

INSIGHT is Independent

The tests on Multipin Sockets reported here were carried out in our independent in-house laboratory – the only one of its type in the country. The samples purchased for testing were bought incognito from reputed shops. No samples were accepted from manufacturers.

Multipin Sockets: 15 Models Tested

Know how to select what's best for your use

An average Indian kitchen, mostly in towns and cities, would normally be equipped with 4-5 appliances for daily use such as mixer grinder, hand blender, microwave oven, toaster, water purifier, refrigerator, etc. Most such kitchens have 2 or 3 dedicated wall sockets, i.e. power points, one each for refrigerator, water purifier, etc. 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 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. 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.

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 either too small, too close to or 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, laptops, etc.

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

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

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.

INSIGHT
Quick
Picks

Category	Brand	Price (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.

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

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-Lex (HEPL-6619), Vinay**]. Any appliance with a plug of either flat pin or round pin can be used with these sockets. They don't 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 the models 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, earthing pins should be made from phosphor-bronze, brass, aluminium or other suitable material as these materials have better electrical conductivity and don't get corroded easily. Thus they require low maintenance and have better performance.

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 which may lead to corrosion.

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)** were 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)** did 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**, had the facility to use gadgets with round 2-pin and round 3-pin plugs only. Multiple gadgets with round 2-pin and 3-pin varieties can be used at a time.
- **Kundip (K-146-5A), Cona (euro), Hi-max (HEPL-6619), Alemac** and **Vinay** have facility to use round and flat-pin plugs both but only one gadget can be used at a time. So for 3-pin round shaped socket on wall, this variety can be used for connecting gadget with 3-pin flat plugs or vice versa but this cannot be used for operating more than one gadget 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 shape 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** had 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** had provision of spring tension that helps to retain the position of slots in sockets and provides reliability, especially for multipin sockets with combination of round and flat pins. This arrangement was not found in **Kundip (K146-5A), Hi-lex (HEPL-6619), Himax, Kundip** 2-pin round and flat combined sockets. **WOW** and **MX 2731** had special design of 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 suitable material. Components of **Alemac, Cona, Vinay, Anchor**, both the models of **Kundip (K146-5A, K108-5A)**. **Kundip** round 2-pin, **Kundip** flat 2-pin socket, **Gourav, WOW** and **MX-2731** were found to be of suitable material.
- **Alemac, WOW** and **MX – 2731** provided power indicating lamp.
- Fuse was provided in **Kundip (K-108-5A)** and **Hi-Lex (HE-1252)**.
- For traveling abroad, **WOW** and **MX 2731** are best options as these two are provided with the multipin input also. Thus 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**.

Multipin Sockets: Test Result

Models	Price	Total Weighted Score	Overall Quality	Ease of Use	Compatibility multiple gadgets and variety of Plugs
Weightage		100%	40%	20%	40%
Group A					
Kundip (K-108-5A)	70.00	94	38.8	20.0	35.0
Gourav	35.00	79	38.8	20.0	20.0
Anchor Deluxe	46.00	79	38.8	20.0	20.0
Panama Gold Coin	33.00	73	32.5	20.0	20.0
Hi-lex (HE-1252)	55.00	67	28.7	15.0	23.0
Group B					
Vinay	42.00	80	40.0	20.0	20.0
Cona Euro	30.00	80	40.0	20.0	20.0
Kundip (K-146-5A)	60.00	78	37.5	20.0	20.0
Alemac	42.00	76	40.0	20.0	16.0
Hi-max Universal Conversion Plug	25.00	74	33.8	20.0	20.0
Kundip (Round)2pin	20.00	73	37.5	20.0	15.0
Kundip (Flat)2pin	20.00	73	37.5	20.0	15.0
Hi-lex (HEPL-6619)	20.00	54	27.5	10.0	16.0
Universal Adaptors					
Wow	125.00	84	38.8	20.0	25.0
MX-2731	125.00	84	38.8	20.0	25.0

*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

Universal / International Adaptors

International adaptors have input pins of both types, round and flat. Thus they can be used in wall sockets that have round or flat slots. Many foreign countries have flat slots in the wall sockets. While the plugs of several appliances like hair dryer, mobile charger, laptop charger, electric shaver have round pins. These universal adaptors like **WOW** and **MX-2731** are very useful at such times. These models are handy and very 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.



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.

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 mobile charger, laptop charger or video games, a socket with 6A rating would be good for them. For using hair dryer, heater, iron, mixer a socket of minimum 10A is required.

We checked for markings on the cartons of all the 15 models of sockets. **Gourav, Kundip** (round and flat 2-pin sockets), **Kundip K-146-5A, Hi-max** and **Alemac** 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

Choose Your Brand

Group A

Kundip – K-108-5A

Good Points

- It is provided with slots for round and flat 3-pin plugs, round and flat 2-pin plugs.
- It also has V shape slots for flat 2-pin plugs
- Very convenient for using multiple gadgets at a time
- Most compatible design

Bad Point:

- The marking on sample mentions 5A/15A rating but it is suitable for 5A supply point.

Group B

Vinay, Cona Euro and Kundip (K-146-5A)

Good Points

- They have slots for round and flat 3-pin plugs, round and flat 2-pin plugs.
- Compatible with all varieties of plugs

Bad Points:

- They were not suitable for using 2 to 3 gadgets at a time.
- There are no socket slots available at upper and lower side.
- No possibility of using gadgets with 'V'-shaped 2-pin plugs

Universal Adaptors

WOW & MX-2731

These are travel adaptors. These can be used in India and abroad.

Good Points

- Compatible with gadgets with multiple varieties of plugs
- Compatible with various types of sockets
- Best suitable for travelling.

Bad Point

- Only one gadget with either round or flat 3-pin or 2-pin plugs can be used at a time.

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**.

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'. Multipin sockets are extensively used by consumers for connecting 3-4 gadgets at a time.

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.

Manufacturers' Response

As a policy, we convey the test results to all the manufacturers, irrespective of whether their brands have passed or failed. All the manufacturers receive the results of their own products only and are given two weeks from the date of receipt to respond.

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

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

Vinay answered that they will check whether RoHS can 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).

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.

6 Things you need to know about Multipin Sockets

- Multipin sockets are available in the market with different current ratings (6A/16A). So before using them, check the current and voltage rating (eg. 230V, 6A or 230V, 16A) provided on the adaptor.
- Sockets with 6A are preferable for charging mobiles, cordless phones, laptops, etc. 2 to 3 gadgets can be used at a time with multipin socket of 6A rating. Even for using home appliances like blender, table fan with mobile chargers, sockets with 6A rating can be purchased.
- Sockets with 16A are preferable for using multiple home appliances like electric irons, food mixers, hair dryers and other home appliances at a time.
- For using multiple gadgets with flat-pin & round-pin, it is preferable to buy multi-variety sockets, which may be costlier.
- Check the input plugs of gadgets to be used. If gadgets with round-pin plugs are only to be used, go for that variety for longer and better use.
- While travelling, one may need travel adaptors with varieties of pins at input side and multipin socket outlets at output side.

Manufacturers' Address

Hi-Max Universal Conversion Plug

Mfd. & Packed By :
M/s. HIMAX INDUSTRIES
Navdeep Electronics
Gandhinagar, Delhi- 100031

CONA EURO Conversion Plug

Sony Enterprises
A/45, Nand Kishore, M.C. Road
Mumbai - 400 093

Kundip 3-Way Multi Adaptor K-108-5A, Kundip K-146-5A, Kundip 2-Pin Round and Flat

M/s. Kundan Electronics
G-7, Jerome Apts, Narayan Nagar
Bhayandar (W), Mumbai - 401 101

Anchor Deluxe 6A-Pin Multi Plug

M/s. Anchor Electricals Pvt. Ltd.
1.1.E, Ranipur, Haridwar
Uttarakhand - 249 403

ALEMAC

M/s. Alemac Electrical Pvt. Ltd.
Gogate Wadi, Off Aarey Road
Goregaon (E), Mumbai - 400 063

Hi-Lex Universal Conversion Plug HEPL

6619, HilexHE-1252Big-Grey

M/s. Hi-lex Electronics

RZ-3A, Ravinagar Extn
Vill Khyala, Gali No.1
Nr. Park Hospital, Tilak Nagar
New Delhi - 110 018

Panama Electrical

M/s. Prem Electrical Industries
Dall Mill Road, Opp. Jalaram Petrol Pump
Opp. Church, Rajkot Highway
Surendranagar - 363 001

MX -2731 Universal Smart Travel Adaptor

MDR Electronics
Plot # 101, Sector #1, Gauralpada
Vasai (E), Dist Thane - 401 208

Vinay

Vinay Electricals
18/A, Singh Ind. Estate No.1
Ram Mandir Road, Goregaon (W)
Mumbai-400104

Gourav

Gourav Roshini Ltd
Office No. 38/40, Plot No. 4 Side 4
Pacific Mall, Sahibabad
Ghaziabad- 201005

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. Don't ignore your need and budget as they will help you in selecting a multipin socket which is the best for you. ■