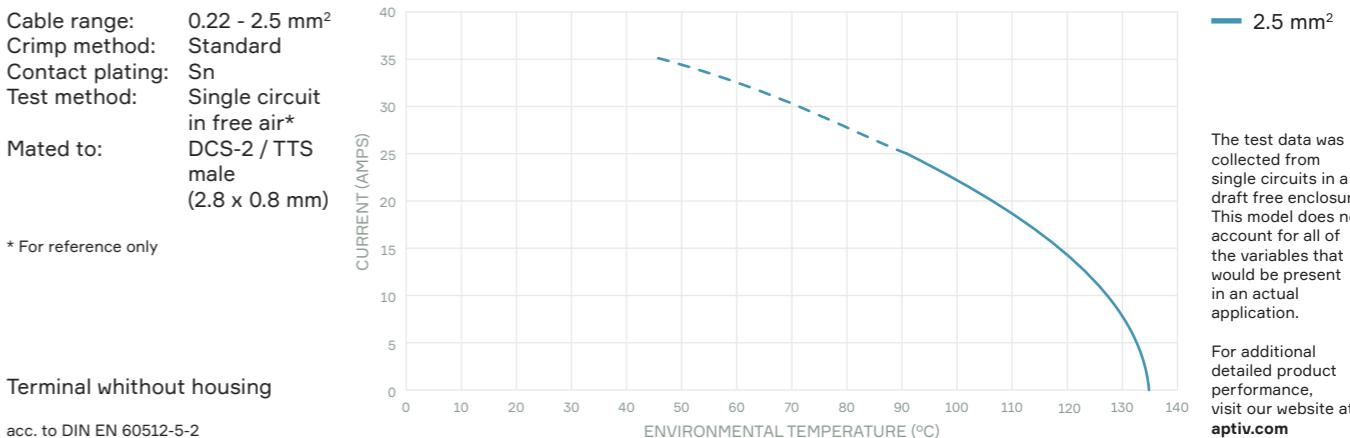
Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.35 - 1.0	Blue	Yes	15339967
Cable Seal	1.25 - 2.5	White	Yes	15339838
Cable Seal	0.35 - 0.75	Blue	No	15324974
Cable Seal	0.5 - 1.0	Red	No	15327786
Cable Seal	1.25 - 2.0	Red	No	15324973
Cable Seal	2.5	Yellow	No	10779161

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

## DERATING CURVES

Cable range: 0.22 - 2.5 mm<sup>2</sup>  
Crimp method: Standard  
Contact plating: Sn  
Test method: Single circuit in free air\*  
Mated to: DCS-2 / TTS male (2.8 x 0.8 mm)

\* For reference only



## COMPATIBLE WITH



Part numbers, specifications, dimensions and performance data in this document are for general references only and are subject to change without notice. To verify product information, please contact an Aptiv representative.

# CTS 6.3 FEMALE LOCKING LANCE TERMINALS



CTS 6.3 Locking Lance  
Female Terminals

## BENEFITS

- Compatible with industry standard cavities
- Robust terminal design with several design features providing a perfect electrical function for two different tab thicknesses in one part
- 100% vision controlled manufacturing

## FEATURES

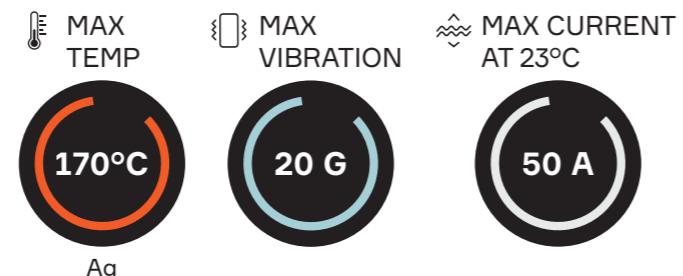
- Protected mating area
- Usable for tab thicknesses of 0.6 and 0.8 mm
- Two-tang primary lock
- Stainless steel spring
- High pre-loaded contact area

## AVAILABLE CONFIGURATIONS

Terminal Construction	Two-piece
Locking Mechanism	Tanged / Lanced
Crimp Validated to	USCAR-21 (2014)
Blade Size (mm)	5.8
Wire Gage Range (AWG)	22 - 9
Wire Gage Range (mm <sup>2</sup> )	0.35 - 6.0
Genders	Female
Sealing Options	Unsealed, Cable Sealed
Plating Options	Sn, Ag
Mating Tab Dimension (mm)	5.8 x 0.8

## TECHNICAL CHARACTERISTICS

Contact Resistance	< 4 mΩ
Contact Mating Force	< 20 N
Contact Unmating Force	> 4 N
Mating Cycles	10 (Sn) / 20 (Ag)
Center Line Spacing	Unsealed: 8.0 x 6.0 mm Sealed: 9.0 x 9.0 mm



Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings
Unsealed	F	Sn	22	0.35	13976098	Ag
Unsealed	F	Sn	20 - 17	0.5 - 1.0	13976099	Ag
Unsealed	F	Sn	16 - 14	1.5 - 2.5	13976100	Ag
Unsealed	F	Sn	14 - 12	2.5 - 4.0	13976101	Ag
Unsealed	F	Sn	12 - 8	4.0 - 6.0	13976102	Ag
Cable Sealed	F	Sn	22	0.35	13976114	Ag
Cable Sealed	F	Sn	20 - 17	0.5 - 1.0	13976115	Ag
Cable Sealed	F	Sn	16 - 14	1.5 - 2.5	13976116	Ag
Cable Sealed	F	Sn	14 - 12	2.5 - 4.0	13976117	Ag
Cable Sealed	F	Sn	12 - 8	4.0 - 6.0	13976118	Ag

## COMPATIBLE SEALS

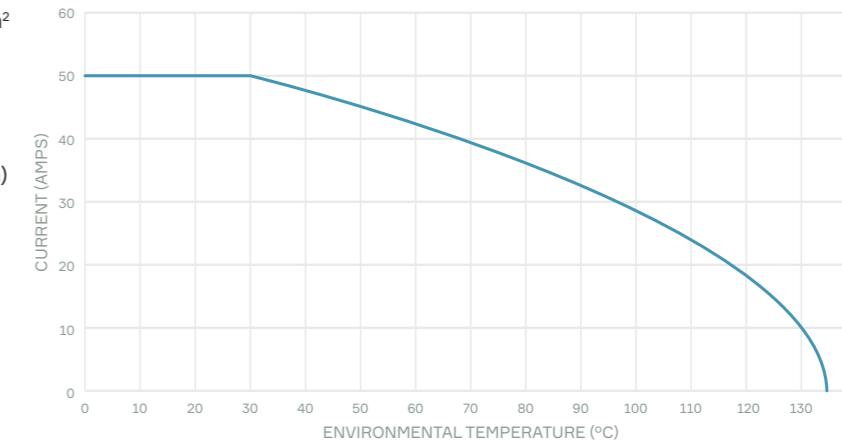
Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.35 - 1.0	Yellow	No	15363779
Cable Seal	1.25 - 2.0	White	No	15363604
Cable Seal	2.5 - 4.0	Red	No	15327864
Cable Seal	5.0 - 6.0	Green	No	15363605

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

## DERATING CURVES

Cable range: 0.35 - 6.0 mm<sup>2</sup>  
Crimp method: Standard  
Contact plating: Sn  
Test method: Single circuit in free air\*  
Mated to: Tab (5.8 x 0.8 mm) Sn

\* For reference only



The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

## COMPATIBLE WITH



Part numbers, specifications, dimensions and performance data in this document are for general references only and are subject to change without notice. To verify product information, please contact an Aptiv representative.

# CTS 9.5 FEMALE LOCKING LANCE TERMINALS



CTS 9.5 Locking Lance  
Female Terminal

## AVAILABLE CONFIGURATIONS

Terminal Construction	Two-piece
Locking Mechanism	Tanged, Lanced
Crimp Validated to	VW60330; VW75174-2
Blade Size (mm)	9.5
Wire Gage Range (AWG)	2 - 6
Wire Gage Range (mm <sup>2</sup> )	2.5 - 16
Genders	Female
Sealing Options	Unsealed, Cable Sealed
Plating Options	Sn, Ag
Mating Tab Dimension (mm)	9.5 x 1.2

## BENEFITS

- Mechanical locking of terminal box assures ultrasonic welding robustness
- Compatible with industry standard cavities
- Robust terminal design with several design features providing a perfect electrical function
- 100% vision controlled manufacturing

## FEATURES

- Two-tang primary lock
- Stainless steel spring
- High performance copper alloy
- Available in several cross sections & platings
- Ultrasonic welding ability according to AK 43-2

## TECHNICAL CHARACTERISTICS

Contact Resistance	< 1 mΩ
Contact Mating Force	< 25 N
Contact Unmating Force	> 25 N
Mating Cycles	20 (Sn) / 20 (Ag)
Cavity Pullout Force	200 N
Center Line Spacing	Unsealed: 12.5 x 12.5 mm Sealed: 13.0 x 13.0 mm



Sealing	Gender	Plating	Wire size range (mm <sup>2</sup> )	Part number	Other available platings
Unsealed	F	Sn	2.5 - 4.0	35256137	Ag
Unsealed	F	Sn	6.0 - 10.0	35256142	Ag
Unsealed	F	Sn	16.0	35256148	-
Cable Sealed	F	Sn	2.5 - 4.0	35256145	Ag
Cable Sealed	F	Sn	6.0 - 10.0	35256152	Ag

## COMPATIBLE SEALS

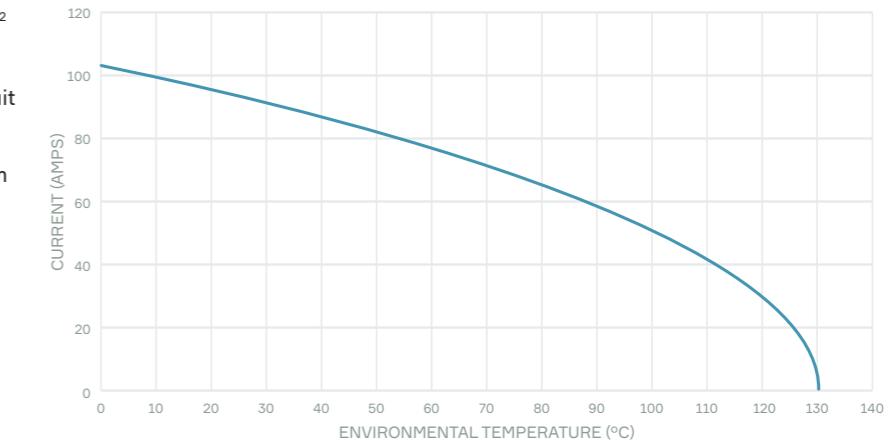
Type	Applicable wire size (mm <sup>2</sup> )	Color	Restraint ring	Part number
Cable Seal	2.5	Blue	No	13756673
Cable Seal	4.0 - 6.0	Green	No	13834764
Cable Seal	4.0 - 8.0	Black	No	13834763
Cable Seal	5.0 - 8.0	Black	No	15327788

## DERATING CURVES

Cable range: 2.5 - 16 mm<sup>2</sup>  
Crimp method: Standard  
Contact plating: Sn  
Test method: Single circuit in free air\*  
Mated to: Tab  
9.5 x 1.2 mm

\* For reference only

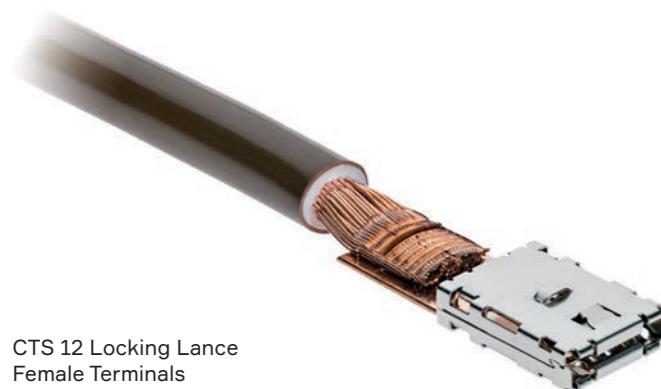
Terminal without housing  
acc. to DIN EN 60512-5-2



The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

# CTS 12 FEMALE LOCKING LANCE TERMINALS



CTS 12 Locking Lance  
Female Terminals

## BENEFITS

- Patented system provides best in class performance over the full temperature range
- 90/180° cable orientation thanks to welding pad solution
- Welding pad designed for cross sections of: 10 - 35 mm<sup>2</sup>
- Aluminum and copper wire versions available
- Improved contact point overlapping comparing to competition

## FEATURES

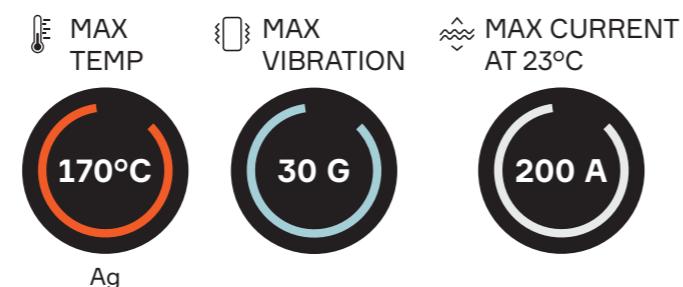
- Mechanical locking of terminal box assures ultrasonic welding robustness
- Improved pull-out force
- Protected against mis-engagement
- Best in class vibration and power capability

## AVAILABLE CONFIGURATIONS

Terminal Construction	Two-piece
Locking Mechanism	Tanged / Lanced
Blade Size (mm)	12
Wire Gage Range (AWG)	7 - 2
Wire Gage Range (mm <sup>2</sup> )	10 - 35
Genders	Female
Sealing Options	Unsealed, Sealed
Plating Options	Sn, Ag
Mating Tab Dimension (mm)	12 x 0.8

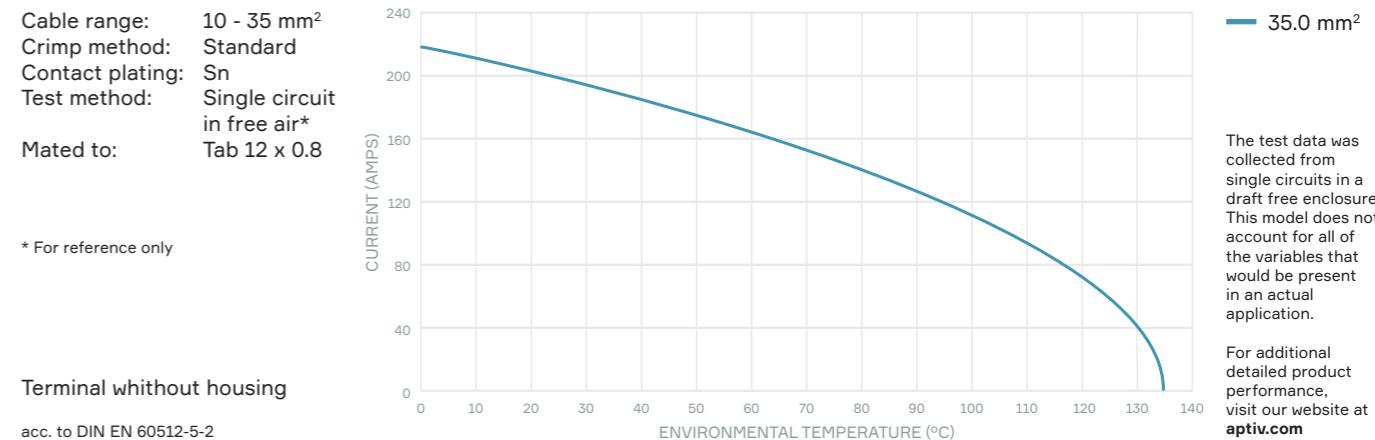
## TECHNICAL CHARACTERISTICS

Contact Resistance	< 5 mΩ
Contact Mating Force	< 17 N
Contact Unmating Force	> 4 N
Mating Cycles	20 (Sn) / 20 (Ag)



Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings	Other available configurations
Unsealed, Sealed	F	Sn	7 - 2	10 - 35	33312673	Ag	90° version

## DERATING CURVES



The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

# NanoPack™ CTS UNSEALED SERIES

USCAR



NanoPack™ CTS  
8W Female

## BENEFITS

- Heavy-duty performance
- Ergonomic design
- Robust contact geometry

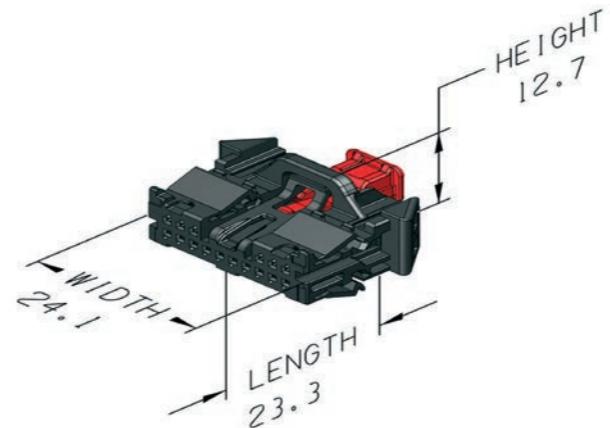
## FEATURES

- Compliant with USCAR design guidelines and performance standards
- Industry standard footprint
- Independent Secondary Lock (ISL) to detect partially installed terminals
- Best-in-class lock overstress protection

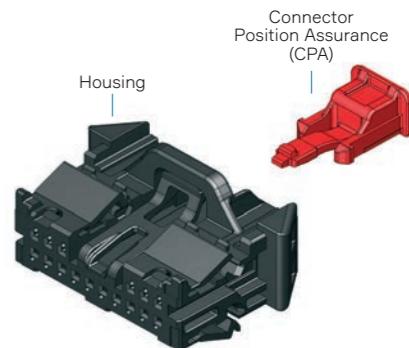
Cavity count	Blade size (mm)	Gender	Dimensions W x H x L (mm)	Part number	Index	Color	CPA	Other indexes offered	USCAR footprint
4	0.5	F	12.1 x 12.7 x 23.3	35068218	A	Black	Yes	B, C, D	050-U-004-1-Z02
8	0.5	F	20.1 x 12.7 x 23.3	35068228	A	Black	Yes	B, C, D	050-U-008-1-Z02
12	0.5	F	20.1 x 12.7 x 23.3	35068239	A	Black	Yes	B, C, D	050-U-012-2-Z02
16*	0.5	F	24.1 x 12.7 x 23.3	33365975	A	Black	Yes	B, C, D	050-U-016-2-Z01
20	0.5	F	35.1 x 12.7 x 23.3	35068196	A	Black	Yes	B, C, D	050-U-020-2-Z01

\* available upon request

## DIMENSION MEASUREMENT SAMPLE



## EXPLODED VIEW

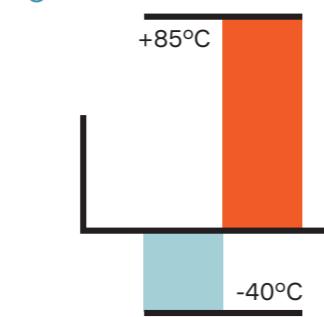


## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	4, 8, 12, 16*, 20
Cavity Configurations (mm)	0.5
Genders	Female
Sealing Type	Unsealed
Centerline Spacing (mm)	2.0

\* available upon request

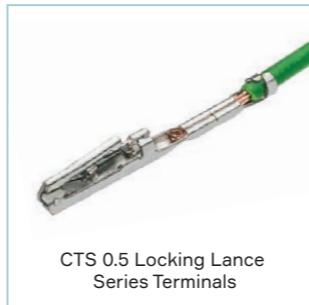
## TEMPERATURE



## VIBRATION



## COMPATIBLE WITH



## APPLICATIONS

Interior, Multimedia, HVAC

## SEALING CLASS



Part numbers, specifications, dimensions and performance data in this document are for general references only and are subject to change without notice. To verify product information, please contact an Aptiv representative.

# NanoPack™ CTS UNSEALED SERIES AK



## BENEFITS

- Miniaturized packages for low pin count interfaces
- Industry standard solution
- Designed for automated harness assembly

## FEATURES

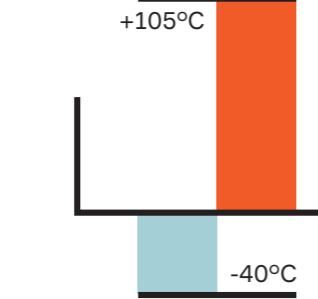
- According to VDA/AK interface standard S1034801 (1 row) & S1051201 (2 row)
- Centerlines miniaturized interfaces
- CPA (Connector Position Assurance) version is possible for 2 row configurations, like the 20 way which has the outer dimensions of a 22 way without CPA

## AVAILABLE CONFIGURATIONS

Cavity Count (ways) 1 row	2, 3, 4, 5, 6*, 7, 8*, 9*, 10, 11
Cavity Count (ways) 2 rows	4*, 6, 8, 10, 12*, 14, 16*, 18*, 20, 22
Cavity Configurations (mm)	0.5
Cable range (mm <sup>2</sup> )	0.08 - 0.35
Genders	Female
Sealing Type	Unsealed
Centerline Spacing (mm)	1.8 (1 row); 1.8 x 1.5 (2 row)

\* Available upon request.

## TEMPERATURE



## VIBRATION



## APPLICATIONS

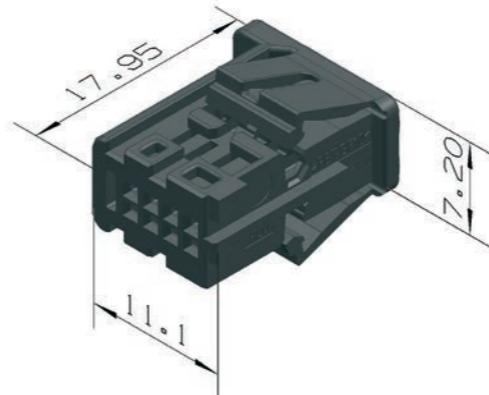
Cockpit, Dashboard, Ambiant lightning, Ethernet

Cavity count	Blade size (mm)	Gender	Dimensions W x H x L (mm)	Part number	Number of rows	Index	Color	Other indexes offered
2	0.5	F	4.2 x 7.7 x 17.9	33257462	1	A	Black	B, C, D, Z
3	0.5	F	4.2 x 9.5 x 17.9	33257463	1	A	Black	B, C, D, Z
4	0.5	F	4.2 x 13.1 x 17.9	33257466	1	A	Black	B, C, D, Z
5	0.5	F	4.2 x 14.9 x 17.9	33266274	1	A	Black	B, C, D, Z
7	0.5	F	4.2 x 16.7 x 17.9	33257467	1	A	Black	B, C, D, Z
10	0.5	F	4.2 x 22.1 x 17.9	33257468	1	A	Black	B, C, D, Z
11	0.5	F	4.2 x 23.9 x 17.9	33257469	1	A	Black	B, C, D, Z
6	0.5	F	7.2 x 9.3 x 17.9	33322916	2	A	Black	B, C, D, Z
8	0.5	F	7.2 x 11.1 x 17.9	33322907	2	A	Black	B, C, D, Z
10	0.5	F	7.2 x 12.9 x 17.9	33322906	2	A	Black	B, C, D, Z
14	0.5	F	7.2 x 16.5 x 17.9	33322904	2	A	Black	B, C, D, Z
20	0.5	F	7.2 x 21.9 x 17.9	33322902	2	A	Black	B, C, D, Z
20*	0.5	F	7.2 x 21.6 x 26.8**	35192072	2	A	Black	B, C, D, Z
22	0.5	F	7.2 x 23.7 x 17.9	33329555	2	A	Black	B, C, D, Z

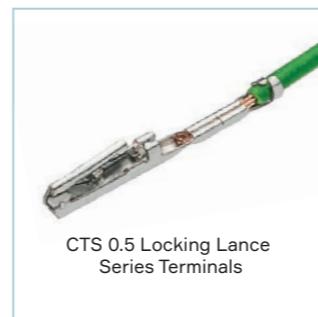
\* with CPA (Backshell PN : 35192068)

\*\* dimensions with open CPA

## DIMENSION MEASUREMENT SAMPLE



## COMPATIBLE WITH



# NanoPack™ CTS SEALED SERIES AK



NanoPack™ CTS 8W Female

## BENEFITS

- Connector Position Assurance (CPA) is optional for 8W version. Optimized space saving version without CPA, bottom or top locking latch possible
- Housings & terminals are designed as per VDA/AK guidelines

## FEATURES

- Designed for high temperatures and vibration profiles
- Aptiv is responsible for the sealed 0.5 footprint at VDA/AK
- Ergonomic handling and touching surface as per manual mating guideline (USCAR)

## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	8, 12*
Cavity Configurations (mm)	0.5
Cable range (mm <sup>2</sup> )	0.13 - 0.35
Genders	Female
TPA Type	Pre-assembled ASL**
CPA	Optional
Sealing Type	Multi wire mat seal
Centerline Spacing (mm)	1.8
Specification	VW75174-LV214; IEC68; DIN: IEC60512; EN60068

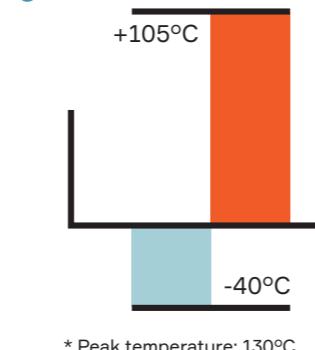
\* Other cavities available, please consult us

\*\* ASL – Active Secondary lock

## TECHNICAL CHARACTERISTICS

Mating force	75 N
Contact pull out force	≥ 25 N primary ≥ 35 N secondary
Contact insertion force	~ 2 N
Automated terminal insertion	Capable & compatible

## TEMPERATURE



## VIBRATION



## APPLICATIONS

Mid and short range radars, Cameras, Tire pressure sensors exposed to humidity and liquid splashes

## SEALING PROTECTION

IP67  
IPx9K\*

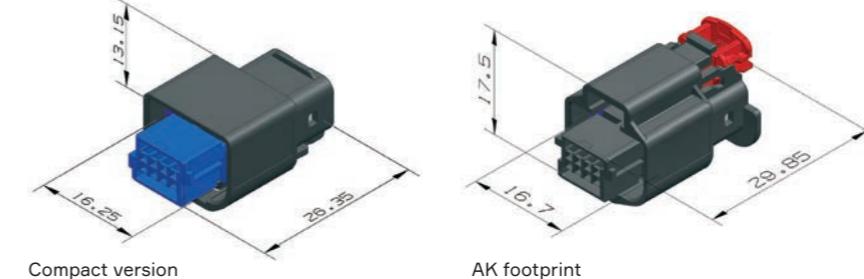
\* with back shell cover

Cavity count	Blade size (mm)	Gender	AK footprint	Dimensions W x H x L (mm)	Part number	Index	Color
8	0.5	F	Yes	16.7 x 17.5 x 29.85	35364118	A	Black
8	0.5	F	Yes	16.7 x 17.5 x 29.85	35371049	B	Black
8	0.5	F	Yes	16.7 x 17.5 x 29.85	35371050	C	Black
8	0.5	F	No	16.25 x 13.15 x 26.35	35355142	A	Black
8	0.5	F	No	16.25 x 13.15 x 26.35	35355143	B	Black
8	0.5	F	No	16.25 x 13.15 x 26.35	35355144	C	Black
12	0.5	F	Yes	20.3 x 17.5 x 29.85	35511141	A	Black

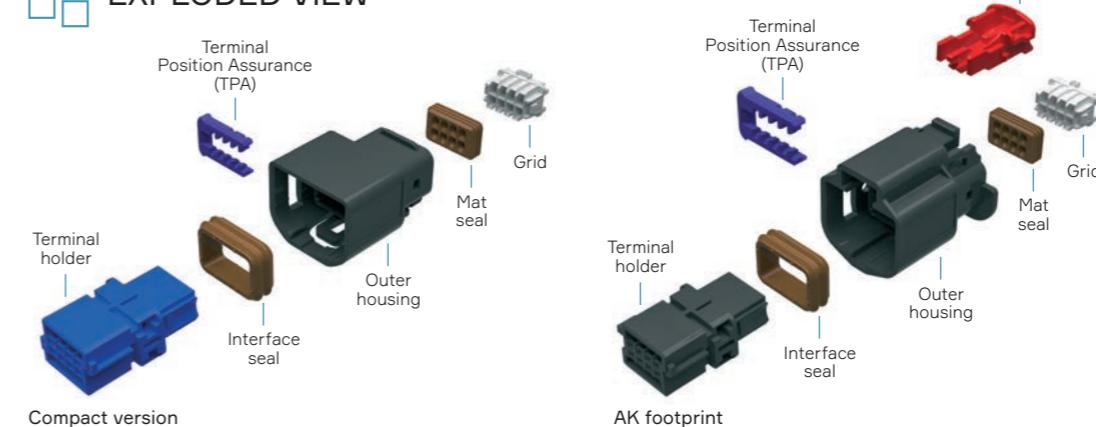
## REQUIRED ACCESSORIES

Type	Color	Angle	Part number
Cover	Black	180°	Consult us
Cover	Black	90° right	Consult us
Cover	Black	90° left	Consult us

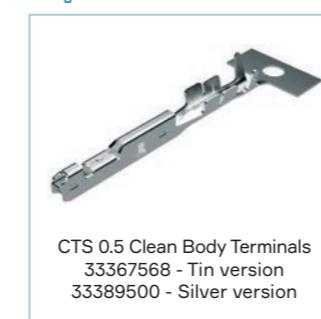
## DIMENSION MEASUREMENT SAMPLE



## EXPLODED VIEW



## COMPATIBLE WITH



# CTS 1.2 SensoMate™ SERIES



Male 3W

CTS 1.2 3W F long shroud

## 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 and long shroud design for easy mating device

## FEATURES

- One piece molded housing to ensure best in class sealing performance (short shroud version)
- Increased sealing performance through a unique 3 rib robust seal design (175°C version)
- Patented Smart Locking System version of the CPA to improve assembly cycle time (short shroud version)
- Compatible with wire dress back shells (short shroud version)

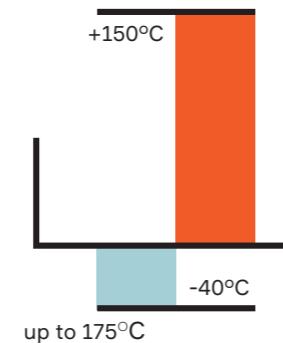
## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	2, 3, 4, 5, 6
Cavity Configurations (mm)	1.2
Genders	Female, Male (2-4W 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 consult us

## APPLICATIONS

Chassis, Engine compartment, On-Engine-Mount, Severe Gearbox Applications, Sensors/Actuators

## TEMPERATURE



## VIBRATION



## SEALING CLASS



IPx9K  
IP68



10 V  
up to 48V

Cavity count	Blade size	Gender	Part number	Temperature Class	CPA	Shroud	Clip Slot	Dimensions (W x H x D)	Index	Other Indexes offered
2	1.2	F	35126363	150°C	Type 1	Short	No	15.2 x 15 x 29.5	A	B, C
3	1.2	F	35126369	150°C	Type 1	Short	No	19.2 x 15 x 29.5	A	B, C, D
4	1.2	F	35126375	150°C	Type 1	Short	No	24.5 x 16.3 x 29.5	A	B, C, D, F, G
5	1.2	F	35126383	150°C	Type 1	Short	No	28.5 x 16.3 x 29.5	A	B
6	1.2	F	35020435	150°C	Type 1	Short	No	32.5 x 16.3 x 29.5	A	B, C, E
2	1.2	F	35387382	150°C	Type 2	Short	No	15.2 x 15 x 26	A	B, C, E
3	1.2	F	35387389	150°C	Type 2	Short	No	19.2 x 15 x 26	A	B, C, D
2	1.2	F	35449381	175°C	Type 1	Short	No	15.2 x 15 x 29.5	A	B, C
3	1.2	F	35449383	175°C	Type 1	Short	No	19.2 x 15 x 29.5	A	B, C, D
4	1.2	F	35449387	175°C	Type 1	Short	No	24.5 x 16.3 x 29.5	A	B, C, D, F, G
5	1.2	F	35449388	175°C	Type 1	Short	No	28.5 x 16.3 x 29.5	A	B
6	1.2	F	35449389	175°C	Type 1	Short	No	32.5 x 16.3 x 29.5	A	B, C, E
2	1.2	F	35747313	150°C	Yes	Long	No	25.2 x 14.6 x 32.8	A	B, C, E, F
3	1.2	F	35748524	150°C	Yes	Long	No	26.2 x 14.6 x 32.8	A	B, C, D
4	1.2	F	35748643	150°C	Yes	Long	No	30.2 x 15.6 x 32.8	A	B, C, D, E, F, G, H
2	1.2	F	35747322	150°C	Yes	Long	Yes	25.2 x 18.8 x 32.8	A	B, C, E, F
3	1.2	F	35748527	150°C	Yes	Long	Yes	25.2 x 18.8 x 32.8	A	B, C, D
4	1.2	F	35748651	150°C	Yes	Long	Yes	30.2 x 19.9 x 32.8	A	B, C, E, F, G
2	1.2	M	35147458	150°C	Not Applicable	Yes	Yes	18.8 x 15.4 x 46.8	A	B, C, USCAR* E, F
3	1.2	M	35148571	150°C	Not Applicable	Yes	Yes	18.8 x 15.4 x 46.8	A	B, C, D
4	1.2	M	35147457	150°C	Not Applicable	Yes	Yes	24.1 x 16.5 x 46.8	A	B, C, USCAR* E, F, G

\* USCAR interface on device



## COMPATIBLE SEALS AND ACCESORIES

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	NA	33119512
Back shell***	NA	-	NA	Consult us

Other cable seals and cavity plugs available, please consult us. \*\* USCAR 7 mm. \*\*\* Lateral 90°, up/down 90°, 0°

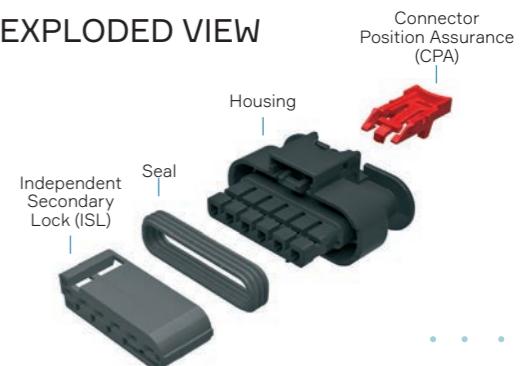


## COMPATIBLE WITH

CTS 1.2 Locking Lance Sealed Terminal	CTS 1.2 Male Locking Lance Sealed Terminal
---------------------------------------	--



## EXPLODED VIEW



Part numbers, specifications, dimensions and performance data in this document are for general references only and are subject to change without notice. To verify product information, please contact an Aptiv representative.

# CTS 2.8 SEALED SERIES



CTS 2.8 2W, 3W Female

## BENEFITS

- Heavy-duty performance
- Ergonomic design
- Robust contact geometry

## FEATURES

- Compliant with USCAR design guidelines and performance standards
- Industry standard footprint
- Superior single-piece housing construction
- Independent Secondary Lock (ISL) to detect partially installed terminals

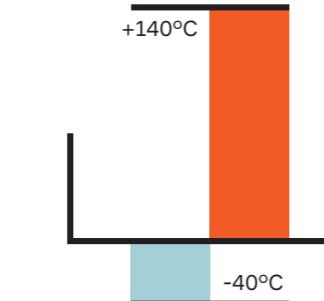
## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	2, 3, 4
Cavity Configurations (mm)	2.8
Genders	Female
Sealing Type	Cable Sealed
Centerline Spacing (mm)	5.0

## APPLICATIONS

On-engine sensors

## TEMPERATURE



## VIBRATION



IP6K9K

## ENVIRONMENTAL PROTECTION

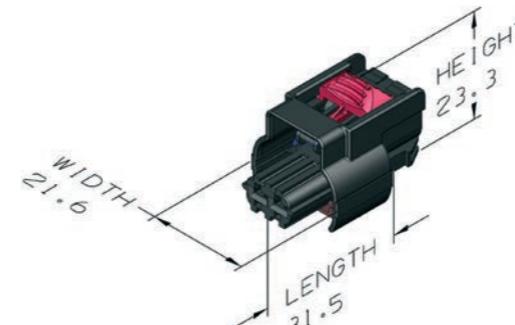
Cavity count	Blade size (mm)	Gender	Dimensions W x H x L (mm)	Part number	Index	Color	Other indexes offered
2	2.8	F	21.6 x 23.3 x 31.5	35182447	A	Black	B, C, D
3	2.8	F	26.6 x 25.8 x 31.5	35133579	A	Black	B, C, D
4	2.8	F	31.6 x 27.8 x 31.5	35133588	A	Black	B, C, D

## COMPATIBLE SEALS

Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.35 - 1.0	Blue	Yes	15339967
Cable Seal	1.25 - 2.5	White	Yes	15339838
Cable Seal	0.35 - 0.75	Blue	No	15324974
Cable Seal	0.5 - 1.0	Red	No	15327786
Cable Seal	1.25 - 2.0	Red	No	15324973
Cable Seal	2.5	Yellow	No	10779161
Cavity Plug	N/A	Green	No	10730124
Cavity Plug	N/A	Red	No	12059168

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

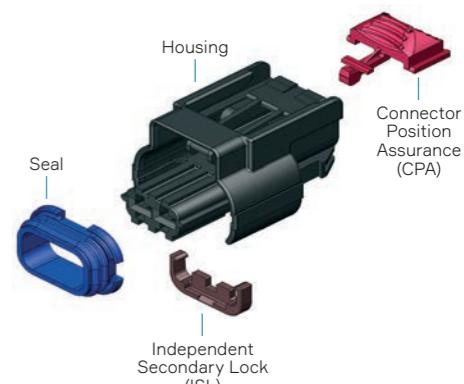
## DIMENSION MEASUREMENT SAMPLE



## COMPATIBLE WITH



## EXPLODED VIEW





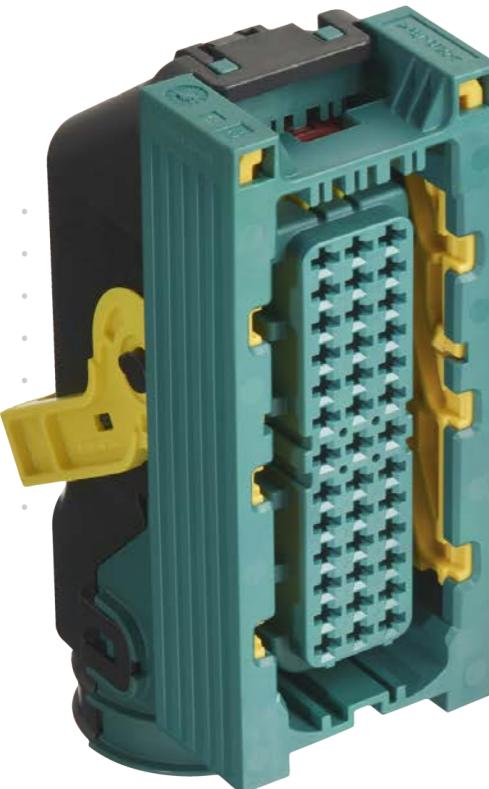
## CTCS CONNECTORS

# CTCS CONNECTORS SELECTOR GUIDE

Compact Transportation Connection Systems - A versatile solution with designed in reliability and superior performance, this connection family was designed specifically for the transportation market and heavy duty applications.

The CTCS connector families have been designed to meet the demanding requirements of commercial and heavy duty applications, specifically to address new emission regulations and enable the generation of environmentally friendly vehicles.

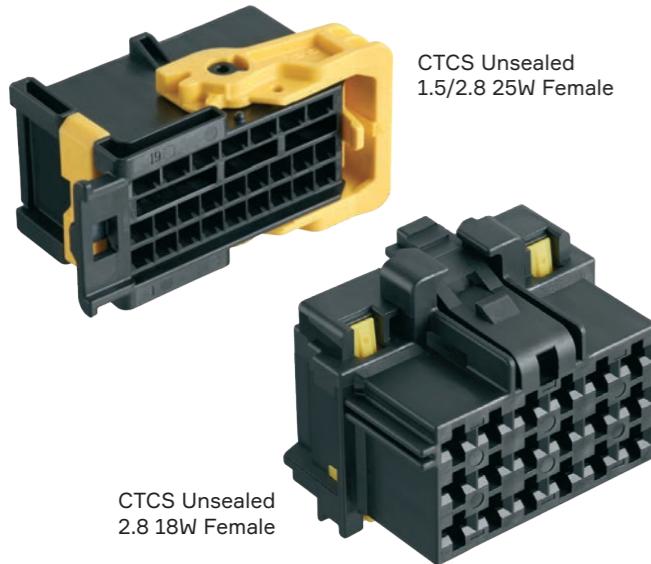
- Application versatility
- Unparalleled reliability & performance
- Designed for the commercial vehicle market



			
Application	Interior	Chassis, Engine compartment	Chassis, Engine compartment, On-engine
Blade Size	1.5, 2.8, 6.3, Mixed	1.5, 2.8, 6.3, Mixed	1.5, 2.8, 6.3, Mixed
# of Cavities	4, 18, 25, 36	15, 21, 26, 39, 62	2, 3, 4, 6, 7, 8, 10, 12, 15, 16, 18
Gender	F	F, M	F, M
Lock assist type	Standard, Lever lock	Lever lock	Slider lock
Temperature Class	T1	T3	T3 (+140°C)
IP Rating	NA	IP67, IP6K7 IP69, IP69K	IP67, IP6K7 IP69, IP69K
CPA	No	No	No
See Pages	90-91	92-93	94-95

*This document is non-contractual and is for information purpose only*

# CTCS UNSEALED SERIES



CTCS Unsealed  
1.5/2.8 25W Female



CTCS Unsealed  
2.8 18W Female

## BENEFITS

- Versatile connection system
- Unparalleled reliability and performance
- Designed for the transportation market

## FEATURES

- Connector locks tethered in position to prevent lock arm droop and provide consistent audible click
- Modular design for decreased number of parts
- Secondary lock for terminal unseat detection



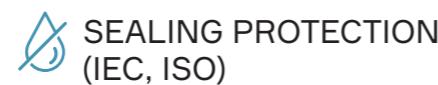
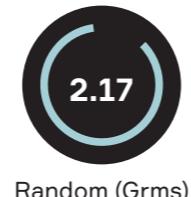
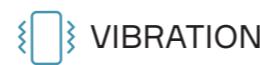
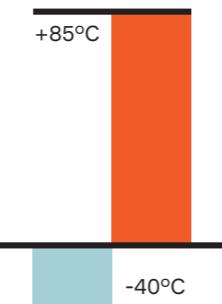
## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	4, 18, 25, 36
Cavity Configurations (mm)	1.5, 2.8, 6.3, Mixed
Materials	HB Flammability
Genders	Female
Lock Assist Type	Standard or Lever



## APPLICATIONS

Cab
-----



Cavity count	Blade size (mm)	Gender	Dimensions W x H x D (mm)	HB part number	Mounting type	Index	Color	Other indexes offered
4	6.3	F	30.9 x 21 x 24	33136690	Universal	A	Black	B
18	2.8	F	36 x 29.15 x 24.2	35129604	Universal	A	Gray	B, C, D
25	1.5 (18) + 2.8 (7)	F	47.7 x 27.5 x 40.8	33219796	Universal	A	Black	B, C, D
36	1.5	F	47.7 x 27.5 x 40.8	33252408	Universal	A	Brown	B, C, D

Please, refer to the CTCS catalogue for the full part number list.

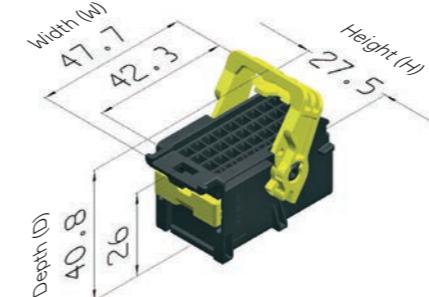


## REQUIRED ACCESSORIES

Cavity count	Accessory	HB part number
25	Secondary Lock	33219801
36	Secondary Lock	33252407



## DIMENSION MEASUREMENT SAMPLE



## COMPATIBLE WITH



CTS 1.5 Series Terminals

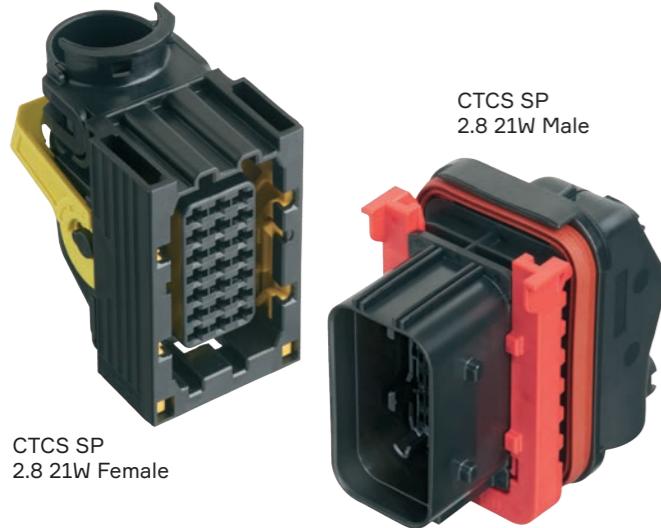


CTS 2.8 Series Terminals



CTS 6.3 Series Terminals

# CTCS SP SERIES



CTCS SP  
2.8 21W Male

CTCS SP  
2.8 21W Female

## BENEFITS

- Versatile connection system
- Unparalleled reliability and performance
- Designed for the transportation market

## FEATURES

- Lever lock integrated into the back shell for easier plugging
- Locking features on slides prevent accidental release of connectors prior to full mating

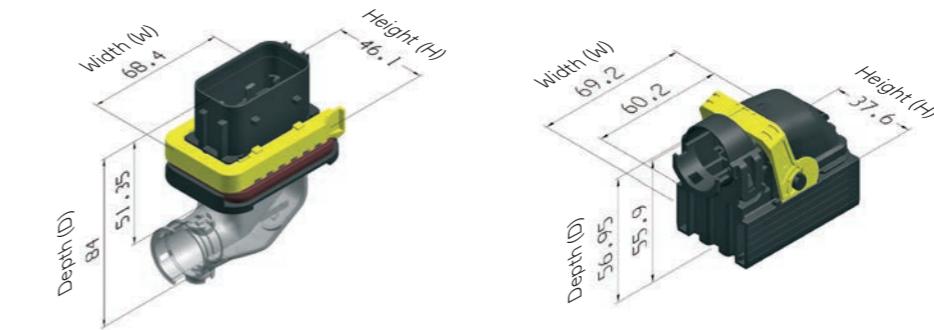
Cavity count	Blade size (mm)	Gender	Dimensions W x H x D (mm)	V0 part number	HB part number	Mounting type	Index	Color	Other indexes offered
15	2.8	F	59.2 x 37.6 x 54.6	33276638	33188785	Universal	A	Black	B, C
21	2.8	F	69.2 x 37.6 x 56.95	33276630	33101162	Universal	A	Black	B, C, D
21	2.8	M	68.4 x 46.1 x 84	33276634	33237993	Panel	A	Black	B, C, D
26	1.5 (12) + 2.8 (12) + 6.3 (2)	F	92.15 x 41.4 x 64.71	33283998	33207220	Universal	A	Black	B, C, D
26	1.5 (12) + 2.8 (12) + 6.3 (2)	M	75.9 x 51 x 77.6	33284519	33207134	Panel	A	Black	B, C, D
39	2.8	F	120.1 x 44.15 x 64.13	33273782	33111401	Universal	A	Green	B
39	2.8	M	108 x 78 x 89.9	33276705	33198862	Panel	A	Green	B
62	1.5 (56) + 2.8 (6)	F	120.55 x 44.1 x 64.55	33337581	33337577	Universal	A	Black	B, C, D
62	1.5 (56) + 2.8 (6)	M	108 x 78 x 89.9	33276719	33213199	Panel	A	Black	B, C, D

Please, refer to the CTCS catalogue for the full part number list.

## REQUIRED ACCESSORIES

Cavity count	Accessory	V0 part number	HB part number
15	Female back shell / Lever	33276642	33200044
21	Female back shell / Lever	33276641	33106893
26	Female back shell / Lever	33284004	33207232
39	Female back shell / Lever	33273779	33111591
62	Female back shell / Lever	33273779	33111591

## DIMENSION MEASUREMENT SAMPLE



## COMPATIBLE WITH



# CTCS XP SERIES



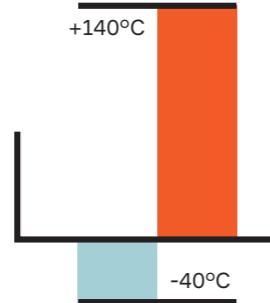
## BENEFITS

- Versatile connection system
- Unparalleled reliability and performance
- Designed for the transportation market

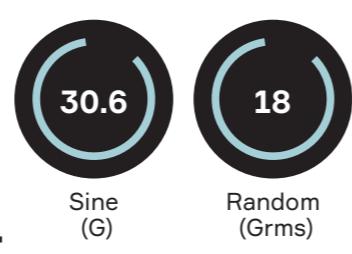
## FEATURES

- Optional back shells in 180° and 90° angles with additional ribbing for improved vibration performance
- 0-gap design of back shells provides superior protection against dust and debris ingress
- Locking features on slides prevent accidental release of connectors prior to full mating

### TEMPERATURE



### VIBRATION



## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	2, 3, 4, 6, 7, 8, 10, 12, 15, 16, 18
Cavity Configurations (mm)	1.5, 2.8, 6.3, Mixed
Materials	V0
Genders	Female, Male
Lock Assist Type	Slider lock
Mounting Options	Panel, Strap/Clip

## APPLICATIONS

Chassis
Engine compartment
On-engine

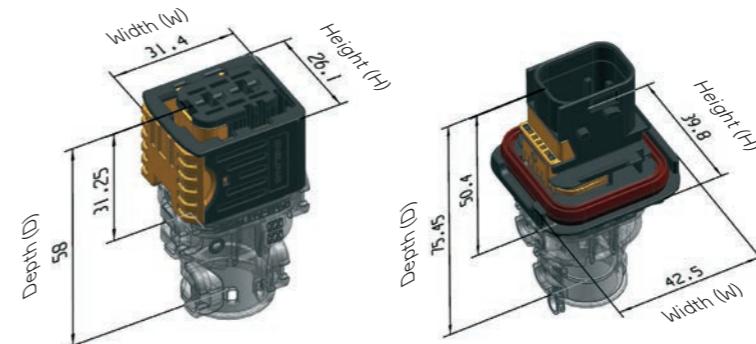
### SEALING PROTECTION (IEC, ISO)

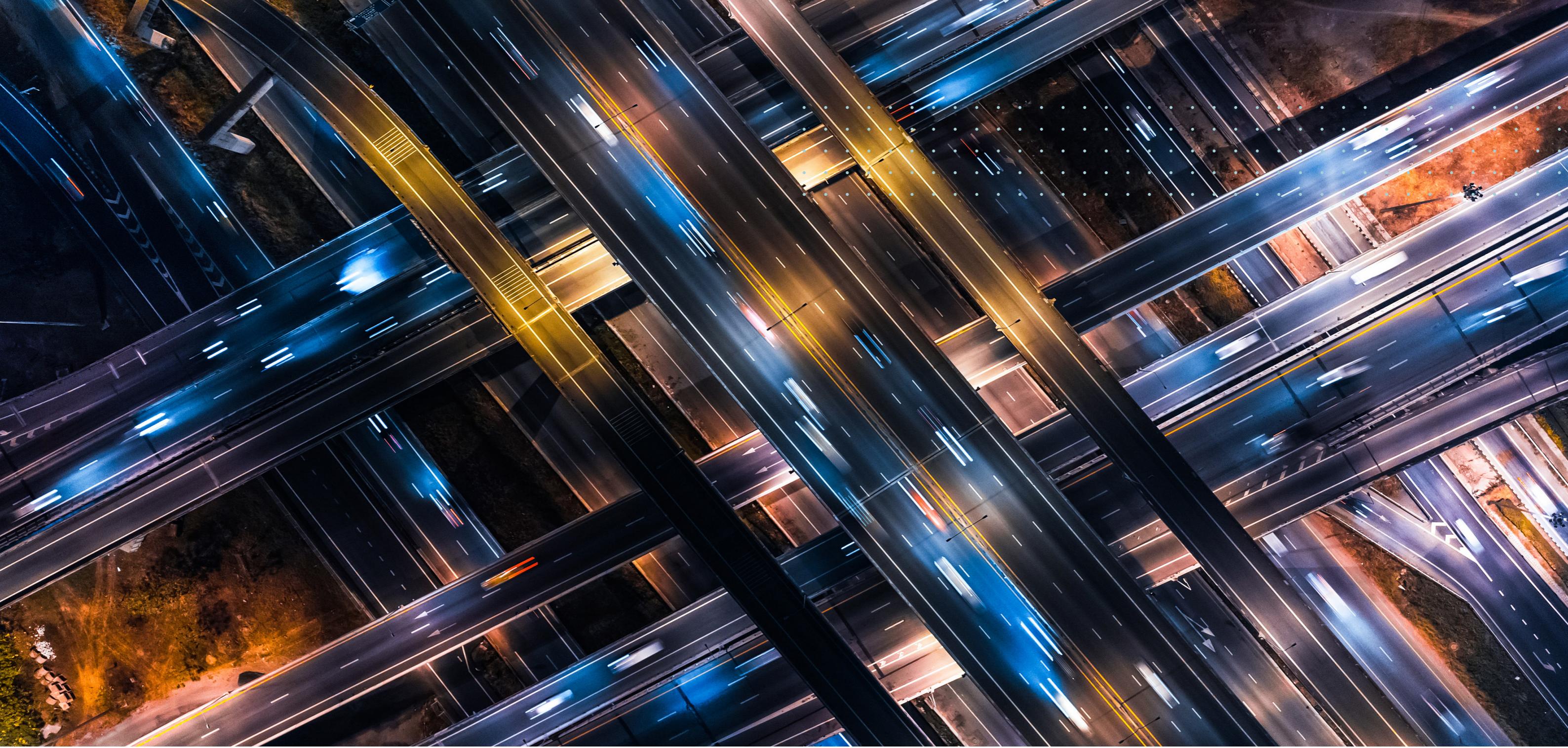


Cavity count	Blade size (mm)	Gender	Dimensions W x H x D (mm)	V0 part number	Mounting type	Index	Color	Other indexes offered
2	1.5	F	25.8 x 18.9 x 31.25	33253266	Universal	A	Black	B, C, D
2	2.8	F	25.8 x 18.9 x 31.25	33253554	Universal	A	Black	B, C, D
2	2.8	M	37.5 x 29.8 x 48.3	33254221	Panel	A	Black	B, C, D
2	6.3	F	31.4 x 26.1 x 31.25	33285119	Universal	A	Black	B, C, D
2	6.3	M	42.5 x 39.8 x 50.4	33285118	Panel	A	Black	B, C, D
2	6.3	M	33.2 x 27 x 50.4	33341148	Strap/Clip	A	Black	B, C, D
3	1.5	F	25.8 x 18.9 x 31.25	33253275	Universal	A	Black	B, C, D
3	1.5	M	37.5 x 29.8 x 48.3	33254285	Panel	A	Black	B, C, D
3	1.5	M	27.6 x 19 x 48.3	33254098	Strap/Clip	A	Black	B, C, D
4	2.8	F	30.5 x 26.1 x 31.25	33308974	Universal	A	Black	B, C, D
4	2.8	M	37.5 x 39.8 x 48.3	33308731	Panel	A	Black	B, C, D
4	2.8	M	27.6 x 27 x 48.3	33308978	Strap/Clip	A	Black	B, C, D
6	1.5	F	30.5 x 26.1 x 31.25	33308961	Universal	A	Black	B, C, D
6	1.5	M	37.5 x 39.8 x 48.3	33308982	Panel	A	Black	B, C, D
6	1.5	M	27.6 x 27 x 48.3	33308912	Strap/Clip	A	Black	B, C, D
7	1.5 (4) + 2.8 (3)	F	31.4 x 26.1 x 31.25	33285164	Universal	A	Black	B, C, D
7	1.5 (4) + 2.8 (3)	M	42.5 x 39.8 x 48.3	33285120	Panel	A	Black	B, C, D
7	1.5 (4) + 2.8 (3)	M	33.2 x 27 x 48.3	33341403	Strap/Clip	A	Black	B, C, D
8	1.5	F	31.4 x 26.1 x 31.25	33341417	Universal	A	Black	B, C, D
8	1.5	M	42.5 x 39.8 x 48.3	33341408	Panel	A	Black	B, C, D
8	1.5	M	33.2 x 27 x 48.3	33341413	Strap/Clip	A	Black	B, C, D
8	2.8	F	39.65 x 26.1 x 31.25	33343499	Universal	A	Black	B, C, D
8	2.8	M	40.6 x 27 x 48.3	35015736	Strap/Clip	A	Black	B, C, D
10	1.5 (6) + 2.8 (4)	F	39.65 x 26.1 x 31.25	33344008	Universal	A	Black	B, C, D
10	1.5 (6) + 2.8 (4)	M	50.5 x 39.8 x 48.3	33343722	Panel	A	Black	B, C, D
12	1.5	F	39.65 x 26.1 x 31.25	33340130	Universal	A	Black	B, C, D
12	1.5	M	50.5 x 39.8 x 48.3	33340243	Panel	A	Black	B, C, D
15	1.5 (9) + 2.8 (6)	F	51.5 x 26.1 x 31.25	33344005	Universal	A	Black	B, C, D
15	1.5 (9) + 2.8 (6)	M	62.5 x 39.8 x 48.3	33343701	Panel	A	Black	B, C, D
16	1.5 (12) + 2.8 (4)	F	51.5 x 26.1 x 31.25	33285172	Universal	A	Black	B, C, D
16	1.5 (12) + 2.8 (4)	M	62.5 x 39.8 x 48.3	33285171	Panel	A	Black	B, C, D
16	1.5 (12) + 2.8 (4)	M	52.6 x 27 x 48.3	33342243	Strap/Clip	A	Black	B, C, D
18	1.5	F	51.5 x 26.1 x 31.25	33342277	Universal	A	Black	B, C, D
18	1.5	M	62.5 x 39.8 x 48.3	33342293	Panel	A	Black	B, C, D
18	1.5	M	52.6 x 27 x 48.3	33342234	Strap/Clip	A	Black	B, C, D

Please, refer to the CTCS catalogue for the full part number list.

## DIMENSION MEASUREMENT SAMPLE





## ERGOMATE™ CONNECTORS

# ErgoMate™ 38 WAY



ErgoMate™ 38W Connector

## BENEFITS

- Ergonomic mating
- Robust and durable design
- Compact packaging size
- High application versatility

## FEATURES

- Large grasping surface
- High tactile feedback
- Simplified engagement system reduces the possibility of mis-mating of connection system
- Unique geared cam and slider system is fully self-contained, provides a 3:1 mechanical advantage
- A lower-profile ergonomically friendly alternative to traditional lever assist
- Low connector mating force at ~65 N
- Retractable Male Blade Stabilize
- Wide cable guage compatibility from 0.35 mm<sup>2</sup> to 4.0 mm<sup>2</sup>

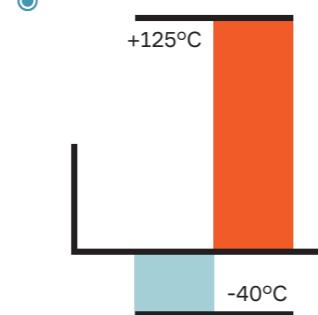
## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	38
Cavity Configurations (mm)	OCS 1.2, CTS 2.8, CTS 6.3
Genders	Female, Male
Sealing Type	OCS 1.2 Mat Sealed CTS 2.8 & 6.3 Cable Sealed
Indexes	A, B, C, D
Terminal Position Assurance (TPA) Type	ISL
Connector Position Assurance (CPA)	Yes

## APPLICATIONS

Passenger Compartment, Trunk, Underhood, Chassis, On Engine, Transmission

## TEMPERATURE



## VIBRATION



## SEALING CLASS



Cavity count	Blade size (mm)	Gender	Dimensions W x H x L (mm)	Part number	Index	Color	Other indexes offered
38	1.2 (32) + 2.8 (4) + 6.3 (2)	F	71.25 x 42 x 60	35730037	A	Black	B, C, D
38	1.2 (32) + 2.8 (4) + 5.8* (2)	M	56.25 x 39.2 x 64.5	35730043	A	Black	B, C, D

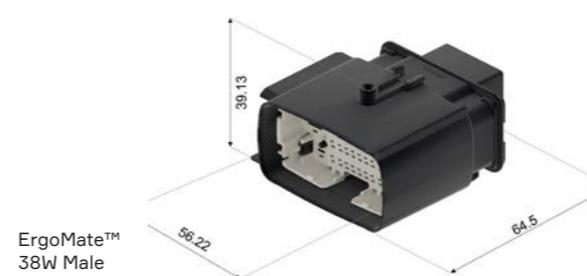
\* Non Aptiv terminal, please consult us



## COMPATIBLE SEALS & ACCESSORIES

Type	Applicable Wire Size	Color	Angle	Part number
Cavity Plug	2.8	Red	-	12059168
Cavity Plug	6.3	Gray	-	35232480
Back Shell	16mm Conduit	Black	0°	35283288
Back Shell	19mm Conduit	Black	0°	35104748
Back Shell	16mm Conduit	Black	90°	35283609
Back Shell	19mm Conduit	Black	90°	35104749

## DIMENSION MEASUREMENT SAMPLE

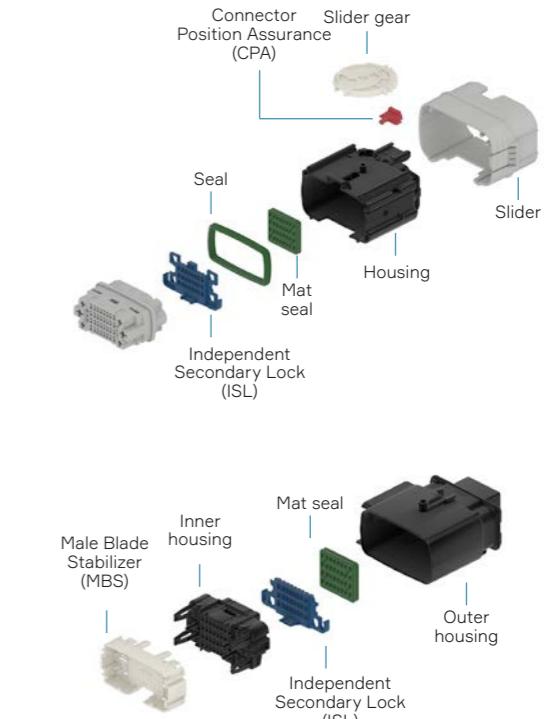


## COMPATIBLE WITH



Part numbers, specifications, dimensions and performance data in this document are for general references only and are subject to change without notice. To verify product information, please contact an Aptiv representative.

## EXPLODED VIEW



# ErgoMate™ 55 WAY



ErgoMate™ 55W  
Female & Male

## BENEFITS

- Ergonomic mating
- Robust and durable design
- Compact packaging size
- High application versatility

## FEATURES

- High reliability one-handed mating
- Large grasping surface
- High tactile feedback
- Simplified engagement system reduces the possibility of mis-mating of connection system
- Unique geared cam and slider system is fully self-contained, provides a 3:1 mechanical advantage
- A lower-profile ergonomically friendly alternative to traditional lever assist
- Low connector mating force at ~65 N
- Wide cable guage compatibility from 0.35 mm<sup>2</sup> to 6.0 mm<sup>2</sup>

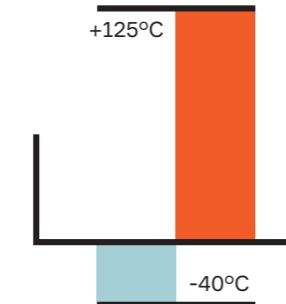
## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	55
Cavity Configurations (mm)	OCS 1.2 CTS 2.8 CTS 6.3
Genders	Female, Male
Sealing Type	OCS 1.2 Mat Sealed CTS 2.8 & 6.3 Cable Sealed

## APPLICATIONS

Sealed inline applications

## TEMPERATURE



## VIBRATION



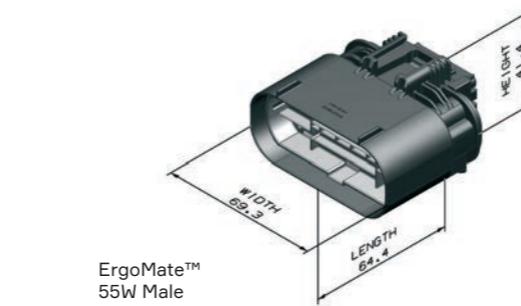
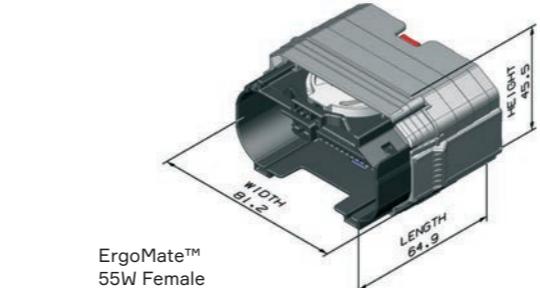
S3

Cavity count	Blade size (mm)	Gender	Dimensions W x H x L (mm)	Part number	Index	Color	Other indexes offered
55	1.2 (46) + 2.8 (4) + 6.3 (5)	F	81.2 x 45.5 x 64.9	35016652	A	Black	B
55	1.2 (46) + 2.8 (4) + 6.3 (5)	M	69.3 x 41.4 x 64.4	35205173	A	Black	B

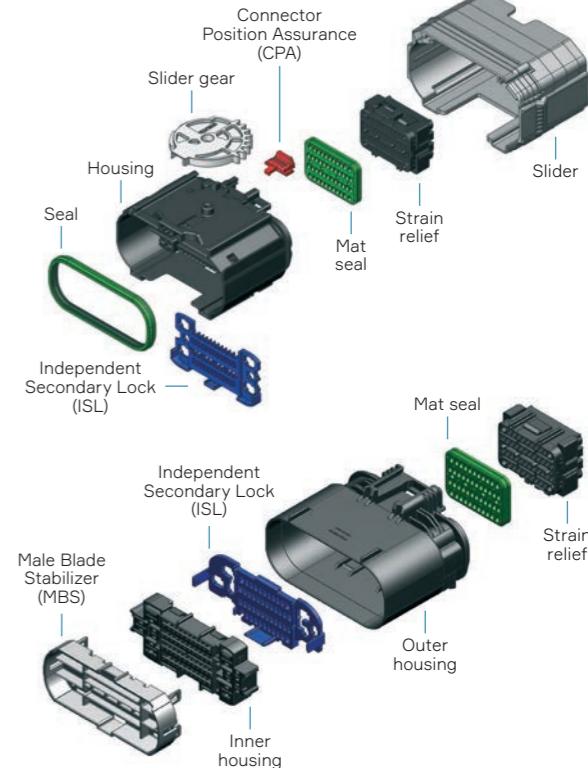
## COMPATIBLE ACCESSORIES

Type	Orientation	Color	Part number
Dress Cover	90°	Black	35017218
Dress Cover	180°	Black	35056875

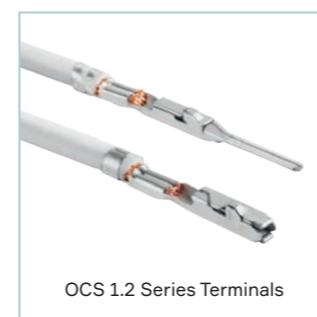
## DIMENSION MEASUREMENT SAMPLE



## EXPLODED VIEW



## COMPATIBLE WITH



OCS 1.2 Series Terminals



CTS 2.8 Series Terminals



CTS 6.3 Series Terminals



## GTS TERMINALS AND CONNECTORS

# GTS 0.64 TERMINALS



GTS 0.64  
Female & Male Terminals

## BENEFITS

- Stable contact force with high performing copper alloy
- Proven reliability in door-to-body connection system

## FEATURES

- Clean body design to go through a mat seal
- Easy and smooth insertion through mat seals



## AVAILABLE CONFIGURATIONS

Terminal Construction	Two-piece
Locking Mechanism	Tangless / Lanceless
Crimp Validated to	SsangYong, Ferrari, RSA, PSA
Blade Size (mm)	0.64
Wire Gage Range (AWG)	22 - 18
Wire Gage Range (mm <sup>2</sup> )	0.22 - 0.85
Genders	Female, Male
Sealing Options	Unsealed, Mat Sealed
Plating Options	Sn, Au
Mating Tab Dimension (mm)	0.64 x 0.64

## APPLICATIONS

EMS (Engine Management System)



## TECHNICAL CHARACTERISTICS

Contact Resistance	< 6 mΩ
Contact Mating Force	< 3 N
Contact Unmating Force	< 0.5 N
Mating Cycles	20
Cavity Pullout Force	> 80 N
Center Line Spacing	2.5 mm



MAX TEMP

125°C



MAX VIBRATION

15 G



MAX CURRENT AT 23°C

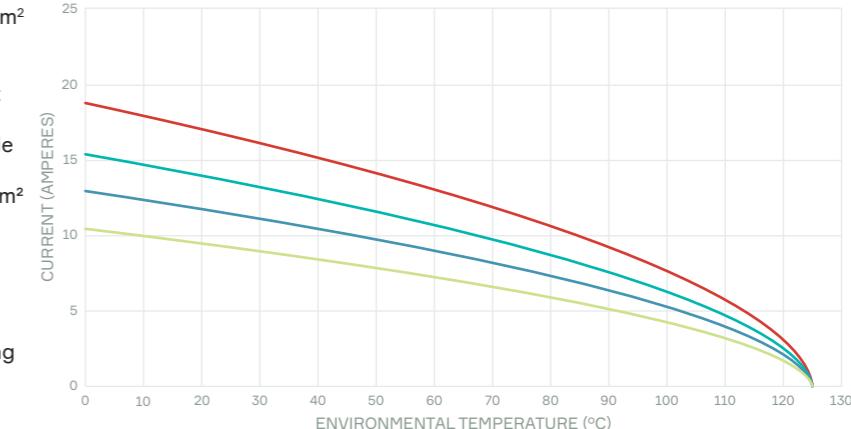
13 A

Type	Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number
GTS-1*	Unsealed	F	Sn	24 - 22	0.22 - 0.35	13955989
GTS-1*	Unsealed	F	Sn	20	0,5	13648598
GTS-1*	Unsealed	F	Sn	18	0.75 - 0.85	13768627
GTS-3	Unsealed	F	Sn	24 - 22	0.22 - 0.35	33500712
GTS-3	Unsealed	F	Sn	20	0,5	33502051
GTS-3	Unsealed	F	Sn	18	0.75 - 0.85	33500713
GTS-3	Unsealed	M	Sn	24 - 22	0.22 - 0.35	33510990
GTS-3	Unsealed	M	Au	24 - 22	0.22 - 0.35	33285109

\* CMC application

## DERATING CURVE

Cable range: 0.22 - 0.85 mm<sup>2</sup>  
Crimp method: Standard  
Contact plating: Sn  
Test method: Single circuit in free air\*  
Mated to: GTS 0.64 male terminals  
0.22 - 0.35 mm<sup>2</sup>



\* For reference only

One terminal loaded, in housing  
wire-to-wire configuration

0.22 mm<sup>2</sup>  
0.35 mm<sup>2</sup>  
0.50 mm<sup>2</sup>  
0.75 mm<sup>2</sup>

The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

## COMPATIBLE WITH



CMC Connectors  
(32, 48, 64 & 86 Way)

# GTS 1.5 TERMINALS



GTS 1.5  
Female & Male Terminals

## BENEFITS

- Stable contact force with high performing copper alloy
- Best ratio of base material usage for a 1.5 mm female terminal in the market
- High vibration performance in 2 and 3 Way housings (up to 42 G at 85 °C)

## FEATURES

- Easy and smooth insertion through mat seals
- Clean Body geometry without any sharp edges, preventing operator injury and wire damage
- Wide range of crimping cable section gauges
- Compatible with cable seals



## AVAILABLE CONFIGURATIONS

Terminal Construction	Two-piece
Locking Mechanism	Tangless / Lanceless
Crimp Validated to	RSA, GM, PSA
Blade Size (mm)	1.5
Wire Gage Range (AWG)	24 - 14
Wire Gage Range (mm <sup>2</sup> )	0.22 - 2.0
Genders	Female, Male
Sealing Options	Unsealed, Mat Sealed, Cable Sealed
Plating Options	Sn, Au
Mating Tab Dimension (mm)	1.5 x 0.8

## APPLICATIONS

Engine compartment, ECU, sensors, actuators



## TECHNICAL CHARACTERISTICS

Contact Resistance	< 1.5 mΩ
Contact Mating Force	< 4 N
Contact Unmating Force	< 0.5 N
Cavity Pullout Force	> 120 N
Center Line Spacing	3.5 mm



MAX TEMP  
150°C



MAX VIBRATION  
42 G



MAX CURRENT  
AT 23°C  
27.5 A

Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings
Unsealed	F	Sn	24 - 22	0.22 - 0.35	33510898	Au
Unsealed	F	Sn	20 - 18	0.50 - 0.85	13648599	Au
Unsealed	F	Sn	16	1.0 - 1.3	13741954	Au
Unsealed	F	Sn	14	1.4 - 2.0	13749482	Au
Unsealed	M	Sn	20 - 18	0.50 - 0.85	33510912	-
Unsealed	M	Sn	16	1.0 - 1.3	33500741	-
Unsealed	M	Sn	14	1.4 - 2.0	33510913	-
Cable Sealed	F	Sn	20 - 18	0.50 - 0.85	29828026	Au
Cable Sealed	F	Sn	16	1.0 - 1.3	13860784	Au
Cable Sealed	F	Sn	14	1.4 - 2.0	13737773	Au

## COMPATIBLE SEALS

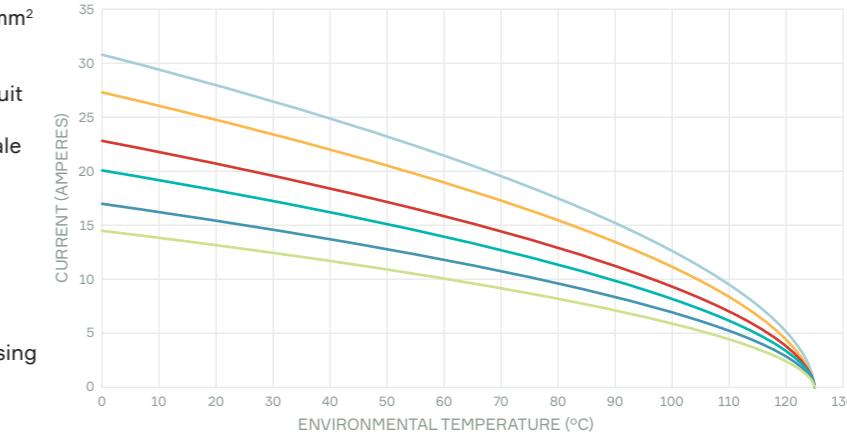
Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.35 - 0.75	Yellow	Yes	10736278
Cable Seal	0.5 - 1.0	Blue	Yes	15484426
Cable Seal	0.75 - 2.0	Green	Yes	10736279
Cable Seal	1.25 - 1.5	Yellow	Yes	13582732

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

## DERATING CURVE

Cable range: 0.22 - 2.0 mm<sup>2</sup>  
Crimp method: Standard  
Contact plating: Sn  
Test method: Single circuit in free air\*  
Mated to: GTS 1.5 male terminals

\* For reference only



One terminal loaded, in housing  
wire-to-wire configuration

0.35 mm<sup>2</sup>  
0.50 mm<sup>2</sup>  
0.75 mm<sup>2</sup>  
1.0 mm<sup>2</sup>  
1.5 mm<sup>2</sup>  
2.0 mm<sup>2</sup>

The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

## COMPATIBLE WITH



CMC Connectors  
(32, 48, 64 & 86 Way)



GTS SensoMate™  
(2 & 3 Way)

# GTS 1.5 SensoMate™ SERIES



GTS SensoMate™ 2W  
Female

## BENEFITS

- Footprint interface compatible with Mini-Sealed Series released by all major OEMs
- Engine and body harsh environment applied to EURO 7 regulations
- Compatible with back shell cover for a convenient guiding of cable bundle

## FEATURES

- Withstanding high vibration up to 42 G sine
- High temperature 150°C (T4), enduring additionally 175°C during 240 hours
- Rear latch for easiness to unmate connector from device
- Connector Position Assurance
- Inertial effect while mating the connector to the device which guarantees an easy mating

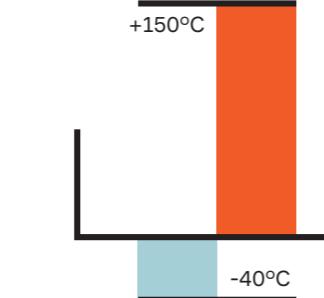
## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	2, 3
Cavity Configurations (mm)	1.5
Genders	Female
Sealing Type	Mat Sealed
Centerline Spacing (mm)	3.33
CPA	Premounted

## APPLICATIONS

Engine compartment, ECU (electronic control unit),  
sensors, actuators inline or device

## TEMPERATURE



## VIBRATION

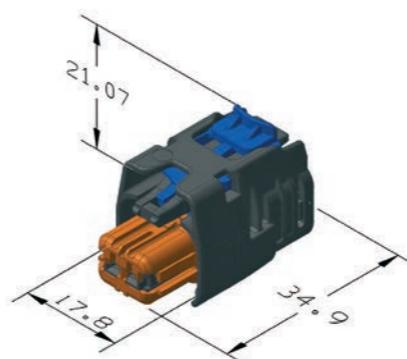


## SEALING PROTECTION

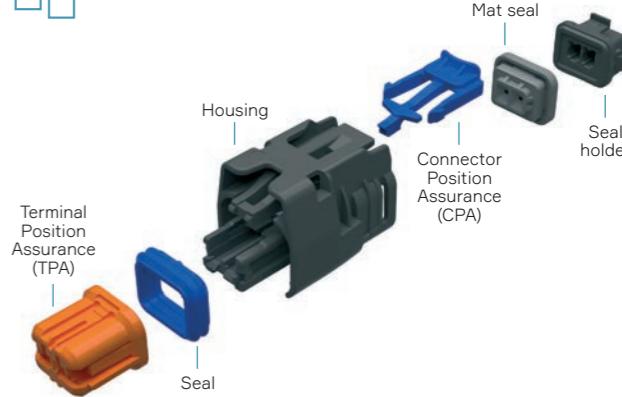


Cavity count	Blade size (mm)	Gender	Dimensions L x W x H (mm)	Part number	Color	Indexes offered
2	1.5	F	18 x 21 x 35	33150308	Orange	8
3	1.5	F	21 x 21 x 35	33150316	Orange	8

## DIMENSION MEASUREMENT SAMPLE



## EXPLODED VIEW



## COMPATIBLE WITH



GTS 1.5 Unsealed  
Female Terminal



## HDK TERMINALS AND CONNECTORS

# HDK FEMALE 1.2 TERMINALS



HDK 1.2 Series Female Terminals

## BENEFITS

- High vibration (up to 50 G) high temperature (up to 150 °C) terminal system
- Unique high contact force terminal system for high vibration load
- Two-piece contact body

## FEATURES

- 4 contact points
- Ultrasonic welding compatible
- High contact pressure by scratching
- Pin motion control

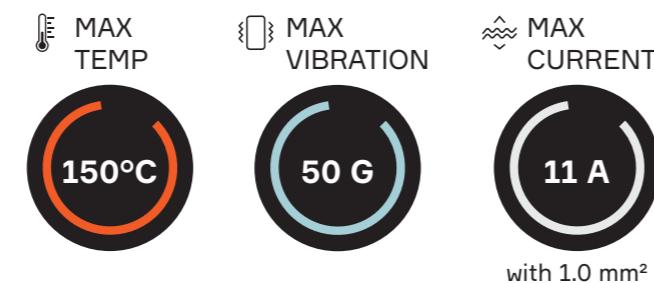
## AVAILABLE CONFIGURATIONS

Terminal Construction	Two-piece
Locking Mechanism	Lanceless / Tangless
Crimp Validated to	VW 75174-2
Blade Size (mm)	1.2
Wire Gage Range (mm <sup>2</sup> )	0.12 - 1.0
Genders	Female
Sealing Options	Cable Sealed / SWS*
Plating Options	SnAg
Mating Tab Dimension (mm)	1.2 x 0.6

\* Single Wire Seal

## TECHNICAL CHARACTERISTICS

Contact Resistance	< 3 mΩ
Contact Mating Force	6 N max
Contact Unmating Force	6 N max
Mating Cycles	10 / 25
Cavity Pullout Force	> 60 N
Center Line Spacing	3.5 / 4 mm



Sealing	Gender	Plating	Wire size range (mm <sup>2</sup> )	Part number
Cable Sealed	F	SnAg	0.50 - 0.75	33232096
Cable Sealed	F	SnAg	1.0 - 1.5	33232097

## COMPATIBLE SEALS

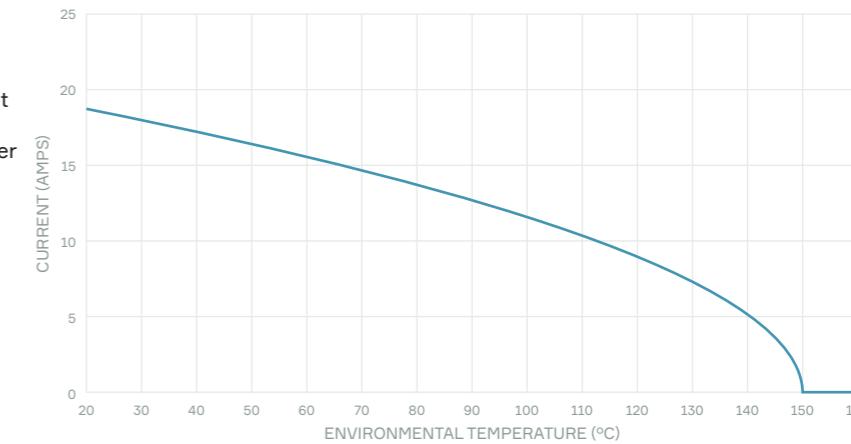
Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.5 - 1.0	Green	Yes	13887350
Cable Seal	0.5 - 1.0	Gray	No	15327918
Cable Seal	1.0 - 1.5	Yellow	No	15460621

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

## DERATING CURVES

Cable range: 1.0 mm<sup>2</sup>  
Crimp method: Standard  
Contact plating: SnTop  
Test method: Single circuit in free air\*  
Mated to: Delphi header

\* For reference only



The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

## COMPATIBLE WITH



HDK 1.2 Sealed Series Housings

# HDK FEMALE 2.8 TERMINALS



HDK 2.8 Series Female Terminals

## BENEFITS

- High vibration (up to 80 G with silver) high temperature (up to 150 °C) terminal system
- Related movements are blocked thanks to the high contact pressure
- Two-piece contact system

## FEATURES

- 4 contact points
- Ultrasonic welding compatible
- High contact pressure



## AVAILABLE CONFIGURATIONS

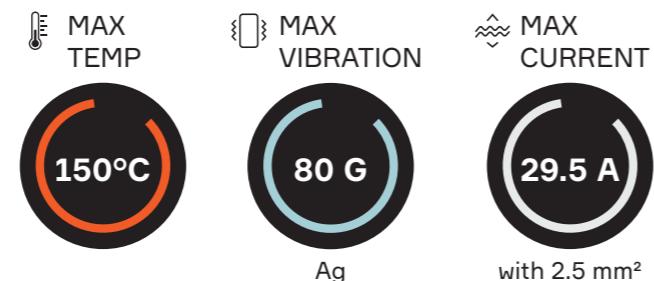
Terminal Construction	Two-piece
Locking Mechanism	Lanceless / Tangless
Crimp Validated to	VW 75174-2
Blade Size (mm)	2.8
Wire Gage Range (mm <sup>2</sup> )	0.22 - 2.5
Genders	Female
Sealing Options	Cable Sealed / SWS*
Plating Options	SnAg, Ag
Mating Tab Dimension (mm)	2.8 x 0.6

\* Single Wire Seal



## TECHNICAL CHARACTERISTICS

Contact Resistance	< 3 mΩ
Contact Mating Force	< 20 N / < 35 N
Contact Unmating Force	< 20 N / < 32 N
Mating Cycles	10 / 25
Cavity Pullout Force	> 80 N
Center Line Spacing	5 / 6 mm



Sealing	Gender	Plating	Wire size range (mm <sup>2</sup> )	Part number	Other available platings
Cable Sealed	F	SnAg	0.22 - 0.35	33515099	Ag
Cable Sealed	F	SnAg	0.5 - 1.0	33515098	Ag
Cable Sealed	F	SnAg	1.0 - 2.5	33515097	Ag

## COMPATIBLE SEALS

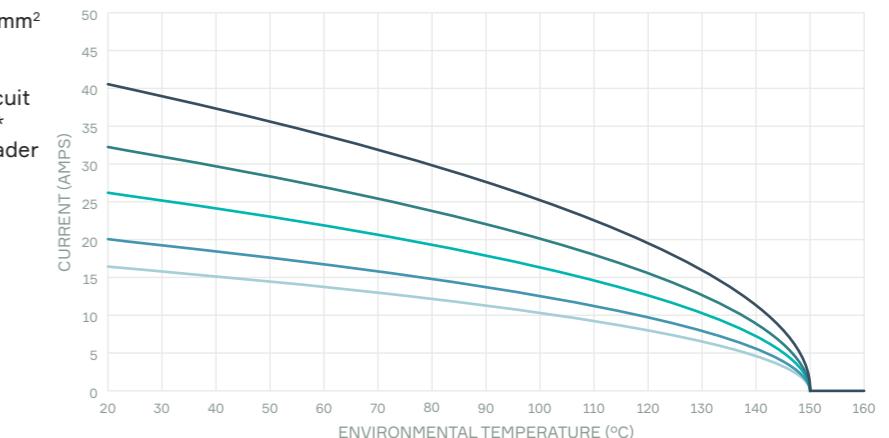
Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.35 - 1.0	Blue	Yes	15339967
Cable Seal	1.25 - 2.5	White	Yes	15339838
Cable Seal	0.35 - 0.75	Blue	No	15324974
Cable Seal	0.5 - 1.0	Red	No	15327786
Cable Seal	1.25 - 2.0	Red	No	15324973
Cable Seal	2.5	Yellow	No	10779161

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

## DERATING CURVES

Cable range: 0.35 - 2.5 mm<sup>2</sup>  
Crimp method: Standard  
Contact plating: Ag  
Test method: Single circuit in free air\*  
Mated to: Delphi header

\* For reference only



0.35 mm<sup>2</sup>  
0.50 mm<sup>2</sup>  
1.0 mm<sup>2</sup>  
1.5 mm<sup>2</sup>  
2.5 mm<sup>2</sup>

The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

## COMPATIBLE WITH



HDK 2.8 Sealed Series Housings

# HDK 1.2 SEALED SERIES AK



HDK 1.2 2W  
Female

## BENEFITS

- High performance solution for the AK standard
- Superior connection reliability
- Validated to harsh environment profiles
- AK 1.2 footprint interface (USCAR 120 short shroud)

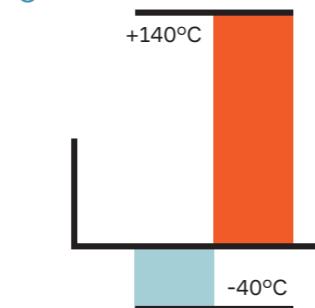
## FEATURES

- Pre-staged CPA with SLS (Smart Locking System) technology
- Optional strain relief allows to increase performance to 80G and operation in temperatures from -40 up to +140 °C

## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	2
Cavity Configurations (mm)	1.2
Materials	PA66
Genders	Female

## TEMPERATURE



## VIBRATION



## APPLICATIONS

Engine compartment
On-engine

## SEALING CLASS (DIN 40050-9)



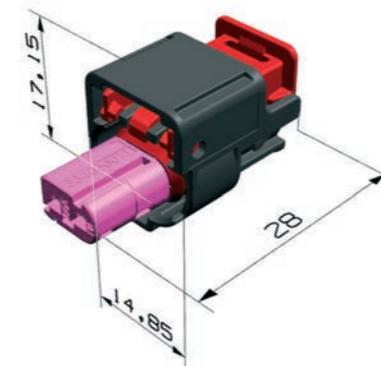
Cavity count	Blade size (mm)	Gender	Dimensions W x H x D (mm)	Part number	Index	Housing color	TPA color
2	1.2	F	14.8 x 17 x 31.5	33405607	A	Black	Violet
2	1.2	F	14.8 x 17 x 31.5	33405608	B	Black	Blue
2	1.2	F	14.8 x 17 x 31.5	33405609	C	Black	White

## COMPATIBLE SEALS

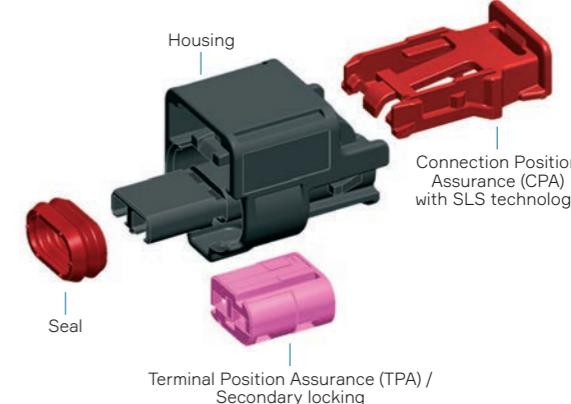
Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.5 - 1.0	Green	Yes	13887350
Cavity Plug	N/A	Blue	Yes	13887353
Cable Seal	0.5 - 1.0	Gray	No	15327918
Cable Seal	1.0 - 1.5	Yellow	No	15460621
Cavity Plug	N/A	White	No	12198198

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

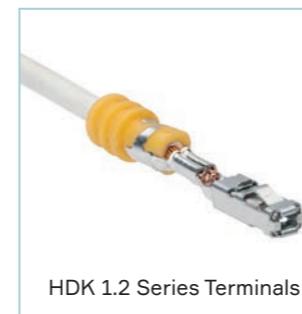
## DIMENSION MEASUREMENT SAMPLE



## EXPLODED VIEW



## COMPATIBLE WITH



# HDK 2.8 SEALED SERIES AK



HDK 2.8 3W  
Female

## BENEFITS

- High performance solution for the AK standard
- Superior connection reliability
- Validated to harsh environment profiles

## FEATURES

- Lateral secondary lock for terminal position assurance
- Mechanical polarization

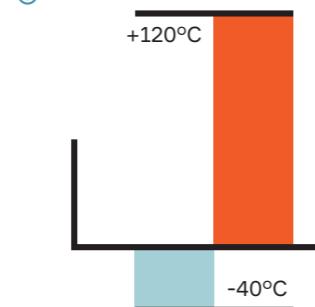
## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	2, 3, 4
Cavity Configurations (mm)	2.8
Materials	PBT GF 10
Genders	Female

## APPLICATIONS

Engine compartment

## TEMPERATURE



## VIBRATION



## SEALING CLASS (DIN 40050-9)



High Pressure Spray

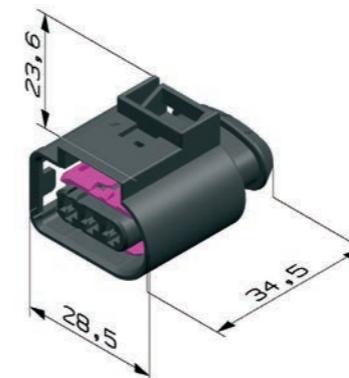
Cavity count	Blade size (mm)	Gender	Dimensions W x H x D (mm)	Part number	Index	Housing color	TPA color
2	2.8	F	23.6 x 23.5 x 34.5	33500745	A	Black	Violet
2	2.8	F	23.6 x 23.5 x 34.5	33503772	B	Black	Blue
2	2.8	F	23.6 x 23.5 x 34.5	13887338	C	Black	Orange
3	2.8	F	23.6 x 28.5 x 34.5	33105660	A	Black	Violet
3	2.8	F	23.6 x 28.5 x 34.5	33109024	B	Black	Blue
3	2.8	F	23.6 x 28.5 x 34.5	33109332	C	Black	Orange
4	2.8	F	23.7 x 37 x 33	13853167	A	Black	Violet

## COMPATIBLE SEALS

Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.35 - 1.0	Blue	Yes	15339967
Cable Seal	1.25 - 2.5	White	Yes	15339838
Cable Seal	0.35 - 0.75	Blue	No	15324974
Cable Seal	0.5 - 1.0	Red	No	15327786
Cable Seal	1.25 - 2.0	Red	No	15324973
Cable Seal	2.5	Yellow	No	10779161
Cavity Plug	N/A	Green	No	10730124
Cavity Plug	N/A	Red	No	12059168

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

## DIMENSION MEASUREMENT SAMPLE

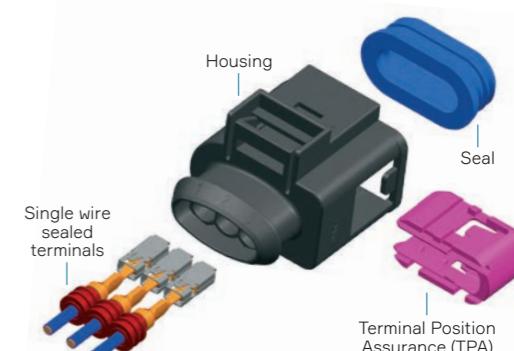


## COMPATIBLE WITH



HDK 2.8 Series Terminals

## EXPLODED VIEW



Part numbers, specifications, dimensions and performance data in this document are for general references only and are subject to change without notice. To verify product information, please contact an Aptiv representative.



## HES CONNECTORS

# HES SERIES



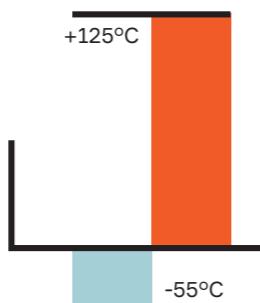
## BENEFITS

- Interchangeable industry mating interface
- Superior environmental protection
- Designed to outperform competition

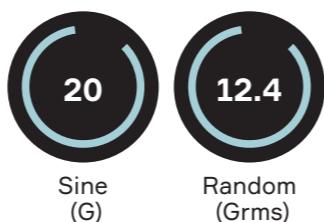
## FEATURES

- 3-rib seal design provides up to 30% higher performance
- Specialized lock finger design to eliminate terminal unseats
- Forward/backward compatibility
- HES terminals provide improved electrical performance
- Validated to SAE J2030

## TEMPERATURE



## VIBRATION



## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	19, 21, 23, 29, 31, 47
Cavity Configurations (mm)	1.0, 1.6, 2.4
Materials	PBT, PA66
Genders	Female, Male

## APPLICATIONS

Cab
Engine compartment
Chassis



## ENVIRONMENTAL PROTECTION (IEC, ISO)



Dust Proof



Water Immersion



High Pressure Stream-Jet

Cavity count	Blade size (mm)	Gender	Dimensions W x H x D (mm)	Part number	Configuration	Other configurations
19	2.4/1.6	M	47.5 x 50.5 x 45.4	15544333	Thin	Thick, Reverse
19	2.4/1.6	F	49.4 x 49.4 x 42	15544902	Thin	Thick, Reverse
21	2.4/1.6	M	47.5 x 50.5 x 45.4	15544331	Thin	Thick
21	2.4/1.6	F	49.4 x 49.4 x 42	15544899	Thin	Thick
23	1.6	M	47.5 x 50.5 x 45.4	15544329	Thin	Thick
23	1.6	F	49.4 x 49.4 x 42	15544897	Thin	Thick
29	2.4/1.6/1.0	M	47.5 x 50.5 x 45.4	15544327	Thin	Thick
29	2.4/1.6/1.0	F	49.4 x 49.4 x 42	15544895	Thin	Thick
31	1.6	M	47.5 x 50.5 x 45.4	15544326	Thin	Thick, Reverse
31	1.6	F	49.4 x 49.4 x 42	15544894	Thin	Thick, Reverse
47	1.6/1.0	M	47.5 x 50.5 x 45.4	15544324	Thin	-
47	1.6/1.0	F	49.4 x 49.4 x 42	15544892	Thin	-



## COMPATIBLE ACCESSORIES

Size	Accessory	Part number
19	Back Shell 180°	13767802
19	Back Shell 90°	13767805
22	Back Shell 180°	13767803
22	Back Shell 90°	13767806
25	Back Shell 180°	13667839
25	Back Shell 90°	13667840
16 & 20	Cavity seal plug	13756464
12	Cavity seal plug	13756465



## CAVITY CONFIGURATIONS

### 47 Way



5 size 16,  
42 size 20  
Thin Wall (Blue Seal)

### 31 Way



31 size 16  
Thin Wall (Blue Seal)  
Regular and Heavy Wall (Orange Seal)

### 29 Way



4 size 12  
19 size 16  
6 size 20  
Thin Wall (Blue Seal)  
Regular and Heavy Wall (Orange Seal)

### 23 Way



23 size 16  
Thin Wall (Blue Seal)  
Regular and Heavy Wall (Orange Seal)

### 21 Way



4 size 12  
17 size 16  
Thin Wall (Blue Seal)  
Regular and Heavy Wall (Orange Seal)

### 19 Way



6 size 12  
13 size 16  
Thin Wall (Blue Seal)  
Regular and Heavy Wall (Orange Seal)



## COMPATIBLE WITH



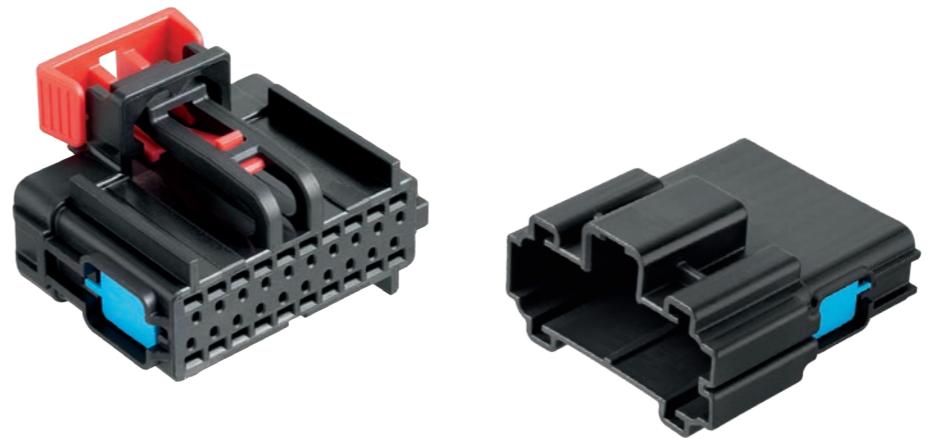
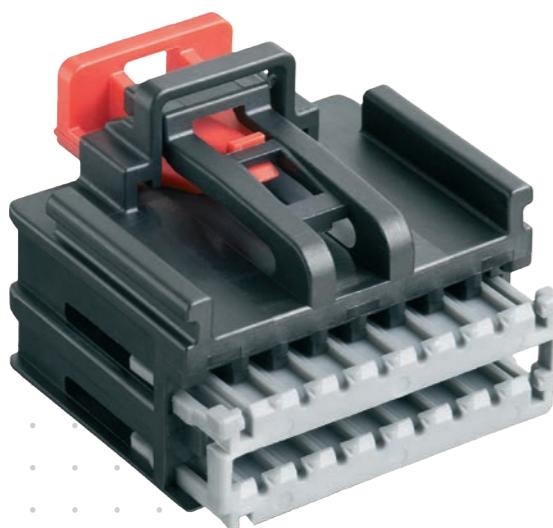
HES Terminals



## OCS TERMINALS AND CONNECTORS

# OCS CONNECTORS SELECTOR GUIDE

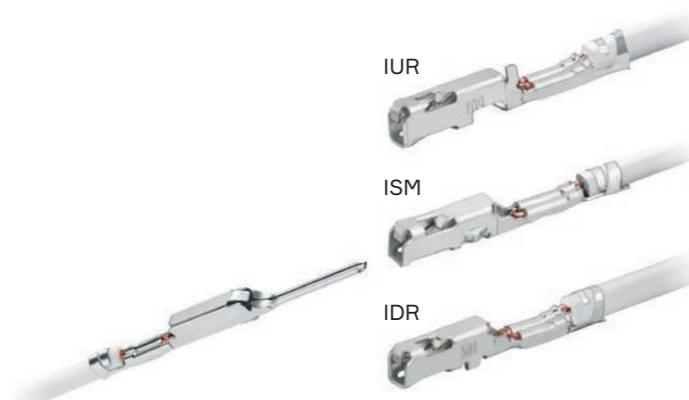
Optimal Component Series – OCS offers an industry standard mating interface and family of terminal cavities to enable interchangeability with other compatible systems in the market. The optimized design features provide maximum performance and benefits.



			
<b>Application</b>	OCS 1.2 Unsealed	OCS 1.5 Sealed	OCS 1.5 Unsealed
<b>Blade Size</b>	1.2	1.5	1.5, 2.8, 6.3, Mixed
<b># of Cavities</b>	2, 4, 6, 8, 12, 16, 20	2, 3, 4, 6, 8, 10, 12, 16	2, 3, 4, 6, 8, 10, 12, 16
<b>Gender</b>	F, M	F, M	F, M
<b>Temperature Class</b>	T2 (+105°C)	T3	T2 (+105°C)
<b>IP Rating</b>	NA	IP69K	IP69K
<b>CPA</b>	Optional	Optional	Optional
<b>See Pages</b>	140-141	142-143	144-145

*This document is non-contractual and is for information purpose only*

# OCS 0.64 TERMINALS



OCS 0.64  
Female & Male Terminals

## BENEFITS

- Cavity compatible with industry standards and/or major OEM cavity preferences
- Wide range of crimp sizes with Aptiv proven crimp technology
- Meets or exceeds major OEM test protocols and requirements
- Contact tongue overstress and nose protection
- High performance copper alloy
- One-piece terminal construction

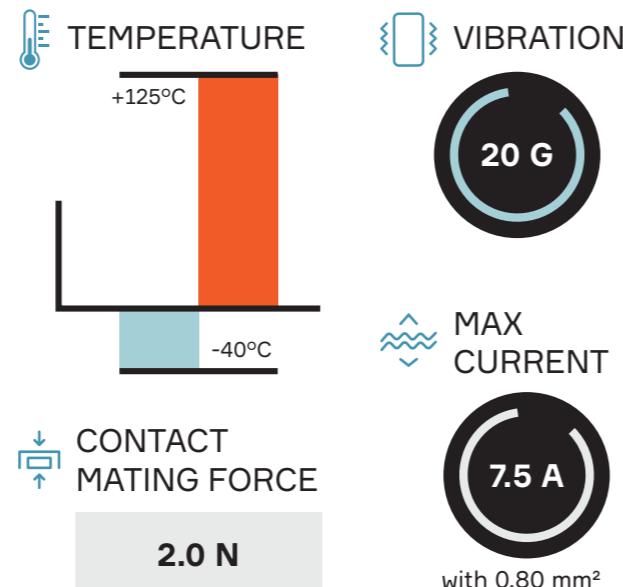
## FEATURES

- 6+ sigma projected reliability at 150,000 miles (241,401 km)
- Multiple index features available
  - ISM (Index Side Middle) sealed and unsealed applications
  - IUR (Index Up Rear) unsealed applications
  - IDR (Index Down Rear) sealed and unsealed applications
- Up to 18% less material than the competition
- For use in 0.64 applications
- Independent secondary lock compatible

## AVAILABLE CONFIGURATIONS

Terminal Type	Box & Blade
Locking Mechanism	Tangless / Lanceless
Crimp Validated to	USCAR-21
Blade Size (mm)	0.64
Wire Gage Range (AWG)	25 - 18
Wire Gage Range (mm <sup>2</sup> )	0.13 - 0.80
Genders	Female, Male
Sealing Options	Unsealed, matte/block sealed
Plating Options	Sn, Ag

128

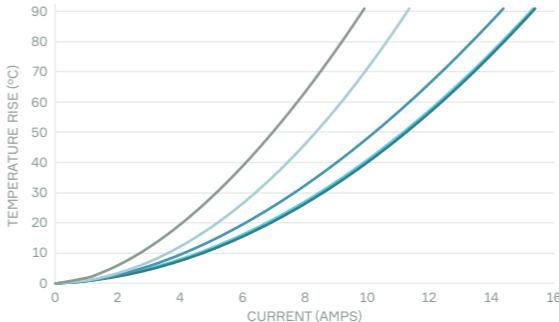


Index	Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings
ISM	Unsealed/Matte Sealed	F	Sn	18	0.75 - 0.80	13726148	N/A
ISM	Unsealed/Matte Sealed	F	Sn	21	0.35 - 0.50	13726147	N/A
ISM	Unsealed/Matte Sealed	F	Sn	25	0.13 - 0.22	13726146	N/A
IDR	Unsealed/Matte Sealed	F	Sn	18	0.75 - 0.80	35088738	Ag
IDR	Unsealed/Matte Sealed	F	Sn	21	0.35 - 0.50	35088739	Ag
IDR	Unsealed/Matte Sealed	F	Sn	25	0.13 - 0.22	35088740	Ag
IUR	Unsealed	F	Sn	18	0.75 - 0.80	35088745	Ag
IUR	Unsealed	F	Sn	21	0.35 - 0.50	35088746	Ag
IUR	Unsealed	F	Sn	25	0.13 - 0.22	35088747	Ag
	Unsealed/Matte Sealed	M	Sn	18	0.75 - 0.8	15504520	Ag
	Unsealed/Matte Sealed	M	Sn	21	0.35 - 0.50	15504521	Ag
	Unsealed/Matte Sealed	M	Sn	25	0.13 - 0.22	15504522	Ag

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

## TEMP RISE CURVE

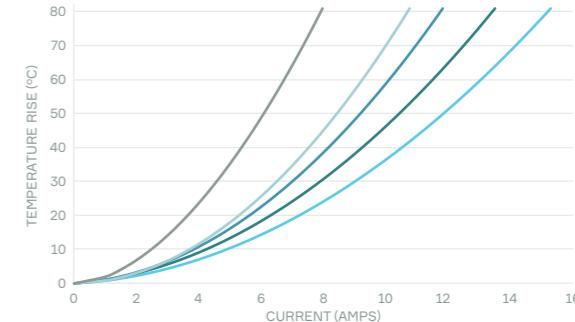
OCS 0.64 Series ISM  
Female Terminal



Aptiv taxi: ISM: 13756466  
IDR: Sn - 13887649, Ag - 13919105  
IUR: Sn, Ag - 13767042  
Cable range: 0.13 - 0.80 mm<sup>2</sup>

\* For reference only

OCS 0.64 Series IDR IUR  
Female Terminal



Crimp method: Standard  
Contact plating: Sn  
Test method: Single circuit in free air\*  
Mated to: Compliant header

0.13 mm<sup>2</sup>  
0.22 mm<sup>2</sup>  
0.35 mm<sup>2</sup>  
0.50 mm<sup>2</sup>  
0.80 mm<sup>2</sup>

The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

## COMPATIBLE WITH



OCS 0.64 Series Housings

129

# OCS 1.2 TERMINALS



OCS 1.2  
Female & Male Terminals

## BENEFITS

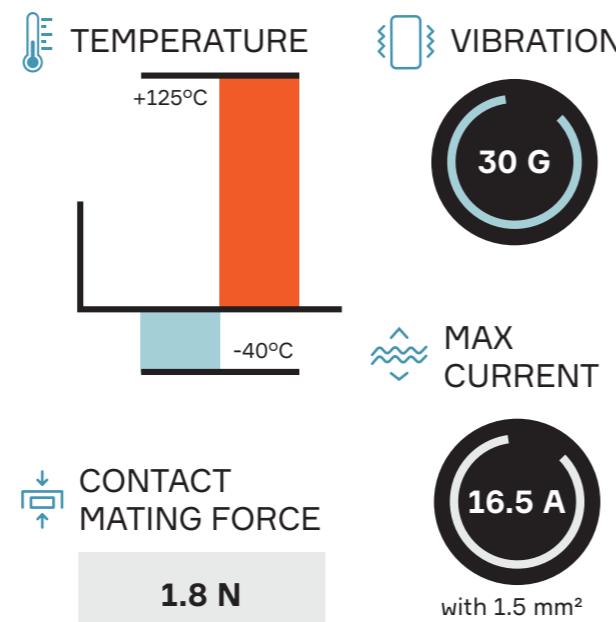
- Cavity compatible with industry standards and/or major OEM cavity preferences
- Wide range of crimp sizes with Aptiv proven crimp technology
- Meets or exceeds major OEM test protocols and requirements
- Contact tongue overstress and nose protection
- High performance copper alloy
- One-piece terminal construction

## FEATURES

- 6+ sigma projected reliability at 150,000 miles (241,401 km)
- Robust powertrain contact geometry that is severe vibration capable
- Up to 11% less mass than competing product
- For use in unsealed & mat sealed 1.2 applications
- Independent secondary lock compatible

## AVAILABLE CONFIGURATIONS

Terminal Type	Box & Blade
Locking Mechanism	Tangless / Lanceless
Crimp Validated to	USCAR-21
Blade Size (mm)	1.2
Wire Gage Range (AWG)	25 - 15
Wire Gage Range (mm <sup>2</sup> )	0.13 - 1.5
Genders	Female, Male
Sealing Options	Unsealed, matte/block sealed
Plating Options	Sn, Sn/Ag, Ag, Au/Pd



Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings	Other available configurations
Unsealed/Matte Sealed	F	Sn	21	0.35 - 0.5	35072391	Sn/Ag, Ag, Au/Pd	N/A
Unsealed/Matte Sealed	F	Sn	18	0.75 - 0.8	35072392	Sn/Ag, Ag, Au/Pd	N/A
Unsealed/Matte Sealed	F	Sn	17	0.8 - 1.0	35072393	Sn/Ag, Ag, Au/Pd	N/A
Unsealed/Matte Sealed	F	Sn	25	0.13 - 0.22	35072402	Ag	N/A
Unsealed/Matte Sealed	F	Sn	21	0.35 - 0.5	35072403	Ag	N/A
Unsealed/Matte Sealed	F	Sn	18	0.75 - 0.8	35072404	Ag	N/A
Unsealed/Matte Sealed	F	Sn	17	0.8 - 1.0	35072405	Ag	N/A
Unsealed/Matte Sealed	F	Sn	15	1.25 - 1.5	35072406	Ag	N/A
Unsealed/Matte Sealed	M	Sn	15	1.25 - 1.5	35091060	Ag	N/A
Unsealed/Matte Sealed	M	Sn	18	0.75 - 1.0	35091061	Ag	N/A
Unsealed/Matte Sealed	M	Sn	21	0.35 - 0.50	35091062	Ag	N/A
Unsealed/Matte Sealed	M	Sn	25	0.13 - 0.22	35091063	Ag	N/A

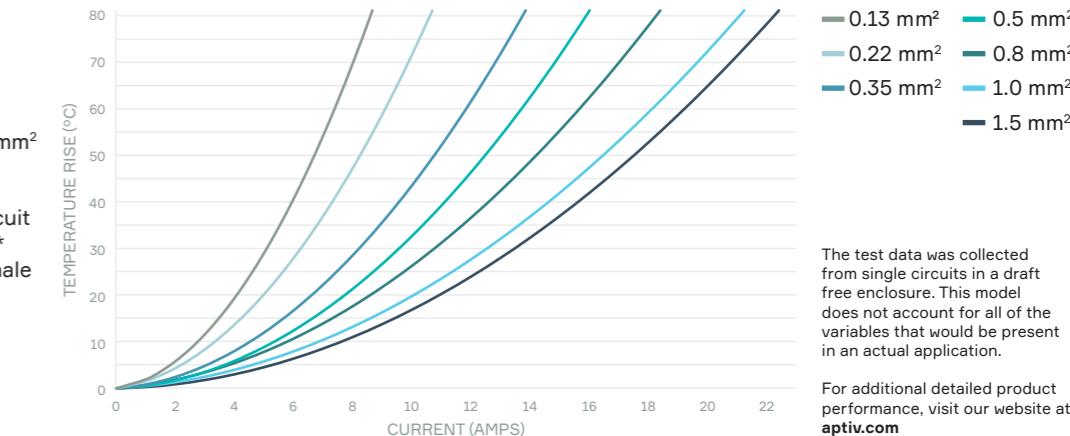
Please, contact an Aptiv representative for the full part number list.

## TEMP RISE CURVE

### OCS 1.2 Series Female Terminal

Aptiv taxi: 13543112  
Cable range: 0.13 - 1.5 mm<sup>2</sup>  
Crimp method: Standard  
Contact plating: CuNiSi  
Test method: Single circuit in free air\*  
Mated to: OCS 1.2 male terminals

\* For reference only



The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

## COMPATIBLE WITH



# OCS 1.5 SEALED TERMINALS



OCS 1.5 Sealed  
Female & Male Terminals

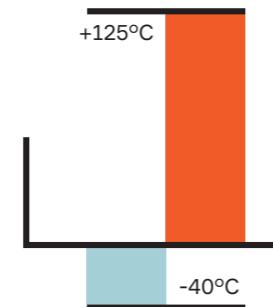
## BENEFITS

- Cavity compatible with industry standards and/or major OEM cavity preferences
- Wide range of crimp sizes with Aptiv proven crimp technology
- Meets or exceeds major OEM test protocols and requirements
- Contact tongue overstress and nose protection
- High performance copper alloy
- One-piece terminal construction

## FEATURES

- 6+ sigma projected reliability at 150,000 miles (241,401 km)
- Available in slippery tin plating to minimize terminal engage
- Up to 38% less material than the competition
- For use in 1.5 cable sealed applications

### TEMPERATURE



### VIBRATION



### MAX CURRENT



with 1.5 mm<sup>2</sup>

### CONTACT MATING FORCE

3.5 N

## AVAILABLE CONFIGURATIONS

Terminal Type	Box & Blade
Locking Mechanism	Tangless / Lanceless
Crimp Validated to	USCAR-21
Blade Size (mm)	1.5
Wire Gage Range (AWG)	21 - 15
Wire Gage Range (mm <sup>2</sup> )	0.35 - 1.5
Genders	Female, Male
Sealing Options	Cable Sealed
Plating Options	Sn, Ag

Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings	Other available configurations
Cable Sealed	F	Sn	15	1.25 - 1.5	35138798	Ag	N/A
Cable Sealed	F	Sn	17	0.75 - 1.0	35138799	Ag	N/A
Cable Sealed	F	Sn	21	0.35 - 0.50	35138800	Ag	N/A
Cable Sealed	F	Sn	21	0.35 - 0.50	35138801	Ag	N/A
Cable Sealed	M	Sn	17	0.75 - 1.0	13964786	Ag	N/A
Cable Sealed	M	Sn	21	0.35 - 0.50	13964785	Ag	N/A
Cable Sealed	M	Sn	21	0.35 - 0.50	13964784	Ag	N/A

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

## COMPATIBLE SEALS

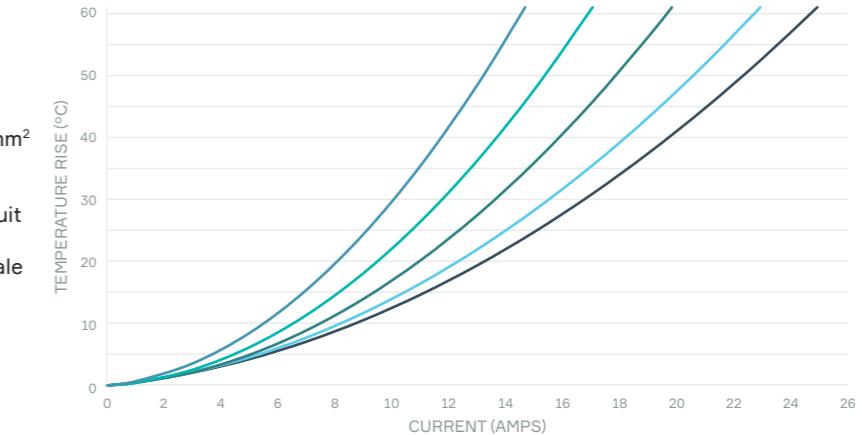
Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.35 - 0.75	Red	Yes	13834630
Cable Seal	0.75 - 1.5	Blue	Yes	13834623
Cable Seal	1.5 - 2.0	Gray	Yes	13834614

## TEMP RISE CURVE

### OCS 1.5 Sealed Series Female Terminal

Aptiv taxi: 13887280  
Cable range: 0.35 - 1.5 mm<sup>2</sup>  
Crimp method: Standard  
Contact plating: Sn  
Test method: Single circuit in free air\*  
Mated to: OCS 1.5 male terminals

\* For reference only



The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

## COMPATIBLE WITH



OCS 1.5 Sealed Series Housings



OCS 1.5 Unsealed Series Housings

# OCS 1.5 UNSEALED TERMINALS



OCS 1.5 Unsealed Female & Male Terminals

## BENEFITS

- Cavity compatible with industry standards and/or major OEM cavity preferences
- Wide range of crimp sizes with Aptiv proven crimp technology
- Meets or exceeds major OEM test protocols and requirements
- Contact tongue overstress and nose protection
- High performance copper alloy
- One-piece terminal construction

## FEATURES

- 6+ sigma projected reliability at 150,000 miles (241,401 km)
- Available with LIF contact geometry and slippery tin plating to minimize terminal engage
- Up to 40% less material than the competition
- For use in unsealed & mat sealed 1.5 applications

Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings	Other available configurations
Unsealed/Matte Sealed	F	Sn	14	1.5 - 2.0	35031565	Ag	N/A
Unsealed/Matte Sealed	F	Sn	17	0.75 - 1.0	35031566	Ag	N/A
Unsealed/Matte Sealed	F	Sn	21	0.35 - 0.50	35031567	Ag	N/A
Unsealed/Matte Sealed	F	Sn	25	0.13 - 0.22	35031568	Ag	N/A
Unsealed/Matte Sealed	M	Sn	14	1.5 - 2.0	13964792	Ag	N/A
Unsealed/Matte Sealed	M	Sn	15	1.25 - 1.5	13964791	Ag	N/A
Unsealed/Matte Sealed	M	Sn	17	0.75 - 1.0	13964790	Ag	N/A
Unsealed/Matte Sealed	M	Sn	21	0.35 - 0.50	13964789	Ag	N/A
Unsealed/Matte Sealed	M	Sn	25	0.13 - 0.22	13964788	Ag	N/A

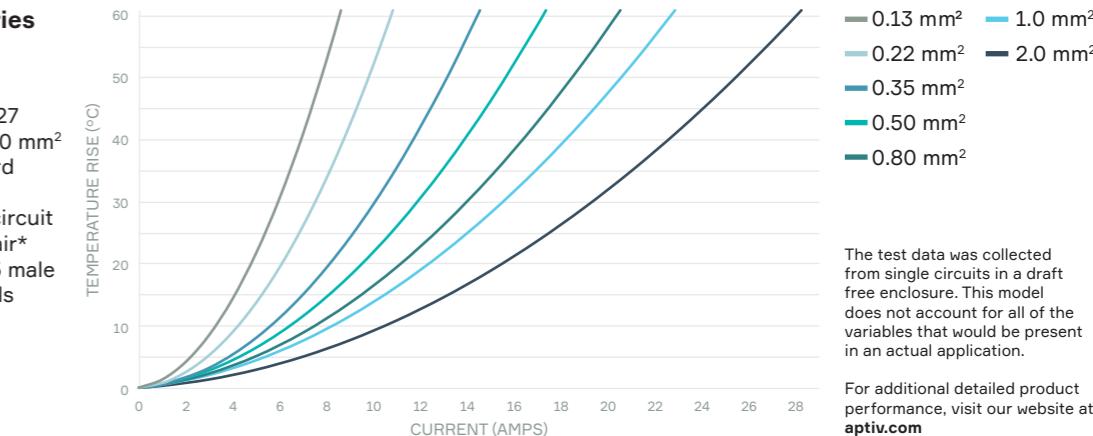
Please, contact an Aptiv representative for the full part number list.

## TEMP RISE CURVE

### OCS 1.5 Unsealed Series Female Terminal

Aptiv taxi: 13849927  
 Cable range: 0.13 - 2.0 mm<sup>2</sup>  
 Crimp method: Standard  
 Contact plating: Sn  
 Test method: Single circuit in free air\*  
 Mated to: OCS 1.5 male terminals

\* For reference only



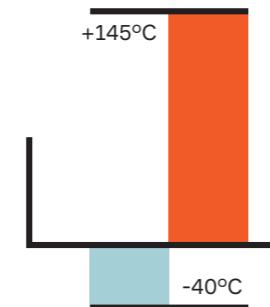
The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

## AVAILABLE CONFIGURATIONS

Terminal Type	Box & Blade
Locking Mechanism	Tangless / Lanceless
Crimp Validated to	USCAR-21
Blade Size (mm)	1.5
Wire Gage Range (AWG)	25 - 14
Wire Gage Range (mm <sup>2</sup> )	0.13 - 2.0
Genders	Female, Male
Sealing Options	Unsealed, matte/block sealed
Plating Options	Sn, Ag

## TEMPERATURE



## VIBRATION



## MAX CURRENT



with 2.0 mm<sup>2</sup>

## CONTACT MATING FORCE

3.0 N

## COMPATIBLE WITH



OCS 1.5 Sealed Series Housings



OCS 1.5 Unsealed Series Housings

# OCS 2.8 SEALED TERMINALS



OCS 2.8 Sealed  
Female & Male Terminals

## BENEFITS

- Cavity compatible with industry standards and/or major OEM cavity preferences
- Wide range of crimp sizes with Aptiv proven crimp technology
- Meets or exceeds major OEM test protocols and requirements
- Contact tongue overstress and nose protection
- High performance copper alloy
- One-piece terminal construction

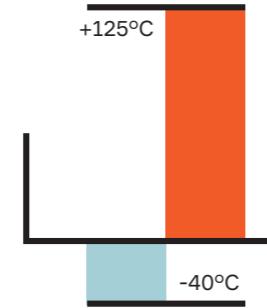
## FEATURES

- 6+ sigma projected reliability at 150,000 miles (241,401 km)
- Patented contact geometry
- Up to 36% less mass than competing product
- For use in 2.8 cable sealed applications

## AVAILABLE CONFIGURATIONS

Terminal Type	Box & Blade
Locking Mechanism	Tangless / Lanceless
Crimp Validated to	USCAR-21
Blade Size (mm)	2.8
Wire Gage Range (AWG)	21 - 13
Wire Gage Range (mm <sup>2</sup> )	0.35 - 3.0
Genders	Female, Male
Sealing Options	Cable Sealed
Plating Options	Sn

## TEMPERATURE



## VIBRATION



## MAX CURRENT



with 3.0 mm<sup>2</sup>

## CONTACT MATING FORCE



Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings	Other available configurations
Cable Sealed	F	Sn	13	2.0 - 3.0	35126209	N/A	N/A
Cable Sealed	F	Sn	14	1.25 - 2.5	35126211	N/A	N/A
Cable Sealed	F	Sn	17	0.75 - 1.0	35126212	N/A	N/A
Cable Sealed	F	Sn	21	0.35 - 0.50	35126213	N/A	N/A
Cable Sealed	M	Sn	14	2.0 - 2.5	13964777	N/A	N/A
Cable Sealed	M	Sn	15	1.25 - 1.5	13964776	N/A	N/A
Cable Sealed	M	Sn	17	0.75 - 1.0	13964775	N/A	N/A
Cable Sealed	M	Sn	21	0.35 - 0.50	13964774	N/A	N/A

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

## COMPATIBLE SEALS

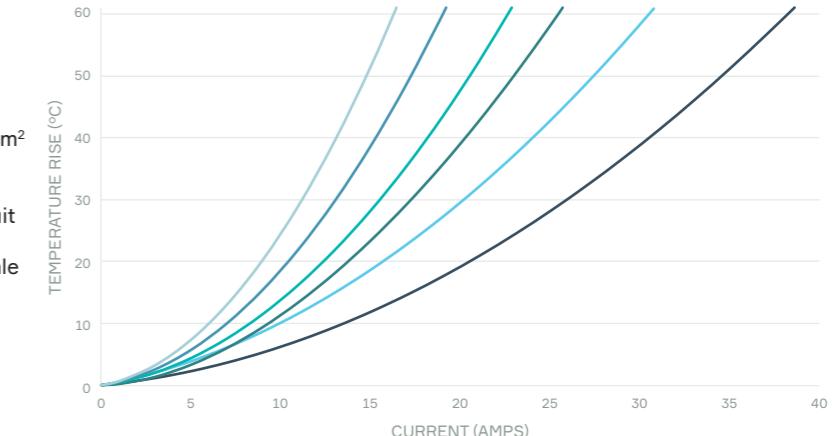
Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.35 - 0.75	Green	Yes	13834633
Cable Seal	1.0 - 2.5	Blue	Yes	35545727
Cable Seal	2.0 - 4.0	Gray	Yes	35545726

## TEMP RISE CURVE

### OCS 2.8 Sealed Series Female Terminal

Aptiv taxi: 13887281  
Cable range: 0.35 - 3.0 mm<sup>2</sup>  
Crimp method: Standard  
Contact plating: Sn  
Test method: Single circuit in free air\*  
Mated to: OCS 2.8 male terminals

\* For reference only



The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

## COMPATIBLE WITH



OCS 2.8 Unsealed Series Housings

# OCS 2.8 UNSEALED TERMINALS



OCS 2.8 Unsealed  
Female & Male Terminals

## BENEFITS

- Cavity compatible with industry standards and/or major OEM cavity preferences
- Wide range of crimp sizes with Aptiv proven crimp technology
- Meets or exceeds major OEM test protocols and requirements
- Contact tongue overstress and nose protection
- High performance copper alloy
- One-piece terminal construction

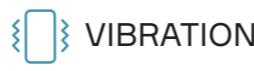
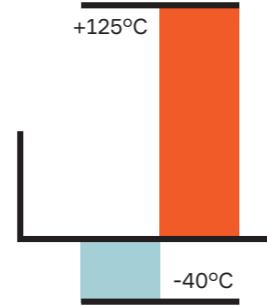
## FEATURES

- 6+ sigma projected reliability at 150,000 miles (241,401 km)
- Patented contact geometry
- Up to 37% less material than the competition
- For use in unsealed 2.8 applications



## AVAILABLE CONFIGURATIONS

Terminal Type	Box & Blade
Locking Mechanism	Tangless / Lanceless
Crimp Validated to	USCAR-21
Blade Size (mm)	2.8
Wire Gage Range (AWG)	25 - 10
Wire Gage Range (mm <sup>2</sup> )	0.13 - 5.0
Genders	Female, Male
Sealing Options	Unsealed
Plating Options	Sn



4.0 N

Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings	Other available configurations
Unsealed	F	Sn	10	4.0 - 5.0	35063083	N/A	N/A
Unsealed	F	Sn	13	2.0 - 3.0	35063084	N/A	N/A
Unsealed	F	Sn	14	1.25 - 2.5	35063085	N/A	N/A
Unsealed	F	Sn	17	0.75 - 1.0	35063086	N/A	N/A
Unsealed	F	Sn	21	0.30 - 0.60	35063087	N/A	N/A
Unsealed	F	Sn	25	0.13 - 0.22	35063088	N/A	N/A
Unsealed	M	Sn	13	2.5 - 3.0	13964783	N/A	N/A
Unsealed	M	Sn	14	2.0 - 2.5	13964782	N/A	N/A
Unsealed	M	Sn	15	1.25 - 1.5	13964781	N/A	N/A
Unsealed	M	Sn	17	0.75 - 1.0	13964780	N/A	N/A
Unsealed	M	Sn	21	0.35 - 0.50	13964779	N/A	N/A

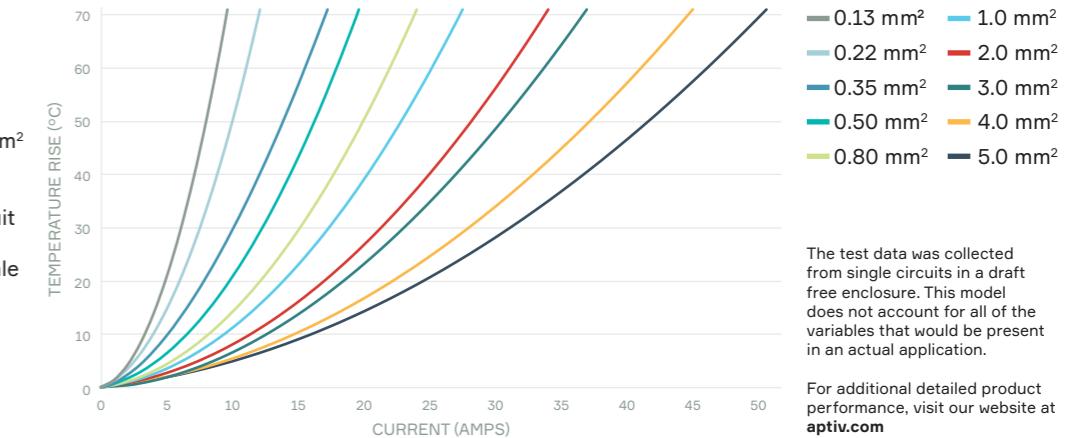
Please, contact an Aptiv representative for the full part number list.



## OCS 2.8 Unsealed Series Female Terminal

Aptiv taxi: 13819334  
Cable range: 0.13 - 5.0 mm<sup>2</sup>  
Crimp method: Standard  
Contact plating: Sn  
Test method: Single circuit in free air\*  
Mated to: OCS 2.8 male terminals

\* For reference only



The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)



# OCS 1.2 UNSEALED SERIES



## BENEFITS

- Enhanced connection system warranty performance
- Robust reliability and design-in durability

## FEATURES

- Optimized connector face to prevent terminal stubbing
- Full Locking System (FLS) for superior terminal locking detection and retention
- Outer cavities accept 1.5mm<sup>2</sup> cable for greater flexibility (4-20 way)
- Optional Connector Position Assurance (CPA) for higher reliability

Cavity count	Blade size (mm)	Gender	Dimensions W x H x L (mm)	Part number	Index	Color	CPA	Other indexes offered
2	1.2	F	23 x 10.53 x 11.14	33277559	A	Black	Yes	B, C, D
2	1.2	M	35.55 x 14 x 11.93	33277549	A	Black	Yes	B, C, D
4	1.2	F	30.5 x 18.14 x 20.48	33198617	A	Black	Yes	B, C, D, E, F
4	1.2	M	38.95 x 18.83 x 21.61	33198634	A	Black	Yes	B, C, D, E, F
6	1.2	F	30.5 x 23.42 x 20.48	33257488	A	Black	Yes	B, C, D, E, F
6	1.2	M	38.95 x 24.63 x 20.17	33257503	A	Black	Yes	B, C, D, E, F
8	1.2	F	30.5 x 17.53 x 23.01	33255744	A	Black	Yes	B, C, D, E, F
8	1.2	M	38.95 x 19.96 x 24.1	33255759	A	Black	Yes	B, C, D, E, F
12	1.2	F	30.5 x 23.33 x 23.01	33250071	A	Black	Yes	B, C, D, E, F
12	1.2	M	38.95 x 25.76 x 22.75	33250086	A	Black	Yes	B, C, D, E, F
16	1.2	F	30.5 x 29.13 x 23.01	33257519	A	Black	Yes	B, C, D, E, F
16	1.2	M	38.95 x 31.56 x 22.75	33257537	A	Black	Yes	B, C, D, E, F
20	1.2	F	30.5 x 34.93 x 23.01	33239497	A	Black	Yes	B, C, D, E, F
20	1.2	M	38.95 x 37.36 x 22.75	33239518	A	Black	Yes	B, C, D, E, F

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

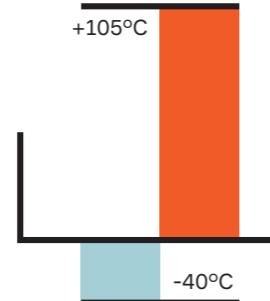
## COMPATIBLE WITH



## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	2, 4, 6, 8, 12, 16, 20
Cavity Configurations (mm)	1.2
Genders	Female, Male
Materials	PA, PBT
Mating Type	Hand-Mate

## TEMPERATURE



## VIBRATION



## APPLICATIONS

Passenger compartment inline applications

## SEALING CLASS



Part numbers, specifications, dimensions and performance data in this document are for general references only and are subject to change without notice. To verify product information, please contact an Aptiv representative.

# OCS 1.5 SEALED SERIES

OCS 1.5 Sealed Female



OCS 1.5 Sealed Male

## BENEFITS

- Compatibility with industry standard mating interfaces
- Robust reliability and designed-in durability
- Enhanced connection system warranty performance

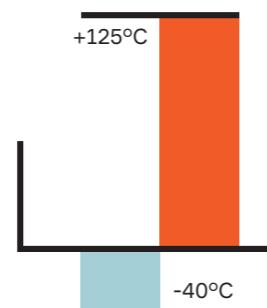
## FEATURES

- Housing lock overstress protection to prevent lock relaxation or damage
- Polyester resins for enhanced audible click for improved operator build feedback and dimensional stability in all seasons
- Optimized Primary Lock Reinforcement (PLR) for improved unseated terminal detection
- Cavity designed with positive forward stop to prevent terminal push through
- Optimized optional Connector Position Assurance (CPA) to provide additional lock performance to ensure connectors stay mated

## AVAILABLE CONFIGURATIONS

Cavity count (ways)	2, 3, 4, 6, 8, 10, 12, 16
Genders	Female, Male
Indexes	4 USCAR standard, +2
Primary Lock Reinforcement (PLR)	Yes
Connector Position Assurance (CPA)	Optional

## TEMPERATURE



## VIBRATION



## APPLICATIONS

Inline applications

S3

## SEALING CLASS

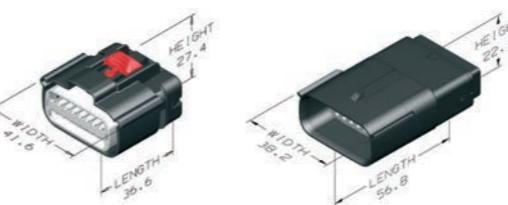
Cavity count	Blade size (mm)	Gender	Dimensions W x H x L (mm)	Part number	CPA	Index	Color	Other indexes offered
2	1.5	F	36.6 x 20.9 x 24.2	15514573	Y	A	Black	B, C, D, E, F
2	1.5	M	56.8 x 17.6 x 18.8	15514550	N	A	Black	B, C, D, E, F
3	1.5	F	36.6 x 24.5 x 24.3	15514762	Y	A	Black	B, C, D, E, F
3	1.5	M	56.8 x 21.2 x 18.8	15514744	N	A	Black	B, C, D, E, F
4	1.5	F	36.6 x 27.9 x 24.1	15514524	Y	A	Black	B, C, D, E, F
4	1.5	M	56.8 x 24.6 x 18.8	15514500	N	A	Black	B, C, D, E, F
6	1.5	F	36.6 x 24.0 x 27.6	15513504	Y	A	Black	B, C, D, E, F
6	1.5	M	56.8 x 20.7 x 22.3	15513474	N	A	Black	B, C, D, E, F
8	1.5	F	36.6 x 27.5 x 27.6	15514667	Y	A	Black	B, C, D, E, F
8	1.5	M	56.8 x 24.2 x 21.9	15514651	N	A	Black	B, C, D, E, F
10	1.5	F	36.6 x 31.0 x 27.6	15514821	Y	A	Black	B, C, D, E, F
10	1.5	M	56.8 x 27.7 x 21.9	15514807	N	A	Black	B, C, D, E, F
12	1.5	F	36.6 x 34.5 x 27.6	15514623	Y	A	Black	B, C, D, E, F
12	1.5	M	56.8 x 31.2 x 21.9	15521147	N	A	Black	B, C, D, E, F
16	1.5	F	36.6 x 41.6 x 27.4	15514473	Y	A	Black	B, C, D, E, F
16 <sup>1</sup>	1.5	M	56.8 x 38.2 x 22.3	15521020	N	A	Black	B, C, D, E, F
16 <sup>2</sup>	1.5	M	56.8 x 38.2 x 22.3	35021687	N	A	Black	B, C, D, E, F

<sup>1</sup> with 7 mm clip slot

<sup>2</sup> with 11 mm clip slot

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

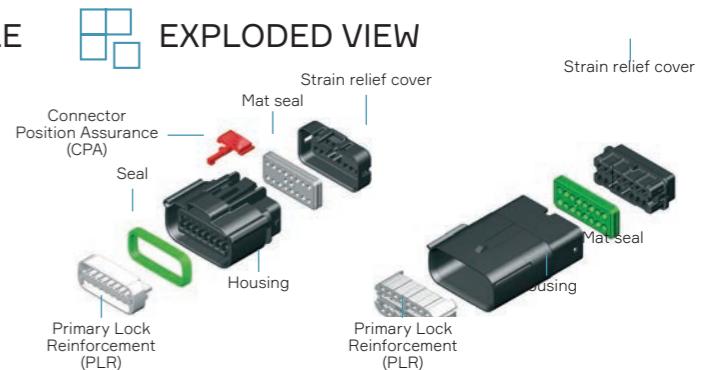
## DIMENSION MEASUREMENT SAMPLE



OCS 1.5 Sealed Female

OCS 1.5 Sealed Male

## EXPLODED VIEW



## COMPATIBLE WITH



OCS 1.5 Series Terminals

# OCS 1.5 UNSEALED SERIES

OCS 1.5 Unsealed Female



OCS 1.5 Unsealed Male

## BENEFITS

- Compatibility with industry standard mating interfaces
- Robust reliability and designed-in durability
- Enhanced connection system warranty performance

## FEATURES

- Housing lock overstress protection to prevent lock relaxation or damage
- Polyester resins for enhanced audible click for improved operator build feedback and dimensional stability in all seasons
- Optimized Primary Lock Reinforcement (PLR) for improved unseated terminal detection
- Cavity designed with positive forward stop to prevent terminal push through
- Optimized optional Connector Position Assurance (CPA) to provide additional lock performance to ensure connectors stay mated

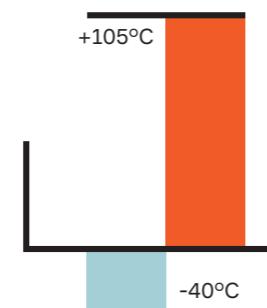
## AVAILABLE CONFIGURATIONS

Cavity count (ways)	2, 3, 4, 6, 8, 10, 12, 16
Genders	Female, Male
Indexes	4 USCAR standard, +2
Primary Lock Reinforcement (PLR)	Yes
Connector Position Assurance (CPA)	Optional

## APPLICATIONS

Inline applications

## TEMPERATURE



## VIBRATION



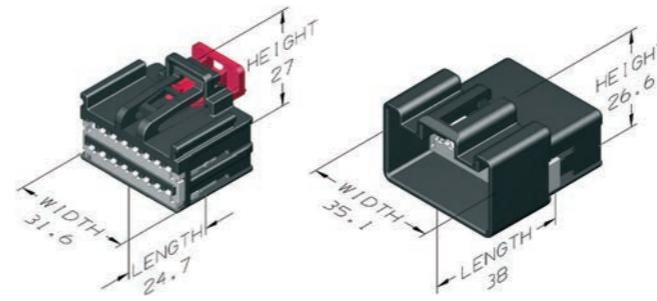
## SEALING CLASS



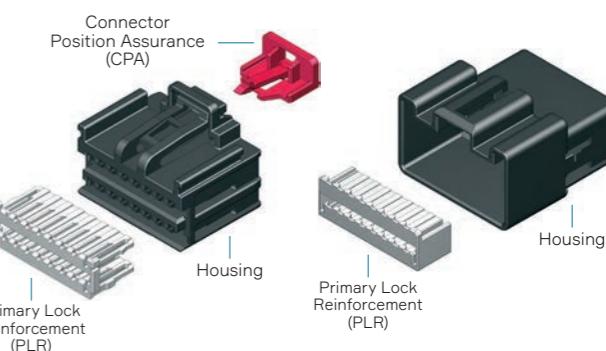
Cavity count	Blade size (mm)	Gender	Dimensions W x H x L (mm)	Part number	CPA	Index	Color	Other indexes offered
2	1.5	F	24.7 x 13.8 x 21.1	15509274	Y	A	Black	B, C, D, E, F
2	1.5	M	38.0 x 15.9 x 23.1	15509260	N	A	Black	B, C, D, E, F
3	1.5	F	24.7 x 14.2 x 21.1	15509304	Y	A	Black	B, C, D, E, F
3	1.5	M	38.0 x 19.4 x 21.3	15509290	N	A	Black	B, C, D, E, F
4	1.5	F	24.7 x 17.7 x 21.1	15509333	Y	A	Black	B, C, D, E, F
4	1.5	M	38.0 x 22.9 x 21.8	15509319	N	A	Black	B, C, D, E, F
6	1.5	F	24.7 x 14.0 x 27.6	15512461	Y	A	Black	B, C, D, E, F
6	1.5	M	38.0 x 19.4 x 29.6	13968716	N	A	Black	B, C, D, E, F
8	1.5	F	24.7 x 17.5 x 27.6	15509366	Y	A	Black	B, C, D, E, F
8	1.5	M	38.0 x 22.4 x 29.6	15509351	N	A	Black	B, C, D, E, F
10	1.5	F	24.7 x 21.2 x 27.0	15512475	Y	A	Black	B, C, D, E, F
10	1.5	M	38.0 x 24.6 x 26.6	13968808	N	A	Black	B, C, D, E, F
12	1.5	F	24.7 x 24.5 x 27.0	15512489	Y	A	Black	B, C, D, E, F
12	1.5	M	38.0 x 28.1 x 26.6	13968810	N	A	Black	B, C, D, E, F
16	1.5	F	24.7 x 31.6 x 27.0	15512506	Y	A	Black	B, C, D, E, F
16	1.5	M	38.0 x 35.1 x 26.6	13968813	N	A	Black	B, C, D, E, F

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

## DIMENSION MEASUREMENT SAMPLE



## EXPLODED VIEW



## COMPATIBLE WITH



Part numbers, specifications, dimensions and performance data in this document are for general references only and are subject to change without notice. To verify product information, please contact an Aptiv representative.



## SICMA TERMINALS, CONNECTORS AND HEADERS

# SICMA CONNECTORS SELECTOR GUIDE

Versatile family of housings and one piece terminals that can be used throughout the vehicle.

A comprehensive product portfolio for full interconnect system.  
SICMA is our high performance solution with superior compatibility in the industry.

- Heavy-duty performance
- Easy assembly
- High compatibility

Product Series	SICMA Inline Sealed	SICMA Inline Unsealed	SICMA Mini-Sealed	SICMA Panel-Through Sealed	SICMA Panel-Through Unsealed
<b>Application</b>	Exterior, chassis, engine compartment, inline, female mated to device	Inline, interior, cockpit	Body and Chassis, Engine compartment	Door-to-body connection, EV to battery control	Door-to-body
<b>Blade Size</b>	1.5, 2.8	1.5, 2.8	1.5, 2.8	0.64, 1.5, 2.8	0.64, 1.5, 2.8
<b># of Cavities</b>	6, 8, 24	10, 24, 36	2, 3, 4, 6, 6 Mixed	14, 16, 24, 26, 33, 34, 50	24, 29, 42
<b>Gender</b>	F, M	F, M	F, M	F, M	F, M
<b>Temperature Class</b>	T3	T1 (24, 36 W) T3 (10 W)	T3	T3	T3
<b>IP Rating</b>	IP68 (6, 8 W) IP67 (24 W)	NA	IP68, IPX9K	IP67 (14, 16, 24, 26, 33, 34 Way) IP64 (50 W)	NA
<b>CPA</b>	No	No	Optional for 2 W	No	No
<b>See Pages</b>	156-157	158-159	160-161	162-163	164-165

<b>SICMA SensoMate™</b>	<b>SICMA Sealed Relays</b>	<b>SICMA OBD</b>	<b>SICMA Headers Interconnect</b>
Sensors, actuators on engine mount	Engine compartment	Cockpit	Engine compartment, Body
1.5	2.8, 8.0	1.5	1.5, 2.8, Mixed
4, 5, 6	8	16	6, 24, 56, 90
F, M	F	F	F, Header
T4	T3	T2	T3
IP68, IPX9K	IP68, IPX9K	NA	IP68, IPX9K
Pre-mounted	No	No	No
166-167	168-169	170-171	172-173

This document is non-contractual and is for information purpose only

# SICMA 0.64 TERMINALS



SICMA 0.64  
Female & Male Terminals

## BENEFITS

- Optimized design to keep stable contact pressure
- Standard terminal cavity compatibility

## FEATURES

- Clean body design, preventing tearing of mat seal
- One-piece construction with high pressure contact
- Two crimping gauges for strong slow motion and vibration performance

## AVAILABLE CONFIGURATIONS

Terminal Construction	One-piece
Locking Mechanism	Tangless / Lanceless
Crimp Validated to	RSA
Blade Size (mm)	0.64
Wire Gage Range (AWG)	24 - 20
Wire Gage Range (mm <sup>2</sup> )	0.22 - 0.75
Genders	Female, Male
Sealing Options	Unsealed, Mat Sealed
Plating Options	Sn, Au
Mating Tab Dimension (mm)	0.64 x 0.9

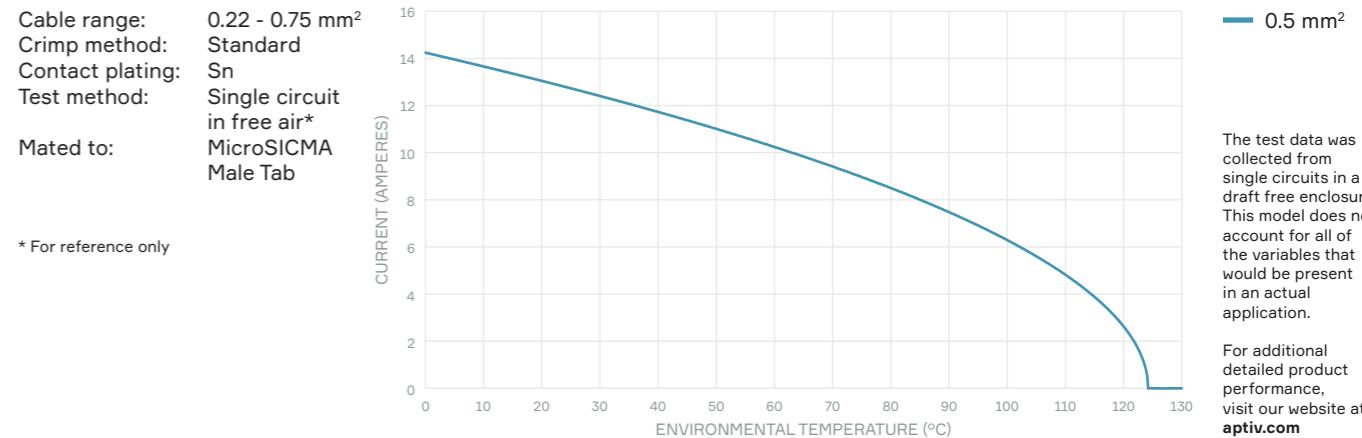
## TECHNICAL CHARACTERISTICS

Contact Resistance	< 6 mΩ
Contact Mating Force	< 3 N
Contact Unmating Force	> 0.8 N
Mating Cycles	10
Cavity Pullout Force	> 80 N
Center Line Spacing	2.5 mm



Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings
Unsealed	F	Sn	24 - 20	0.22 - 0.5	33504063	Au
Unsealed	F	Sn	22 - 18	0.35 - 0.75	10811966	Au
Unsealed	M	Sn	24 - 20	0.22 - 0.5	10811967	Au
Unsealed	M	Sn	22 - 18	0.35 - 0.75	10819388	Au

## DERATING CURVE



The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

## COMPATIBLE WITH



SICMA Panel-Through Unsealed Series 24 & 29 Way



SICMA Panel-Through Sealed Series 26 Way

# SICMA 1.5 TERMINALS



SICMA 1.5  
Female & Male Terminals

## BENEFITS

- Optimized design to keep stable contact pressure
- Standard terminal cavity compatibility

## FEATURES

- Clean body design, preventing tearing of mat seal
- One-piece construction with high pressure contact
- Several crimping gauges for strong slow motion and vibration performance

## AVAILABLE CONFIGURATIONS

Terminal Construction	One-piece
Locking Mechanism	Tangless / Lanceless
Crimp Validated to	PSA, RN, FCA, GM, Ford, Volvo
Blade Size (mm)	1.5
Wire Gage Range (AWG)	26 - 14
Wire Gage Range (mm <sup>2</sup> )	0.13 - 2.0
Genders	Female, Male
Sealing Options	Unsealed, Mat Sealed, Cable Sealed
Plating Options	Sn, Au, Ag (only for Male)
Mating Tab Dimension (mm)	1.5 x 0.8

## TECHNICAL CHARACTERISTICS

Contact Resistance	< 4 mΩ
Contact Mating Force	< 4 N
Contact Unmating Force	> 0.8 N
Mating Cycles	10 / 20 (Au)
Cavity Pullout Force	120 N
Center Line Spacing	3.33 mm (Unsealed) 4.25 mm (Sealed)

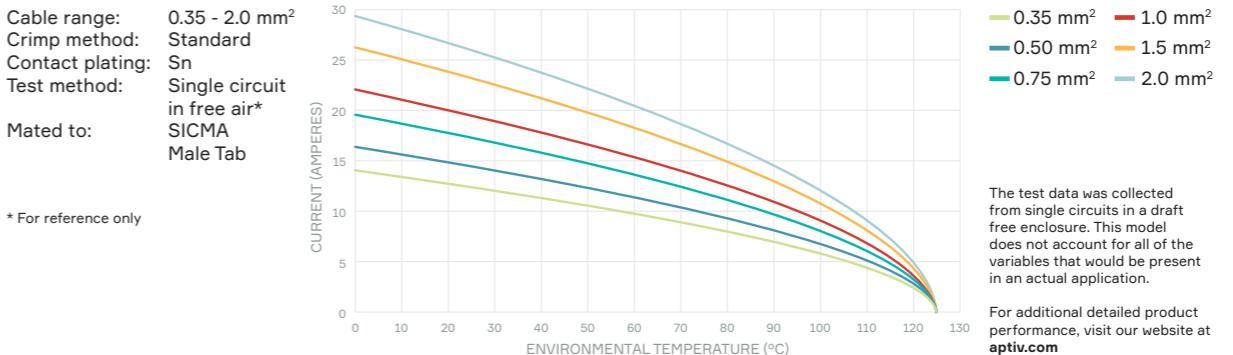


Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings
Unsealed	F	Sn	26 - 24	0.13 - 0.22	33308333	Au
Unsealed	F	Sn	24	0.22	13625048	Au
Unsealed	F	Sn	22 - 18	0.35 - 0.70	10863984	Au
Unsealed	F	Sn	18 - 16	0.75 - 1.30	10865152	Au
Unsealed	F	Sn	16 - 14	1.35 - 2.0	10863985	Au
Unsealed	M	Sn	26 - 24	0.13 - 0.22	33400435	Ag
Unsealed	M	Sn	22 - 18	0.35 - 0.70	33501792	Au, Ag
Unsealed	M	Sn	18 - 16	0.75 - 1.30	33512109	Ag
Unsealed	M	Sn	16 - 14	1.35 - 2.0	33512190	Ag
Cable Sealed	F	Sn	22 - 18	0.35 - 0.70	13761154	Au
Cable Sealed	F	Sn	18 - 16	0.75 - 1.30	13761651	Au
Cable Sealed	F	Sn	16 - 14	1.35 - 2.0	13761648	Au
Cable Sealed	M	Sn	22 - 18	0.35 - 0.70	35174381	Ag
Cable Sealed	M	Sn	18 - 16	0.75 - 1.30	35174382	Ag
Cable Sealed	M	Sn	16 - 14	1.35 - 2.0	35174383	Ag

## COMPATIBLE SEALS

Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.35 - 0.75	Yellow	Yes	10736278
Cable Seal	0.75 - 2.0	Green	Yes	10736279

## DERATING CURVE



The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

## COMPATIBLE WITH SICMA HOUSINGS



# SICMA 2.8 TERMINALS



SICMA 2.8  
Female & Male Terminals

## BENEFITS

- Optimized design to keep stable contact pressure
- Standard terminal cavity compatibility

## FEATURES

- Clean body design, preventing tearing of mat seal
- One-piece construction with high pressure contact
- Several crimping gauges for strong slow motion and vibration performance

## AVAILABLE CONFIGURATIONS

Terminal Construction	One-piece
Locking Mechanism	Tangless / Lanceless
Crimp Validated to	RSA, PSA, Ford, Hyundai, GM
Blade Size (mm)	2.8
Wire Gage Range (AWG)	22 - 14
Wire Gage Range (mm <sup>2</sup> )	0.35 - 2.5
Genders	Female, Male
Sealing Options	Unsealed, Mat Sealed, Cable Sealed
Plating Options	Sn, SnAg, Au
Mating Tab Dimension (mm)	2.8 x 0.8

## TECHNICAL CHARACTERISTICS

Contact Resistance	< 3 mΩ
Contact Mating Force	< 6 N
Contact Unmating Force	> 1.5 N
Mating Cycles	10
Cavity Pullout Force	120 N
Center Line Spacing	5 mm



Sealing	Gender	Plating	Wire size range (AWG)	Wire size range (mm <sup>2</sup> )	Part number	Other available platings
Unsealed	F	Sn	22 - 18	0.35 - 0.70	10781041	SnAg, Au
Unsealed	F	Sn	18 - 16	0.75 - 1.30	15522621	SnAg, Au
Unsealed	F	Sn	16 - 12	1.35 - 2.5	10725649	SnAg, Au
Unsealed	M	Sn	22 - 18	0.35 - 0.75	10779316	-
Unsealed	M	Sn	18 - 12	1.0 - 2.5	10756743	-
Cable Sealed	F	Sn	22 - 18	0.35 - 0.70	10740375	-
Cable Sealed	F	Sn	18 - 16	0.75 - 1.30	13873373	-
Cable Sealed	F	Sn	16 - 12	1.35 - 2.5	10740376	-
Cable Sealed	M	Sn	22 - 18	0.35 - 0.75	10781143	-
Cable Sealed	M	Sn	18 - 12	1.0 - 2.5	10793682	-

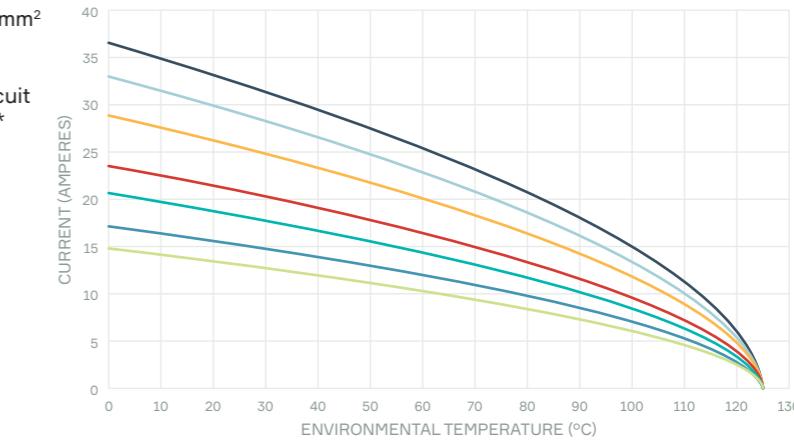
## COMPATIBLE SEALS

Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.35 - 1.0	Red	No	15327786
Cable Seal	1.0 - 2.5	Blue	No	10757056

## DERATING CURVE

Cable range: 0.35 - 2.5 mm<sup>2</sup>  
Crimp method: Standard  
Contact plating: Sn  
Test method: Single circuit in free air\*  
Mated to: SICMA Male Tab

\* For reference only



0.35 mm<sup>2</sup> 1.0 mm<sup>2</sup>  
0.50 mm<sup>2</sup> 1.5 mm<sup>2</sup>  
0.75 mm<sup>2</sup> 2.0 mm<sup>2</sup>  
1.0 mm<sup>2</sup> 2.5 mm<sup>2</sup>

The test data was collected from single circuits in a draft free enclosure. This model does not account for all of the variables that would be present in an actual application.

For additional detailed product performance, visit our website at [aptiv.com](http://aptiv.com)

## COMPATIBLE WITH SICMA HOUSINGS



# SICMA INLINE SEALED SERIES



SICMA Inline Sealed 6W  
Female & Male

## BENEFITS

- Clean body SICMA/BTS terminals are easily inserted in housing cavity
- Tin, silver, gold plated terminals available

## FEATURES

- Perfect solution for engine compartment at body mount, highly exposed to dirt and water
- Reliable IP68 watertight 6 and 8 Way connector and IP67 for the 24 Way connector
- 6 Way connector is equipped with a casing or holder for corrugated pipe by hinge principle

Cavity count	Blade size (mm)	Gender	Dimensions W x H x D (mm)	Fixing type	Part number	Color	Indexes offered
6	2.8 (SICMA 2&3)	F	35 x 40 x 17	N/A	10723553	Black	2
		M	30 x 65 x 21	Fixing grooves for panel cut-out	10752307		
8	1.5 (SICMA 2&3 Plus)	F	25 x 36 x 31	N/A	13800077	Black	1
		M	25 x 27 x 50	Slot for fixing clip	13799643		
		F	50 x 34 x 33	N/A	33504115		
24	1.5 (18) + 2.8 (6)	M	50 x 44 x 33	Clip 15396451 or 33504091	15470023	Black	3
		M	59 x 44 x 38	Mount on Metal Panel 0.7 mm thick	33500427		

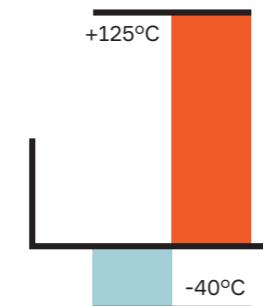
## COMPATIBLE SEALS

Type	Cavity	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	1.5	0.35 - 0.75	Yellow	Yes	10736278
Cable Seal	1.5	0.75 - 2.0	Green	Yes	10736279
Cavity Plug	1.5	N/A	White	Yes	10787316
Cable Seal	2.8	0.35 - 1.0	Red	No	15327786
Cable Seal	2.8	1.0 - 2.5	Blue	No	10757056
Cavity Plug	2.8	N/A	White	No	15340264

## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	6, 8, 24
Cavity Configurations (mm)	1.5, 2.8
Centerline Spacing	2-rows 6W: 5 x 6 pitch 2-rows 8W: 4.25 x 6 pitch 3-rows 24W: 3.33 x 5 pitch
Material	PBT
Genders	Female, Male
Sealing Type	6W, 8W – Cable Sealed 24W – Mat Sealed
Terminal Position Assurance (TPA) Type	PLR (Active Secondary Lock on 6W Female)
Connector Position Assurance (CPA)	No

## TEMPERATURE



## VIBRATION



## CONNECTOR MATING FORCE



## SEALING PROTECTION

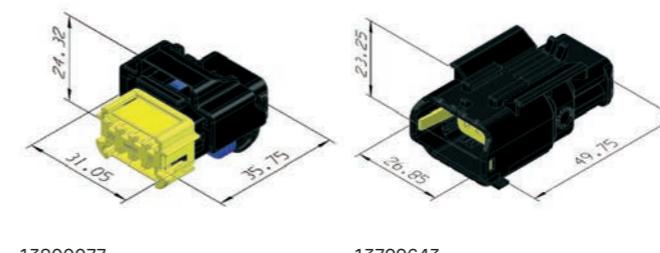
Corrugated pipe type is IPx9K guaranteed.



## APPLICATIONS

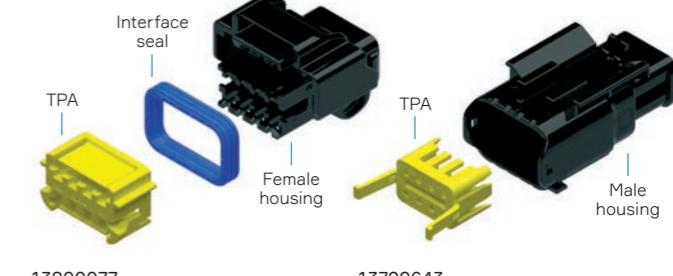
Exterior, chassis, engine compartment, inline, female mated to device

## DIMENSION MEASUREMENT SAMPLE



13800077

## EXPLODED VIEW



13800077

13799643

## COMPATIBLE WITH



SICMA 1.5 Series Terminals



SICMA 2.8 Series Terminals



BTS 1.5 and 2.8 Series Terminals



SICMA Pin Header (24 Way) P/N 33501039

# SICMA INLINE UNSEALED SERIES



SICMA Inline Unsealed 36W Female & Male

## BENEFITS

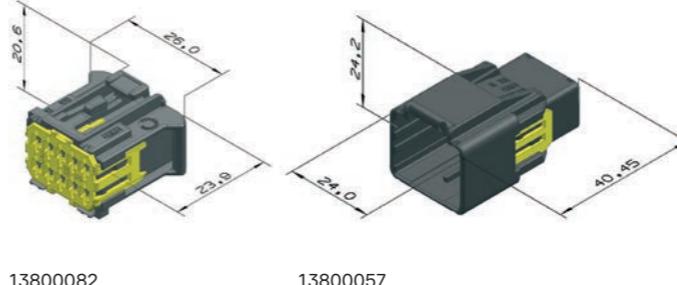
- Reliable inline harness sectioning solution
- Compact male and female housings for convenient wire-to-wire mating

## FEATURES

- Mixed sizes of 1.5 and 2.8 mm terminals populating 24 and 36 Way connectors
- Standard fixing slide

Cavity count	Blade size (mm)	Gender	Dimensions L x W x H (mm)	Part number	Color	Index	Indexes offered
10	1.5	F	36.85 x 26.95 x 29.70	13800082	Black	A	5
		M	24.20 x 24.00 x 40.45	13800057			
24	1.5 (18) + 2.8 (6)	F	49.10 x 32.65 x 33.30	13751295	Black	A	3
		M	49.10 x 32.65 x 43.90	33500326			
36	1.5 (30) + 2.8 (6)	F	60.84 x 34.40 x 28.70	33500789	Black	A	2
		M	54.20 x 25.30 x 47.15	13651194			

## DIMENSION MEASUREMENT SAMPLE

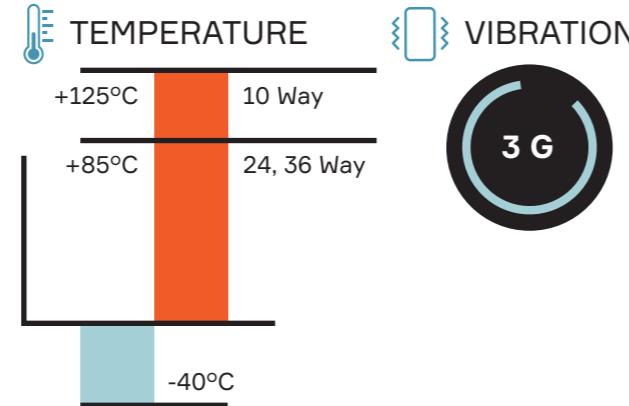


## EXPLODED VIEW



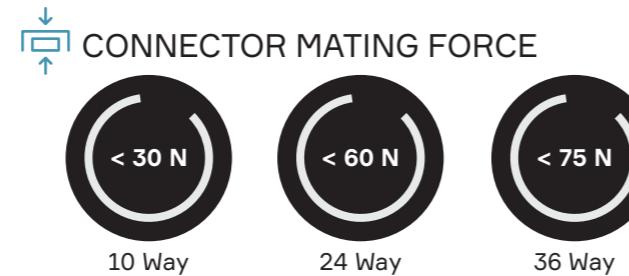
## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	10, 24, 36
Cavity Configurations (mm)	1.5, 2.8
Material	PBT
Genders	Female, Male



## APPLICATIONS

Harness sectioning in cockpit
Dashboard
Interior connections



## COMPATIBLE WITH



SICMA 1.5 Series Terminals

SICMA 2.8 Series Terminals

SICMA Pin Header (24 Way)  
P/N 33501039

# SICMA MINI-SEALED SERIES



SICMA Mini-Sealed 3W  
Female & Male

## BENEFITS

- Standard connection system
- Reliable inline harness sectioning connectors featuring a mechanical coding

## FEATURES

- Compatible with standard interface footprint of several devices used in automotive and commercial vehicles
- Jet spray water protection
- Compact design around 1.5 and 2.8 mm terminal

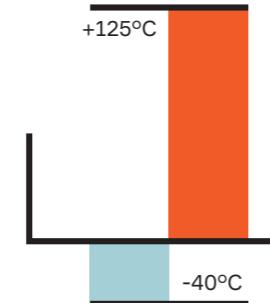
## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	2, 3, 4, 5, 6, 6 Mixed
Cavity Configurations (mm)	1.5, 2.8
Material	PBT GF 30
Genders	Female, Male
Sealing Type	Mat Sealed
CPA	Optional for 2 Way

## APPLICATIONS

Body and chassis
Engine compartment

## TEMPERATURE



## VIBRATION



## CONNECTOR MATING FORCE

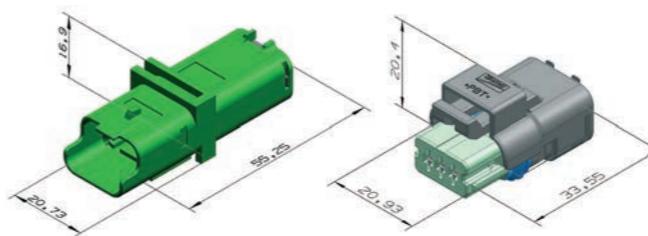


## SEALING PROTECTION



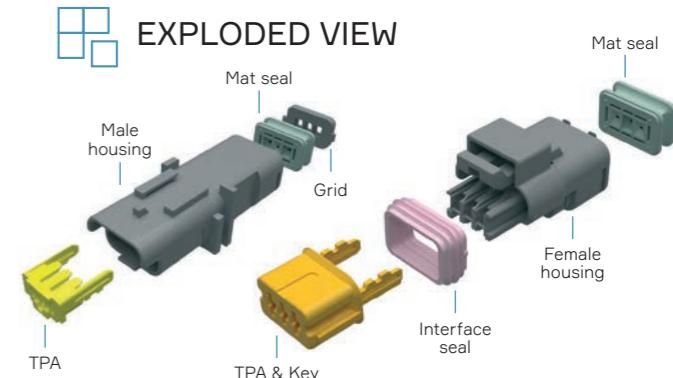
Cavity count	Blade size (mm)	Gender	Dimensions L x W x H (mm)	Part number	Color	Indexes offered
2	1.5	F	17.60 x 18.70 x 33.50	10820158	Black	9
		M	17.40 x 16.90 x 55.20	10787262		7
3	1.5	F	20.93 x 20.40 x 33.55	10820167	Black	8
		M	20.73 x 16.90 x 55.25	10788983		6
4	1.5	F	25.00 x 20.30 x 33.60	10763691	Black	3
		M	23.85 x 12.90 x 55.65	10768812		
5	1.5	F	27.10 x 20.55 x 33.80	10820113	Black	3
		M	27.30 x 16.60 x 55.45	33500323		
6	1.5	F	34.90 x 21.60 x 33.75	10866615	Black	3
		M	34.95 x 16.55 x 55.70	13716617		
6 Mixed	1.5 (4) + 2.8 (2)	F	34.90 x 21.60 x 33.75	10866611	Black	3
		M	34.95 x 16.55 x 55.70	15396354		

## DIMENSION MEASUREMENT SAMPLE



10788983

## EXPLODED VIEW



10788983

10820167

## COMPATIBLE WITH



SICMA 1.5 Series Terminals



SICMA 2.8 Series Terminals

Part numbers, specifications, dimensions and performance data in this document are for general references only and are subject to change without notice. To verify product information, please contact an Aptiv representative.

# SICMA PANEL-THROUGH SEALED SERIES



SICMA Panel-Through Sealed 14W  
Female & Male

## BENEFITS

- Compact size for a panel mount solution and electrical link passing through a wall
- Circular through hole convenient for implementation

## FEATURES

- Pass-through bulk head type, mounted on a metal panel sheet
- Door-to-body, cockpit-to-engine or battery-to-inverter (HEV/EV) solution

## AVAILABLE CONFIGURATIONS

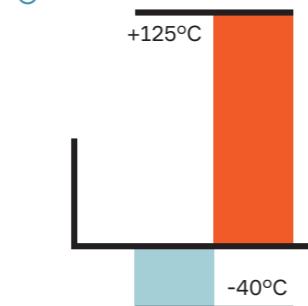
Cavity Count (ways)	14, 16, 24, 26*, 33, 34, 50
Cavity Configurations (mm)	0.64, 1.5, 2.8
Sealing Type	Mat Sealed
Material	PBT
Genders	Female, Male

\* 26 Way female sealed housing mates with 29 Way male unsealed housing (3 ways are neutralized).

## APPLICATIONS

Door-to-body connection
Firewall between cockpit and engine interconnection
Bulkhead for battery control in HV/EHV

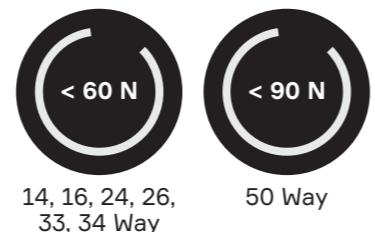
## TEMPERATURE



## VIBRATION



## CONNECTOR MATING FORCE

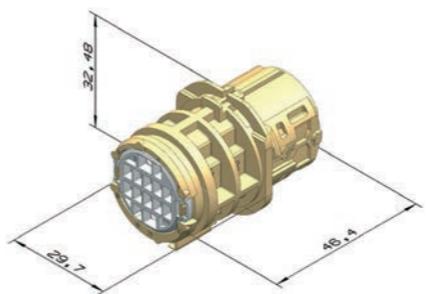


## SEALING PROTECTION



Cavity count	Blade size (mm)	Gender	Dimensions L x W x H (mm)	Part number	Color	Indexes offered
14	1.5 (10) + 2.8 (4)	F	ø 36.50 x 33.40	33517516	Black	1
		M	ø 29.70 x 46.40	13798672		
16	1.5	F	ø 36.30 x 33.40	10779313	Black	1
		M	ø 29.70 x 46.40	33500530		
24	1.5 (18) + 2.8 (6)	F	49.10 x 32.65 x 33.30	10820454	Black	4
		M	59.40 x 37.90 x 43.90	33500427		
26	0.64 (18) + 1.5 (4) + 2.8 (4)	F	35.00 x 59.65 x 7.55	10811873	Black	1
		M	79.00 x 37.00 x 41.60	10811880		
33	1.5 (28) + 2.8 (5)	F	ø 42.70 x 40.60	33503444	Black	2
		M	ø 40.00 x 51.60	33503443		
34	1.5 (30) + 2.8 (4)	F	ø 40.30 x 38.75	10763095	Black	2
		M	ø 42.00 x 48.60	10889065		
50	1.5	F	44.50 x 51.60 x 38.20	10867079	Black	1
		M	47.60 x 89.50 x 54.90	10866552		

## DIMENSION MEASUREMENT SAMPLE

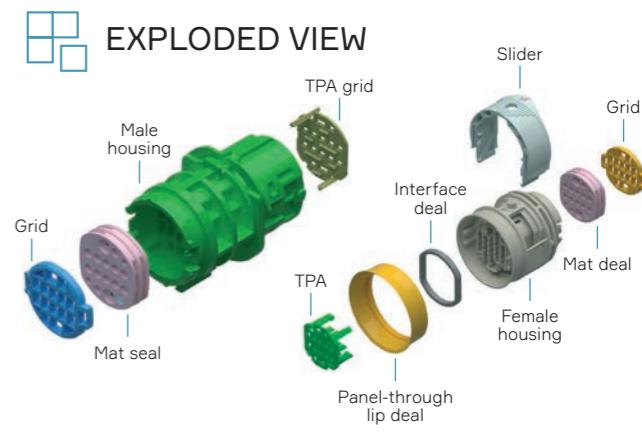


13798672



33517516

## EXPLODED VIEW



33517516

## COMPATIBLE WITH



SICMA 0.64 Series Terminals



SICMA 1.5 Series Terminals



SICMA 2.8 Series Terminals

# SICMA PANEL-THROUGH UNSEALED SERIES



SICMA Panel-Through Unsealed 29W  
Female & Male

## BENEFITS

- Compact size for a panel mount solution and electrical link passing through a wall
- Retractable protecting grid for male terminals to avoid pin bending

## FEATURES

- Pass-through bulk head type, mounted on a metal panel sheet
- Providing a convenient door-to-body or a reliable cockpit-to-engine solution

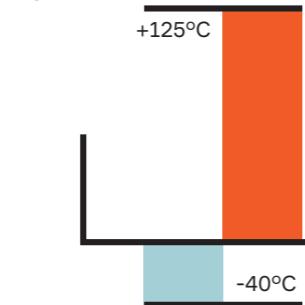
## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	24, 29, 42
Cavity Configurations (mm)	0.64, 1.5, 2.8
Material	PBT
Genders	Female, Male

## APPLICATIONS

Door-to-body connection
Firewall between cockpit and engine interconnection
Bulkhead for battery control in HV/EHV

## TEMPERATURE



## VIBRATION



## CONNECTOR MATING FORCE

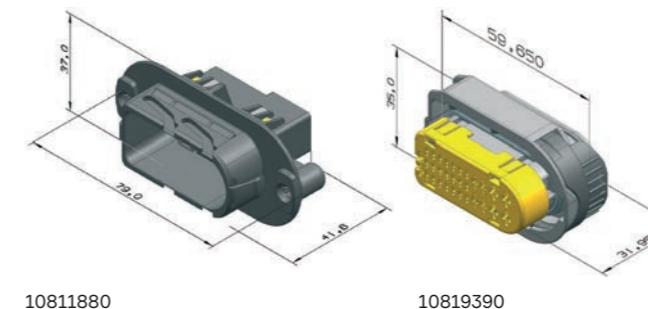


Cavity count	Blade size (mm)	Gender	Dimensions L x W x H (mm)	Part number	Color	Indexes offered
24	0.64 (12) + 1.5 (8) + 2.8 (4)	F	35.00 x 59.65 x 31.95	33500458	Black	1
		M	37.00 x 79.00 x 41.60	33500459		
29	0.64 (21) + 1.5 (4) + 2.8 (4)	F	35.00 x 59.65 x 31.95	10819390	Black	1
		M	37.00 x 79.00 x 41.60	10811880		
42	1.5 (34) + 2.8 (8)	F	44.20 x 63.50 x 29.20	10811874	Black	1
		M	47.00 x 83.50 x 42.70	10811875		

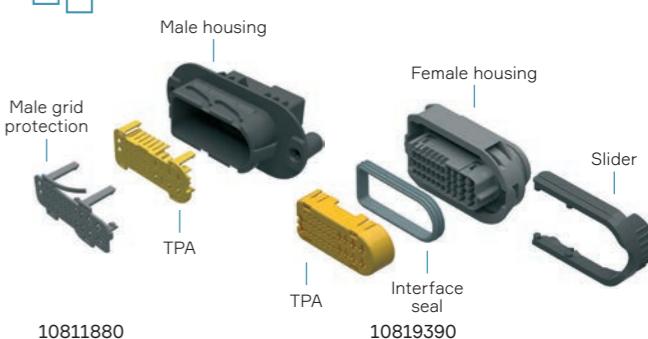
## Cover

24 & 29	N/A	N/A	59.65 x 25.00 x 21.20	33508013	Black	N/A
---------	-----	-----	-----------------------	----------	-------	-----

## DIMENSION MEASUREMENT SAMPLE



## EXPLODED VIEW



## COMPATIBLE WITH



# SICMA 1.5 SensoMate™ SERIES



SICMA SensoMate™ 6W  
Female & Male

## BENEFITS

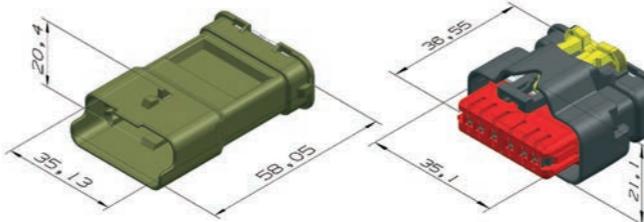
- High performance connector featuring T4 / V3 performance
- Back shell covers available

## FEATURES

- Suitable for harsh environment
- CPA is pre-mounted
- Compatible with Mini-Sealed family

Cavity count	Blade size (mm)	Gender	Dimensions L x W x H (mm)	Part number	Color	Indexes offered
4	1.5	F	24.50 x 20.30 x 36.55	13876521	Black	5
		M	24.50 x 15.30 x 58.05	33502133		
5	1.5	F	27.80 x 20.30 x 36.55	13893671	Black	5
		M	27.80 x 15.30 x 58.05	13855072		
6	1.5	F	35.01 x 21.10 x 32.80	13885362	Yellow	5
		M	35.01 x 16.10 x 58.05	13967810		

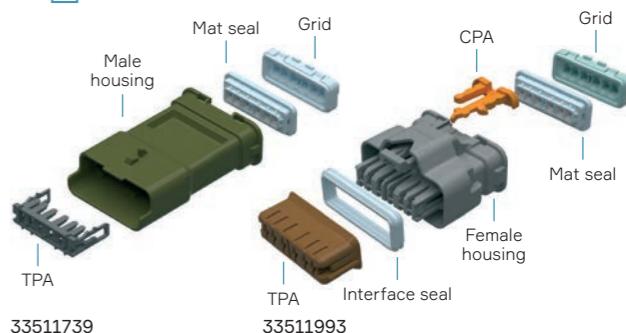
## DIMENSION MEASUREMENT SAMPLE



33511739

33511993

## EXPLODED VIEW



33511739

33511993

## COMPATIBLE WITH



SICMA 1.5 Series Terminals

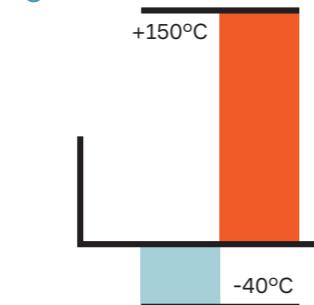


Cover

## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	4, 5, 6
Cavity Configurations (mm)	1.5
Material	PBT
Genders	Female, Male
Sealing Type	Mat Sealed

## TEMPERATURE



## VIBRATION



## APPLICATIONS

Sensors and actuators on engine mount
Air filter and pressure devices

## CONNECTOR MATING FORCE



## SEALING PROTECTION



Part numbers, specifications, dimensions and performance data in this document are for general references only and are subject to change without notice. To verify product information, please contact an Aptiv representative.

# SICMA SEALED RELAYS



SICMA Sealed Relay Socket 8W Female

## BENEFITS

- Reliable connection to relay lasting throughout entire vehicle life cycle
- Easily disconnected and reconnected during relay change

## FEATURES

- Sliding lever mate assist for easy mating to the relay switch
- Standard to different EOBD (European on Board Diagnostics) devices

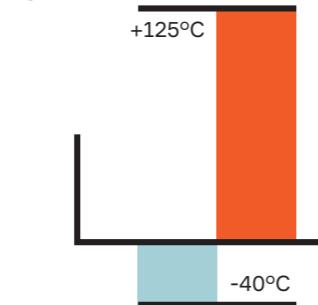
## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	8
Cavity Configurations (mm)	2.8, 8.0
Material	PBT GF 15
Genders	Female
Sealing Type	Cable Sealed

## APPLICATIONS

- Pre-heating of diesel engines
- Comfort heating of cockpit
- Antipollution systems by EOBD

## TEMPERATURE



## VIBRATION



## CONNECTOR MATING FORCE



## SEALING PROTECTION



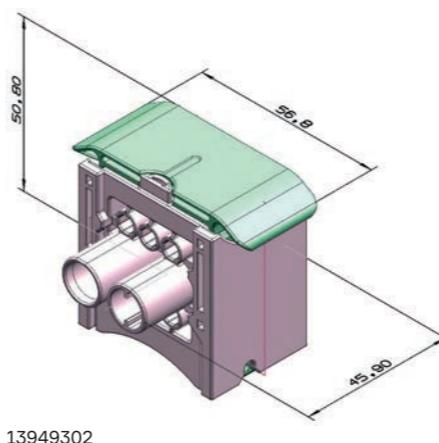
Cavity count	Blade size (mm)	Gender	Dimensions L x W x H (mm)	Part number	Color
8	2.8 (6) + 8* (2)	F	56.8 x 50.8 x 45.9	10812007	Black
8	2.8 (6) + 8* (2)	F	56.8 x 50.8 x 45.9	13949302	Grey

\* Please, consult Aptiv.

## COMPATIBLE SEALS

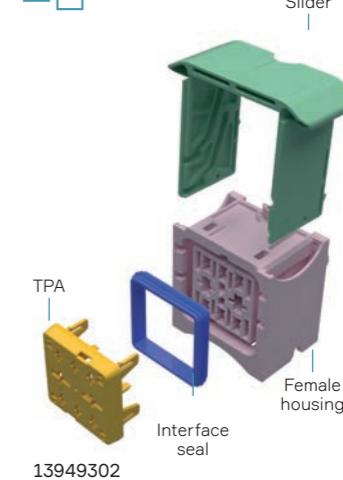
Type	Applicable Wire Size (mm <sup>2</sup> )	Color	Restraint Ring	Part Number
Cable Seal	0.35 - 1.0	Red	No	15327786
Cable Seal	1.0 - 2.5	Blue	No	10757056
Cavity Plug	N/A	White	No	15340264

## DIMENSION MEASUREMENT SAMPLE



13949302

## EXPLODED VIEW



13949302

## COMPATIBLE WITH



SICMA 2.8 Series Terminals

# SICMA OBD (ON-BOARD DIAGNOSTIC) SERIES



OBD 16W Female

## BENEFITS

- Optional protection cap cover with hinge against liquid splashes
- Pass-through panel mount inside cockpit
- Easiness of wiring and small shape housing

## FEATURES

- Unsealed housing for SICMA clean body terminal with lock reinforcement (TPA)
- Standard “On-Board Diagnostic (OBD)” receptacle with 16 Ways

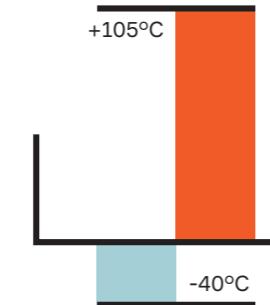
## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	16
Cavity Configurations (mm)	1.5
Genders	Female
Sealing Type	Unsealed
Centerline Spacing (mm)	4.0
Terminal Position Assurance (TPA) Type	Primary Lock Reinforcement (PLR)

## APPLICATIONS

Cockpit

## TEMPERATURE

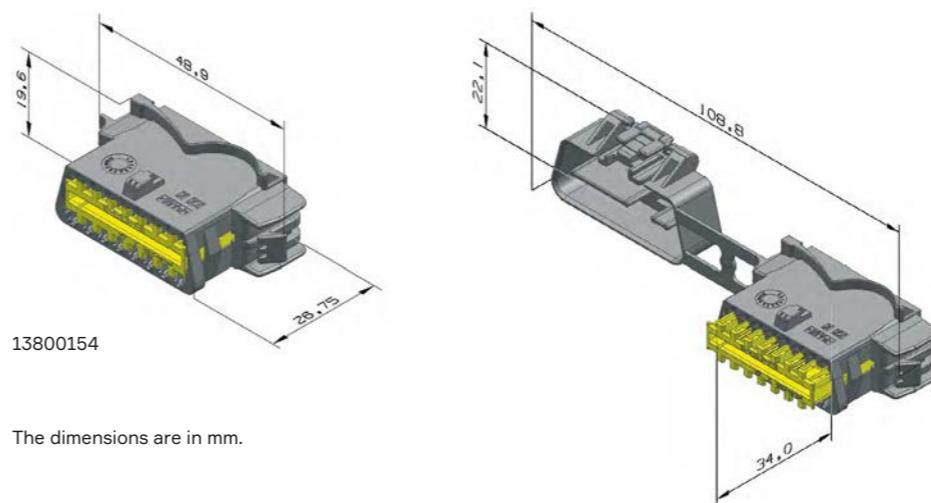


## VIBRATION



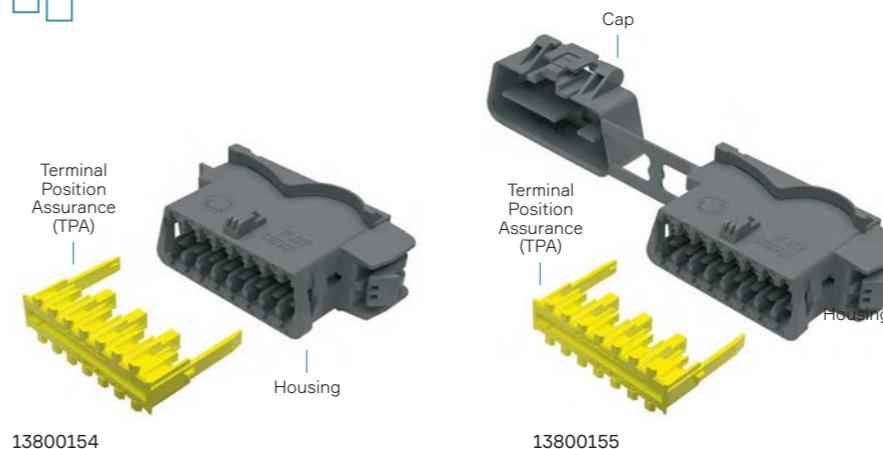
Cavity count	Blade size (mm)	Gender	Dimensions W x H x D (mm)	Part number	Index	Color
16	1.5	F	108.8 x 22.1 x 31.85	13800155	with cap	Gray
16	1.5	F	49.3 x 19.6 x 31.85	13800154	without cap	Black

## DIMENSION MEASUREMENT SAMPLE



The dimensions are in mm.

## EXPLODED VIEW



## COMPATIBLE WITH



# SICMA HEADERS INTERCONNECT SEALED



SICMA Full Interconnect Sealed 56W  
Female & Pin Header

## BENEFITS

- Market standard footprint interface-to-device headers
- Sliding lever can be installed in right and left position

## FEATURES

- Wire-to-Electronic Printed Circuit Board (PCB) solution for electronic control units
- Sealed connection from harness wiring to electronic equipment

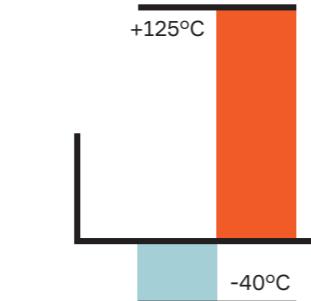
## AVAILABLE CONFIGURATIONS

Cavity Count (ways)	6	24	56	90
Number of Rows	1	3	1	3
Pitch Between Rows (mm)	-	5	6	6
Cavity Configurations (mm)	1.5, 2.8, Mixed			
Material	PBT GF 30			
Genders	Female, Pin Header			
Sealing Type	Mat Sealed			

## APPLICATIONS

Engine management with gas converter  
Automatic gear box management

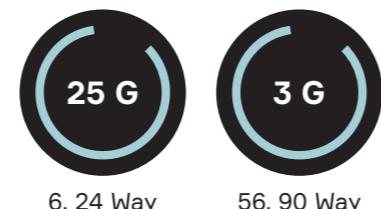
## TEMPERATURE



## SEALING PROTECTION



## VIBRATION



Cavity count	Blade size (mm)	Gender	Dimensions L x W x H (mm)	Part number	Orientation	Locking cam	Color	Indexes offered
6	1.5 (4) + 2.8 (2)	F	34.90 x 21.60 x 33.50	10866611	180°	No	Black	1
24	1.5 (18) + 2.8 (6)	F	32.65 x 49.10 x 35.20	10820454	180°	No	Black	4
24	1.5 (18) + 2.8 (6)	F	32.65 x 49.10 x 35.20	33504115	180°	Yes	Black	4
56	1.5	F	136.30 x 30.70 x 43.65	13669859	180°	No	Black	1
90	1.5	F	136.00 x 36.65 x 42.65	10776517	180°	No	Black	1
90	1.5	F	136.20 x 36.50 x 42.65	33525675	180°	Yes	Black	1

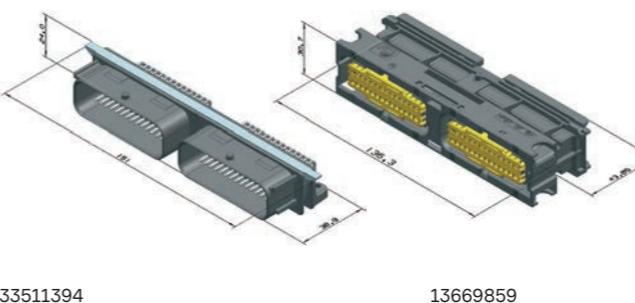
## Pin Header

6	N/A	Pin Header	38.00 x 19.00 x 29.58	33508361	90°	N/A	Black	1
24	N/A	Pin Header	42.80 x 25.60 x 45.50	33503978	180°	N/A	Black	3
24	N/A	Pin Header	46.20 x 27.30 x 40.20	33501039	90°	N/A	Black	3
56	N/A	Pin Header	152.00 x 24.00 x 33.65	33511394	90°	N/A	Black	1
90	N/A	Pin Header	147.02 x 32.00 x 27.00	33508365	180°	N/A	Black	1

## Cover

56	N/A	N/A	150.00 x 21.80 x 23.30	15340261	180°	N/A	Black	N/A
90	N/A	N/A	152.00 x 35.90 x 27.30	15340257	180°	N/A	Black	N/A

## DIMENSION MEASUREMENT SAMPLE

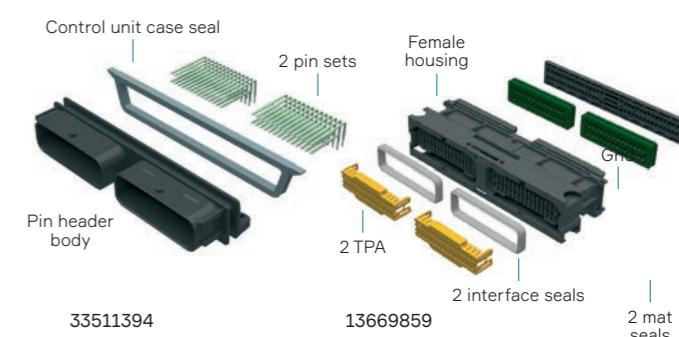


33511394

13669859

33511394

## EXPLODED VIEW



Pin header body

Control unit case seal

2 pin sets

Female housing

2 TPA

2 interface seals

2 mat seals

## COMPATIBLE WITH



SICMA 1.5 Series  
Terminals



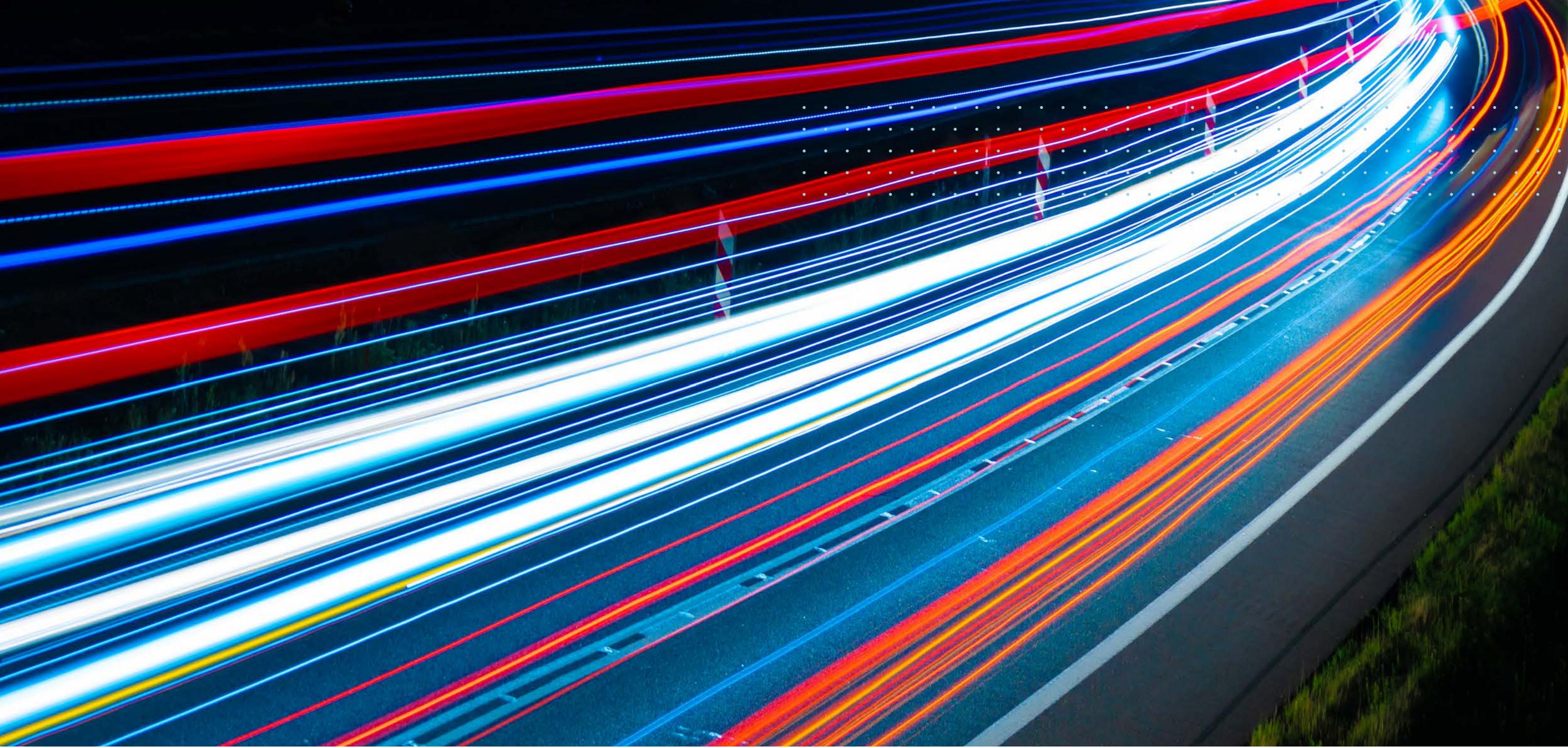
SICMA 2.8 Series  
Terminals



Cover



Locking Cam



## HEADERS

# CMC HEADERS

## 32, 48, 64 Way



CMC 32W Pin Header

### BENEFITS

- Compact and small form factor
- Sealable pin header by cover and gasket
- Tin-plated pins, silver-plated upon demand
- Through hole solder type

### FEATURES

- Standard interface interchangeable with multiple female housing suppliers
- Easy solder process to a PCB\*
- Small occupancy on the PCB\*

\* Printed circuit board

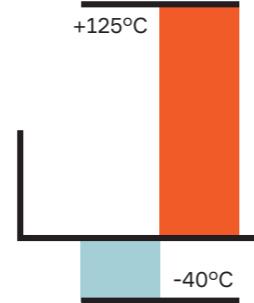
### TECHNICAL CHARACTERISTICS

Orientation	90°
Materials	PA4.6 GF30%, CuZn30
Genders	Male

### APPLICATIONS

Engine management
Gas converter
Body control

### TEMPERATURE



### VIBRATION



### SEALING PROTECTION

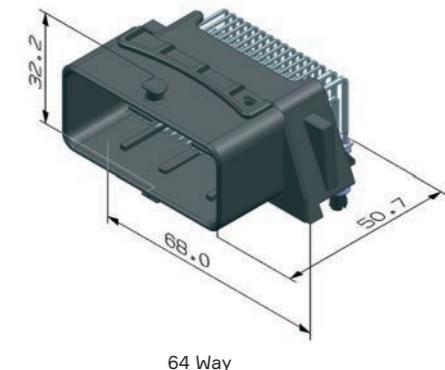
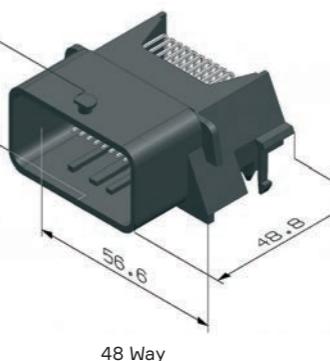
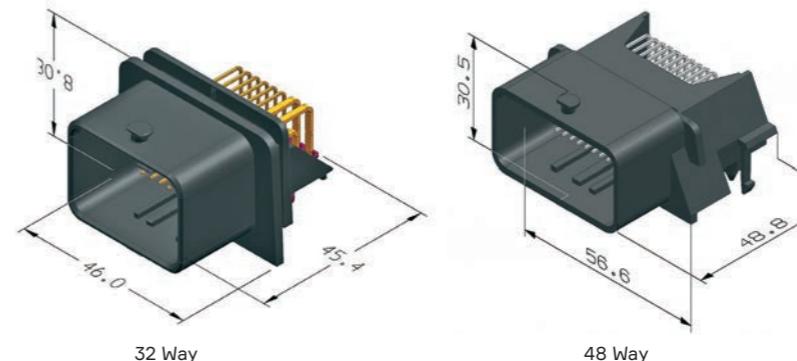


### CONNECTOR MATING FORCE

< 60 N

Part number	Cavity count (ways)	Color coding
33503152		Blue
33503150		Black
33503149	32	Grey
33503151		Brown
33503457	48	Black
35110623		Grey
33504510	64	Black

### DIMENSION MEASUREMENT SAMPLE



### COMPATIBLE WITH



CMC Covers



CMC Housings



GTS 0.64 Series Terminals



GTS 1.5 Series Terminals

# CMC PIN HEADER

112 Way



CMC 112W Pin Header

## BENEFITS

- Compact and small form factor
- Sealable pin header by cover and gasket
- Tin-plated pins, silver-plated upon demand
- Through hole solder type

## FEATURES

- Standard interface interchangeable with multiple female housing suppliers
- Easy solder process to a PCB\*
- Small occupancy on the PCB\*

\* Printed circuit board

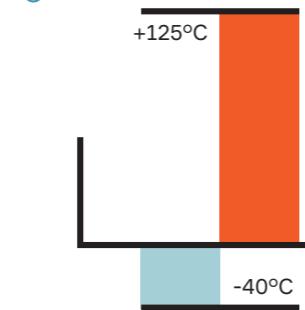
## TECHNICAL CHARACTERISTICS

Orientation	90°
Materials	PA4.6 GF30%, CuZn30
Genders	Male

## APPLICATIONS

Engine management
Gas converter
Body control

## TEMPERATURE



## VIBRATION



## SEALING PROTECTION



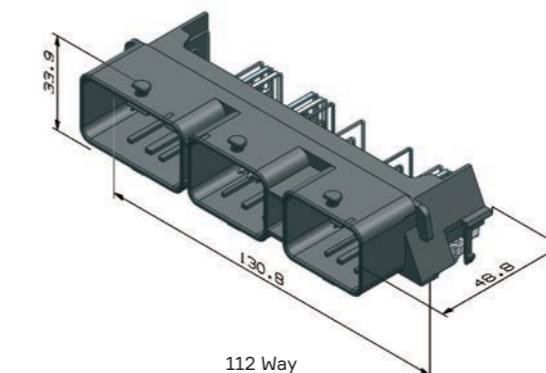
## CONNECTOR MATING FORCE



Part number	Cavity count (ways)	Color coding
33504045	112 (48+32+32)	Black + Grey + Brown



## DIMENSION MEASUREMENT SAMPLE



## COMPATIBLE WITH



CMC Covers



CMC Housings



GTS 0.64 Series Terminals



GTS 1.5 Series Terminals

# SICMA HEADERS SEALED



SICMA Sealed 56 W Header

## BENEFITS

- Market standard footprint interface-to-device headers
- Sliding lever can be installed in right and left position

## FEATURES

- Wire-to-Electronic Printed Circuit Board (PCB) solution for electronic control units
- Sealed connection from harness wiring to electronic equipment

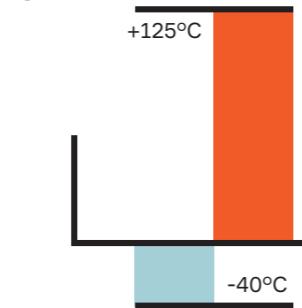
## TECHNICAL CHARACTERISTICS

Cavity Count (ways)	6	24	56	90
Number of Rows	1	3	1	3
Pitch Between Rows (mm)	-	5	6	6
Cavity Configurations (mm)	1.5, 2.8, Mixed			
Material	PBT GF 30			
Genders	Pin Header			
Sealing Type	Mat Sealed			

## APPLICATIONS

- Engine management with gas converter
- Automatic gear box management

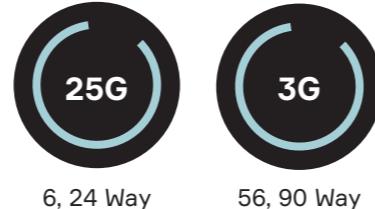
## TEMPERATURE



## SEALING PROTECTION

IP68  
IPX9K

## VIBRATION

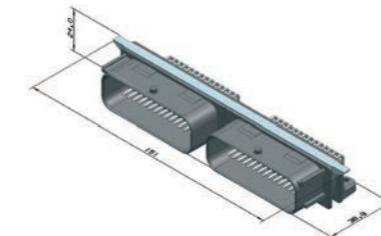


Cavity count	Blade size (mm)	Gender	Dimensions L x W x H (mm)	Part number	Orientation	Color	Indexes offered
6	N/A	Pin Header	38.00 x 19.00 x 29.58	33508361	90°	Black	1
24	N/A	Pin Header	42.80 x 25.60 x 45.50	33503978	180°	Black	3
24	N/A	Pin Header	46.20 x 27.30 x 40.20	33501039	90°	Black	3
56	N/A	Pin Header	152.00 x 24.00 x 33.65	33511394	90°	Black	1
90	N/A	Pin Header	147.02 x 32.00 x 27.00	33508365	180°	Black	1

## Cover

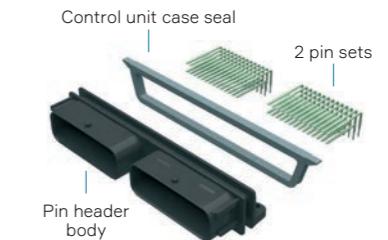
56	N/A	N/A	150.00 x 21.80 x 23.30	15340261	180°	Black	N/A
90	N/A	N/A	152.00 x 35.90 x 27.30	15340257	180°	Black	N/A

## DIMENSION MEASUREMENT SAMPLE



33511394

## EXPLODED VIEW



33511394

## COMPATIBLE WITH



Cover



Locking Cam

- **For more information:**
- **Visit our website:** <https://aptiv.com>
- **Browse our E-catalog:** <https://www.aptiv.com/en/solutions/connection-systems>
- **Contact your local distributor:**