

PV\_GP\_05

## Permitted live working according to DIN VDE 0105 - 100

### Scope of application

### Electrical test stations (workplaces)

#### 1. Scope of application

Inspection of electrical installations according to VDE 0100-600 and VDE 0105-100

#### 2. Hazards to people and electrical installations



- Electric shock from touching live parts
- Risk of burns from electric arc
- Secondary accidents
- Risk of fire

#### 3. Protective measures and rules of conduct



- These are based on VDE 0100-600 and VDE 0105-100.
- VDE 0104 (Erection and operation of electrical test equipment) must also be followed in the inspection.
- Inspections may only be conducted by competent persons as defined by TRBS 1203 who have a written order to do so.
- Examinations are prescribed at intervals determined in the risk assessments.
- Documentation shall be established by the "ELEKTROmanager" software or using the inspection protocol *PC\_GP\_07 VDE 0100-600, VDE 0105-100 inspection protocol*.
- Before the inspection, measurement instruments including the test equipment must be checked for damage and correct calibration.
- Select measurement instruments according to the measurement category as defined by IEC 61010-1. Preferably use CAT IV measurement instruments, and pay attention to the voltage.

#### 4. Conduct in case of irregularities



- In the event of risks before or during work, the superior and/or the work supervisor must be informed.
- The work supervisor is entitled and required to stop or suspend works
- Upon suspension of works, the work site must be secured

#### 5. Conduct in the event of accidents



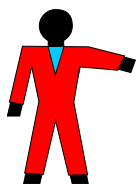
Employees must be trained in first aid (including heart-lung reanimation) and in the rules of conduct and measures in case of electrical accidents.  
Disconnect the installation and rescue the injured! Secure accident site, first aid

Emergency number: 110 security centre  
112 internal fire service  
113 company physician  
Emergency number from mobiles: 06131-66-1610



Issue/revised:	1	2					Page:	1 from 4
Date:	11.2011	01.2012					Valid from:	
Prepared/modified:	MEBEDO RB	SMT-1/Schk						
Approved:								

## 6. Inspections by the work supervisor



- Prior to commencing work, the workstation, the condition of the installation and the apparatus used must be inspected for proper condition.
- Damaged apparatus must be discarded, and measurement instruments must be tested for suitability.
- If more than one person is working at a workstation, the work supervisor shall release the workstation following instruction.
- **The procedures in the diagram in Annex 1 must be followed!**

## 7. Workflow and safety measures

### Procedure for the inspection of installations:

#### Visual check

- Electrical equipment must be inspected for proper condition.
- Check whether the equipment used can withstand influences at the place of use.

#### Establish the protective measures applied

- Establish the required inspection steps. Samples may be sufficient for repeat inspections, but 100% is required for the initial inspection!

#### Electrical inspection

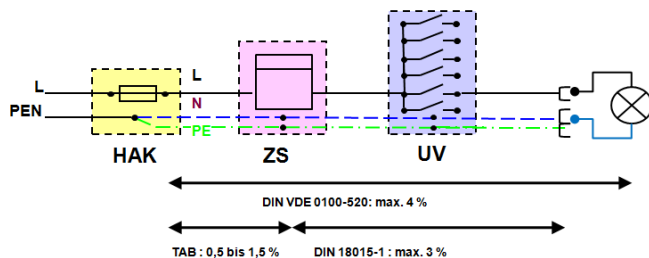
- **Earthing resistance (upon erection of an installation)**  
Check that the protection earthing is connected to the ground by low inductance connection
- **Conductivity of protective conductors and protective equipotential bonding conductors**  
Limit value generation in consideration of conductor material, cross-section and lengths. A measuring current of at least 0.2 A to approx. 10 A must be taken from a power supply of 24 V AC or DC. The inspection must be conducted between the PE clamp and various points which are part of the protective conductor system.
- **Measurement of the insulation resistance**  
Insulation resistance test between the conductors of the main circuit and the protective conductor system (at least 1 MΩ in first test, 1000 Ω/V in repeat test) with a measurement voltage of 500 V DC. Attention! Disconnect overload protection devices before measuring or reduce the measurement voltage to below the response level of the device.
- **Checking protection by automatic switch off (fuse)**  
Checking the impedance of the fault loops and the suitability of the assigned overload protective elements by measurement or numerical determination if the circuit only has one overload protective element (fuse).
- **Checking protection by automatic switch off (RCD)**  
RCD/FI test including measurement of contact voltage, trigger time and trigger current of the RCD/FI. For RCD sensitive to universal current, repeat the measurements with DC residual current.  
Measurement of the network internal resistance as concerns the installation's fire protection both for electrical circuits with only an overload protection element and those with an RCD/FI.

#### **Checking of the clockwise rotating field for three-phase AC plugs**

Issue/revised:	1	2					Page:	2 from 4
Date:	11.2011	01.2012					Valid from:	
Prepared/modified:	MEBEDO RB	SMT-1/Schk						
Approved:								

## 7. Workflow and safety measures

- *Checking the maximum permissible voltage drop of 4% or 3%*

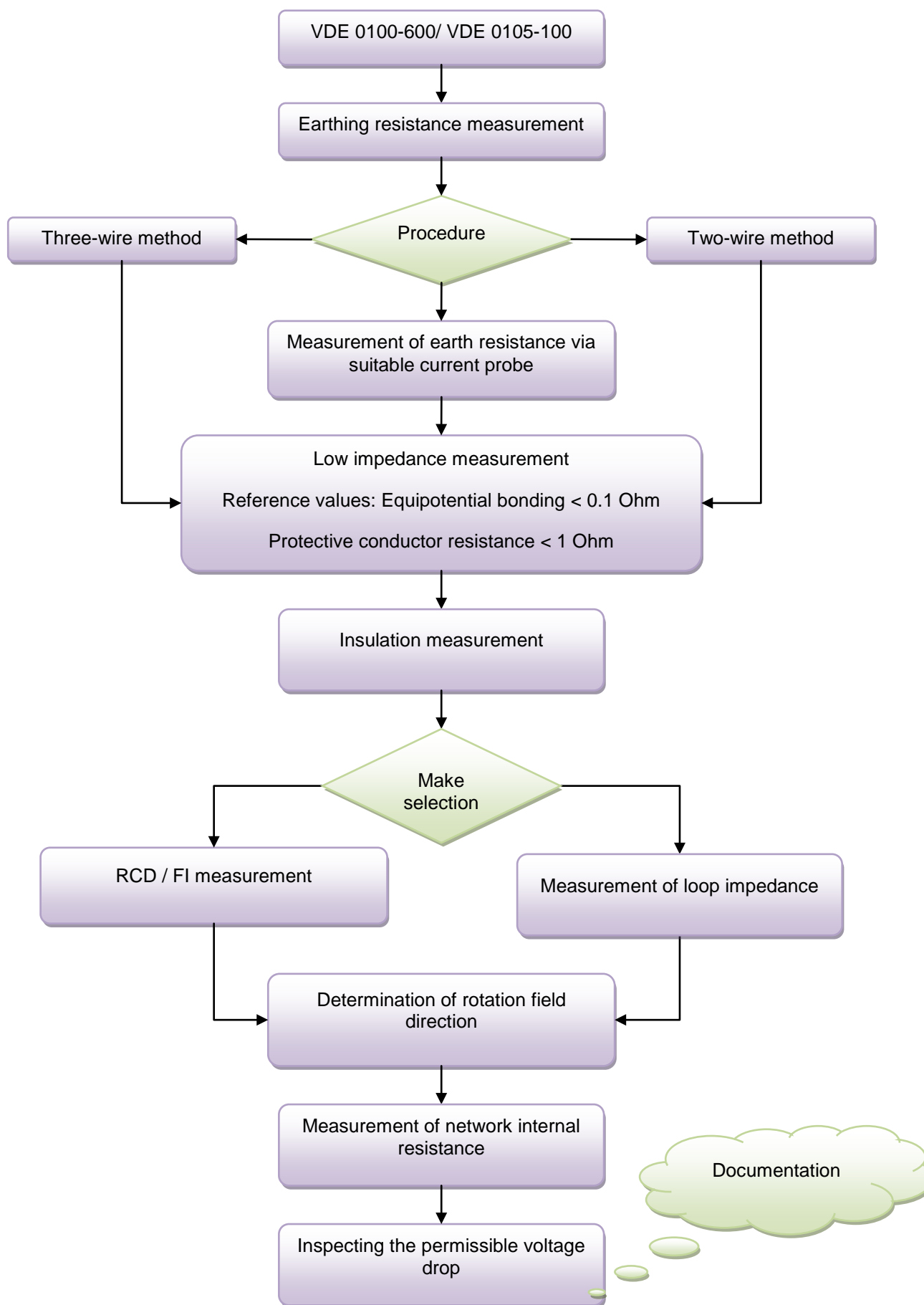


## 8. Completing works

- Restore proper and safe condition of the installation.
- Clear the work site.
- Inspect and clean equipment and tools.

Issue/revised:	1	2					Page:	3 from 4
Date:	11.2011	01.2012					Valid from:	
Prepared/modified:	MEBEDO RB	SMT-1/Schk						
Approved:								

## Annex 1



Issue/revised:	1	2					Page:	4 from 4
Date:	11.2011	01.2012					Valid from:	
Prepared/modified:	MEBEDO RB	SMT-1/Schk						
Approved:								