Алматы (7273)495-231 Ангарск (3955)60-70-56 Архангельск (8182)63-90-72 Астрахань (8512)99-46-04 Барнаул (3852)73-04-60 Белгород (4722)40-23-64 Благовещенск (4162)22-76-07 Брянск (4832)59-03-52 Владивосток (423)249-28-31 Владикавказ (8672)28-90-48 Владимир (4922)49-43-18 Волоград (844)278-03-48 Волоград (8172)26-41-59 Воронеж (473)204-51-73 Екатеринбург (343)384-55-89 Иваново (4932)77-34-06
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Иркутск (395)279-98-46
Казань (843)206-01-48
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Киров (8332)68-02-04
Коломна (4966)23-41-49
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Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13 Москва (495)268-04-70 Мурманск (8152)59-64-93 Набережные Челны (8552)20-53-41 Нижний Новгород (831)429-08-12 Новокузнецк (3843)20-46-81 Ноябрьск (3496)41-32-12 Новосибирск (383)227-86-73 Омск (3812)21-46-40 Орел (4862)44-53-42 Оренбург (3532)37-68-04 Пенза (8412)22-31-16 Петрозаводск (8142)55-98-37 Псков (8112)59-10-37 Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Саранск (8342)22-96-24
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97

Тверь (4822)63-31-35 Тольятти (8482)63-91-07 Томск (3822)98-41-53 Тула (4872)33-79-87 Тюмень (3452)66-21-18 Ульяновск (8422)24-23-59 Улан-Удэ (3012)59-97-51 Уфа (347)229-48-12 Хабаровск (4212)92-98-04 Чебоксары (8352)28-53-07 Челябинск (351)202-03-61 Череповец (8202)49-02-64 Чита (3022)38-34-83 Якутск (4112)23-90-97 Ярославль (4852)69-52-93

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Технические характеристики на влагозащищенные и негерметичные разъемы для коммерческих автомобилей CTCS компании APTIV PLC

CTCS UNSEALED SERIES



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



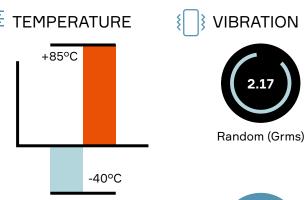
Cavity Count (ways)	4, 18, 25, 36
Cavity Configurations (mm)	1.5, 2.8, 6.3, Mixed
Materials	HB Flammability
Genders	Female
Lock Assist Type	Standard or Lever

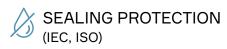


APPLICATIONS

Cak

See back page for representative part numbers and packaging dimensions.







About Aptiv

Aptiv is a global technology company that develops safer, greener and more connected solutions enabling the future of mobility. Headquartered in Dublin, Aptiv has approximately 150,000 employees and operates 14 technical centers, as well as manufacturing sites and customer support centers in 45 countries.



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	Α	Black	В
18	2.8	F	36 x 29.15 x 24.2	35129604	Universal	Α	Gray	B, C, D
25	1.5 (18) + 2.8 (7)	F	47.7 x 27.5 x 40.8	33219796	Universal	Α	Black	B, C, D
36	1.5	F	47.7 x 27.5 x 40.8	33252408	Universal	Α	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







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



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, HB Flammability
Genders	Female, Male
Lock Assist Type	Slider lock
Mounting Options	Panel, Strap/Clip

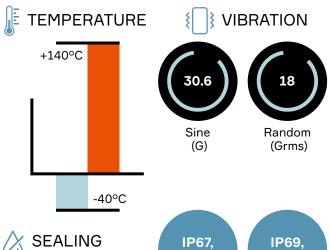


APPLICATIONS

Chassis
Engine compartment

On-engine

See back page for representative part numbers and packaging dimensions.









Water Intrusion

High Pressure Spray

About Aptiv

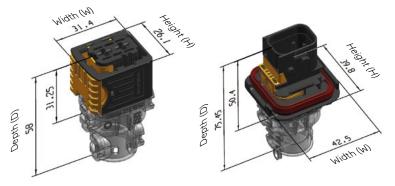
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Cavity	, ,	Gender	Dimensions W x H x D (mm)	V0 part number	HB part number	Mounting type	Index	Color	Other indexes offered
2	1.5	F	25.8 x 18.9 x 31.25	33253266	33344638	Universal	Α	Black	B, C, D
2	2.8	F	25.8 x 18.9 x 31.25	33253554	33344639	Universal	Α	Black	B, C, D
2	2.8	Μ	37.5 x 29.8 x 48.3	33254221	33344850	Panel	Α	Black	B, C, D
2	6.3	F	31.4 x 26.1 x 31.25	33285119	33346221	Universal	Α	Black	B, C, D
2	6.3	М	42.5 x 39.8 x 50.4	33285118	33346220	Panel	Α	Black	B, C, D
2	6.3	М	33.2 x 27 x 50.4	33341148	33347784	Strap/Clip	Α	Black	B, C, D
3	1.5	F	25.8 x 18.9 x 31.25	33253275	33344674	Universal	Α	Black	B, C, D
3	1.5	М	37.5 x 29.8 x 48.3	33254285	33344669	Panel	Α	Black	B, C, D
3	1.5	М	27.6 x 19 x 48.3	33254098	33344861	Strap/Clip	Α	Black	B, C, D
4	2.8	F	30.5 x 26.1 x 31.25	33308974	33346865	Universal	Α	Black	B, C, D
4	2.8	М	37.5 x 39.8 x 48.3	33308731	33346867	Panel	Α	Black	B, C, D
4	2.8	М	27.6 x 27 x 48.3	33308978	33346866	Strap/Clip	Α	Black	B, C, D
6	1.5	F	30.5 x 26.1 x 31.25	33308961	33346852	Universal	Α	Black	B, C, D
6	1.5	Μ	37.5 x 39.8 x 48.3	33308982	33347865	Panel	Α	Black	B, C, D
6	1.5	М	27.6 x 27 x 48.3	33308912	33347886	Strap/Clip	Α	Black	B, C, D
7	1.5 (4) + 2.8 (3)	F	31.4 x 26.1 x 31.25	33285164	33346265	Universal	Α	Black	B, C, D
7	1.5 (4) + 2.8 (3)	M	42.5 x 39.8 x 48.3	33285120	33346256	Panel	Α	Black	B, C, D
7	1.5 (4) + 2.8 (3)	М	33.2 x 27 x 48.3	33341403	33346260	Strap/Clip	Α	Black	B, C, D
8	1.5	F	31.4 x 26.1 x 31.25	33341417	33346281	Universal	Α	Black	B, C, D
8	1.5	М	42.5 x 39.8 x 48.3	33341408	33346266	Panel	Α	Black	B, C, D
8	1.5	M	33.2 x 27 x 48.3	33341413	33347532	Strap/Clip	Α	Black	B, C, D
8	2.8	F	39.65 x 26.1 x 31.25	33343499	33350336	Universal	Α	Black	B, C, D
8	2.8	М	40.6 x 27 x 48.3	35015736	35015732	Strap/Clip	Α	Black	B, C, D
10	1.5 (6) + 2.8 (4)	F	39.65 x 26.1 x 31.25	33344008	33350438	Universal	Α	Black	B, C, D
10	1.5 (6) + 2.8 (4)	M	50.5 x 39.8 x 48.3	33343722	33350430	Panel	Α	Black	B, C, D
12	1.5	F	39.65 x 26.1 x 31.25	33340130	33350122	Universal	Α	Black	B, C, D
12	1.5	М	50.5 x 39.8 x 48.3	33340243	33350115	Panel	Α	Black	B, C, D
15	1.5 (9) + 2.8 (6)	F	51.5 x 26.1 x 31.25	33344005	33347873	Universal	Α	Black	B, C, D
15	1.5 (9) + 2.8 (6)	М	62.5 x 39.8 x 48.3	33343701	33349151	Panel	Α	Black	B, C, D
16	1.5 (12) + 2.8 (4)) F	51.5 x 26.1 x 31.25	33285172	33347875	Universal	Α	Black	B, C, D
16	1.5 (12) + 2.8 (4)) M	62.5 x 39.8 x 48.3	33285171	33347859	Panel	Α	Black	B, C, D
16	1.5 (12) + 2.8 (4)) M	52.6 x 27 x 48.3	33342243	33347860	Strap/Clip	Α	Black	B, C, D
18	1.5	F	51.5 x 26.1 x 31.25	33342277	33347876	Universal	Α	Black	B, C, D
18	1.5	М	62.5 x 39.8 x 48.3	33342293	33347872	Panel	Α	Black	B, C, D
18	1.5	М	52.6 x 27 x 48.3	33342234	33347874	Strap/Clip	Α	Black	B, C, D

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

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.

CTCS SP SERIES



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



AVAILABLE CONFIGURATIONS

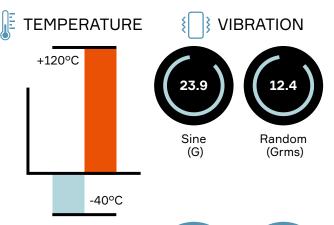
Cavity Count (ways)	15, 21, 26, 39, 62
Cavity Configurations (mm)	1.5, 2.8, 6.3, Mixed
Materials	V0, HB Flammability
Genders	Female, Male
Lock Assist Type	Lever lock
Mounting Options	Panel, Bracket



Chassis

Engine compartment

See back page for representative part numbers and packaging dimensions.









Water Intrusion

High Pressure Spray

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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	Α	Black	В, С
21	2.8	F	69.2 x 37.6 x 56.95	33276630	33101162	Universal	Α	Black	B, C, D
21	2.8	М	68.4 x 46.1 x 84	33276634	33237993	Panel	Α	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	Α	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	Α	Black	B, C, D
39	2.8	F	120.1 x 44.15 x 64.13	33273782	33111401	Universal	Α	Green	В
39	2.8	М	108 x 78 x 89.9	33276705	33198862	Panel	Α	Green	В
62	1.5 (56) + 2.8 (6)	F	120.55 x 44.1 x 64.55	33337581	33337577	Universal	Α	Black	B, C, D
62	1.5 (56) + 2.8 (6)	М	108 x 78 x 89.9	33276719	33213199	Panel	Α	Black	B, C, D

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

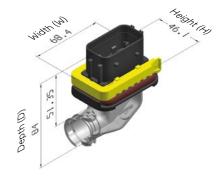


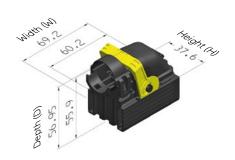
REQUIRED ACCESSORIES

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









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 $\mbox{\sc Aptiv}$ representative.



The world of transportation

Aptiv has been a trusted automotive supplier for decades, introducing practical innovations in the areas of safety, efficiency, and connectivity. The transportation market has been advancing in these areas and Aptiv can offer product solutions designed for the tougher operational and environmental requirements.

Commercial and recreation vehicles are often exposed to higher levels of environmental forces, including vibration, dust, water, debris, and temperature. To protect the integrity of the electrical system, high performance connection systems are required.

To deliver superior performance, a number of complex factors in the electrical system must be addressed in the component design, including sealing, locking features, and materials.



A new generation of transportation fleets

As fleets and owner operators are looking to increase profitability and decrease negative footprint on the environment, vehicle manufacturers are considering alternative powertrains to meet new demands of their customers.

Alternative powertrain solutions now include more sophisticated ICE (Internal Combustion Engine), hybrid, battery electric, CNG (Compressed Natural Gas), and fuel cell technologies. And the infrastructure development is keeping up with the pace of vehicle technology advancements. The trend for a greener future is now becoming a reality across the world through truck, bus, and construction/agriculture fleet operations. And it has a potential to positively impact thousands of people through decreased pollution and improved air quality.

These alternative powertrains, however, increase the complexity of the electrical architecture, requiring higher reliability. The transportation market also has more stringent performance requirements as vehicles are exposed to higher operational temperature and extreme environmental forces. These two factors drive the demand for more robust connection systems designed specifically with the market's unique conditions in mind



A connection system designed for the future

The CTCS connector and CTS terminal 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.

The CTCS (Compact **Transportation Connection** System) family offers an integrated system solution to a wide variety of vehicle interconnections. ranging from unsealed cab to sealed on-engine applications, to options with flame-retardant material, to performanceboosting accessories. It was designed to meet or exceed a range of industry and customer validation standards and deliver improved performance over the competition.

This heavy duty connection system provides superior resistance against vibration and environmental forces, protecting the integrity of the electrical system from high operating temperatures, debris, and water. CTCS serves as a reliable backbone to all vehicle electronics, including powertrain, safety, entertainment, and telematics.

Robust features, meaningful benefits



Versatility of application

- A complete portfolio of connectors, accessories, terminals, and seals
- Terminal flexibility: interchangeable with other industry terminals
- Mounting flexibility:

 Panel (for pass through and bulkhead),
 Strap/Clip (for wire tie or clip), and
 Bracket (for bulkhead)
- Application flexibility: perfect for cab, chassis, engine compartment, and on-engine applications
- Offered in both HB flammability and V0 materials

Unparalleled reliability and performance

Improved vibration resistance

- Sine vibration up to 30.6 G; random vibration up to 18 Grms, 330 hrs/axis
- Robust back shells further improve strain relief performance

High temperature rating

- Up to -40 °C to +140 °C
- Superior terminal design, with high pre-load stainless steel spring, reduces relaxation of terminal base body

Superior environmental protection

- Additional connector features for protection against debris ingress
- IP67, IP69 (IEC) and IP6K7, IP6K9K (ISO) sealing rating for highest protection against water intrusion

Designed for the transportation market

- Fobust solution
 from an electrical
 component expert
 with over 100 years of
 experience designing
 and implementing
 superior solutions
 for the industry
- Meeting or exceeding a wide range of commercial vehicle validation standards



High pre-load stainless steel spring

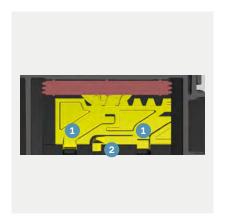
Superior vibration and relaxation resistance



Additional structure on back shells

Designed for maximum mechanical robustness and mud and dust protection

- Heavy ribbing
- 2 Strapping points fully integrated with cover for maximum retention of harness
- Four shrouded locks



Pre-staged locking mechanism (SP and XP Series)

- Pre-staging features in slider to aid in proper mating
- Slider lock is firmly retained and only released upon installation onto mating connector

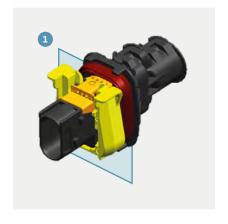
Mounting flexibility

Aptiv provides a range of mounting options for maximum application flexibility.



Strap/Clip Mount

- Tie strap area
- Clip slot



Panel Mount

1.0 - 3.5 mm wall thickness capability



Pass-through Bracket Mount

A wide family range



Connectors

CTCS connectors offer wide application versatility and a perfect match for your design needs.

CTCS connector range covers:

- Inline and device applications
- 2 through 62 way configurations
- 1.5, 2.8, 6.3 mm blade sizes, and mixed cavity configurations
- Sealed and unsealed applications
- Flame-retardant material option (V0)
- Panel, strap/clip, and bracket male mounting options
- Two different lock assist mechanisms for sealed connectors: Slider lock and Lever lock

Terminals

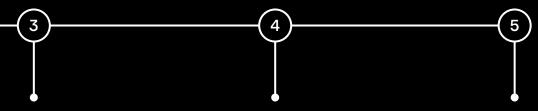
CTCS connectors are compatible with both Aptiv and other industry terminals. Aptiv's CTS tanged terminals offer premium vibration, temperature, and sealing performance.

Terminal range covers:

- 1.5, 2.8, and 6.3 mm blade sizes
- 0.08-6.0 mm² / 28-10 awg cable sizes
- Tin, silver, and gold plating options







Seals

Both cable seal and cavity plug options are available, covering a wide range of cable gages and all CTCS cavity sizes.

Accessories

CTCS housings can be supplemented with optional accessories, which can further improve vibration performance and harness interconnection integrity. The following accessories, produced by an Aptiv brand HellermannTyton, are available:

- 180° or 90° back shells
- 1.0-3.5 mm² fixing slides
- Caps
- Clips and wire ties

Hand crimp tools

Hand crimp tools are available for CTS female and male terminals. No solder required.

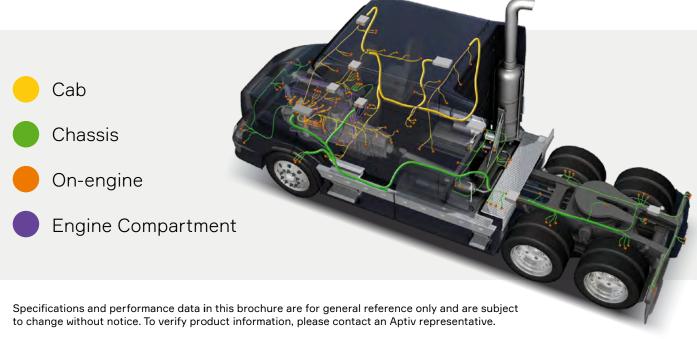






The right connection for the right job

PERFORMANCE	CTCS UNSEALED	CTCS SP	CTCS XP
Max vibration Sine (G) / Random (Grms)	n/a / 2.17	23.9 / 12.4	30.6 / 18
Max temperature (°C)	-40 to +85	-40 to +120	-40 to +140
Sealing IP (IEC / ISO)	5 / 5K	67, 69 / 6K7, 6K9K	67, 69 / 6K7, 6K9K
Flame resistance	HB flammability	HB flammability, V0	HB flammability, V0
Available cavity configurations	4, 18, 25, 36	15, 21, 26, 39, 62	2, 3, 4, 6, 7, 8, 10, 12, 15, 16, 18
Mounting options	None	Panel, Bracket	Panel, Strap/Clip
Lock assist type	Standard, Lever lock	Lever lock	Slider lock
Applications			









CTCS UNSEALED

CTCS SP

CTCS XP

Exploded view

- Connector housing
- 2 Secondary lock
- 3 Lever lock
- 4 Seal
- 5 Fixing slide

- 6 Slide
- Panel
- 8 Back shell
- 9 Cavity module
- 10 Male inner connector



1.5/2.8 25W Female



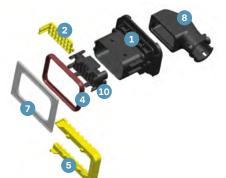
1.5/2.8 21W Female (HB*)



1.5/2.8 16W Female (V0**)



2.8 18W Female



2.8 21W Male (HB*)



1.5/2.8 16W Male (V0**)

- * HB option comes with yellow-coded locks and slides
- ** V0 option comes with orange-coded locks and slides

Available configurations

CONNECTORS									
# of ways	Performance series	Lock assist type	Gender	Male mounting type	Available terminal configurations	Applications			
	SEALED CONNECTORS								
2	XP	Slider lock	Female, Male	Panel & Strap/Clip	1.5, 2.8, 6.3	Inline & Device			
3	XP	Slider lock	Female, Male	Panel & Strap/Clip	1.5	Inline & Device			
4	XP	Slider lock	Female, Male	Panel & Strap/Clip	2.8	Inline & Device			
6	XP	Slider lock	Female, Male	Panel & Strap/Clip	1.5	Inline & Device			
7	XP	Slider lock	Female, Male	Panel & Strap/Clip	1.5/2.8	Inline & Device			
8	XP	Slider lock	Female, Male	Panel & Strap/Clip	1.5, 2.8	Inline & Device			
10	XP	Slider lock	Female, Male	Panel	1.5/2.8	Inline & Device			
12	XP	Slider lock	Female, Male	Panel	1.5	Inline & Device			
15	XP	Slider lock	Female, Male	Panel & Strap/Clip	1.5/2.8	Device			
16	XP	Slider lock	Female, Male	Panel & Strap/Clip	1.5/2.8	Inline & Device			
18	XP	Slider lock	Female, Male	Panel & Strap/Clip	1.5	Inline & Device			
15	SP	Lever lock	Female	-	2.8	Inline & Device			
21	SP	Lever lock	Female, Male	Panel	2.8	Inline & Device			
26	SP	Lever lock	Female, Male	Panel	1.5/2.8/6.3	Inline & Device			
39	SP	Lever lock	Female, Male	Panel & Bracket	2.8	Inline & Device			
62	SP	Lever lock	Female, Male	Panel & Bracket	1.5/2.8	Inline & Device			
			UNSEALED	CONNECTORS					
4	Unsealed	Standard	Female	-	6.3	Device			
18	Unsealed	Standard	Female	-	2.8	Device			
25	Unsealed	Lever lock	Female	-	1.5/2.8	Device			
36	Unsealed	Lever lock	Female	-	1.5	Device			

Specifications and performance data in this brochure are for general reference only and are subject to change without notice. To verify product information, please contact an Aptiv representative.

TERMINALS						
Blade size (mm)	Gender	Sealing	Base material	Plating options	Cable range (mm²)	SAE gage (AWG)
1.5	F	Sealed & Unsealed	CuFe, CuNiSi	Sn, Ag, Au	0.08 - 1.5	28 - 16
1.5	М	Sealed & Unsealed	CuFe	Sn, Ag, Au	0.08 - 1.5	28 - 16
2.8	F	Sealed & Unsealed	CuNiSi	Sn, Ag	0.08 - 5.0	28 - 10
2.8	М	Sealed & Unsealed	CuFe	Sn, Ag	0.22 - 2.5	24 - 14
6.3	F	Sealed & Unsealed	CuFe	Sn, Ag	0.35 - 6.0	22 - 10

ACCESSORIES						
Accessory type	Conduit diameter (mm)	Wall thickness (mm)	Available angles			
Back shell	7.5 - 17	-	90° & 180°			
Fixing slide	-	1.0 - 3.5	-			
Сар	-	-	-			

HAND CRIMP TOOLS					
Terminal	Cable range (mm²)	SAE gage (AWG)	Insulation type		
CTS 1.5	0.35 - 2.0	24-14	PVC or XLPE		
CTS 2.8	0.50 - 3.0	22-12	PVC or XLPE		
CTS 6.3	0.75 - 3.0	20-12	PVC or XLPE		

SEALS					
Seal type	Blade size (mm)	Outside diameter (mm)	Material	Color	
Cable seal	1.5	1.2 - 2.1	LSR	Red, gray, yellow	
Cable seal	2.8	1.2 - 3.0	LSR	Blue, white, green	
Cable seal	6.3	1.2 - 5.3	LSR	Yellow, white, red-brown, green, gray	
Plug	1.5	-	LSR	White	
Plug	2.8	-	LSR	Red-brown, white, green	
Plug	6.3	-	LSR	Green	

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