CURRENT NEWS

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IS YOUR SOCKET REALLY EARTHED? LESSONS FROM A SHOCK AT HOME

B.KIRUBAKARAN

Recently, I received an electric shock when I touched my washing machine while it was running. Concerned about my family's safety, I called an electrician. After checking the plug point, he found the problem: the socket had three pin holes, but only the phase and neutral wires were connected. The earth wire was missing.

From the outside, the socket looked perfectly normal. Only when the electrician opened the socket box did it become clear that the earth pin had no connection to the household earthing system. He then found a few more sockets in the house without an earth connection. All of them were rectified.

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The incident taught me an important lesson: a three-pin socket does not necessarily mean that an appliance is properly earthed.

In this article, we will understand what earthing is and why it is important for protecting people from electric shock. We will see how the three pins of a plug work, and what happens when an appliance develops a fault. We will also look at what a household earthing system consists of and the simple checks every household should carry out to ensure electrical safety.

How the three pins work

Washing machines, refrigerators, air conditioners, microwave ovens, water heaters and many other appliances have metal bodies and come with a three-pin plug: phase, neutral and earth.

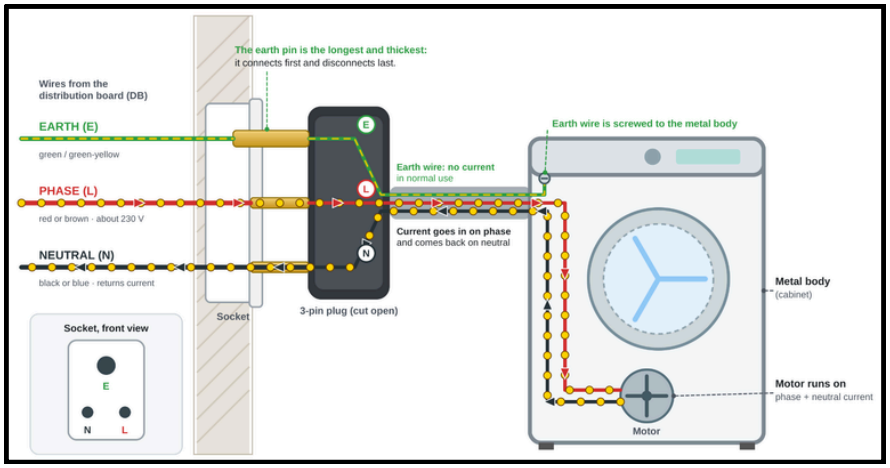


Fig 1 : Current flowing path in a normal three pin plug point | Claude AI generated

- **Phase (L)**, usually a red wire, brings electricity to the appliance at about 230 volts.
- **Neutral (N)**, usually a black wire, provides the return path for current during normal operation.
- **Earth (E)**, a green wire, connects the appliance's metal body to the household earthing system. It carries no current during normal operation. The earth pin is the longest and thickest of the three, so it connects first when you plug in and disconnects last when you pull out.

What happens when a fault occurs

Let's consider this, using my example with the washing machine. Inside a washing machine, the insulation around a live wire can deteriorate with age, heat, physical damage or moisture. If the live wire touches the metal body, the whole body becomes live at about 230 volts. The machine may keep working normally, so nobody notices.

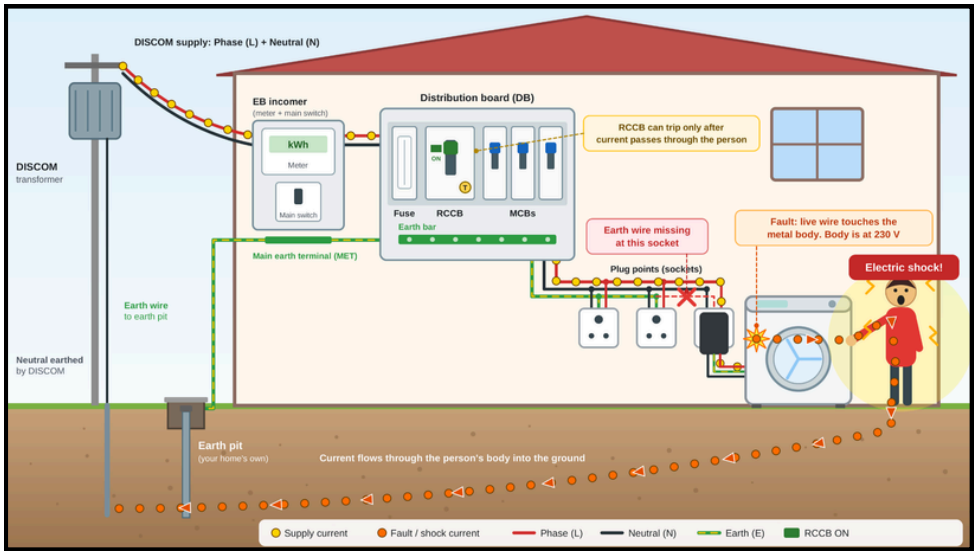


Fig 2 : Electric shock when there is no earth wire in the socket | Claude AI generated

If the machine is properly earthed, the earth wire gives the fault current an easy path to the ground, and the protective device switches off the supply. Without an effective earth, the metal body stays live until someone touches it. The current then flows through that person's body to the floor. This is exactly what happened to me.

MCB and RCCB

Many people believe that the Miniature Circuit Breaker (MCB) will protect them from shock. It will not. An MCB is an automatic switch in the distribution board. Each MCB has a current rating, such as 6 A for a lighting circuit, 16 A for power sockets or 32 A for an air conditioner or water heater circuit. When the current rises above this rating because of an overload or a short circuit, the MCB trips. It protects the wiring from overheating and fire, not people from shock.

The device that protects people is the Residual Current Circuit Breaker (RCCB), installed in the distribution board. It trips within a fraction of a second when current leaks to earth or through a person. Earthing provides a safe path for fault current to flow, helping protect people from electric shock, while an RCCB provides additional protection by quickly disconnecting the supply when leakage occurs often before anyone touches the appliance. With an RCCB but no earthing, the device may trip only after current starts flowing through a person, potentially causing an electric shock. With both proper earthing and an RCCB, the risk of electric shock is significantly reduced. My washing machine socket had neither—the worst combination of all.

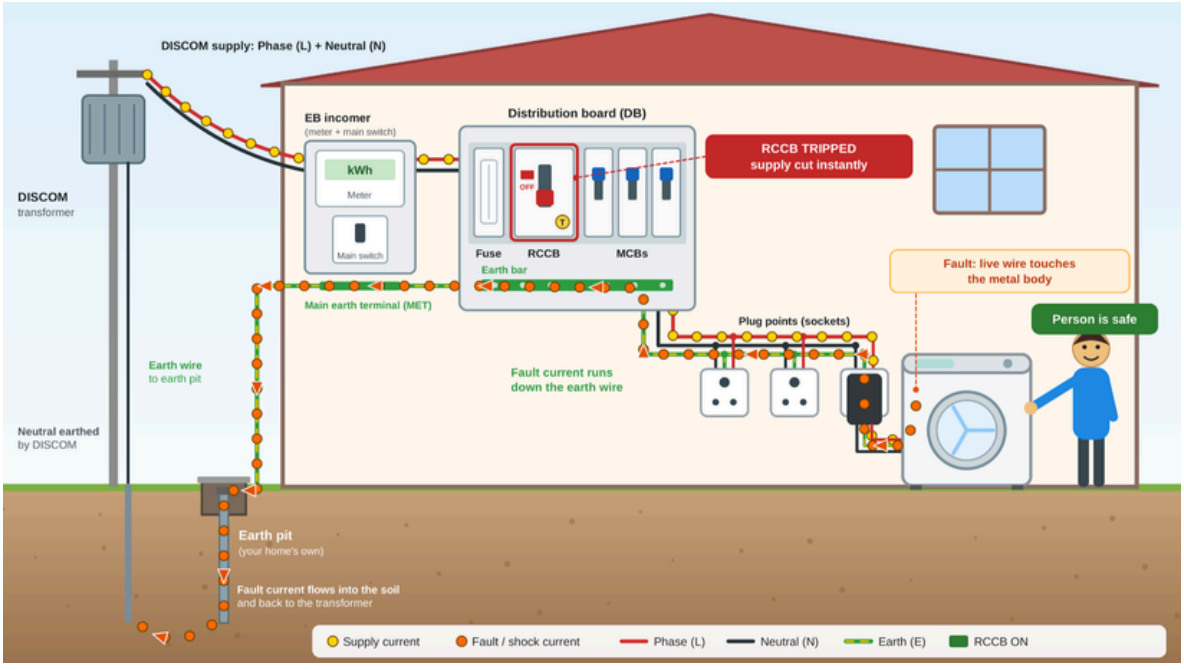


Fig 3 : Properly working earthing protection | Claude AI generated

What a household earthing system consists of

Electricity reaches our homes through the Tamil Nadu Power Distribution Corporation Limited (TNPDCL) network via overhead lines or underground cables, with the phase conductor supplying electrical power and the neutral conductor providing the return path for current. As for the protective earth, this has to be provided at the premises itself. Do not assume that your house is earthed just because the Electricity Board supplies power.

A household earthing system has two parts:

- The earth electrode or earth pit This is the part of the earthing system that makes contact with the soil. There are different types of earth electrodes. It may be a galvanised iron (GI) pipe or a metal plate or a copper-bonded rod or a factory-made "chemical" (maintenance-free) electrode, buried about 2.5 to 3 metres deep in moist soil. A small chamber with a cover on top allows it to be inspected and tested. Regardless of the type of earth electrode used, its effectiveness must be verified by a qualified electrician by measuring and recording the earth resistance.
- The protective earth wiring. The earth wire runs from the earth pit to the main earth terminal near the meter and main switch, then to the earth bar inside the distribution board, and from there to the earth terminal of every socket and to the metal body of every appliance that needs earthing.

These connections must be continuous, tight and well maintained. An earth pit alone cannot protect an appliance if the earth wire is missing or broken somewhere along the way.

Earthing can fail over time because of broken wires, loose or corroded connections, a dried-out earth pit, damage during renovation or poor installation. In some houses, as in mine, certain sockets were never connected to earth at all. In others, the earth wire is disconnected at the distribution board or the main panel. A break anywhere along the earth path leaves everything beyond it unprotected.

The metal enclosures of the main incomer panel and the distribution board must also be earthed. These boxes contain switches, breakers and live parts. If an internal fault makes the enclosure live, anyone touching it is at risk.

What every household should do

- Know where your earth pit is. Keep its cover accessible and never cover it with tiles or concrete.
- Traditional pipe and plate earthing systems may require periodic watering around the electrode during dry weather to maintain soil moisture and effective earthing. However, the need for watering depends on the electrode design, soil conditions and installation. Some modern earthing systems are designed to require minimal maintenance.
- Get the earth resistance tested by a licensed electrician at least once a year, preferably in the dry season, and keep a record of the value.
- Have every socket checked for earth, along with the earth bar in the distribution board, the main earth terminal and the earthing of the metal panels. A simple plug-in socket tester can show whether a socket's earth is connected.
- Use three-pin plugs for all metal-bodied appliances. Never break the earth pin or use two-pin adaptors.
- Never disconnect earth wires or attempt electrical repairs yourself.
- Install a RCCB if your house does not have one.

Earthing is an essential but often overlooked part of household electrical safety. Just as a helmet seems unnecessary on an ordinary ride but becomes crucial in an accident, earthing seems to do nothing during normal appliance use. Its value becomes clear only when a fault occurs.

My experience showed that even a socket that looks normal can hide a serious danger. Do not just check whether your house has an earth pit or three-pin sockets. Make sure the entire earthing system is properly connected, tested and maintained and that your home is protected by an RCCB. A simple inspection by a licensed electrician can find hidden faults and make your home safer.

CONSUMER FOCUS

The appellant, a domestic consumer, stated that the electricity service connection (SC No. 96) at her family's ancestral property stood in the name of her father, Mr. S., who passed away on August 20, 2013. She is one of his five legal heirs. In March 2016, her two brothers transferred the service connection to their names without her knowledge, consent or No-Objection Certificate (NOC). She explained that there had been ongoing family disputes for quite some time. In July 2015, she had sent a legal notice and then filed a partition suit for money in February 2016. Shortly after, her brothers had carried out the transfer. She only became aware of this transfer in April 2024 while investigating the ongoing property dispute. Following this discovery, she submitted a representation to TNPDCL on May 22, 2024, requesting that the transfer be reversed.

TNPDCL stated that, as per the consumer ledger, the name was changed to the two brothers on March 26, 2016. As the name transfer had been done through physical documents before the online system was introduced, the original records could not be found despite a search. However, the house tax and water tax receipts (paid up to 2024-25) stood in the brothers name, and an unregistered Will dated December 20, 2004, said to have been executed by the late Mr. S. in their favour, was also found. TNPDCL stated that the transfer was effected on the basis of the tax receipts, as per the rules then in force. The appellant filed a complaint with the Consumer Grievance Redressal Forum (CGRF). On January 28, 2026, the CGRF dismissed it, relying on the three-month limit for objections, the house tax and water tax records, and the fact that the original documents were "not found."

Dissatisfied, the appellant filed an appeal before the Electricity Ombudsman, received on May 6, 2026. She contended that there is no three-month bar where fraud is involved, and that under the Limitation Act, 1963, time runs from the date of discovery. She argued that Regulation 5(7) of the TNERC Supply Code requires a Legal Heirship Certificate or the latest local body tax receipt for a name transfer after a consumer's death. Additionally, it mandates an NOC from other legal heirs or an indemnity bond (Form 3, on Rs.80 stamp paper) along with an affidavit She stated that an unregistered Will has no validity for name transfer, that TNPDCL's failure to produce records should attract an adverse inference, and cited several High Court and Supreme Court judgments. She also mentioned further changes to the records by other family members, as both her brothers had since died. She sought cancellation of the transfer and restoration of the connection in her late father's name, an inquiry into the 2016 transfer, and compensation of Rs.50,000 and costs.

TNPDCL contended that under Form 1 of the TNERC Supply Code, an applicant could submit any one of the following documents - a sale deed, property tax receipt, water connection in the applicant's name, or a Legal Heirship Certificate. Since the transfer was made mainly on the tax receipts and the Will, an NOC from co-heirs was not required. The NOC applies only when transfer is sought through the death and legal-heir route. It stated that questions of fraud, forgery, validity of the Will and ownership are civil disputes for a competent court, and that it would act on any court order. It also relied on Regulation 17(4)(b), which bars a complaint not made within three months of the cause of action, which, in this case, arose in 2016.

The Electricity Ombudsman noted that the central issue was whether

a) the name transfer of March 26, 2016 could be held invalid merely because the appellant's NOC was not obtained, and

b) whether TNPDCL committed a deficiency in service warranting cancellation of the transfer and compensation.

Based on the submissions of both parties and the records placed during the Ombudsman hearing, the following were observed:

1. The three-month deadline for filing a complaint is different from the timeframe for appealing a CGRF order, which means that the date from 2016 alone doesn't render the appeal invalid due to being time-barred. However, the eight-year delay before the first objection is significant when considering the relief being sought..
2. The TNPDCL clarified that the name transfer was executed based on the documents submitted by the transferees rather than through the legal-heir process. Since the original docket was not available, it was impossible to verify the procedure used in 2016, making it difficult to conclusively establish a violation of Regulation 5(7).
3. The tax records and the Will showed that there were documents on which the transfer was processed. The Ombudsman is not competent to decide the validity of the Will, title to the property, or allegations of forgery.
4. No objections were raised from 2016 to 2024, and there was no evidence provided to show when the appellant became aware of the transfer.
5. The non-availability of an old physical file after about ten years cannot by itself be treated as proof of fraud or irregularity.

Based on these findings, the Ombudsman upheld the CGRF's order and rejected the prayer for cancellation of the name transfer. As no deficiency in service was established, the claim for compensation of Rs.50,000 and costs did not arise. The appellant was free to complain in a civil court regarding property matters, succession issues, or the authenticity of documents, and TNPDCL was obligated to comply with any orders issued by such a court.

SOURCE: OMBUDSMAN CASE

NEWS FROM TAMIL NADU

TN launches solar subsidy scheme, targets 1 lakh homes

Energy and Law Minister C T R Nirmal Kumar launched the Tamil Nadu Rooftop Solar Subsidy Scheme and the new rooftop solar portal at the Tamil Nadu Electricity Board (TNEB) headquarters on Monday, and announced a target to cover one lakh homes by March 2027. Under the scheme, consumers eligible for the centre's subsidy from August 5, 2026, will receive an additional subsidy from the state government. The combined subsidy will be Rs 35,000 for rooftop solar systems up to 1 kW, Rs 70,000 for systems up to 2 kW and up to Rs 1 lakh for systems up to 3 kW. He said, "Once the central subsidy is credited, the state portal will automatically process and release the additional state subsidy. Consumers will not have to submit a separate application." Chief Minister C Joseph Vijay on August 5 announced that the state has allocated Rs 50 crore this financial year for the subsidy. "If demand exceeds the target, additional funds and subsidy support will be sought with the CM's approval," the minister said. The newly launched portal will provide information on rooftop solar schemes, central and state subsidies, installation procedures, application status and empanelled solar agencies. It will also integrate procedures related to applications, solar installation and meter connections, the minister explained. The minister said delays in meter installation will also be monitored through the integrated system. There is no shortage of meters, he said, adding that consumers can track their application status on the new portal (tnebltd.gov.in). However, implementation of the scheme in Tiruppur district's Dharapuram and Chengalpattu district's Madurantakam Assembly constituencies will be in abeyance until the Model Code of Conduct imposed for the October 6 by-elections is withdrawn.

SOURCE: THE NEW INDIAN EXPRESS, 22 SEPTEMBER 2026

NEWS FROM ACROSS THE COUNTRY

Renewable energy meets 55% of annual generation projection

India's renewable energy sector generated 177.66 billion kWh (billion units) during April-August 2026, according to the Central Electricity Authority's (CEA) monthly generation data. This is nearly 55 per cent of the 325 billion units of renewable energy generation projected by the CEA for the full year (2026-27) in its Load Generation Balance Report (LGBR). The CEA has estimated India's total electricity generation for 2026-27 at 2.04 trillion units. If large hydro is included, renewable energy generation during April-August rises to 253.57 billion units. This is 51.4 per cent of the 493 billion units of RE-plus-large hydro generation projected for the full year. RE, including large hydro, accounted for 28.5 per cent of the country's total generation of 888.53 billion units during the five-month period. This represents about 43.6 per cent of the CEA's projected full-year generation. The numbers also suggest that renewables, particularly when large hydro is included, are already contributing a larger share of the generation mix than projected for the full year. RE plus large hydro accounted for 28.5 per cent of actual generation during April-August, compared with 24.2 per cent of the generation mix projected for the full year.Coal, meanwhile, remains the dominant source of generation. The LGBR projects 1.41 trillion units of coal-based generation for 2026-27—about 69 per cent of the projected total generation. A notable feature of the CEA data is the sharp rise in large-hydro generation in August. Output increased 16.7 per cent, from 17.75 billion units in July to 20.71 billion units in August, even though installed large-hydro capacity remained unchanged at 52.06 GW. The increase highlights the seasonal nature of hydro generation: substantial changes in electricity output can occur without any corresponding increase in installed capacity.

SOURCE: THEHINDUBUSINESSLINE, 30 SEPTEMBER 2026

WORLD NEWS

Solar cuts 'at least £400 from bills in even the cloudiest British areas'

Households in Great Britain's cloudiest regions could still save more than £400 a year on their energy bills by installing rooftop solar panels, research has found.

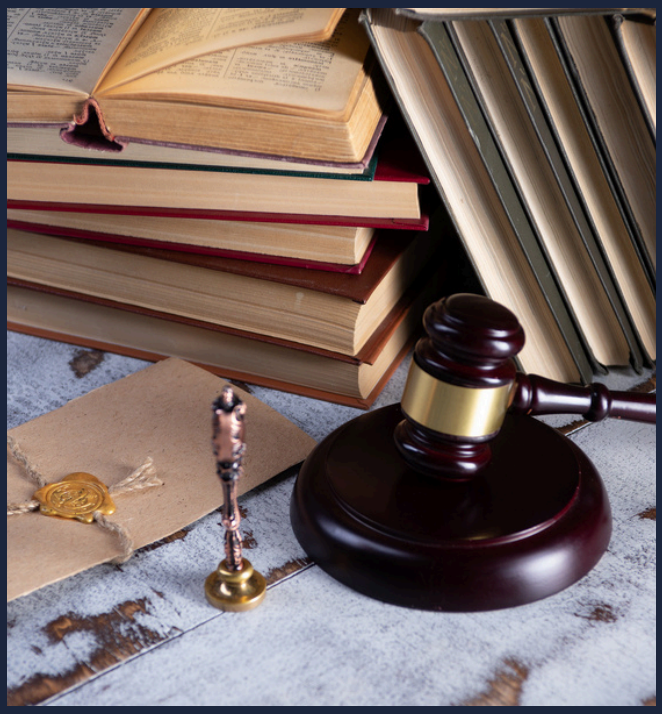
Rising wholesale energy prices mean the potential savings from a home solar panel system have climbed in recent years, as the cost of installation has continued to fall, leading to increased demand. An analysis carried out for the Guardian has found that in areas with the fewest sunny days, solar panels could bring annual savings of about £450 a year on the average household electricity bill. In areas with the brightest skies, this figure could climb to more than £600.The findings, provided by the UK solar firm Recharge Renewable, show that households in southern Scotland could save on average £440 a year, based on the estimated solar generation in Glasgow over a year, while homes in the north-west of England could save £463, based on the generation likely in Manchester. In southern England, where brighter weather means more solar generation, savings on bills could climb to between £571 and £618 a year for households in Brighton and Southampton, respectively, according to the figures.

The potential savings have increased in recent years as conflict in Ukraine and the Middle East have compounded Britain's rising electricity prices, leading to a boom in rooftop solar installations. Large-scale installations have also climbed under the Labour government, which has set a target to triple the UK's solar farms by 2030.

A Guardian analysis of the government's official figures revealed there were more new solar power installations in the first half of this year than in any six-month period since 2011, the year the UK built its first large-scale solar farm, in Cornwall. Most of the new solar panels recorded are on household rooftops, with these smaller solar installations making up slightly less than a third of the country's total solar capacity.

SOURCE: THE GUARDIAN, 1 SEPTEMBER 2026





PUBLICATIONS

- **Electrification, IEA, 2026**
- **Modernising Grids in the Age of Electricity, IEA, 2026**
- **Addressing renewable energy supply chain risks: Auction design and policy frameworks, IRENA, 2026**
- **Long-term energy scenarios and low-emission development strategies: Aligning energy and climate planning, IRENA, 2026**
- **Aligning Data Centres and Large Loads Growth With Grid Resilience, UNECE, 2026**

ELECTRICITY CONSUMPTION AS A SHARE OF TOTAL FINAL ENERGY CONSUMPTION, BY SECTOR AND BY REGION, 2000-2025



SOURCE: IEA

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+91(44) 2435 4458 | 2435 0387

helpdesk@cag.org.in

No.103 (First Floor), Eldams Road, Teynampet, Chennai-18