Amphenol® RF

Automotive Solutions

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Table of Contents

Company Overview 4
Technologies Supported 6
FAKRA Generations 8
FAKRA/USCAR Specifications 9
FAKRA/USCAR Mechanical Coding 10
FAKRA Interface Drawings 12
FAKRA Connector Ordering Information 14
FAKRA Cable Connectors 15
- Generation 4.0 15-16
- Generation 3.0 17
- Generation 2.5 and 2.0 18
- Generation 1.0 19
- Sealed FAKRA 20-21
- 6.0 GHz FAKRA 21

FAKRA Adapters 22
FAKRA PCB Connectors 23-28
HSD Cable Assembly Ordering Information 29
HSD Mechanical Coding 30
HSD Cable Assemblies 31
HSD Cable Connectors 31-32
HSD PCB Connectors 33
Index 34

Amphenol Corporate Overview

Amphenol Corporate Overview

Amphenol Corporation (NYSE ticker: APH) is one of the largest manufacturers of interconnect products in the world. The Company designs, manufactures and markets electrical, electronic and fiber optic connectors, coaxial and flat-ribbon cable, and interconnect systems. Amphenol has a diversified presence as a leader in high growth segments of the interconnect market including: Military and Commercial Aerospace, Automotive, Broadband Communication, Industrial, Information Technology and Data Communications Equipment, Mobile Devices and Wireless Infrastructure.

Amphenol RF Division

Amphenol RF is the world's largest manufacturer of coaxial connectors for use in radio frequency, microwave, and data transmission system applications. Amphenol RF offers a complete range of RF connectors, cable assemblies and components used in the Automotive, Broadband, Wireless LAN/RFID, Wireless Infrastructure, Military Aerospace and Instrumentation markets.

Commitment to Quality

For over 80 years, leading manufacturers of communications, consumer, industrial, automotive, military and aerospace products have relied on Amphenol to provide total interconnect solutions. Maintaining this high level of customer trust requires a total concern for complete customer satisfaction at all levels – from engineering to manufacturing to quality assurance. Since many products are custom designed to individual customer specifications, often for the harshest environments, it's critical that a teamwork approach be taken, involving the customer at all levels. Amphenol RF's commitment to quality remains exceptionally uniform and internationally standardized, from raw materials testing, through design engineering, to automated manufacturing and sub-assembly, to fully documented and traceable test procedures developed in accordance with customer specifications.

Environmental Compliance

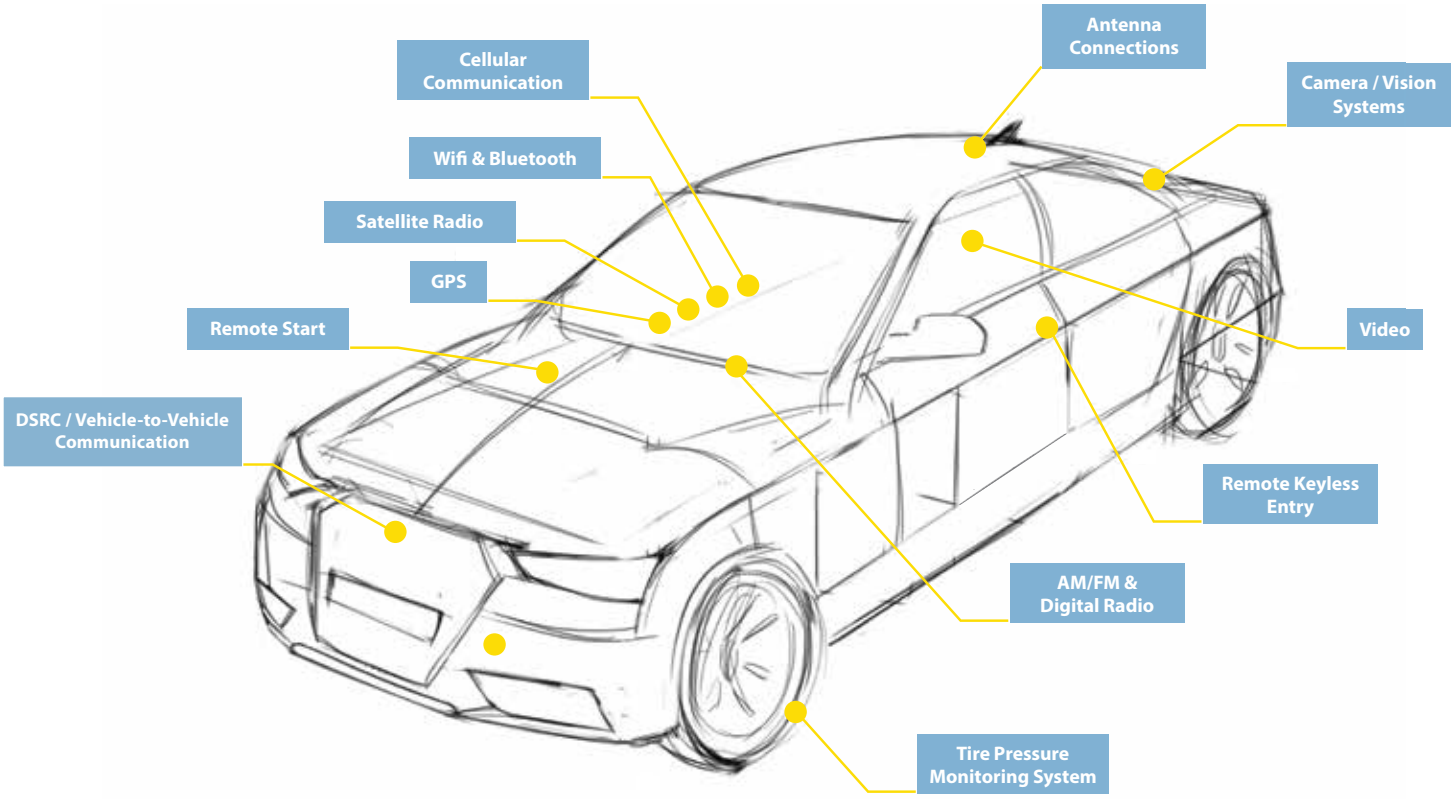
Amphenol RF is proud to be a continued world leader in improving environmental issues in the global marketplace. We are committed to meeting and exceeding the ever changing expanse of environmental compliance requirements. Amphenol works diligently with our customers on a variety of environmental protocols. As a global supplier we are committed to supporting RoHS/202/95/EC, PFOS 2006/12/EC, and REACH requirements.

Automotive Solutions

As telematics advancements become more reliable, available and inexpensive, vehicles are transforming into an intelligent platform for enabling mobile life. With these recent advancements in communications, technology, and increased consumer demand for a diverse array of on-board telematics services, RF communications systems have become integral components of today's automobile, trucking, watercraft, motorcycle, and off-road construction markets.

Utilizing a modified metal SMB connector embedded within a plastic housing, which is designed with multiple color codes for easy identification, FAKRA connectors are designed to perform up to 6 GHz and meet the particular mechanical and environmental requirements of the automotive industry. Amphenol RF also offers a variety of connectors for board-to-board, PCB interfaces, and traditional antenna interfaces.

Technologies Supported



AM/FM Radio

Antenna technology that supports GPS and Satellite Radio is the same antenna that will support AM/FM radio. This combined antenna capability not only reduces the number of external antennas on the vehicles, but offers standardization among all of the interconnecting components.

Bluetooth

A short-range radio technology aimed at simplifying communications among Internet devices, between devices and the Internet. It also aims to simplify data synchronization between Internet devices and other computers.

Cameras

HSD connectors support LVDS technology for backup cameras, while FAKRA connectors are an excellent choice for LVDS over coax signals, which are used in next generation digital cameras for external surround and interior cabin monitoring vehicle systems.

Cellular/PCS (Personal Communications Service)

The U.S. Federal Communications Commission (FCC) term used to describe a set of digital cellular technologies being deployed in the U.S. It is also referred to as digital cellular.

DSRC (Dedicated Short Range Communication)

Our FAKRA connectors may be used to support DSRC, or Dedicated Short Range Communication technology. DSRC is a two-way short-to-medium-range wireless communications capability that permits very high data transmission critical in communications-based active safety applications.

GPS (Global Positioning System)

Our FAKRA connectors are used to carry signals from external GPS antennas to interior vehicle systems, which provide navigation assistance and also allow first responders to precisely locate the vehicle in emergency situations.

GVIF (Gigabit Video Interface)

Our FAKRA and HSD connectors can be used to support GVIF, or Gigabit Video Interface. GVIF is a digital video serial interface developed for high quality uncompressed video transmission from digital video hardware, and is used primarily in automotive applications. It is compatible with the HDCP encryption system. GVIF transmits uncompressed serial data at speeds up to 1.95 gigabits/second.

LVDS (Low Voltage Differential Signaling)

Our FAKRA connectors can be used to support LVDS, or Low Voltage Differential Signaling. Also known as TIA/EIA-644, LVDS is a technical standard that specifies electrical characteristics of a differential, serial communications protocol. LVDS operates at low power and can run at very high speeds.

Satellite Radio

Amphenol RF coaxial connection systems have been an integral part of the signal reception process since the first vehicle broadcast satellites came online. Our connectors conduct the signal from the antenna through the vehicle and into the specific decoder modules.

Vehicle Controls

Adaptive Cruise Control and Collision Avoidance Systems are evolving technologies that utilize FAKRA connectors.

Wi-Fi

Many new automotive models are incorporating Wi-Fi in to their Infotainment offerings. Our FAKRA connectors support this emerging technology.

Wireless Remote

Remote starting, remote keyless entry, and door/window controls are all supported by our FAKRA products.

FAKRA GENERATIONS

	Design Features	Tooling	Production	Compliance	Packaging
GEN 1.0	Machined Body Machined Contact Unassembled Housing	Hand Tooling	Low Volume	USCAR-17 USCAR-18 DIN 72594-1	Tray Pack Bulk Components
GEN 2.0	Die Cast Body Singulated Stamped or Machined Contact Pre-Assembled Housing	Hand Tooling	Low Volume	USCAR-17 USCAR-18 DIN 72594-1	Tray Pack Bulk Components
GEN 2.5	Die Cast Body Stamped Contact Pre-Assembled Housing	Automated Tooling Semi-Automated Tooling	High Volume	USCAR-17 USCAR-18 DIN 72594-1	Tray Pack Contacts sold separately on tape and reel
GEN 3.0	Die Cast Body Stamped Contact Pre-Assembled Housing	Automated Tooling Semi-Automated Tooling	High Volume	USCAR-17 USCAR-18 DIN 72594-1	Tray Pack Contacts sold separately on tape and reel
GEN 4.0	Stamped Body Stamped Contact Stamped Sleeve Unassembled Housing	Fully Automated Tooling	High Volume	USCAR-17 USCAR-18 DIN 72594-1 6Q0.90.961D 6Q0.90.961E	Tray Pack for Housing Other components sold on tape and reel

Utilizing world class engineering and manufacturing capabilities, Amphenol RF is well positioned to be the industry leader in all future automotive technologies for years to come.

FAKRA / USCAR PRODUCT SPECIFICATIONS

ELECTRICAL

Impedance		50 Ω Nominal		
Frequency Range		DC-6 GHZ		
Performance Specifications:				
VSWR		**DC-2 GHZ**	**2 GHz - 3 GHZ**	**3 GHz - 6 GHz***
	Spec Requirement	1.40 max	1.50 max	1.60 max
Insertion Loss		**DC - 3GHZ**		**3 GHz - 6 GHz***
	Spec Requirement	≤ 0.3 dB max		0.45 ≤ dB max
Insulation Resistance		1000 MΩ min		
Contact Resistance	*Center Contact*	< 24 MΩ		
	Outer Contact	< 5 MΩ		
Dielectric Withstanding Voltage	*At Sea Level*	> 800 VRMS (interface only; may be cable limited)		

** Applicable to any 6.0 GHz FAKRA connectors listed in this catalog*

MECHANICAL

Durability (Mating Cycles)		100 min
Plastic Housing - Engagement Force		≤ 40 N (Single FAKRA)
Plastic Housing - Disengagement Force		≥ 35 N (Single FAKRA)
Cable Retention Force		> 110 N
Coding		14 mechanical and colored codings
Interface		USCAR-18, DIN

ENVIRONMENTAL

Temperature Range	*Operating*	-40/ +105 C
Thermal Shock		USCAR-2, para 5.6.1
Vibration		USCAR-2, para 5.4.6
Shock		USCAR-2, para 5.4.6

MATERIALS

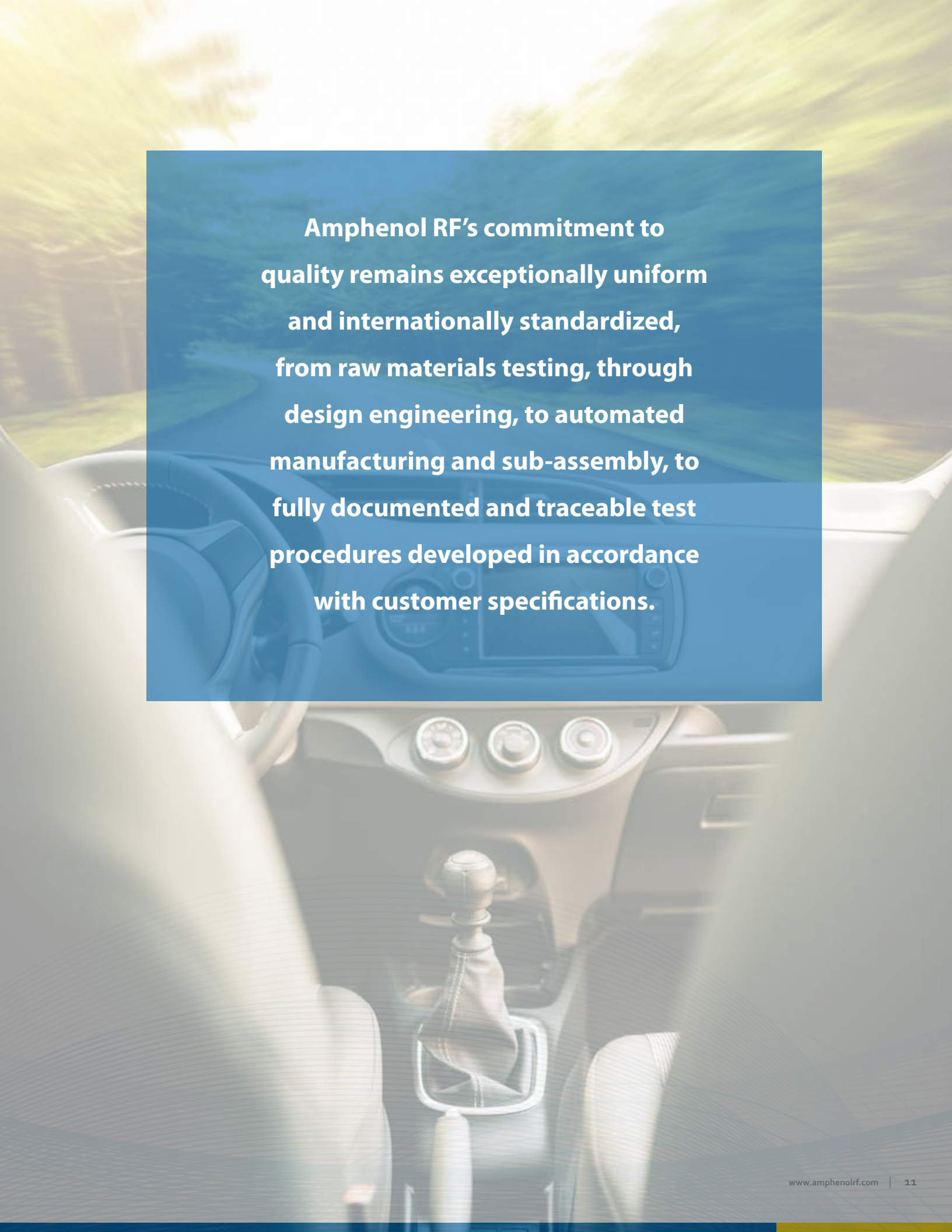
Plastic Housing	*Jacks*	Nylon, PBT or PPE
	In-Line Plugs	Nylon or PBT
	PCB Plugs	Nylon
Secondary Locking Clip (if applicable)		PBT
Center Contact	*Jack*	Beryllium Copper or Phosphor Bronze
	Plug	Brass or Phosphor Bronze
Body		Brass, Zinc Alloy or Phosphor Bronze
Retainer Ring (if applicable)		Beryllium Copper
Ferrule		Copper Alloy
Insulator		TFE or TPX

PLATING

Center Contact		Gold
Body	*Cable Mount Connectors*	Nickel, Tin
	PCB Mount Connectors	Nickel, Gold, Tin
Ferrule		Nickel

FAKRA/USCAR MECHANICAL CODING

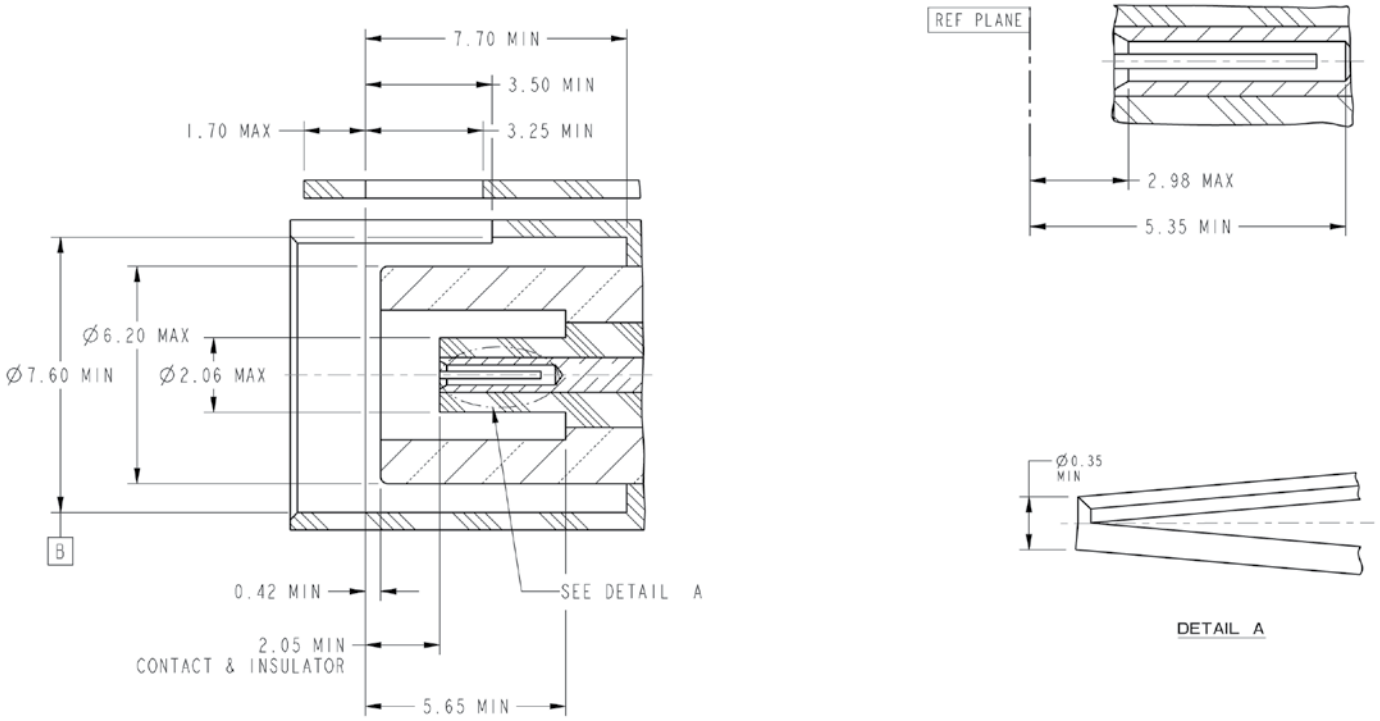
	Jack	Plug	RAL	Color	Application
A			9005	Jet Black	DAB/AM-FM
B			9001	Cream	DAB with Power / AM-FM
C			5005	Signal Blue	GPS
D			4004	Claret Violet	Cellular Phone
E			6002	Leaf Green	TV / SDARS Terrestrial
F			8011	Nut Brown	TV / SDARS Terrestrial / Camera
G			7031	Blue Grey	SDARS Terrestrial
H			4003	Heather Violet	GPS Navigation
I			1001	Beige	Bluetooth / VPM
K			1027	Curry	SDARS Satellite AM-FM
L			3002	Carmine Red	VPM
M			2003	Pastel Orange	RKE / TPMS
N			6019	Pastel Green	DSRC / VPM
Z			5021	Water Blue	Universal (Neutral) Code



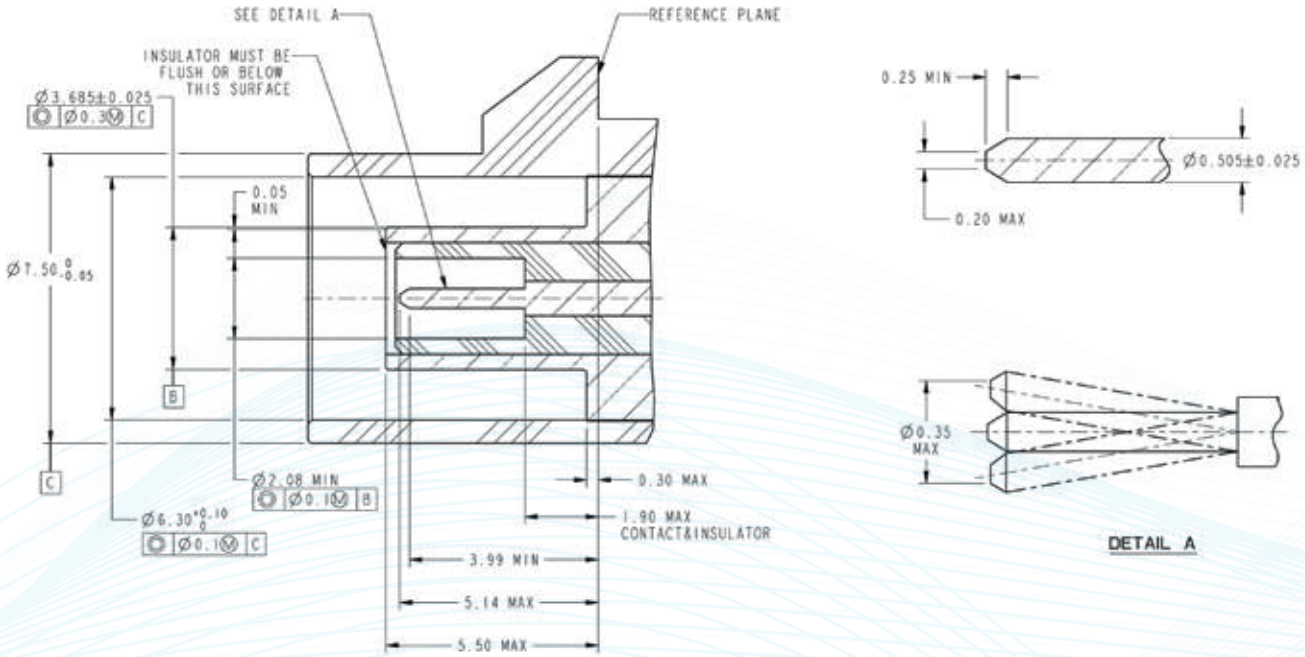
Amphenol RF's commitment to quality remains exceptionally uniform and internationally standardized, from raw materials testing, through design engineering, to automated manufacturing and sub-assembly, to fully documented and traceable test procedures developed in accordance with customer specifications.

INTERFACE DRAWINGS

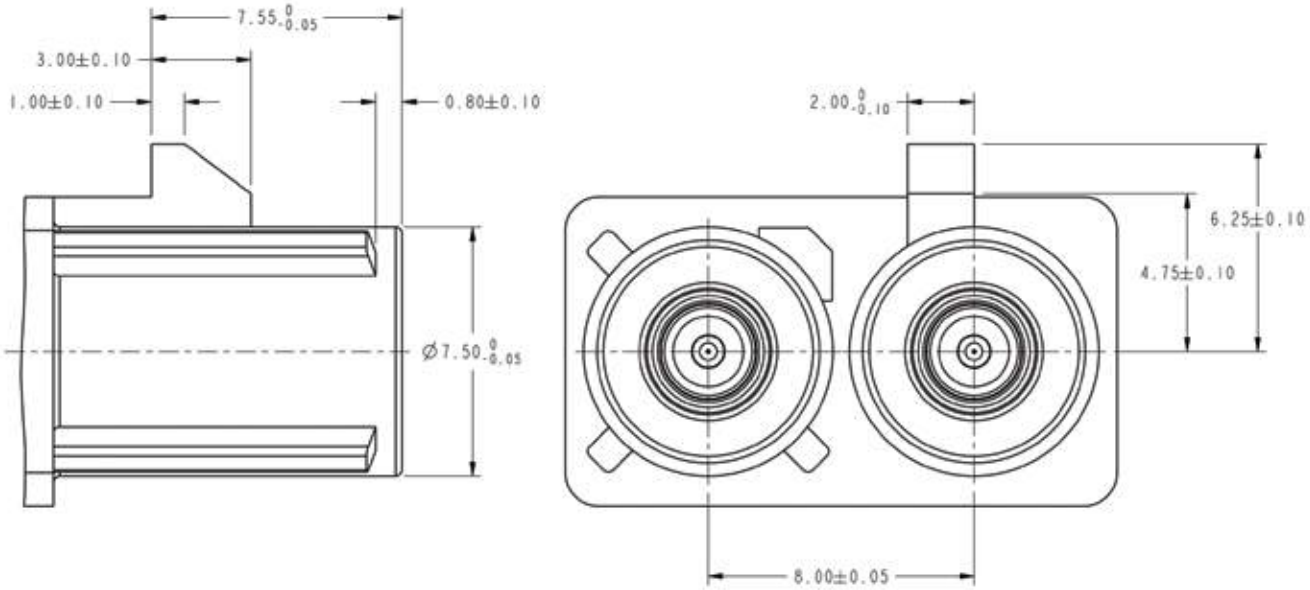
FAKRA Jack Interface

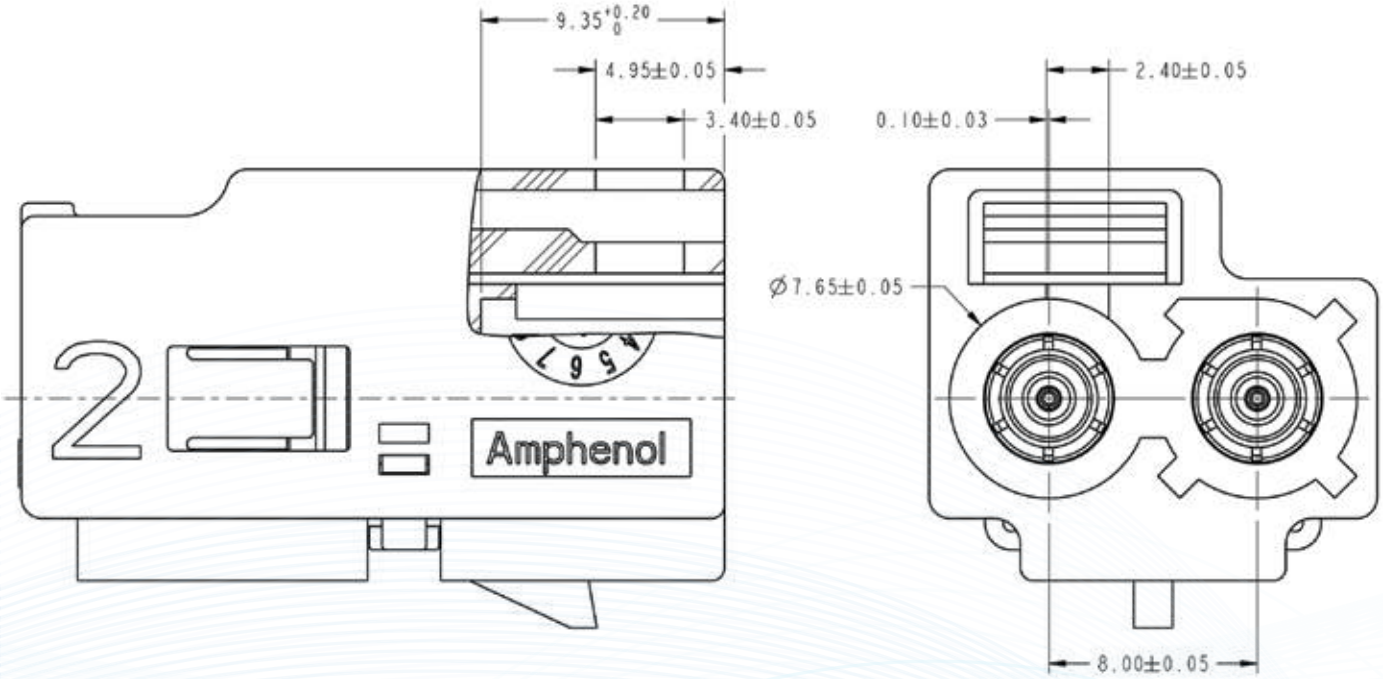


FAKRA Plug Interface



Dual - 8mm (High-Density) Housing





FAKRA ORDERING INFORMATION

2	F	A	1	-	N	X	S	P	-	C	O	1	W	0

Generation:

FA	Gen 1.0
2FA	Gen 2.0 or 2.5
3FA	Gen 3.0
4FA	Gen 4.0

Housing:

1 = Single

H=Dual 8mm Pitch

Options:
(dash) = -
E = Enhanced Gen 3.5
6 = 6 GHz
R = Reverse Port On Duals
Other options available, please contact factory

Tab Location:

N=North

S=South

E=East

W=West

Key Code: See Key Code Chart

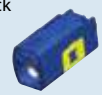
Style:

S=Straight

R=Right Angle

A=Angled/Other than 90 Degrees

Gender:

J = Jack 

P = Plug

Options:

(dash) = -

T = TPA (Terminal Position Assurance)

Termination

Cable Mount Connectors

C01 = RG-174/188/316
C04 = RG-58
C65 = RG-59/62 Type
C71 = RG-71/UM
D46 = DACAR 462
M59 = Mini 59 Type
C00 = RG-174/188/316 and RG-58 *
C88 = RG-174/188/316 and RG-71/UM *
C99 = RG-174/188/316 and RG-59/62 Type *

More cables available, please consult factory
** available on dual connectors only*

Printed Circuit Board Connector
PCB = Printed Circuit Board Connector

Options:

- = With contact supplied
W = Contact supplied separately
E = Sealed Connector
Other options available , please contact factory

Character Codes - Cable Jacks

0 = Without Clip Provision
3 = 360 Degree Design (Right Angle Only)
6 = Single/Dual With Clip Provision
S = Low Profile Without Clip Provision

Character Codes - Cable Plugs

0 = Single Without Bracket; Without Clip Provision
1 = Single/Dual Without Bracket; With Clip Provision
6 = Single/Dual Without Bracket; With Clip Provision
9 = Dual Without Bracket; Without Clip Provision

Please contact Amphenol RF for other cable requirements.

FAKRA Cable Connectors

GENERATION 4.0 FAKRA CONNECTORS

Generation 4.0 plugs and jacks feature stamped and formed construction and are designed for fully automated termination by the user. The center contacts and connector bodies are supplied strip-fed on tape and reel. Generation 4.0 connectors are designed for high volume users whose factory utilizes high-speed automated cable assembly production. The FAKRA connector housings for Generation 4.0 are removable, permitting field replacement, if necessary.

Single Straight Jack

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
4FA1-NXSJ-C01W0	C01	RG-174/188/316	349-50874
4FA1-NXSJ-C04W0	C04	RG-58	349-50874
4FA1-NXSJ-C65W0	C65	RG-59/62	349-50874
4FA1-NXSJ-M59W0	M59	Mini 59 Type	349-50874

With Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
4FA1-NXSJ-C01W6	C01	RG-174/188/316	349-50874
4FA1-NXSJ-C04W6	C04	RG-58	349-50874
4FA1-NXSJ-C65W6	C65	RG-59/62	349-50874
4FA1-NXSJ-M59W6	M59	Mini 59 Type	349-50874

Single Right Angle Jack

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
4FA1-NXRJ-C01W3	C01	RG-174/188/316	349-50906
4FA1-NXRJ-C04W3	C04	RG-58	349-50906
4FA1-NXRJ-C65W3	C65	RG-59/62	349-50906
4FA1-NXRJ-M59W3	M59	Mini 59 Type	349-50906

Single Straight Plug

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
4FA1-NXSP-C01W1	C01	RG-174/188/316	349-50874
4FA1-NXSP-C04W1	C04	RG-58	349-50874
4FA1-NXSP-C65W1	C65	RG-59/62 Type	349-50874
4FA1-NXSP-M59W1	M59	Mini 59 Type	349-50874

Dual Straight Jack

With Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
4FAH-NXSJ-C01W6	C01	RG-174/188/316	349-50913
4FAH-NXSJ-C04W6	C04	RG-58	349-50913
4FAH-NXSJ-C00W6	C00	RG-174/188/316 and RG-58	349-50913
4FAH-NXSJ-C99W6	C99	RG-174/188/316 and RG 59/62	349-50913

Dual Straight Plug

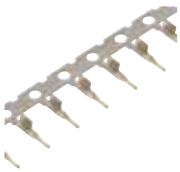
Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
4FAH-NXSP-C01W9	C01	RG-174/188/316	349-50913
4FAH-NXSP-C04W9	C04	RG-58	349-50913
4FAH-NXSP-C00W9	C00	RG-174/188/316 and RG-58	349-50913
4FAH-NXSP-C99W9	C99	RG-174/188/316 and RG 59/62	349-50913

Straight Female Contacts

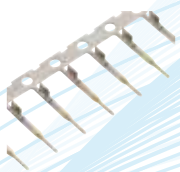
Part Number	Description	Cable Type
923-40120	Straight Female Contact	RG-174/188/316 and RG 59/62
923-40121	Straight Female Contact	RG-58
923-40122	Straight Female Contact	Mini 59 Type

Right Angle Female Contacts



Part Number	Description	Cable Type
FKCP08404	Right Angle Female Contact	RG-174/188/316 and RG-59/62
FKCP08405	Right Angle Female Contact	RG-58
923-40144	Right Angle Female Contact	Mini 59 Type

Straight Male Contacts



Part Number	Description	Cable Type
923-40116	Straight Male Contact	RG-174/188/316 and RG-59/62
923-40117	Straight Male Contact	RG-58
923-40118	Straight Male Contact	Mini 59 Type

**Specific mechanical key code designation replaces "X" in all part numbers listed.*

GENERATION 3.0 FAKRA CONNECTORS

Generation 3.0 FAKRA connectors feature a closed-entry interface and a protected outer contact, making the connector more robust than traditional SMB connectors. The stamped and formed center contact is supplied on a reel, allowing for semi-automated termination onto the cable.

Single Straight Jack

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
3FA1-NXSJ-C01W0	C01	RG-174/188/316	349-50801
3FA1-NXSJ-C04W0	C04	RG-58	349-50801
3FA1-NXSJ-C65W0	C65	RG-59/62	349-50801
3FA1-NXSJ-D46W0	D46	DACAR 462	349-50801
3FA1-NXSJ-M59W0	M59	Mini 59 Type	349-50801

With Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
3FA1-NXSJ-C01W6	C01	RG-174/188/316	349-50801
3FA1-NXSJ-C04W6	C04	RG-58	349-50801
3FA1-NXSJ-C65W6	C65	RG-59/62	349-50801
3FA1-NXSJ-D46W6	D46	DACAR 462	349-50801
3FA1-NXSJ-M59W6	M59	Mini 59 Type	349-50801

Single Right Angle Jack (Center Contact Pre-Assembled)

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
3FA1ENXRJ-C01-3	C01	RG-174/188/316/DACAR 462	349-50785
3FA1ENXRJ-C04-3	C04	RG-58	349-50785
3FA1ENXRJ-C65-3	C65	RG-59/62	349-50785
3FA1ENXRJ-C71-3	C71	RG-71/UM	349-50785
3FA1ENXRJ-M59-3	M59	Mini 59 Type	349-50785

Elongated Single R/A Jack (Center Contact Pre-Assembled)

With Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
3FA1MNXRJ-C01F6	C01	RG-174/188/316	349-50785
3FA1MNXRJ-C04F6	C04	RG-58	349-50785
3FA1MNXRJ-C65F6	C65	RG-59/62	349-50785

Dual Straight Jack

With Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
3FAH-NXSJ-C01W6	C01	RG-174/188/316	349-50767
3FAH-NXSJ-C04W6	C04	RG-58	349-50767
3FAH-NXSJ-C00W6	C00	RG-174/188/316 and RG-58	349-50767
3FAH-NXSJ-C88W6	C88	RG-174/188/316 and RG-7/UM	349-50767
3FAH-NXSJ-C99W6	C99	RG-174/188/316 and RG 59/62	349-50767

Straight Female Contacts

Part Number	Description	Cable Type
FKCP03301A	Straight Female Contact	RG-174/188/316, RG 59, RG-71/UM and DACAR 462
FKCP03302	Straight Female Contact	RG-58
FKCP03303	Straight Female Contact	Mini 59 Type

**Specific mechanical key code designation replaces "X" in all part numbers listed.*

GENERATION 2.5 AND 2.0 FAKRA CONNECTORS

FAKRA Generation 2.0 and 2.5 connectors feature a die cast body and stamped contact, offering reduced installation costs for customers via a pre-assembled housing unit. This pre-assembled housing eliminates two loose components and their associated assembly and handling costs. Generation 2.5 center contacts are provided on a tape and reel for automated distribution and placement.

GEN 2.5 FAKRA CABLE CONNECTOR

Single Straight Plug

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
2FA1-NXSP-C01W1	C01	RG-174/188/316	349-50914
2FA1-NXSP-C04W1	C04	RG-58	349-50914
2FA1-NXSP-C65W1	C65	RG-59/62	349-50914
2FA1-NXSP-C71W1	C71	RG-71/UM	349-50914
2FA1-NXSP-D46W1	D46	DACAR 462	349-50914
2FA1-NXSP-M59W1	M59	Mini 59 Type	349-50914

With Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
2FA1-NXSPTC01W6	C01	RG-174/188/316	349-50837
2FA1-NXSPTC04W6	C04	RG-58	349-50837
2FA1-NXSPTC65W6	C65	RG-59/62	349-50837

Dual Straight Plug

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
2FAH-NXSP-C01W9	C01	RG-174/188/316	349-50767
2FAH-NXSP-C04W9	C04	RG-58	349-50767
2FAH-NXSP-C00W9	C00	RG-174/188/316 and RG-58	349-50767
2FAH-NXSP-C88W9	C88	RG-174/188/316 and RG-71/UM	349-50767
2FAH-NXSP-C99W9	C99	RG-174/188/316 and RG 59/62	349-50767

With Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
2FAH-NXSP-C01W6	C01	RG-174/188/316	349-50767
2FAH-NXSP-C04W6	C04	RG-58	349-50767
2FAH-NXSP-C00W6	C00	RG-174/188/316 and RG-58	349-50767

Straight Male Contacts

Part Number	Description	Cable Type
FKCP03401A	Straight Male Contact	RG-174/188/316 and RG 59, RG-71/UM and DACAR 462
FKCP03402	Straight Male Contact	RG-58
FKCP03403	Straight Male Contact	Mini 59 Type

GEN 2.0 FAKRA CABLE CONNECTORS

Single Straight Plug

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
2FA1-NXSP-C01-1	C01	RG-174/188/316	349-50695
2FA1-NXSP-C04-1	C04	RG-58	349-50695
2FA1-NXSP-C65-1	C65	RG-59/62	349-50695
2FA1-NXSP-C71-1	C71	RG-71/UM	349-50695

**Specific mechanical key code designation replaces "X" in all part numbers listed.*

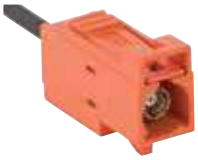
GENERATION 1.0 FAKRA CONNECTORS

FAKRA Generation 1.0 utilizes a modified metal SMB connector embedded within a plastic housing, which is color-coded and key-coded for ease of identification and to help eliminate assembly errors. Our standard FAKRA connectors are designed to perform up to 4.0 GHz and meet the electrical, mechanical and environmental standards of the automotive industry.

Single Straight Jack

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
FA1-NXSJ-C01-0	C01	RG-174/188/316	349-50782
FA1-NXSJ-C04-0	C04	RG-58	349-50782



With Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
FA1-NXSJ-C01-6	C01	RG-174/188/316	349-50782
FA1-NXSJ-C04-6	C04	RG-58	349-50782

Single Straight Plug

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
FA1-NXSP-C01-1	C01	RG-174/188/316	349-50781
FA1-NXSP-C04-1	C04	RG-58	349-50781

Single Straight Plug w/ Bracket

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
FA1-NXSP-C01-0	C01	RG-174/188/316	349-50781
FA1-NXSP-C04-0	C04	RG-58	349-50781

Single Straight Plug - Panel Mount

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
FA1-NXSP-C01-5	C01	RG-174/188/316	349-50784

**Specific mechanical key code designation replaces "X" in all part numbers listed.*

SEALED FAKRA CONNECTORS

Sealed IP67 FAKRA SMB connectors are tested to GMW3191 standards and utilize both internal and external o-rings and adhesive heat shrink tubing in order to prevent dust and water ingress. These connectors are ideal for applications exposed to harsh environmental elements including construction, trucking, and outdoor communications.

Sealed Single Straight Jack

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
3FA1-NXSJ-C01E0	C01	RG-174/188/316, DACAR 462	349-50832
3FA1ENXSJ-C04E0	C04	RG-58	349-50832

With Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
3FA1-NXSJ-C01E6	C01	RG-174/188/316, DACAR 462	349-50832

Low Profile Sealed Single Straight Jack

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
3FA1ENXSJ-C01ES	C01	RG-174/188/316, DACAR 462	349-50910
3FA1ENXSJ-C04ES	C04	RG-58	349-50910
3FA1ENXSJ-C65ES	C65	RG-59/62	349-50910

Sealed Single R/A Jack (Center Contact Pre-Assembled)

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
3FA1ENXRJ-C01ER	C01	RG-174/188/316, DACAR 462	349-50883
3FA1ENXRJ-C04E3	C04	RG-58	349-50883
3FA1ENXRJ-C65E3	C65	RG-59/62	349-50883

Sealed Single Straight Plug

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
2FA1-NXSP-C01E1	C01	RG-174/188/316, DACAR 462	349-50832
2FA1-NXSP-C04E1	C04	RG-58	349-50832
2FA1-NXSP-C65E1	C65	RG-59/62	349-50832

With Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
2FA1-NXSP-C01E6	C01	RG-174/188/316, DACAR 462	349-50832
2FA1-NXSP-C04E6	C04	RG-58	349-50832
2FA1-NXSP-C65E6	C65	RG-59/62	349-50832

Straight Female Contacts

Part Number	Description	Cable Type
FKCP03301A	Straight Female Contact, Selective Plated	RG-174/188/316 and DACAR 462
FKCP08402	Straight Female Contact, Gold Plated	RG-174/188/316 and DACAR 462
FKCP03302	Straight Female Contact	RG-58

Straight Male Contacts

Part Number	Description	Cable Type
FKCP03401A	Straight Male Contact	RG-174/188/316, RG-59, and RG-71/UM
FKCP03402	Straight Male Contact	RG-58

6.0 GHZ FAKRA CONNECTORS

6.0 GHz connectors are designed for excellent VSWR performance from DC to 6.0 GHz, and meet the mechanical and environmental requirements of the automotive industry.

Single Straight Jack

With Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
3FA16NXSJ-C01-6	C01	RG-174/188/316	349-50915
3FA16NXSJ-C04-6	C04	RG-58	349-50915

Single Straight Plug

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
2FA16NXSP-C01-1	C01	RG-174/188/316	349-50915
2FA16NXSP-C04-1	C04	RG-58	349-50915

**Specific mechanical key code designation replaces "X" in all part numbers listed.*

FAKRA Adapters

Our FAKRA adapters are available in SMB to SMA configurations, which utilize a universal key code on the FAKRA side. FAKRA adapters can be used in a variety of applications, e.g. as antenna adapters and for test purposes.

Part Number	Description
APH-FKJ-SMAJ	Universal FAKRA Jack to SMA Jack

Part Number	Description
APH-FKP-SMAP	Universal FAKRA Plug to SMA Plug

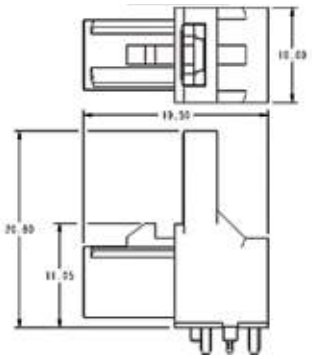
FAKRA PCB CONNECTORS

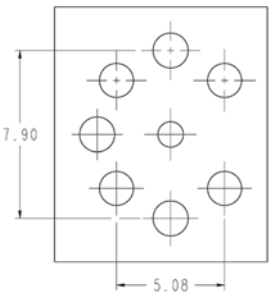
Amphenol offers a variety of FAKRA PCB mount connectors to mate to the various cable-mounted connectors shown above. Vertical, right angle, dual, and edge-mount configurations are all part of our standard offering.

Image	Part Number	Line Drawing	PCB Layout Reference

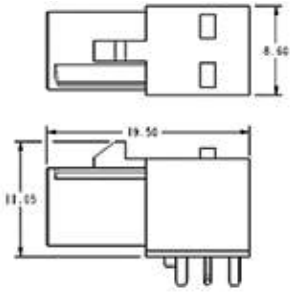
Single Right Angle PCB Mount

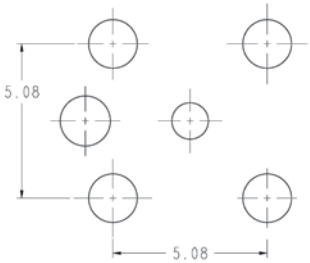
4FA1-NXRP-PCB-4

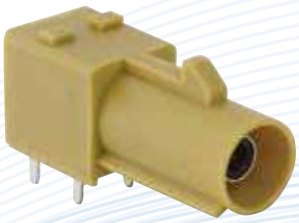




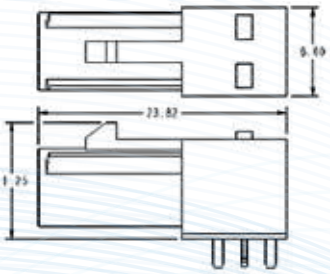
4FA1-NXRP-PCB-6

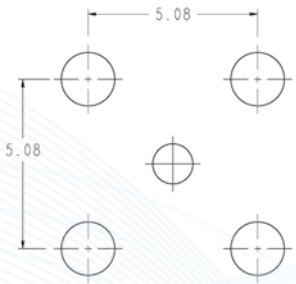




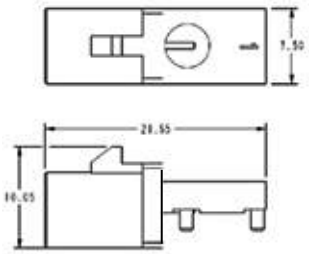
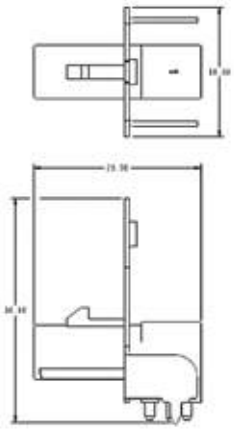
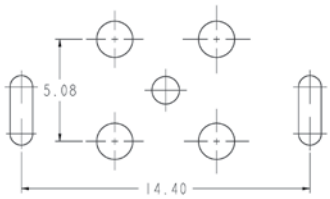
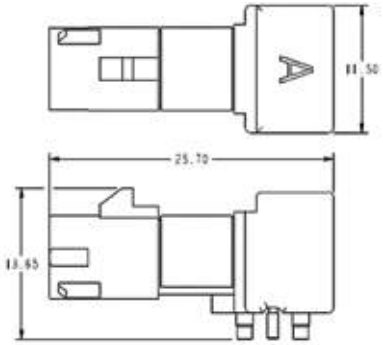
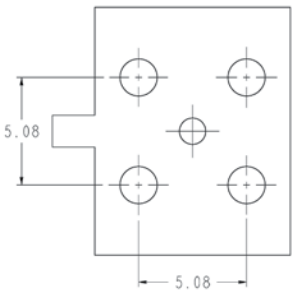
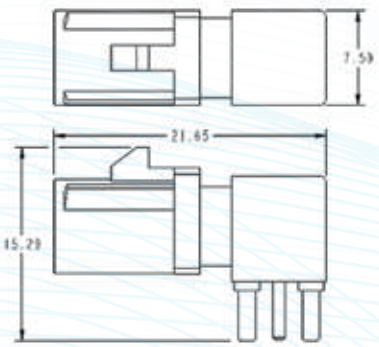
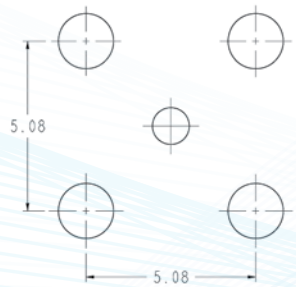


4FA1-NXRP-PCB-8

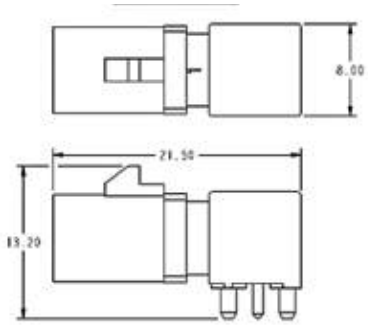
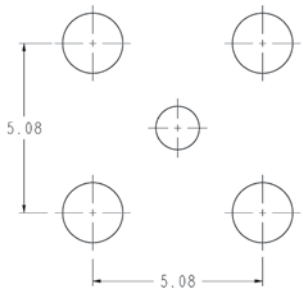
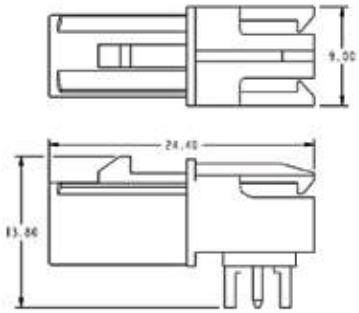
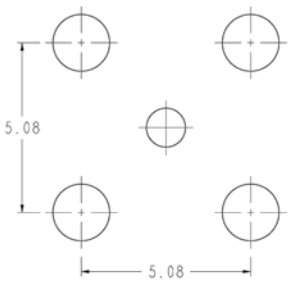
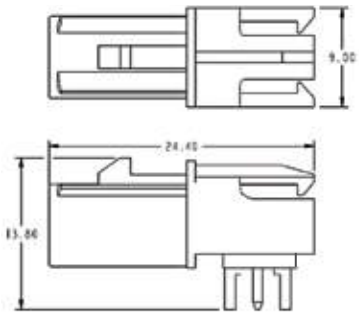
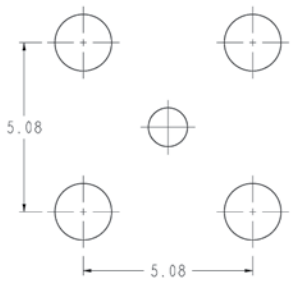
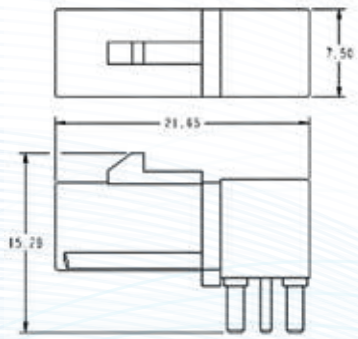
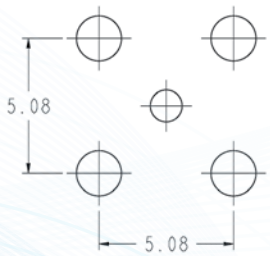




**Refer to customer outline drawing for detailed PCB layout dimensions*

Image	Part Number	Line Drawing	PCB Layout Reference
	2FA1-NXRP-PCBA3		
	2FA1-NXRP-PCBD1		
	2FA1-NXRP-PCB-5		
	2FA1-NXRP-PCB-6		

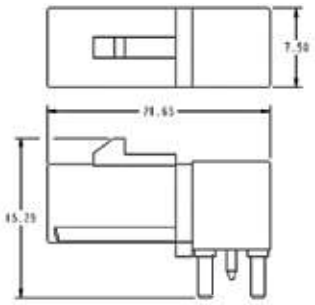
**Refer to customer outline drawing for detailed PCB layout dimensions*

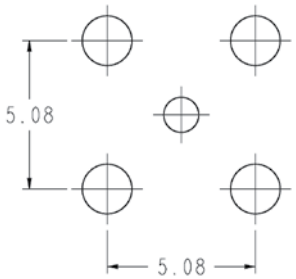
Image	Part Number	Line Drawing	PCB Layout Reference
	2FA1-NXRP-PCBB2		
	FA1-NXRP-PCB-6A		
	FA1-NXRP-PCB-8A		
	FA1-NXRP-PCBT10		

**Refer to customer outline drawing for detailed PCB layout dimensions*

Image	Part Number	Line Drawing	PCB Layout Reference

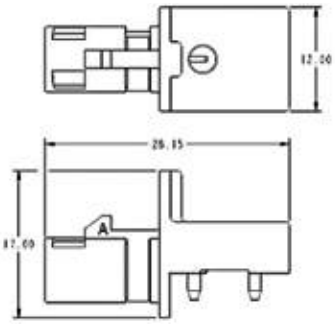
FA1-NXRP-PCBT17

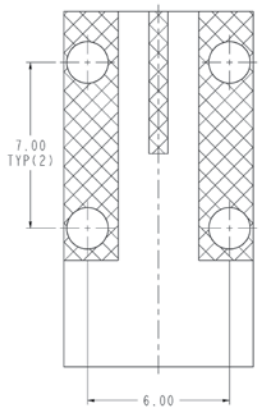




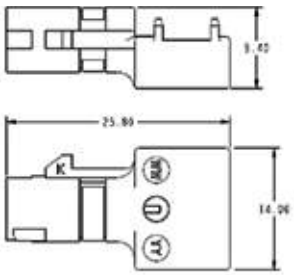
Single Edgemount PCB

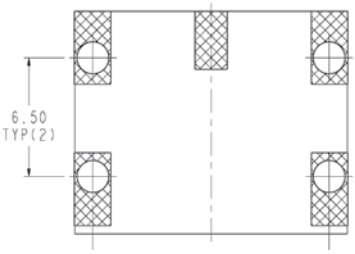
2FA1-NXSP-PCB-3



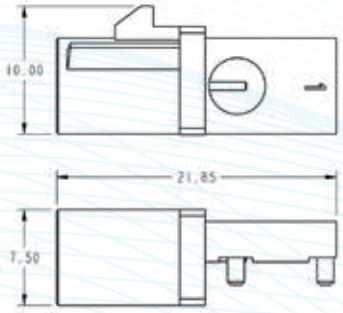


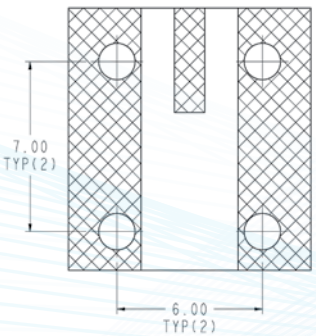
2FA1-WXSP-1000





2FA1-WXSP-PCBA3

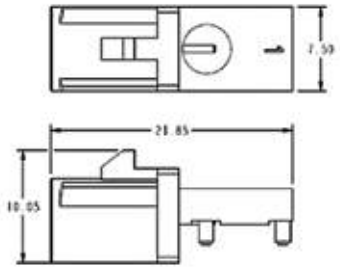


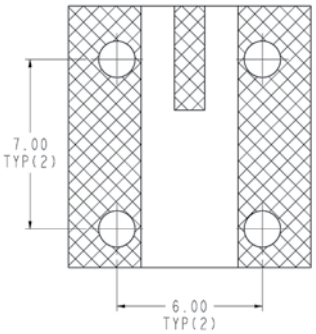


**Refer to customer outline drawing for detailed PCB layout dimensions*

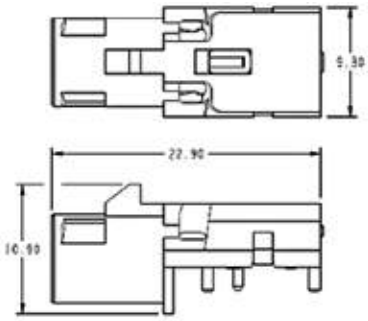
Image	Part Number	Line Drawing	PCB Layout Reference

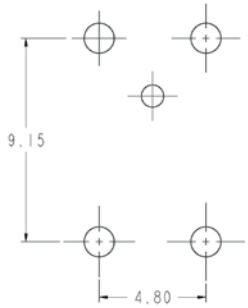
2FA1-NXSP-PCBA9





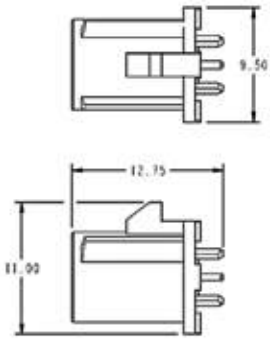
4FA1-NXRP-PCB-3

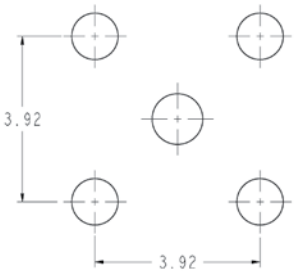




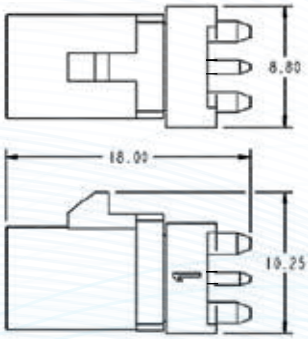
Single Vertical PCB Mount

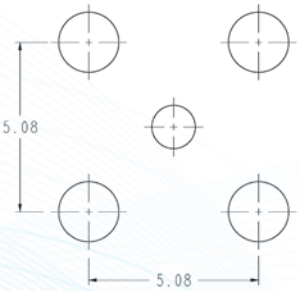
2FA1-NXSP-PCBC5



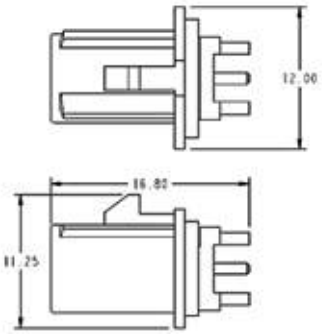
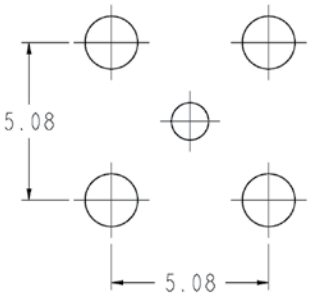


2FA1-NXSP-PCBB6

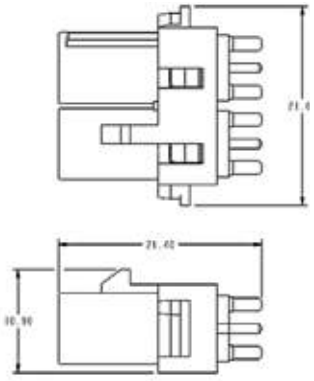
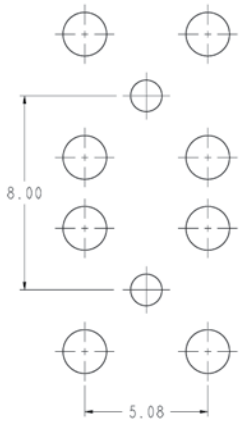
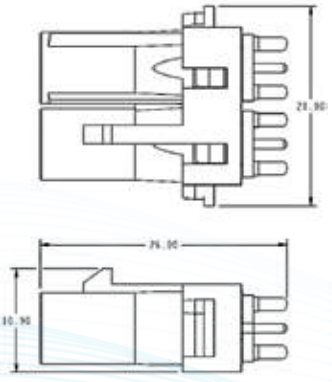
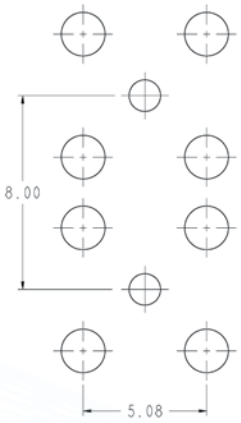




**Refer to customer outline drawing for detailed PCB layout dimensions*

Image	Part Number	Line Drawing	PCB Layout Reference
	FA1-NXSP-PCB-2		

Dual Vertical PCB Mount

	2FAH-NXSP-PCB-1		
	2FAH-NXSP-PCB-2		

**Refer to customer outline drawing for detailed PCB layout dimensions*

HSD CABLE ASSEMBLY ORDERING INFORMATION

Our HSD (High Speed Data) series was developed in response to the increasing demand for high speed data communication systems in vehicles. These connectors feature 100 Ohm nominal impedance and support data rates up to 1.6 GBPS. HSD connectors can be used in combination with a variety of protocols such as LVDS (Low Voltage Differential Signaling), GVIF (Gigabit Video interface), USB, IEEE 1394 as well as Ethernet protocols.

HSD Cable Assembly Part Numbering System

H	S	D	S	J	X	S	J	X	1	5	2	4	0	2

Product Family:

HSD = High Speed Data

Connector A Orientation:

S = Straight

R = Right Angle

Connector A Gender:

J = Jack

P = Plug

Connector A Keying:

A,B,C,D,E,Z (North only)

G,H,J,K,L,M,O (South only)

See additional information on page 30

Connector B Orientation:

S = Straight

R = Right Angle

Connector B Gender:

J = Jack

P = Plug

Connector B Keying:

A,B,C,D,E,F,Z (North only)

G,H,J,K,L,M,O (South only)

See additional information on page 30

Length:

100 - 9999	Length in MM (100 Millimeters - 9999 Millimeters)
100M - 990M	Length in M (10.0 Meters - 99.9 Meters)

Example:
105M = 10.5 Meters, 990M = 99 Meters

Character Code:

01-99

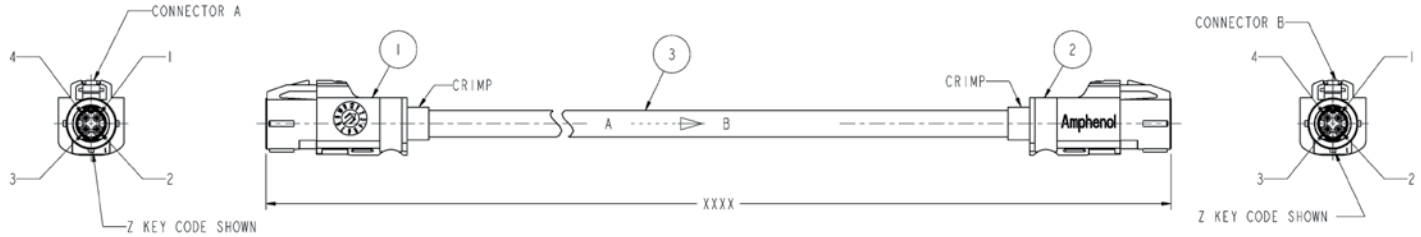
Please consult factory for additional information

HSD MECHANICAL CODING

	Jack	Plug	RAL	Color
A			9005	Jet Black
B			9001	Cream
C			5005	Signal Blue
D			4004	Claret Violet
E			6002	Leaf Green
F			8011	Nut Brown
G			7031	Blue Grey
H			4003	Heather Violet
J			1001	Beige
K			1027	Curry
L			6018	Yellow Green
M			2003	Pastel Orange
O			6027	Light Green
Z			5021	Water Blue

HSD CABLE ASSEMBLIES

HSD Cable Assemblies



Part Number	Description	Wiring Configuration
HSDSJXRJXXXXX04	HSD Straight Jack to Right Angle Jack, DACAR 535 C/A	1-4, 2-3, 3-2, 4-1
HSDSJXSJXXXXX07	HSD Straight Jack to Straight Jack, DACAR 535 C/A	1-4, 2-3, 3-2, 4-1
HSDSJXSJXXXXX08	HSD Straight Jack to Straight Jack, DACAR 535 C/A	1-1, 2-2, 3-3, 4-4

HSD CONNECTORS

Single Straight Jack

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
2HSD-NXSJ-C44W0	C44	DACAR 535 Type	349-50864

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
2HSD-SXSJ-C44W0	C44	DACAR 535 Type	349-50864

Single Straight Plug

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
2HSD-NXSP-C44W1	C44	DACAR 535 Type	349-50864

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
2HSD-SXSP-C44W1	C44	DACAR 535 Type	349-50864

Right Angle Jack

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
3HSD-DXRJ-C44W0	C44	DACAR 535 Type	349-50867

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
3HSD-LXRJ-C44W0	C44	DACAR 535 Type	349-50867

Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
3HSD-RXRJ-C44W0	C44	DACAR 535 Type	349-50867

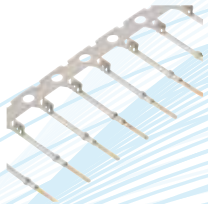
Without Mounting Clip Provision

Part Number	Cable Code	Cable Type	Cable Assembly Instructions
3HSD-UXRJ-C44W0	C44	DACAR 535 Type	349-50867

Straight Female Contacts

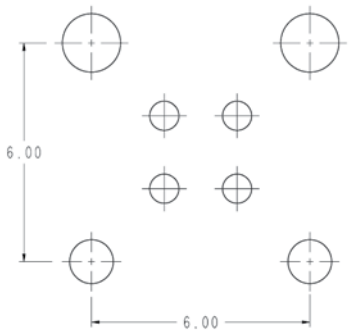
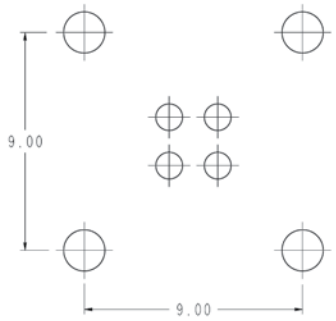
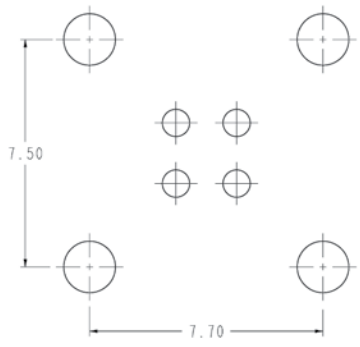
Part Number	Description	Cable Type
HDCP00401	Straight Female Contact	DACAR 535 Type

Straight Male Contact



Part Number	Description	Cable Type
HDCP00501	Straight Male Contact	DACAR 535 Type

HSD PCB CONNECTORS

Image	Part Number	PCB Layout Reference
	HSD-NXSP-PCB-2X	
	HSD-NXRP-PCB-3X	
	HSD-NXRP-PCB13X	

Index

Part Number	
2FA16NXSP-C01-1	21
2FA16NXSP-C04-1	21
2FA1-NXRP-PCB-5	24
2FA1-NXRP-PCB-6	24
2FA1-NXRP-PCBA3	24
2FA1-NXRP-PCBB2	25
2FA1-NXRP-PCBD1	24
2FA1-NXSP-C01-1	18
2FA1-NXSP-C01E1	20
2FA1-NXSP-C01E6	20
2FA1-NXSP-C01W1	18
2FA1-NXSP-C04-1	18
2FA1-NXSP-C04E1	20
2FA1-NXSP-C04E6	20
2FA1-NXSP-C04W1	18
2FA1-NXSP-C65-1	18
2FA1-NXSP-C65E1	20
2FA1-NXSP-C65E6	20
2FA1-NXSP-C65W1	18
2FA1-NXSP-C71-1	18
2FA1-NXSP-C71W1	18
2FA1-NXSP-D46W1	18
2FA1-NXSP-M59W1	18
2FA1-NXSP-PCB-3	26
2FA1-NXSP-PCBA9	27
2FA1-NXSP-PCBB6	27
2FA1-NXSP-PCBC5	27
2FA1-NXSPTC01W6	18
2FA1-NXSPTC04W6	18
2FA1-NXSPTC65W6	18
2FA1-WXSP-1000	26
2FA1-WXSP-PCBA3	26
2FAH-NXSP-C00W6	18
2FAH-NXSP-C00W9	18
2FAH-NXSP-C01W6	18
2FAH-NXSP-C01W9	18
2FAH-NXSP-C04W6	18
2FAH-NXSP-C04W9	18

Part Number	
2FAH-NXSP-C88W9	18
2FAH-NXSP-C99W9	18
2FAH-NXSP-PCB-1	28
2FAH-NXSP-PCB-2	28
2HSD-NXSJ-C44W0	31
2HSD-NXSP-C44W1	31
2HSD-SXSJ-C44W0	31
2HSD-SXSP-C44W1	31
3FA16NXSJ-C01-6	21
3FA16NXSJ-C04-6	21
3FA1ENXRJ-C01-3	17
3FA1ENXRJ-C01ER	20
3FA1ENXRJ-C04-3	17
3FA1ENXRJ-C04E3	20
3FA1ENXRJ-C65-3	17
3FA1ENXRJ-C65E3	20
3FA1ENXRJ-C71-3	17
3FA1ENXRJ-M59-3	17
3FA1ENXSJ-C01ES	20
3FA1ENXSJ-C04E0	20
3FA1ENXSJ-C04ES	20
3FA1ENXSJ-C65ES	20
3FA1MNXRJ-C01F6	17
3FA1MNXRJ-C04F6	17
3FA1MNXRJ-C65F6	17
3FA1-NXSJ-C01E0	20
3FA1-NXSJ-C01E6	20
3FA1-NXSJ-C01W0	17
3FA1-NXSJ-C01W6	17
3FA1-NXSJ-C04W0	17
3FA1-NXSJ-C04W6	17
3FA1-NXSJ-C65W0	17
3FA1-NXSJ-C65W6	17
3FA1-NXSJ-D46W0	17
3FA1-NXSJ-D46W6	17
3FA1-NXSJ-M59W0	17
3FA1-NXSJ-M59W6	17
3FAH-NXSJ-C00W6	17

Part Number	
3FAH-NXSJ-C01W6	17
3FAH-NXSJ-C04W6	17
3FAH-NXSJ-C88W6	17
3FAH-NXSJ-C99W6	17
3HSD-DXRJ-C44W0	32
3HSD-LXRJ-C44W0	32
3HSD-RXRJ-C44W0	32
3HSD-UXRJ-C44W0	32
4FA1-NXRJ-C01W3	15
4FA1-NXRJ-C04W3	15
4FA1-NXRJ-C65W3	15
4FA1-NXRJ-M59W3	15
4FA1-NXRP-PCB-3	27
4FA1-NXRP-PCB-4	23
4FA1-NXRP-PCB-6	23
4FA1-NXRP-PCB-8	23
4FA1-NXSJ-C01W0	15
4FA1-NXSJ-C01W6	15
4FA1-NXSJ-C04W0	15
4FA1-NXSJ-C04W6	15
4FA1-NXSJ-C65W0	15
4FA1-NXSJ-C65W6	15
4FA1-NXSJ-M59W0	15
4FA1-NXSJ-M59W6	15
4FA1-NXSP-C01W1	16
4FA1-NXSP-C04W1	16
4FA1-NXSP-C65W1	16
4FA1-NXSP-M59W1	16
4FAH-NXSJ-C00W6	16
4FAH-NXSJ-C01W6	16
4FAH-NXSJ-C04W6	16
4FAH-NXSJ-C99W6	16
4FAH-NXSP-C00W9	16
4FAH-NXSP-C01W9	16
4FAH-NXSP-C04W9	16
4FAH-NXSP-C99W9	16
923-40116	16
923-40117	16

Part Number	
923-40118	16
923-40120	16
923-40121	16
923-40122	16
923-40144	16
APH-FKJ-SMAJ	22
APH-FKP-SMAP	22
FA1-NXRP-PCB-6A	25
FA1-NXRP-PCB-8A	25
FA1-NXRP-PCBT10	25
FA1-NXRP-PCBT17	26
FA1-NXSJ-C01-0	19
FA1-NXSJ-C01-6	19
FA1-NXSJ-C04-0	19
FA1-NXSJ-C04-6	19
FA1-NXSP-C01-0	19
FA1-NXSP-C01-1	19
FA1-NXSP-C01-5	19
FA1-NXSP-C04-0	19
FA1-NXSP-C04-1	19
FA1-NXSP-PCB-2	28
FKCP03301A	17, 21
FKCP03302	17, 21
FKCP03303	17
FKCP03401A	18, 21
FKCP03402	18, 21
FKCP03403	18
FKCP08402	21
FKCP08404	16
FKCP08405	16
HDCP00401	32
HDCP00501	32
HSD-NXRP-PCB13X	33
HSD-NXRP-PCB-3X	33
HSD-NXSP-PCB-2X	33
HSDSJXRJXXXXX04	31
HSDSJXSJXXXXX07	31
HSDSJXSJXXXXX08	31

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For the primary customer service line, please call 1-800-627-7100.

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