

## Main Switch

The main switch (Pääkytkin) in the main or sub-distribution board can be used to disconnect the electricity within the board's circuit. The power supply is cut off when the switch is in the 0 position. In position I, the power is on.

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Main switch in the 0 position.



Main switch in the I position.

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## Circuit Breaker

The purpose of a circuit breaker is to protect cables and wires from overload and short circuits. When the circuit breaker trips, the switch moves to another position (usually downward).

In position I, it is operational, and in position 0, it has tripped. If the circuit breaker trips repeatedly, the cause could be an overload or a fault in the electrical installations or devices.



In the image: The circuit breaker on the left is in position 0, meaning no electricity goes through it.  
In the image: The circuit breaker on the right is in position I, meaning electricity goes through it, and the devices or equipment connected behind it are powered.

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## Residual Current Device (RCD)

### What is an RCD, and where is it used?

An RCD is a sensitive additional safety device that complements the protection provided by a circuit breaker or fuse. It protects a person who accidentally touches live parts, such as due to a fault in an electrical device or extension cord. The RCD quickly disconnects dangerous voltage when necessary. It also provides additional protection against potential electrical fires.

All sockets intended for portable electrical devices must be protected with a 30 mA RCD. It is also required in locations where electricity use conditions are more hazardous than usual, such as bathrooms and outdoors.



Image: The RCD is in position 0, meaning the RCD has tripped and does not allow electricity to flow to the circuit breakers.



Image: The RCD is in position I, meaning electricity flows to the circuit breakers, and it is ready to detect any faults in the electrical system.

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### Testing the RCD

The functionality of the RCD must be checked regularly, such as quarterly, by pressing its test button, according to the user manual. Testing ensures the device remains operational.

If the device does not respond when the test button is pressed, it has jammed, and its operation in a fault situation cannot be guaranteed. The device must be replaced with a new one in this case.

Installation may only be performed by an authorized electrical contractor.

After testing, the RCD is returned to the operational position by turning the switch to position I.

UTU's distribution boards include separate instructions for testing residual currents.

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### **What to do if the RCD trips?**

The RCD cuts off the power supply if there is excessive leakage or fault current in the circuit. The cause could be a fault in an individual electrical device, contamination, or too many devices connected to the same circuit, where the total permissible leakage currents cause the RCD to trip.

To identify the fault, unplug all devices from the sockets protected by the RCD. Then reset the RCD to operational mode.

If the RCD trips again immediately, the fault lies in the building's electrical installation, and an electrician is needed for repairs. If the RCD does not trip again, one of the disconnected devices needs maintenance, or there were too many devices connected to the same circuit.

You can determine which device is faulty or how many devices are suitable by reconnecting them to the power supply one by one.