4 IREN Technical Data

4.1 IREN 38

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13 IRFU Troubleshooting

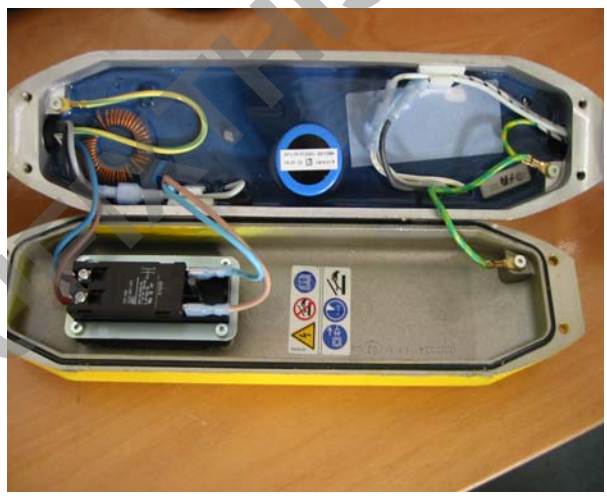
13.1 General search for the cause of the error

Possible procedure of a repair for IRFU vibrator heads with inverter and troubleshooting. The machine comes into the workshop:

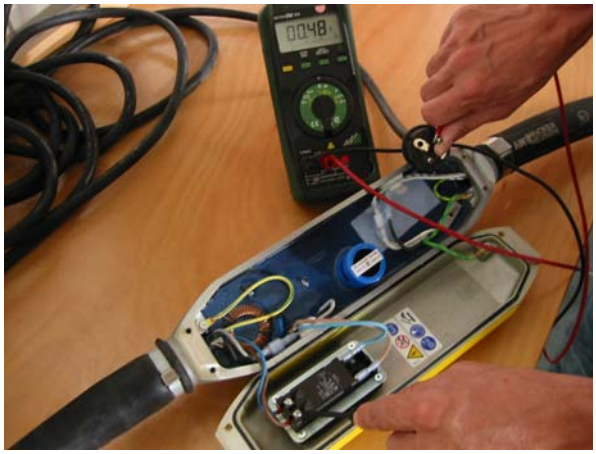
- ▶ Completely roll out the cable and check for external damage to the casing, on pull points, kinks, cuts, etc…
- ▶ Check the plug for damage.
- ▶ If the cable or plug is damaged, these must be properly repaired before the troubleshooting continues or additional inspections are performed.

Then open the inverter and carry out the following inspections. Ensure that the device is not live. You require a MetraHit.

1. Check whether the casting compound is burned. If so, the inverter is defective and must be replaced.
2. Check whether the insulation of the utility lines is damaged. If possible, repair this. If not possible, replace the inverter.
3. Check whether all connections are properly connected and seated.
4. Check that the three productive conductor terminals are properly bolted on and are not corroded. If they are corroded, fix the connections.



5. Using MetraHit, check the through from the plug to the switch.
6. Switch the device on, check the phase and the neutral conductor.
7. The measured value must be less than 1 ohm. If the value is larger, then the power supply line or the Bodyguard is defective.



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DANGER
Live tangible metal parts. Death or injury from electric shock.
- ▶ Ensure that the on / off switch on the drive is in the "0" position.
- ▶ Ensure that the power cable is disconnected from the mains.

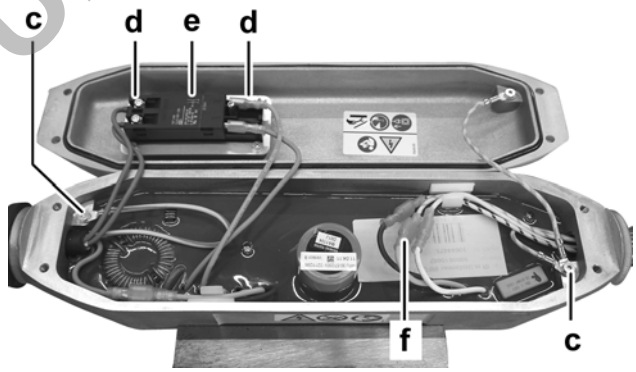
DANGER
Residual voltage from charged capacitors! Death or injury from electric shock.
- ▶ Maintain the waiting time of at least 5 minutes after disconnecting from the mains so that the capacitors are safely dumped.

9.2.1 Opening the inverter housing

1. Clamp the inverter or set down securely.
2. Loosen the socket head cap screws (a) on the cover (b).
3. Take off the cover (b).



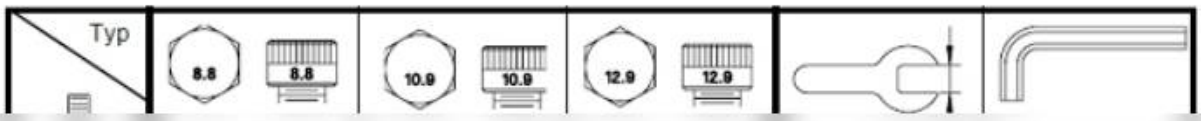
4. Remove the grounded conductor connections (c).
5. Remove the connections (d) on the switch (e) on both sides.
6. Loosen the flat plug sleeves (f).



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15.2 Torque table:



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1 Preface . . . 3
2 Introduction . . . 4
2.1 Symbols used . . . 4
2.2 Wacker Neuson Contact partner . . . 5
2.3 General Information . . . 5
2.4 Described equipment types . . . 5
2.5 Marking of the equipment . . . 5
3 Security . . . 7
3.1 Policy . . . 7
3.2 Protection equipment . . . 9
3.3 Safe operation and test run . . . 10
3.4 Safety when operating electrical equipment . . . 11
3.5 Maintenance / Service / Repair . . . 13
3.6 Safety and information labels . . . 14
4 IREN Technical Data . . . 15
4.1 IREN 38 . . . 15
4.2 IREN 45 . . . 16
4.3 IREN 57 . . . 17
4.4 IREN 65 . . . 19
5 Technical data . . . 20
5.1 IRFU 38 . . . 20
5.2 IRFU 45 . . . 21
5.3 IRFU 57 . . . 22
5.4 IRFU 65 . . . 23
6 Special tools . . . 24
7 Support materials . . . 25
8 Input tests . . . 26
8.1 Description . . . 26
8.2 IRFU device description . . . 27
8.3 IREN device description . . . 28
8.4 Visual inspection . . . 29
8.5 Grounded conductor test (protection class I) . . . 30
8.6 Insulation test . . . 32
8.7 High voltage test . . . 35
8.8 Functional check . . . 38
9 Disassembly . . . 40
9.1 Description . . . 40
9.2 IRFU inverter . . . 41
9.3 IREN switch box . . . 47
9.4 Vibrator head . . . 54
9.5 Stranded conductors in the protective hose . . . 67
9.6 Bodyguard® . . . 68
10 Final inspections . . . 71
10.1 Description . . . 71
10.2 IRFU device description . . . 72
10.3 IREN device description . . . 73
10.4 Visual inspection of repair work . . . 73
10.5 Grounded conductor test (protection class I) . . . 74
10.6 Insulation test . . . 76
10.7 High voltage test . . . 79
10.8 Functional check . . . 82

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11 Repairs - Assembly 84
11.1 Cable core lines in the protective hose 84
11.2 Vibrator head 86
11.3 IRFU inverter 100
11.4 IREN switch box 111
11.5 Bodyguard® 118
11.6 IREN plug connector 124
12 Variants 125
12.1 Protective hose length 125
12.2 Voltage supply ranges 125
12.3 Protection class 125
12.4 Design of the vibrator head 126
12.5 Design of the bearings and disc springs 127
12.6 IREN switch 128
13 IRFU Troubleshooting 130
13.1 General search for the cause of the error 130
13.2 Troubleshooting using the LED on the Bodyguard® 134
13.3 Troubleshooting using the LED in the inverter 136
13.4 Testing the inverter in the workshop 140
14 Troubleshooting for IREN 42 Volts 142
14.1 General search for the cause of the error 142
15 Glossary 146
15.1 Definitions 146
15.2 Torque table: 147

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5.3 IRFU 57

Designation	Unit	IRFU 57/120	IRFU 57/230	IRFU 57k/230
Material no.		5000610008	5000610007	5000610262

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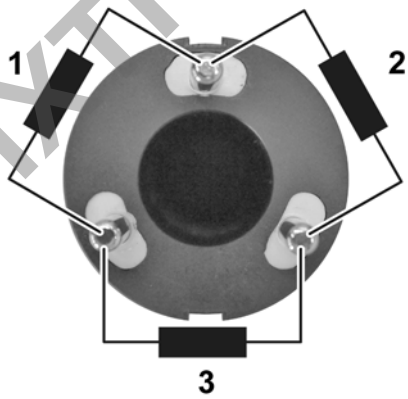
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Checking stator windings

1. Visual inspection
▶ Check the stator windings (a) for damage.
▶ Check the contacts (b) for damage.
2. The requirements for the inspection are met if no damage is identifiable and the contacts (b) do not jiggle or are not worn.



3. View:
▶ 3 windings.



4. Check the electrical resistance of the 3 windings (c).
▶ Set the measuring device for resistance measurement.
▶ Measure all three terminals against each other.
5. The requirements of the inspection are met if the resistance value for all three windings > 0 W and is approximately the same size.



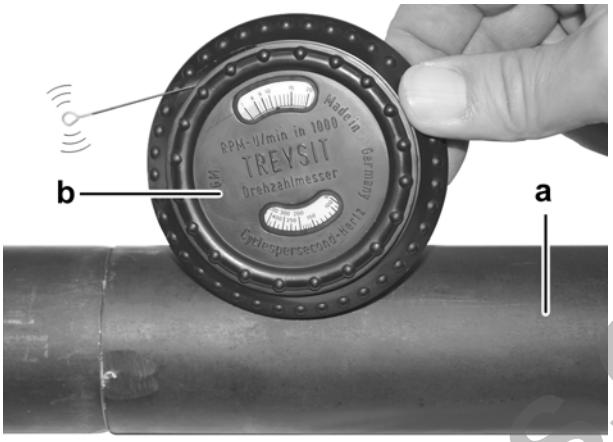


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2. Measurement 2:

▶ Check vibration rpm.



▶ Once the unit is running, check the RPM of the vibration head (a)

▶ Firmly press the sirometer (b) to the vibration head (a)

▶ The vibration rpm is OK if it corresponds to approximately 11,500 min^{-1}.

Note: You can find the sirometer in the chapter *Special tools*.

3. The requirements of the functional check are met if

▶ the vibration head vibrates at the nominal speed

▶ the current consumption does not exceed the rated current

▶ there is no unreasonable noise development

Note: During longer operation, the vibration head heats up.
Cooling must be provided in order to avoid excessive heating and a shutdown of the excess temperature protection.
If needed, cool the vibrator head by immersing in a container filled with water.

Note: During the inspection, if the unit to be tested does not display any function or is louder than expected, this indicates a defect.
In this case, the unit may need to be repaired expertly.

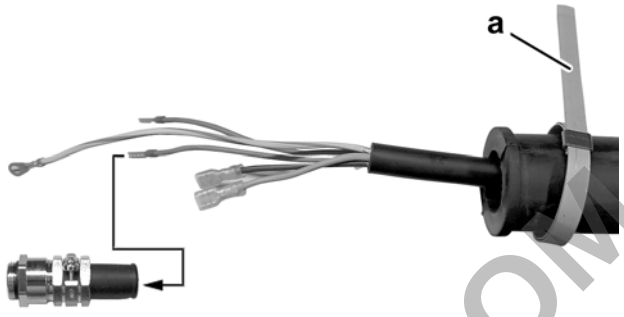
4. Set the on / off switch on the equipment to the "0" setting.

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11.3.2 Inserting the connecting cable on the electrical connection side

1. Pull a new clamp (a) over the cable protective sleeve.
2. Pull a cable protection sleeve with a new clamp on the light plastic-sheathed cable.
3. Pull the cable through the cable protection sleeve.
4. Slightly open the screwed connection and pull over the connection line.



Note: Use the original replacement connection cable.

5. If you need to shorten the cable, proceed as follows:

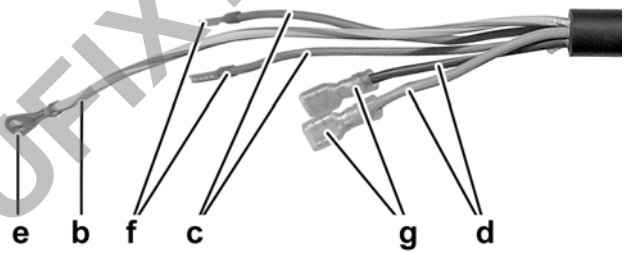
1. Strip the cable
2. Shorten stranded cables

▶ green-yellow grounded conductor connection (b) approximately 120 mm

▶ brown and blue stranded conductors (c) of the external conductor and the neutral conductor each approximately 80 mm

▶ gray and black lines (d) each approximately 60 mm

3. Press appropriate cable lug (e) on the green-yellow grounded conductor connection.
4. Press appropriate wire end ferrules (f) on brown and blue stranded conductor.
5. Attach matching insulated cable lug (g) for flat plug on gray and black stranded conductor.



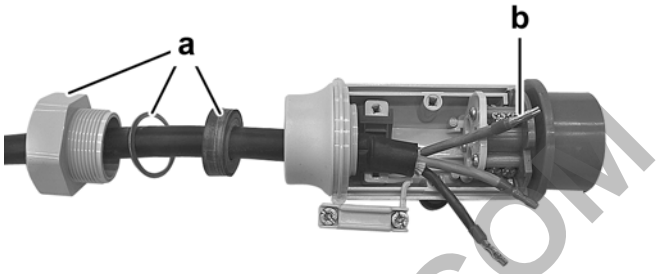
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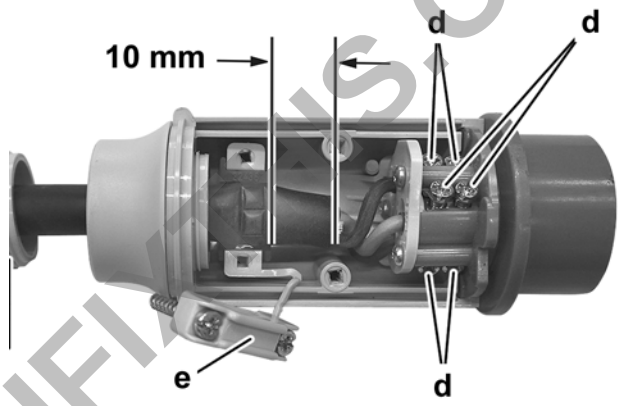
11.6 IREN plug connector

11.6.1 Connect plug

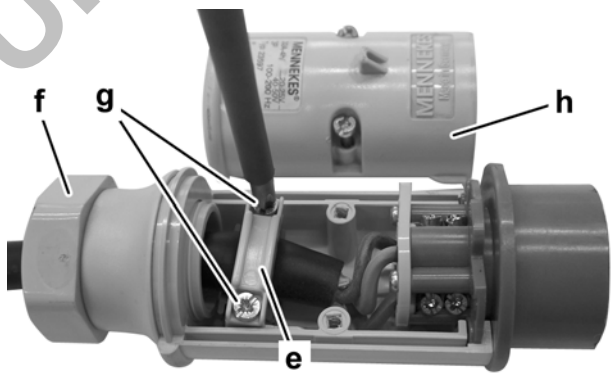
1. Thread parts of the screwed connection (a) on the cable.
2. Strip the cable approximately 40 mm.
3. Insulate the stranded conductors (b) by approximately 10 mm and provide with suitable wire end ferrules.
4. Insert the cable into the open connector casing.



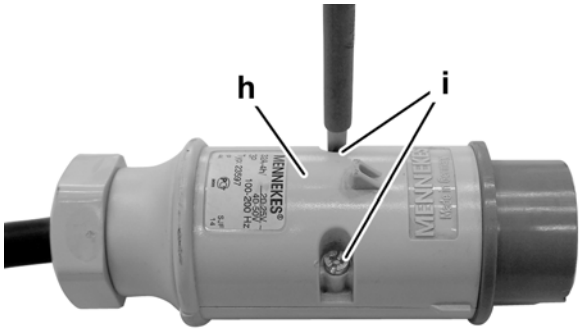
5. Connect the stranded conductors to the contacts each with 2 screws (d).
6. Position the cable so that the insulation reaches at least 10 mm over the strain relief clamp (e).



7. Tighten the screwed connection (f).
8. Tighten the screws (g) on the strain relief clamp (e) with a Phillip head screwdriver.



9. Arrange the stranded conductors so that they are not pinched.
10. Attach the cover (h) and tighten the screws (i) with a Phillip head screwdriver.



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