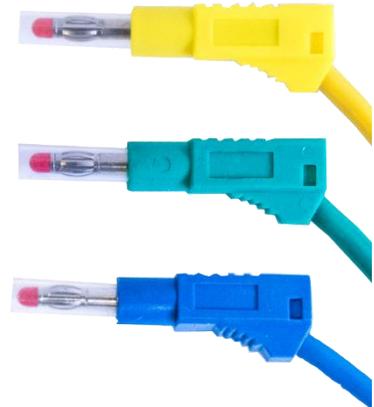# Banana Plugs

This guide to bananas covers different types of banana plugs, connectors and jacks.

Banana Plugs

Banana plugs are single-wire electrical connectors used for joining wires to equipment.

In Europe, banana plugs are sometimes called 4 mm connectors, but not all bananas will connect with 4 mm parts.

A banana plug is a cylindrical pin/plug that has sprung metal "leaves" that bulge outward, though variations on this exist for different applications. The springs produce a snug fit and good connectivity in a socket as well as preventing the pin from falling out. The diameter of the pin is usually 4 mm (which is why it's also referred to as a 4 mm plug).

The back of the pin is connected to a wire which is screwed, soldered or crimped into place. Often there is insulating plastic over part of the connector. These are used at the ends of patch cords for electronic test equipment, speaker wires and probe leads.

The wire can exit the rear at a right angle (90 degrees), or a 45-degree angle or straight back.

See Mueller's Banana Connector Selection

Styles and Features of Banana Plugs
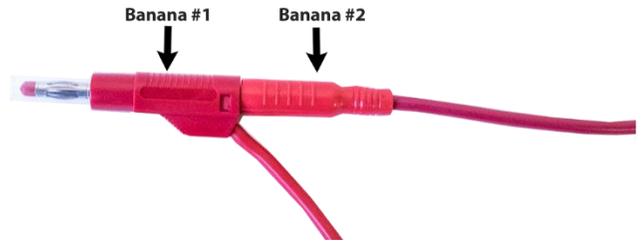
Leaves

4 Leaf

9 Leaf
(With clear retractable shroud)

Banana plugs are called banana plugs because of the metal leaves which bulge out. Each leaf is curved like a banana. These are most commonly either 4 leaves or 9 leaves. The 9-leaf bananas have a stronger "grip" on the socket and are preferable for heavier wires or in high voltage uses where safety is a concern.
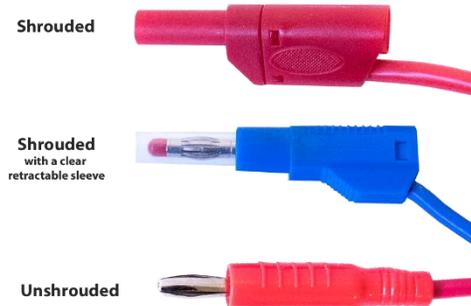
Stackable or Stacking Plugs

Banana #1 **Banana #2**

A stackable plug has a 4 mm hole in the back, either on the side, the back, or both, to accept the pin of another 4 mm plug.
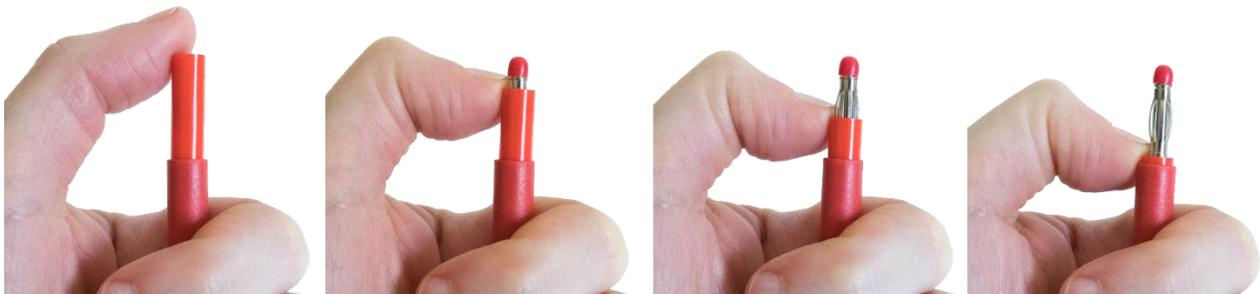
Shrouded Bananas

Shrouded (also called sheathed) plugs have insulation around both the male and female connectors to avoid accidental contact in high voltage situations. The shrouded plug will fit into shrouded and unshrouded jacks but not binding posts.

Shrouded

Shrouded
with a clear
retractable sleeve

Unshrouded

Retractable Banana

A retractable banana has a spring-loaded shroud cover that slides out of the way when the pin is inserted into a shrouded or unshrouded jack.

There can be combinations of the above, for example a stackable retractable banana.

Binding Posts

The binding post is called a "5-way" or "universal" post because there are 5 ways to attach a wire to it. They are a type of wire terminal found on speakers, receivers and amplifiers as well as test and measurement instruments, high-voltage test equipment and various hand-held devices.

Binding posts accept bare wire and four different types of connectors: pin connectors, spade connectors, banana plugs and dual banana plugs. Banana plugs are inserted into a hole in the back of the binding post.

Click here to see Mueller Electric's binding posts
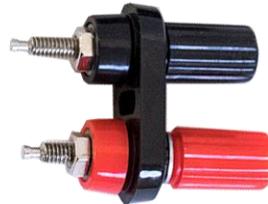
Banana Jacks

A Banana Jack is another word for the female connector that the banana plug is inserted into.

Jacks have different kinds of pins on the front end which allow them to connect or plug into many different electrical items.

A Binding Post is one type of jack.

Click here to see Mueller Electric's banana jacks

Dual Plugs and Posts

Dual Plugs are simply two plugs together. They are designed for use with amplifiers or speakers that use traditional binding posts. Dual plugs and posts make it safer to plug in two wires with no chance of stray wire strands creating a short across contacts.

Dual Binding posts are two posts together – often what a dual plug will plug into.

Mini Bananas

These are 2mm or 3 mm banana plugs. Pictured left is a mini banana plug compared to a regular banana plug.

Color Coding

Banana plugs and jacks are commonly color coded. Red and black are the most common.

If a Mueller part is available in a color, then the end of the part number will have a dash and a single digit. That digit corresponds to the color of the part.

For example a BU-00243-2 banana plug means the plug is red because the last number is a 2 after the dash.

This naming system is followed by many other banana plug manufacturers as well.

Black	0
Brown	1
Red	2
Yellow	4
Green	5
Blue	6
Gray	8
White	9