Commissioning of the inductive power supply

An Axiometrix Solutions Brand

imc POWER-M

Status Doc. Version 1

Step-by-step instructions

① **Preparation:**

a. Connect **the POWER-M module** to the **power coil** (**secondary coil**): **Pin PWR1 and PWR2.**

b. Connect the **measurement modules** to be supplied with the **POWER-M** module
⚠ It is **important** that a consumer is connected to POWER-M!

c. Connect a **multimeter** (VDC measurement) to the **POWER-M** module: **Pin VDC(+) and VMM(-).**
⚠ **Important:** Prevent short circuits and ensure correct contact**.**

d. Connect the power head to **the power generator** and place it at a greater distance (≥25 cm) from the **power coil** (secondary coil)**.**
⚠ **Important:** Make sure that the surface is not made of metal.

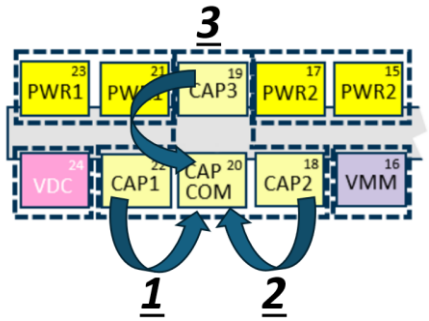
e. Connect **the power supply** to **the power generator**.
⚠ **Important:** The plug must be inserted carefully, without force, and with the correct polarity. Incorrect polarity will prevent the device from functioning.

f. Switch on the **power generator.** The red STATUS LED on the power generator must stop after **approx. 60 seconds.**

② **Power head positioning**

a) Slowly **move the power head** closer to the secondary coil and observe the voltage display on the multimeter. Once the voltage reaches the ideal value of approx. 25 V, maintain this distance between the power head and the secondary coil for the time being. The distance should be close to the final mounting position. If the maximum voltage (>35 V) is already reached at a distance greater than the final mounting position, the number of turns in the secondary coil should be reduced. If the voltage is too low (<15 V), the number of turns must be increased accordingly.

b) Observe the voltage display while you now go through the **bridge variants** one after the other. The table serves as a guide. The setting with the highest voltage is retained. If the adjustment capacity needs to be adjusted,
these must be fixed with solder bridges.



CAPfix	CAP1	CAP2	CAP3	set bridge
✓	✗	✗	✗	
✓	✓	✗	✗	
✓	✗	✓	✗	
✓	✓	✓	✗	
✓	✗	✗	✓	
✓	✓	✗	✓	
✓	✗	✓	✓	
✓	✓	✓	✓	

In the last column, indicate whether the bridge meets your requirements.

③ **Finally,** move the **power head** into the **mounting position** and ensure that the voltage between 25 V and 35 V is relatively stable. Remove the measuring leads from the multimeter and fix the head in place.

Addition

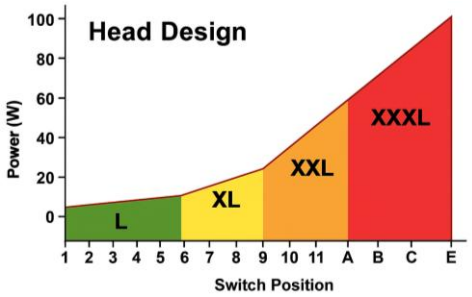
The following solution steps may only be carried out by a qualified electrical engineer!
Contact imc technical support in advance for assistance.
Tel.: +49 30 467090-26, E-mail: hotline@imc-tm.de

Power setting on the power generator:

The distance between the power head and the power coil (secondary coil) influences the transmitted power. This can be influenced by adjusting the power in the power generator.

Please note that there are several power classes for the power heads, depending on the output power! A 3XL power head can easily be supplied with less power, but an L power head cannot easily be supplied with more power, as this can cause damage! Please refer to the diagram (**head design**) to find the correct setting for each head.

In any case, avoid overloading the power generator and/or power head!



Hex coding switch position Devices Rev.1

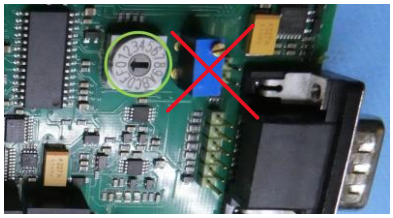


Figure 1

The power is set using a hex coding switch. On older power generators, this is only **accessible** by **opening the device on the left side.** On newer devices from Rev.2 onwards, the power level of the device can be set on the rear panel.

1. **Switch off the generator!**
2. **Position of the hex coding switch on older devices internally:**
    a. On a Rev.1 power generator, the switch can be found on the circuit board (Figure 1). It is essential to avoid adjusting the spindle potentiometer to the right of the switch (see Figure 1, red cross) and/or causing damage or short circuits on the circuit board!
3. **If the distance between the power head and the secondary coil is too great and the windings can no longer be reduced in a meaningful way (radius-n-1 windings), then:**
    a. Set the hex coding switch to the next smaller position.
    b. Repeat the step-by-step instructions (except for point 2b).
4. **If the distance between the power head and the secondary coil is too small and the windings cannot be increased in a meaningful way (radius-n+1 windings), then:**
    a. Set the hex coding switch to the next larger position.
    b. Repeat the step-by-step instructions (without point 2b).
5. **Finally**, close the housing again on older devices. This step is not necessary for newer devices.

Preferably use the power generator in combination with the supplied power head. Other combinations are possible in principle, but have not been tested and are not recommended!