



# TA 1000-0510

Technical Instruction

## Handling of electronic components/modules



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## **1 General**

Very low-powered electronic components are particularly susceptible to external influences, e.g. electrostatic charges, magnetic fields, mechanical stresses, etc.

## **2 Replacement of modules**

Modules must never be connected or disconnected when they are live, i.e. modules may only be installed or removed when the supply voltage for the central unit and the signal transmitters has been switched off.

When replacing modules or using them for the first time, always check the following:

- that it is the correct module type (stock number/supply voltage)
- that it is in the correct slot (documentation)
- that it has been assembled correctly (e.g. EPROMs)
- that bridges and coding circuits have been correctly adjusted (documentation)
- that the version of software is appropriate and up-to-date

## **3 Commissioning**

If you bring an electronic module into the service room from a cooler environment, you will have to wait, depending on the difference in temperature, until any condensation has dried up before commissioning it.

## **4 Handling of electrostatic sensitive devices (ESD)**

### **4.1 Definition of terms**

Electrostatic sensitive devices (ESD) are all electronic semiconductors and devices and modules consisting of semiconductors which are not protected against electrostatic charges by suitable housings.

### **4.2 Basic rules for protecting against electrostatics**

- a) All electrostatic sensitive devices must only be handled in a workplace which is protected against electrostatics!
- b) They must only be stored and transported in protected packing and transportation materials!
- c) Suppliers must also observe these rules, i.e. ESDs received from suppliers in packing units inadequately protected against electrostatic charging must be returned to the supplier immediately.

#### 4.3 Markings

ESDs can be packed for transport in electrostatically conductive protective packs and identified as ESDs by means of clearly visible stickers e.g.

**Caution: Electrostatic sensitive devices (ESD)**

Parts packed and marked in this way must only be opened and handled by suitably trained personnel in **a workplace which is protected against electrostatics**

#### 4.4 Measures to protect against electrostatic charging

In order to protect a workplace against electrostatics, you must prevent electrostatic charging occurring and dissipate existing charges quickly and safely.

This is achieved by special conductive protection mats (connected to earth) on the work surface (panel/ base of switchgear cabinet) and by wrist bands worn by staff (1 MOhm-safety resistance connected to earth).

#### 5 Revision code

Revision history			
Index	Date	Description / Revision summary	Expert Auditor
3	17.04.2019	GE durch INNIO ersetzt / GE replaced by INNIO	<b>Stojiljkovic T.</b> <i>Pichler R.</i>
2	26.05.2010	Umstellung auf CMS / Change to <b>C</b> ontent <b>M</b> anagement <b>S</b> ystem ersetzt / replaced Index: <b>b</b>	<b>Schartner</b> <i>Giese</i>
1	05.03.2009	Klassifizierung und Schutzvermerk neu angelegt / Classification and protection notice newly created	<b>Provin D.</b>