
Safety regulation

ESD protection measures

Designwerk

Electrostatic discharge (ESD) describes the exchange of charge between two objects with different electrical voltages or voltage potentials. Voltages are built up by friction between or separation of two materials.

The ESD standards DIN EN 61340 5 1 and DIN EN 61340 5 3 must be observed.

Instructions and enumerations

The work steps are always shown in chronological order.

Preventive measures to avert danger are marked as follows:

- Measure 1
- Measure 2

General Instructions and enumerations, which do not have to follow a specific order, are marked as follows:

- Instruction
- Instruction

	WARNING Electrostatic discharges can cause damage to health and destroy endangered components. The resulting damage to objects is manifold and irreversible. Depending on the voltage, electric current can be felt, heard or seen. As little as 15 mA can lead to muscle and respiratory cramps.
	ESD-sensitive components When handling ESD-sensitive components, electrostatic discharges may occur. Consequently, sparks or flashes of light occur. An exchange of charge can take place between two objects with different voltage potentials.

Protection measures and rules of conduct

	Ensure earthing ➤ Work exclusively with ESD protective components. ➤ Use ESD packaging to protect components from voltage spikes. ➤ Earth all conductive materials, parts and packaging in the working environment.
	Antistatic wrist strap ➤ Wear approved antistatic wrist straps to ground the person.
	Dissipative clothing ➤ Wear dissipative clothing to ground the person. ➤ According to DIN EN 61340-4-2
	Antistatic footwear ➤ Wear approved antistatic footwear to ground the person. ➤ According to DIN EN 61340-4-3

First aid

	For low voltage • Pull out the mains plug, if necessary remove the fuse to interrupt the current flow. • Remove the victim from the circuit with a non-conductive object (e.g. broom handle) and then remove him or her from the danger area. • Call the emergency services. For high voltage • Keep your distance! • Call the emergency services. • Any approach is life-threatening until the current has been completely removed! • Make sure that there is no more current flow. In case of unconsciousness, dizziness, chest pain or palpitations • Call the emergency services. • Make sure there is no more current flow. • Check breathing and heartbeat. • In case of cardiac or respiratory arrest, apply artificial respiration and chest compressions immediately and until the arrival of the rescue service. In the absence of the above symptoms • Cool any burns and go to hospital immediately. In case of secondary injuries • Take immediate measures and consult a doctor. In case of any kind of electric shock, it is mandatory to consult a doctor!
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For further information on how to behave when handling electricity, please refer to the ESD standard DIN EN 61340.