



Multipin Sockets: 15 Models Tested Know what's best for your use

Multipin sockets are quite the necessity in the urban household's kitchen and while most of the available varieties look identical, a closer examination proves there are suitability and safety factors that need to be understood. Not all the models and brands are suitable for all purposes – some may have slots too small for your plugs. Also note that not all sockets are compatible with all appliances. The test results presented here for 15 models of 11 brands will not only tell you something about where these stand on safety and ease-of-use parameters, but will also help you to choose according to your needs.

An average Indian kitchen, mostly in towns and cities, would normally be equipped with four to five appliances for daily use, such as mixer grinder, hand blender, microwave oven, toaster, water purifier and refrigerator. Most such kitchens have two or three dedicated wall sockets – that is, power points. Normally, with only one wall socket available for all other uses, it becomes tedious

to change the plugs every time you use a different appliance. This is where a multipin socket proves

Multipin sockets are used not just in the kitchen but also for charging mobile phones and laptops, using CD players, mosquito repellent machines, hair dryers, etc.

to be handy, low cost, useful and easy to use. It is a device for connecting multiple appliances at a time with a single socket and for using the equipments that cannot be connected directly to the wall sockets.

We tested 15 models of 11 brands of multipin sockets for safety and ease of use. Most brands look the same on the face of it, but beware. Not all the models and brands are suitable for all purposes; some have slots too small, too close to, or too wide apart from each other, making it difficult to insert or remove plugs easily. It is also important to note that not all sockets are compatible for using all the appliances at home. Gadgets with more than 6A current ratings require a multipin socket of 16A rating. A multipin socket of 6A rating can be purchased for gadgets like mobiles and laptops.

To compare among the brands easily, we categorized them according to their use.

Group A: Sockets with facility for using multiple gadgets at a time

These sockets allow consumers to use multiple appliances at the same time. The models would have either round slot (**Anchor, Panama, Gourav**) or both round and flat slots (**Kundip K-108-5A, Hi-lex HE-1252**). These sockets can be used for multiple appliances with 3-pin or 2-pin plugs. They are suitable for gadgets with plugs that are flat and in V shape too.

Group B: Sockets with facility for single gadget with different types of pins

These are sockets with round and flat slots that are suitable for 2-pin plugs (**Kundip round and flat 2-pin sockets**) as well as 3-pin plugs (**Hi-max, Cona Euro, Kundip K-146-5A, Alemac, Hi-**

How We Tested

Indian Standards

There are no relevant standards in Bureau of Indian Standards (BIS) for multipin sockets. BIS standard (IS 1293) covers round-pin plugs and sockets..

Test Protocol

For checking the quality of round-pin slots of multipin sockets, reference has been taken from IS 1293. For checking the overall quality of multipin sockets, a test programme had been prepared considering the product usage pattern of consumers.

lex [HEPL-6619], Vinay). Any appliance with a plug of either flat pin or round pin can be used with these sockets. They do not have provision for using multiple gadgets at a time.

Are They Safe?

Each model was subjected to insulation resistance and high voltage test to check if it had proper insulation and whether the insulation was strong enough to protect users from live parts. All the models complied with the required standards for this test.

The models were also tested for overall construction of the sockets, including layouts, components and materials used. The components like pins, terminals and earthing pins should be made from phosphor-bronze, brass, aluminium, or other suitable material as these materials have better electrical conductivity

Not all the models and brands are suitable for all purposes; some have slots too small, too close to, or too wide apart from each other, making it difficult to insert or remove plugs easily.

QUICK PICK	Category	Brand	Price (in Rs)*	Purpose
	Group A	Kundip (K-108-5A)	70	Convenient for multiple gadgets with round or flat pins
	Group B	Cona Euro	30	Compatible with all types of pins, for using single gadget at a time

*Bill price as per Ahmedabad market

COMPARATIVE TEST

and do not get corroded easily. They require low maintenance and perform better.

Both models of Kundip (K146-5A, K108-5A), Alemac, Cona, Vinay, Anchor, Kundip round 2-pin and flat 2-pin sockets, Gourav, WOW and MX-2731 had components made from brass and other suitable material; components of Panama, both the models of Hi-lex (HE-1252 and HEPL-6619) and Hi-max were attracted to magnet, signifying the use of unsuitable material that may lead to corrosion.

The sockets were also checked for their dimensions for proper fitting of plugs into the multipin sockets. If the depth of the slots for the pins is more, there would be a gap between the slots and the plug pins. This can cause sparking and damage the plug as well as the appliances. If the depth of the slot for the plug pin is less, the plug pin will remain outside the socket. This may cause electric shock to user while pulling the plug out of the socket. The dimensions of Panama, Hi-lex (HE-1252) and Hilex HEPL-6619 were not within the standard range.

Key Findings

- None of the tested models are provided with the marking of 'country of manufacture' on samples.
- Dimensions of the slots for Hi-lex (HEPL-6619), Panama and Hi-lex (HE-1252) are not found to be as per the limits given in IS 1293-2005. Improper dimensions may cause electric shock to user or damage to the appliance.
- Hi-lex (HEPL-6619) and Hi-lex (HE-1252) do not satisfy the requirements of interchangeability for round-pin slots as per standard. The gauges should be neither too tight nor too loose as it may reduce the life of the appliance.
- Some varieties of multipin sockets like Panama, Gourav and Anchor have the facility to use gadgets with round 2-pin and round 3-pin plugs only.
- Kundip (K-146-5A), Cona (euro), Hi-max (HEPL-6619), Alemac and Vinay have the facility to use round- and flat-pin plugs both, but only one gadget can be used at a time.
- Kundip (K-108-5A) is useful to connect multiple gadgets with a variety of plugs. It is useful for round 2-pin, 3-pin, flat 2-pin, flat 3-pin and V-shaped 2-pin flat plugs. Also, gadgets with all 2-3 varieties of plugs can be used at a time with a single round-shaped wall socket.
- Kundip 2-pin plugs are useful to convert flat 2-pin to round 2-pin or vice versa, though only one gadget with 2-pin plug can be used at a time.
- Anchor has the facility for using multiple gadgets. The distance between these 2 slots was kept different to facilitate use of 2-pin plugs with different dimensions.
- Vinay, Cona and Alemac have provision of spring tension that helps to retain the position of slots in sockets and provides reliability, especially for multipin sockets with combinations of round and flat pins. This arrangement is not found in Kundip (K146-5A), Hi-lex (HEPL-6619), Himax and Kundip 2-pin round and flat combined sockets. WOW and MX 2731 have a special design for slots to retain the reliability.
- Components of multipin sockets like pins, terminals and current carrying parts, including earthing pin and earthing contact should be manufactured from phosphor-bronze, brass, aluminum alloy, or other suitable material. Components of Alemac, Cona, Vinay, Anchor, both the models of Kundip (K146-5A, K108-5A), Kundip round 2-pin and flat 2-pin sockets, Gourav, WOW and MX-2731 are found to be of suitable material.
- Alemac, WOW and MX 2731 provide power-indicating lamp.
- Fuse is provided in Kundip (K-108-5A) and Hi-lex (HE-1252).
- For travelling abroad, WOW and MX 2731 are the best options as these two are provided with the multipin input also. These can be used in flat and round wall sockets.
- Marking of current and voltage ratings are not provided on the samples of Gourav, Kundip round 2-pin, Kundip flat 2-pin, Hi-max, Kundip K-146-5A and Alemac.

Universal/International Adaptors

International adaptors have input pins of both round and flat types. Thus, these can be used in wall sockets that have round or flat slots. Many foreign countries have flat slots in the wall sockets. The plugs of several appliances like hair dryer, mobile charger, laptop charger and electric shaver

have round pins. Universal adaptors like WOW and MX-2731 are very useful at such times. These models are handy and convenient to use as travel adaptors because they have a variety of plug pins at input side to match any type of wall socket in different countries. Both the models got the same ratings in our test.

Multipin Sockets: Test Results

Model	Price*	Total Weighted Score	Overall Quality	Ease of Use	Compatibility with Multiple Gadgets and Plugs
Weightage (%)		100	40	20	40
Group A					
Kundip (K-108-5A)	70	94	38.8	20	35
Gourav	35	79	38.8	20	20
Anchor Deluxe	46	79	38.8	20	20
Panama Gold Coin	33	73	32.5	20	20
Hi-lex (HE-1252)	55	67	28.7	15	23
Group B					
Vinay	42	80	40	20	20
Cona Euro	30	80	40	20	20
Kundip (K-146-5A)	60	78	37.5	20	20
Alemac	42	76	40	20	16
Hi-max Universal Conversion Plug	25	74	33.8	20	20
Kundip (Round)2pin	20	73	37.5	20	15
Kundip (Flat)2pin	20	73	37.5	20	15
Hi-lex (HEPL-6619)	20	54	27.5	10	16
Universal Adaptors					
Wow	125	84	38.8	20	25
MX-2731	125	84	38.8	20	25

*Bill price as per Ahmedabad market

Note:

Group A: For using multiple gadgets at a time; Group B: For single gadget with different types of pins

COMPARATIVE TEST

Ease of Use

An ideal multipin socket should be such that plugs can be inserted and removed easily. We conducted tests to check the efforts required to insert and withdraw the test plugs, both round and flat, from multipin sockets. If it is difficult to insert a plug into the socket or if an inserted plug cannot come out easily, it is not worth buying that socket as it only increases the effort required to use it instead of being a convenience. Also, if a plug is loose it may lead to sparking, which may reduce the life of the plug.

Insertion and withdrawal of 3-pin round plugs was found difficult in Hi-lex (HE-1252) and Hilex HEPL-6619.

Markings

It is important for consumers to check the current and voltage ratings before buying a socket. If they intend to use the socket for a mobile charger, a laptop charger or video games, a socket with 6A rating would be good for them. For using a hair dryer, a heater, an iron, or a mixer, a socket of minimum 10A is required.

Gourav, Kundip (round and flat 2-pin sockets), Kundip K-146-5A, Hi-max and Alema did not have rated current and voltage marked on them.

Environment Compliance

The Restriction of Hazardous Substances (RoHS) directive aims to restrict certain dangerous substances commonly used in electric and electronic equipment. The Government of India passed regulations that cover the RoHS in electronic and electrical components and equipment. Rules 2011 guides the disposal of electronic and electrical equipment, as well as the restrictions on hazardous materials in electronic and electrical components, much like the European Union's RoHS directive. Products with RoHS marking imply that they are RoHS-compliant and do not use certain dangerous substances like cadmium, hexavalent chromium, mercury, lead, or any such material.

Symbol for recycling is provided on the samples of Cona Euro and cartons of WOW and MX – 2731 (Universal International Adaptors). 'RoHS compliant' was written on the carton of MX-2731.

Choose Your Brand

<p>Group A Kundip (K-108-5A)</p> <p>GOOD POINTS</p> <ul style="list-style-type: none"> • Provided with slots for round and flat 3-pin plugs, round and flat 2-pin plugs • V-shaped slots for flat 2-pin plugs • Convenient for using multiple gadgets at a time • Most compatible design <p>BAD POINT</p> <ul style="list-style-type: none"> • The marking on sample mentions 5A /15A rating but it is suitable for 5A supply point 	<p>Group B Vinay, Cona Euro and Kundip (K-146-5A)</p> <p>GOOD POINTS</p> <ul style="list-style-type: none"> • Slots for round and flat 3-pin plugs, round and flat 2-pin plugs • Compatible with all varieties of plugs <p>BAD POINTS</p> <ul style="list-style-type: none"> • Not suitable for using 2 to 3 gadgets at a time • No socket slots available at upper and lower side • No possibility of using gadgets with V-shaped 2-pin plugs 	<p>Universal Adaptors WOW & MX-2731</p> <p>GOOD POINTS</p> <ul style="list-style-type: none"> • Compatible with gadgets with multiple varieties of plugs • Compatible with various types of sockets • Best suitable for travelling <p>BAD POINT</p> <ul style="list-style-type: none"> • Only one gadget with either round or flat 3-pin or 2-pin plugs can be used at a time
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Manufacturers' Response

All the manufacturers receive the test results of their own products only and are given two weeks from the date of receipt to respond.

Alemac replied that now they had programmed to mark the socket outlets in the future with necessary information, including voltage and current ratings, and that the product shall bear the RoHS symbol of compliance.

Kundip informed that they had now put relevant marking of amp and voltage on their products.

Vinay assured that they would check whether RoHS could be marked on their products. At present their products are not RoHS but they do not use any harmful raw materials.

None of the other manufacturers responded till the time of going to press.

Areas of Action

CERS has suggested to the BIS to prepare the standard for multipin sockets and to cover the test requirements for combined sockets used for multiple plugs (round, flat and V-shaped flat-pin plugs).

INSIGHT Concludes

There is a wide range of multipin sockets available in the market. But all of them may not be useful to the consumers. One should decide whether one needs a multipin socket for using multiple appliances at the same time or for using single appliance with flat or round pins.

Consumers should also consider the appliances for which these sockets are required and according to the current and voltage ratings of the appliance select a suitable model.

Precautions for Using Multipin Sockets

- Make sure your hands are dry before using the multipin socket.
- Keep sockets away from children.
- Multipin socket does NOT convert voltage. Make sure that the power outlet you intend to use has the proper voltage to run your device before using the socket, to avoid possible damage to your device.
- Don't use multipin sockets for high-end appliances like refrigerator, air conditioner or heater as it is not advisable to use them in such combinations.
- When using multiple appliances on the same sockets, make sure to turn off appliances that are not to be operated currently.



Note: The tests on multipin sockets reported here were carried out in CERS' independent in-house laboratory – the only one of its type run by a consumer organization in the country. The samples purchased for testing were bought incognito from reputed shops. No samples were accepted from manufacturers.

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