

Surge Protectors for Electrical & Electronic Devices

Power quality is an important criteria in order to avoid the breaking down of electrical appliances. As a result, the maintenance of quality of power is necessary for both customers and utilities, as quality issues can lead to appliances damage and revenue losses. The most common power quality problem is power surge, causing damage to sensitive home appliances.

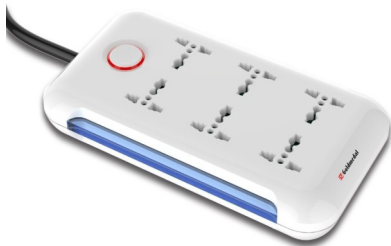
What is a Power Surge? In India the electricity distribution, as a standard, is given at 230 Volts for single-phase and in 415 Volts for three phase connections. In both the connections the individual power plug supplies 230 V, but this voltage may increase abruptly due to certain reasons which is referred as power surge. This sudden voltage increase can happen in two forms, one is power spike and the other one is power surge.

Power Spike is a very short pulse of energy on a power line with high voltage lasting only for a few milliseconds. As the high voltage occurs only for a short period it doesn't harm most of the electrical devices but it weakens the semiconductor devices and fail later when exposed to power spike for a prolonged time.

Power Surge is a temporary rise in voltage on a power line which last much longer from 15 milliseconds to several minutes. During power surge the voltage will be little lower than during power spike, but unlike power spike it last for longer duration hence affects the home appliances. The power spike and power surge are usually caused by short circuits, power outages, when a vehicle hits the electric pole, lightning, and when tree branches hit the power line.

Protecting Electronic Appliances from Power Surge:

Surge protectors are the devices which helps to prevent the power spike and surge on the power line. When the voltage level on the power line exceeds the permissible level the surge protector either blocks or transfer the excess power to the ground. Generally the computers, televisions are connected to the power supply through the surge protector so that they can be protected in case of power spike and surge.



Qualities to Check before choosing a Surge Protector

Joule Rating: It is the total amount of energy that a surge protector can absorb. It is measured in joules and varies from 200 joules to above 1000 Joules. Higher the joule rate it will be able to absorb more energy, so it is better to get a surge protector with higher joule rating.

Let Through Voltage (Clamping Voltage) - It's the maximum voltage that the surge protector allows to pass through above which the protector blocks or absorbs the excess power thus protects the appliance from damage. For household appliances choose a surge protector with 240 V rating so that and power spike above this voltage can be blocked or absorbed.

Response Time— it's the measure of how quickly a surge protector respond to a surge. So lesser the response time higher the performance of the surge protector, generally a nanosecond or less is best to choose.

Warranty— It is advisable to look for a protector with warranty so that in case of failure it can be replaced.

Grounding— It is good practice to always plug the surge protector in a grounded circuit for better operation.

There are number of brands with various technical specifications so its wiser to understand our requirements and the quality before choosing the protector.

(CONCLUDED)

Electricity Contacts

- Call center—1912
- Fuse Off Call Centre:
Tamil Nadu and Chennai
- RTI—**TANGEDCO**
- TNERC & Ombudsman: 044-28411376, 28411378, 28411379
- CGRF: **Addresses**
- Pay online: **TNEBNET**

Please send your feedback to ecc@cag.org.in

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Tamil Nadu News

Study Suggests Tamil Nadu Move Away From Thermal Power

Tamil Nadu should double its wind energy capacity to 15GW and increase its solar capacity six-fold to 13.8GW by 2026-27 instead of investing in thermal units to the extent of 22,400MW in the coming years, says a study done by US-based Institute for Energy Economics and Financial Analysis (IEEFA).

The report "Electricity Transformation in India: A Case Study of Tamil Nadu" showed how Tamil Nadu is building 22,500MW of coal-fired power plants - almost double the entire existing coal-fired fleet in the state - despite favourable investment and electricity tariff costs of wind and solar. Building more non-pithead coal-based plants at a time when existing plants are being utilized only to the extent of 62% or below, as opposed to the optimal 80%, will make new and existing plants financially unviable, said the study released in the city on Wednesday.

"New low cost solar capital additions and a major re-powering of Tamil Nadu's wind projects, a concerted improvement in energy efficiency plus reduced transmission and distribution losses, should deliver more than 80% of all electricity demand growth in the coming decade," IEEFA director Tim Buckley said. By adopting more green power, the discom would be able to operate profitably and at a lower tariff for consumers, said Buckley.

Tamil Nadu has the maximum installed wind energy generation capacity in the country. It is behind only a few provinces in China and Texas in America. Tamil Nadu has temporarily slipped to third position in terms of commissioned solar infrastructure in India, but the 1.5GW solar tender of July 2017 will see the state vie for leadership position again by the end of 2018-19, said the study. Tangedco, on the other hand, says investing in thermal units cannot be stopped as wind and solar power are infirm sources and the discom cannot depend only on one source of power to meet the demand. Wind power is being evacuated to the maximum during summer season when most of the thermal units are on a standby mode due to better forecast. Same is the case with solar plants.

Tamil Nadu has many old thermal units which are working to good capacity utilisation despite living beyond its life. "Most of the new projects announced are only to replace old thermal units in Tuticorin and Mettur. Tangedco is not investing to add more thermal capacity and instead we plan to add not less than 1,500MW of solar capacity each year through tenders," said the official.

Source: [The Times of India](#), February 8, 2018.

India News

Bill on 'Right to Electricity' likely in Monsoon Session

The government is planning to introduce a bill in the monsoon session of Parliament which proposes to make right to electricity a reality and hold the distributors accountable for failing to provide round-the-clock power under normal circumstances from April 2019.

Prime Minister Narendra Modi has set a deadline of April 1, 2019, for ensuring that each household in the country gets 24x7 power supply, people aware of the matter said. Although production targets have already been met, transmission of electricity to all villages should be achieved by April this year, they said.

Electric Sedans in Power Ministry

The power ministry is in the process of acquiring five-six electric sedans for official use by March 15, initiating the exercise of having around 30% of all vehicles being run on electricity by 2030



Ministry working on establishing re-charging corridors for these electricity-driven cars in the near future

Officials said the ministry had written to all departments that they should get electricity-powered vehicles.

Each of these sedans being acquired by various ministries will cost about ₹11 Lakh



Charging stations for these cars will be set up in the power ministry and other locations. Discoms can set up charging stations for EVs in future
A SENIOR OFFICIAL

Govt also planning to establish charging corridors on select routes

Govt setting up guidelines and a regulatory body will be formed to deal with issues pertaining to this sector

"The major bottleneck is distribution and not production and transmission of power," said a senior power ministry official, who did not wish to be identified. Distribution companies or discoms have been found to be cutting power supply for a few hours every day mostly due to "commercial reasons", to curtail losses, and not due to technical faults, the official said.

The bill will seek to penalise the distributors for failing to provide power to consumers under normal circumstances — when there is no breakdown or any technical glitch. The production of thermal and hydro power is more than required in the country, according to the people cited earlier, who said that transmission targets are set to be met before the deadline. While the government had set May 1, 2019, as the deadline for electrification of all villages, only 935 villages are left without electricity. The government is hopeful of covering them by April 15, an official said.

In May 2014, four crore households were still to be electrified. Of these, 29,33,000 have been covered

till date under the Saubhagya scheme that was launched on October 11, 2017. Under the new rules, a household is considered electrified only after the first electricity bill has been entered in the ledger.

Source: [The Economic Times](#), February 27, 2018.

Consumer Focus

FACTS

The petitioner had not paid the CC charges for more than 9 months which resulted in LT service connection was disconnected. The petitioner approached the forum for reconnection of the LT service connection.

CONTESTATIONS

Appellant: The petitioner has represented that their LT Service Connection was disconnected on 5.9.2014 due to non payment of CC charges. He has requested to reconnect the service connection.

Respondent: The respondent has stated that the LT Service Connection of the consumer was disconnected on 5.9.2014 due to non payment of CC charges of Rs.20/- for the month of July 2014. Since the consumer did not paid due amount for more than nine months, the meter was removed and the same was devoluted to stores on 11.09.2015.

OBSERVATIONS AND JUDGMENT

The forum held a hearing in which the petitioner put-forth all his representations. And the respondent held that the petitioner did not pay the cc charges for more than 9 months as a result they had removed the meter on 25.06.2015 and the same was transferred to a store on 11.09.2015. Also the respondent mentioned that the Service Connection cannot be reconnected since the period for reconnection of LT service was only 2 years as Section Clause 22(6) & (7) of TNE Supply Code. Further, the respondent has stated that the new service could not be given, since the petitioner land is poramboke. After taking into note the arguments of the respondent the forum held that as the service was disconnected more than 2 years back, the request of the petitioner to reconnect the service connection as per TNEB Supply code is not feasible. The petitioner can obtain new service connection to their premises on production of No Objection Certificate obtained from concerned officer of the Government of Tamil Nadu as per Clause 4(12) of TNE distribution code.

ECC Voice

மின் கம்பம் - இடம் மாற்றல்

வாசகதேவநல்லூரைச் சேர்ந்த திரு. ஜி. அமல்தாஸ் என்பவர் தனது வீட்டிற்கு அருகாமையிலுள்ள மின் கம்பம் மிகவும் மோசமான நிலையில், கான்கிரீட் உடைந்து கம்பத்திலுள்ள கம்பிகள் தெரிவதாகவும், இதனால் அங்கு வசிக்கும் மக்களுக்கு ஆபத்து ஏற்படக்கூடும் என்றும் திருநெல்வேலி மின் நுகர்வோர் மையத்தில் புகார் அளித்தார். மின் நுகர்வோர் மையம், புகாரில் குறிப்பிடப்பட்ட பகுதியின் மின் வாரிய பொறியாளரை தொலைபேசி வாயிலாக தொடர்பு கொண்டு மேற்கண்ட பகுதியில் பழுதடைந்த மின் கம்பத்தை கள ஆய்வு செய்யுமாறும், மின் கம்பம் மோசமான நிலையில் இருந்தால், உடனே அந்த மின் கம்பத்தை அகற்றிவிட்டு புதிய மின் கம்பம் அமைக்குமாறு கேட்டுக்கொண்டது.

மின்வாரியத்திலிருந்து பொறியாளர் குறிப்பிடப்பட்ட மின் கம்பத்தை கள ஆய்வு செய்து, மின் நுகர்வோர் சேவை மையத்தை தொடர்பு கொண்டு, இந்த புகார் தவறானது என்றும், மின் நுகர்வோர் தற்சமயம் வீட்டை விரிவு படுத்துவதற்கான கட்டுமானப் பணிகளில் ஈடுபட்டிருப்பதாகவும், புதியதாக கட்டப்படும் சுவருக்கு இடையூறாக மின் கம்பம் இருப்பதால், தன் சொந்த நலன் கருதி, மின் கம்பத்தை மாற்றி அமைப்பதற்காக புகார் அளித்துள்ளார் என்று தெரிவித்தார்.

மின்வாரிய பொறியாளர் அளித்த இந்த தகவல்களை திரு, அமல்தாஸ் அவர்களிடம் தெரிவித்தபோது, அவர் அதனை ஒப்புக் கொண்டார்.

மின் வாரியத்தின் விதிப்படி, ஒரு மின் கம்பம் நடப்பட்டு மின் விநியோகம் நடைபெற்று வரும் பொழுது ஒரு தனிப்பட்ட நபரோ, ஒரு நிர்வாகமோ அந்த மின் கம்பத்தை மாற்றி அமைக்க வேண்டும் என்றால், மாற்றி அமைப்பதற்கு ஆகும் செலவுத் தொகையை மின் வாரியத்திற்கு செலுத்திய பின்னரே, மின் கம்பத்தை மாற்றி தரும். திருநெல்வேலி மின் நுகர்வோர் மையம், இந்த விவரத்தினை திரு, அமல்தாஸ் அவர்களுக்கு தெரிவித்து, தகுந்த அறிவுரையை வழங்கியது.

- திருநெல்வேலி மின் நுகர்வோர் மையம்

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Citizen consumer and civic Action Group (CAG) is a non-profit, non-political and professional organization that works towards protecting citizen's rights in consumer and environmental issues and promoting good governance processes including transparency, accountability and participatory decision making.

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World News

Total Renewable Power Produced in 2017 could have supported UK for the Whole of 1958

The amount of [renewable power](#) produced in 2017 could have powered Britain for the whole of 1958, a report shows.

Britain's output from wind, biomass, solar and hydro grew by more than a quarter to 96 terawatt hours of power, the latest Electric Insights report, from researchers at Imperial College London in collaboration with Drax shows.

That is more than enough to supply the 91 terawatt hours used by the 52-million strong population of Britain 60 years ago in 1958, the year that saw the arrival of Blue Peter, the Hula Hoop and Paddington Bear, the report said.

In that year, when the electrical appliances that now make up a quarter of home power demand were still an expensive luxury, 92 per cent of electricity came from coal.

But by 2017, coal's share of the power mix had fallen to 7 per cent, while wind climbed to new highs to provide 15 per cent of the country's electricity, up from 10 per cent in 2016.

Overall last year 50 per cent of power generation came from low carbon sources such as nuclear, with 25 per cent of output coming from

renewables.

Carbon emissions from electricity consumption fell 12 per cent last year, a saving equivalent to taking one in seven cars off the road, the report said.

Dr Iain Staffell, from Imperial College London said: "Generation from coal continues to fall and is now the preserve of colder months as opposed to being the mainstay of generation as it was in 1958.

"Sixty years ago, the power system emitted 93 million tonnes of CO2; in 2017 renewables managed to produce the same amount of electricity by emitting just three million tonnes.

"The share of fossil fuels on the system has fallen from 80 per cent to 50 per cent since 2010 and the effect that shift in the balance of power is having in terms of lowering our carbon emissions is striking."

Andy Koss, Drax Power chief executive said: "This report shows the great progress we have made in terms of decarbonizing the energy sector."

Source: [Independent](#), February 21, 2018

Publications/Regulations

- BP Energy Outlook, February 2018, [Click here](#)
- Adoption of Solar and Wind Energy: The Roles of Carbon Pricing and Aggregate Policy Support, February 2018, [Click here](#)

Global Wind Statistics—2017

[World Wind Energy Installed Capacity 2001 to 2017 \(MW\)](#)

