

Delphi FAKRA Connectors

Delphi FAKRA Connectors consist of radio-frequency (RF) coaxial cable terminals and plastic housings. They are used to connect coaxial cable assemblies without sacrificing quality or performance. Both male and female single and dual position plastic housings are available in the full range of key codes and colors. Right-angle and two-way connectors are currently under development.

The Delphi FAKRA terminals are manufactured via an innovative manufacturing process that is more efficient and cost-effective when compared to the traditional screw-machined method. The cable assembly crimp process saves labor and manufacturing floor space. In fact, the process enables Delphi's FAKRA Connectors to cost less than competitive products and also significantly reduce complete coaxial cable assembly costs.

Delphi FAKRA Connectors are designed to meet FAKRA and USCAR (United States Council for Automotive Research) specifications.

▶ Benefits

- More efficient and cost-effective than traditional screw-machined alternatives
- Crimp automation enabled by the use of carrier-fed terminals
- No connector/terminal pre-assembly required
- Mate to existing FAKRA devices
- Optional clip slot included on female connector allows use of standard Delphi clip
- All standard key codes and colors are available

▶ Typical Applications

The Delphi FAKRA Connectors are suited for automotive applications that use RF coaxial cable, such as RG-58 and RG-174. Applications can include:

- Satellite radios
- GPS (global positioning systems) navigation
- Mobile phones
- Terrestrial radios (AM/FM)

▶ Performance Advantages

Delphi is positioned to provide high-performance connection systems and coaxial cable assemblies to customers worldwide. By combining manufacturing technology, engineering expertise and product development resources, we offer our customers optimum solutions to meet their program needs.



Female single-position terminals with coaxial cable and plastic housing that can be designed with multiple colors and key codes for easy identification.

► **Specifications**

Electrical Performance	
Impedance	50 Ω
Frequency Range	DC to 3 GHz
Performance Specifications	SAE-USCAR-17,18, FAKRA, ISO/DIS 20860-1 (for coding information)
VSWR (voltage standing wave ratio)	1.40 maximum (DC to 2 GHz) 1.50 maximum (2 GHz to 3 GHz)
Insertion Loss	≤ 0.3 dB maximum from DC to 3 GHz
Isolation Resistance	100 MΩ minimum
Contact Resistance	Center contact: < 40 mΩ Outer contact: < 40 mΩ
Dielectric Withstanding Voltage	800 volts AC applied for 60 seconds

Mechanical Performance	
Mating Durability	100 mating cycles minimum
Connection (terminal and housing) Engagement Force	Mate: less than or equal to 40 N Unmate: less than or equal to 35 N
Mechanical Pull Test	110 N for 5 seconds

Material	
Plastic Housing	PBT polyester
Center Contacts	Base material: brass Plating: gold
Outer Contacts	Base material: brass Plating: tin over nickel
Ferrule	Base material: brass Plating: tin over nickel
Terminal Insulator	TFE