



# FAKRA SMB Connectors

## Cable Connectors



To learn more about the FAKRA Line, please visit or email:  
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**Amphenol® RF**

**Global RF Solutions**  
[www.AmphenolRF.com](http://www.AmphenolRF.com)

## Product Description

The automotive industry has been revolutionized with the increased adoption of telematics in vehicles including GPS, Cellular, Bluetooth and Satellite Radio. As telematic 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 telematic services, RF communication systems have become integral components of today's automotive, trucking, watercraft, motorcycle, and off-road construction markets.



To keep RF interconnection cost low, and to ensure high levels of electrical and mechanical performance for telematics applications, Global Positioning Satellite, Satellite Radio, Vehicular Internet Access, Remote Vehicle Diagnostics and Bluetooth, the worldwide automotive industries have standardized a high-performing, cost-effective RF connector based on the FAKRA and USCAR standards.

Utilizing a modified metal SMB coaxial connector, the Amphenol (female) jack features a closed-entry interface with a protected outer contact making the connector more robust than traditional SMB's. Embedded within a plastic housing which features multiple color codes for easy identification and unique keying to prevent mis-mating, 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 FAKRA connectors for PCB and antenna interfaces, as well as mixed dual coax/power FAKRA connectors.

## Technical Specifications

Amphenol FAKRA connectors comply with USCAR 17 and 18.

Mechanical		Electrical	
Durability (matings)	100 min	Impedance	50 ohm nominal
Plastic Housing-Engagement Force	≤ 40 N (Single FAKRA)	Frequency Range	DC- 6 GHz (optimized for DC-4 GHz)
Plastic Housing-Disengagement Force	≥35 N (Single FAKRA)	V.S.W.R	1.40 max DC-2GHz / 1.50 max 2 GHZ-4GHz
Cable Retention Force	≥110 N	Insertion Loss	<0.3 dB max from DC-3GHz
Coding	14 Mechanical and Color Codings	Insulation Resistance	1000 MΩ MIN.
Interface	USCAR-18, DIN	Contact Resistance	Center Contact: ≤ 40MΩ MIN. Outer Contact: ≤40 MΩ MIN.
		Dielectric Withstanding Voltage	At Sea Level: > 800 VRMS (Interface only)



## Coding

Coding	Rib Combination	Color	RAL Number
A	A-B1	Jet Black	9005
B	A-B2	Cream	9001
C	A-C	Signal Blue	5005
D	A-D	Claret Violet	4004
E	B1-B2	Leaf Green	6002
F	B1-C	Nut Brown	8011
G	B1-D	Blue Grey	7031
H	B2-C	Heather Violet	4003
I	B2-D	Beige	1001
K	C-D	Curry	1027
L	H-J1	Carmine Red	3002
M	H-J2	Pastel Orange	2003
N	H-G1	Pastel Green	6019
Z	Neutral Coding	Water Blue	5021

## Products



Straight Jacks

Part Number	Cable Accommodation	Construction Notes
3FA1-NXSJ-C01W0 3FA1-NXSJ-C01W6	RG-174, 188, 316	Without mounting clip provision With mounting clip provision
3FA1-NXSJ-C04W0 3FA1-NXSJ-C04W6	RG-58	Without mounting clip provision With mounting clip provision
3FA1-NXSJ-C65W0 3FA1-NXSJ-C65W6	RG-59, 62 Type	Without mounting clip provision With mounting clip provision
3FA1-NXSJ-C71W0 3FA1-NXSJ-C71W6	RG-71/UM (Ford)	Without mounting clip provision With mounting clip provision
3FA1-NXSJ-M59W0 3FA1-NXSJ-M59W6	Mini 59 Type	Without mounting clip provision With mounting clip provision

Center contacts are sold separately



Right Angle Jacks

Part Number	Cable Accommodation	Construction Notes
3FA1ENXRJ-C01-3	RG-174, 188, 316	Without mounting clip provision
3FA1ENXRJ-C04-3	RG-58	Without mounting clip provision
3FA1ENXRJ-C65-3	RG-59, 62 Type	Without mounting clip provision
3FA1ENXRJ-C71-3	RG-71/UM (Ford)	Without mounting clip provision
3FA1ENXRJ-M59-3	Mini 59 Type	Without mounting clip provision

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

**Straight Plugs**

Part Number	Cable Accommodation	Construction Notes
2FA1-NXSP-C01W0	RG-174, 188, 316	Without mounting clip provision With mounting clip provision
2FA1-NXSPTC01W6		
2FA1-NXSP-C04W0	RG-58	Without mounting clip provision With mounting clip provision
2FA1-NXSPTC04W6		
2FA1-NXSP-C65W1	RG-59, 62 Type	Without mounting clip provision
2FA1-NXSP-C71W1	RG-71/UM (Ford)	Without mounting clip provision
2FA1-NXSP-M59W1	Mini 59 Type	Without mounting clip provision

Center contacts are sold separately

**Dual Connectors  
Straight Jacks**

Part Number	Cable Accommodation	Construction Notes
3FAH-NXSJ-C00W6	RG-174, 188, 316 and RG-58	With mounting clip provision
3FAH-NXSJ-C01W6	RG-174, 188, 316	With mounting clip provision
3FAH-NXSJ-C04W6	RG-58	With mounting clip provision
3FAH-NXSJ-C88W6	RG-174, 188, 316 and RG-71/UM (Ford)	With mounting clip provision
3FAH-NXSJ-C99W6	RG-174, 188, 316 and RG-59	With mounting clip provision

Center contacts are sold separately

**Dual Connectors  
Straight Plugs**

Part Number	Cable Accommodation	Construction Notes
2FAH-NXSP-C00W9	RG-174, 188, 316 and RG-58	Without mounting clip provision With mounting clip provision
2FAH-NXSP-C00W6		
2FAH-NXSP-C01W9	RG-174, 188, 316	Without mounting clip provision With mounting clip provision
2FAH-NXPT-C01W6		
2FAH-NXSP-C04W9	RG-58	Without mounting clip provision
2FAH-NXSP-C04W6		
2FAH-NXSP-C88W9	RG-174, 188, 316 and RG-71/ UM (Ford)	Without mounting clip provision
2FAH-NXSP-C99W9	RG-174, 188, 316 and RG-59	Without mounting clip provision

Center contacts are sold separately

**Center Contacts**

Female Part Number	Cable Accommodation	Male Part Number	Cable Accommodation
FKCP03301A	RG-174, 188, 316 and RG-71/ UM (Ford)	FKCP03401A	RG-174, 188, 316 and RG-71/ UM (Ford)
FKCP03302	RG-58	FKCP03402	RG-58
FKCP03303	Mini 59 Type	FKCP03403	Mini 59 Type

Center contacts are supplied on reels in tape and reel packaging.

Connectors for other cable types are available. Please contact factory for details.

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