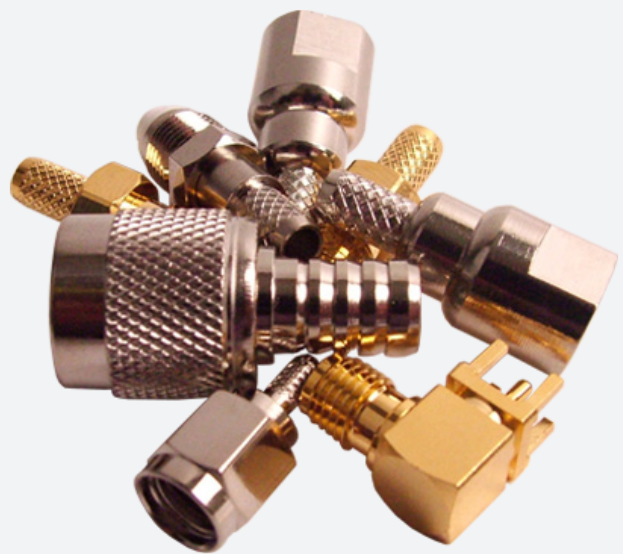




inspired wireless technology



RF Connector Guide

Rev 1.2

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Introduction

The wide range of available RF connectors can make for a confusing picture when trying to specify or identify connectors in new or existing installations. With this guide, Siretta have attempted to present the most common connector types in an easy to use document that allows simple visual identification, and an understanding of the basic connector styles.

As this guide is intended to be a comprehensive document, not all of the connector types shown are available from Siretta.

About Siretta

Siretta is a leading supplier of wireless product solutions, specialising in the areas of wireless terminals and modems, antennas, cable assemblies and connectors/adaptors. Based in Reading, United Kingdom, Siretta was originally formed to offer a market leading range of antenna and RF cable products, meeting the ongoing growth in wireless applications. Building on this expertise, Siretta have now expanded their portfolio to include a technically advanced range of wireless terminals and modems, fully designed and developed in house. These new products offer high levels of functionality, ease of use and customer value for the rapidly growing machine to machine (M2M) communications market. With a range of innovative products, and twenty years of experience in wireless technology, Siretta are ideally placed to support their customers at all stages of the design cycle.

SMA Connectors

SMA connectors are one of the most common RF connector styles. SMA connectors have a screw type mating mechanism.

SMA Male



Male centre pin and male outer shell with an inner screw thread.

SMA Female



Female centre receptacle and female outer shell with an outer screw thread.

Reverse Thread

Reverse Thread SMA connectors are the same as the standard SMA, but have a left hand thread instead.

RT-SMA Male



Male centre pin and male outer shell with left hand thread.

RT-SMA Female



Female centre receptacle and female outer shell with left hand thread.

Reverse Polarity

Reverse Polarity SMA connectors are a variation of the standard SMA connector, with reversed gender of the connector interface. The term 'Reverse Polarity' refers only to the gender of the connector contact pin, not the signal polarity.

RP-SMA Male



Female centre receptacle and male outer shell with an inner screw thread.

RP-SMA Female



Male centre pin and female outer shell with an outer screw thread.

SMB Connectors

SMB connectors are smaller in dimension than SMA connectors. They also feature 'snap-on' coupling rather than the screw thread used on the SMA, allowing for quick connect/disconnect.

SMB Male



Female centre receptacle.

SMB Female



Male centre pin. The SMB Female slots inside the male connector and 'clicks' into place.

FME Connectors

FME connectors are another very common RF connector type. Used primarily with RG58, RG174 or equivalent coaxial cables in mobile applications and installations.

FME Male



Male centre pin and male outer shell with an inner screw thread.

FME Female



Female centre receptacle and female outer shell with an outer thread and a white PVC tip at the terminus.

BNC Connectors

BNC connectors are a common type of RF connector used for coaxial cables. They are used in radio, television, and other radio-frequency electronic equipment, test instruments, video signals, and were once a popular computer network connector. They feature a quick connect/disconnect mating mechanism without a screw thread.

BNC Male



Male centre pin and two slots on the male outer shell, that mate with the two bayonet lugs on the female connector.

BNC Female



Female centre receptacle and two bayonet lugs on the outer shell, with mating achieved by a quarter turn.

Reverse Polarity

Reverse Polarity BNC connectors are a variation of the standard BNC connector, with reverse polarity of the interface.

RP-BNC Male



Female centre receptacle and two slots on the male outer shell, that mate with the two bayonet lugs of the female connector.

RP-BNC Female



Male centre pin and two bayonet lugs on the outer shell, mating is achieved by a quarter turn.

TNC Connectors

TNC connectors are a threaded version of the BNC connector. TNC connectors are popular for use with outdoor equipment as they are inherently more water resistant than other standard connector types.

TNC Male



Male centre pin and male outer shell with an inner screw thread.

TNC Female



Female centre receptacle and female outer shell with an outer screw thread.

Reverse Polarity

Reverse Polarity TNC connectors are a variation of the standard TNC connector, with reverse polarity of the interface.

RP-TNC Male



Female centre receptacle and male outer shell with an inner screw thread.

RP-TNC Female



Male centre pin and female outer shell with an outer screw thread.

N-Type Connectors

N-Type connectors are a threaded RF connector, popular for use with outdoor equipment as they are inherently more water resistant than other standard connector types.

N-Type Male



Male centre pin and male outer shell with an inner screw thread.

N-Type Female



Female centre receptacle and female outer shell with an outer thread.

Reverse Polarity

Reverse Polarity N-Type connectors are a variation of the standard N-Type connector, with reverse polarity of the interface.

RP-N-Type Male



Female centre receptacle and male outer shell with an inner screw thread.

RP-N-Type Female



Male centre pin and female outer shell with an outer screw thread.

MCX Connectors

MCX and the smaller MMCX connectors are frequently used to connect external antennas to GPS receivers. They are also common in USB DVB-T tuners for computers and laptops, to connect an external antenna to the tuner.

MCX Male



Male centre pin and outer shell with clips to mate with the female.

MCX Female



Female centre receptacle and a solid surface outer shell.

MMCX Connectors

While the MCX connector features a 'snap-on' mechanism, the MMCX features a lock-snap mechanism that improves stability and durability. Unlike the MCX connector, which is more rigid when joined with another cable, the MMCX connector allows for rotation of up to 360 degrees for greater flexibility. This special locking mechanism also helps to reduce the RF leakage at the joints of the connector.

MMCX Male



Male centre pin.

MMCX Female



Female centre receptacle.

U.FL/IPEX Connectors

U.FL connectors are an equivalent of the IPEX MHF connector. Both are compatible with one another and differ simply by their manufacturers. uFL and IPEX cable connectors can be terminated with 1.13mm, 1.32mm, 1.37mm, 0.81mm RF cables.

U.FL/IPEX Male



Female centre plug, mates by slotting around male. In most circumstances, antenna cables and cable assemblies are terminated with the U.FL/IPEX Male connector.

U.FL/IPEX Female



Male centre pin, which during connectivity fits into the female centre plug. In most circumstances, the U.FL/IPEX Female connector is found on the PCB.

GSC Connectors

GSC is a low-profile but high frequency RF coaxial connector. MCF connectors are compatible with the GSC. The GSC connector has a 2.0mm mated height.

GSC Male



Female centre plug, mates by slotting around male.

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