

Power Control Unit for 2000 W 2400..2500 MHz
Application including Generator, Isolator and Power Detector



With the Power Control Unit (PCU) four Solid State Microwave Generators of the type FM-SGW2450M0500W can be operated. The PCU provides all supply voltages of the microwave generator necessary for operation. All necessary cables for the operation of the microwave generators are supplied with the PCU and have a protection against reverse polarity. The PCU only needs a mains connection which can be equipped with a CEE plug or for placing in a switch cabinet.



Connection options

The following range of functions can be accessed via the PCU. A frequency scan is possible for each connected microwave generator. The scan can be executed for all microwave generators at the same time or one after the other. The order of the scan depends on the application and can be discussed with our experts. The microwave power of each individual microwave generator can be adjusted 20-500W in 1W steps. There is also the possibility to automatically follow the frequency with the lowest reverse power. Beside the pure functionality of the control system there is also an extensive error management system as well as an appropriate signaling.

To ensure that the PCU can be operated safely with the four microwave generators, the PCU has an independent safety circuit, which can also be integrated into existing safety circuits. The use of the safety circuit is always recommended, but it is also possible to operate the PCU without an existing safety circuit at the user's own risk and in compliance with all applicable safety regulations.



Safety circuit

The correct functionality of the PCU is indicated to the user by LEDs. The PCU can be connected to a programmable logic controller (PLC) via Profinet. Alternatively, the PCU can be controlled from a computer via serial interface.

If required by the application, the generators can still be protected with isolators against complete load mismatch. The use of only the isolator reduces the functionality of the PCU considerably. Because the information about the return power through the isolator does not reach the microwave generator. To have the full functionality, power detectors are used. These allow the evaluation of the reverse power.

For the connection of the PCU to a computer, we can supply software that optimally controls the system. For the connection to a PLC we supply the interface description.

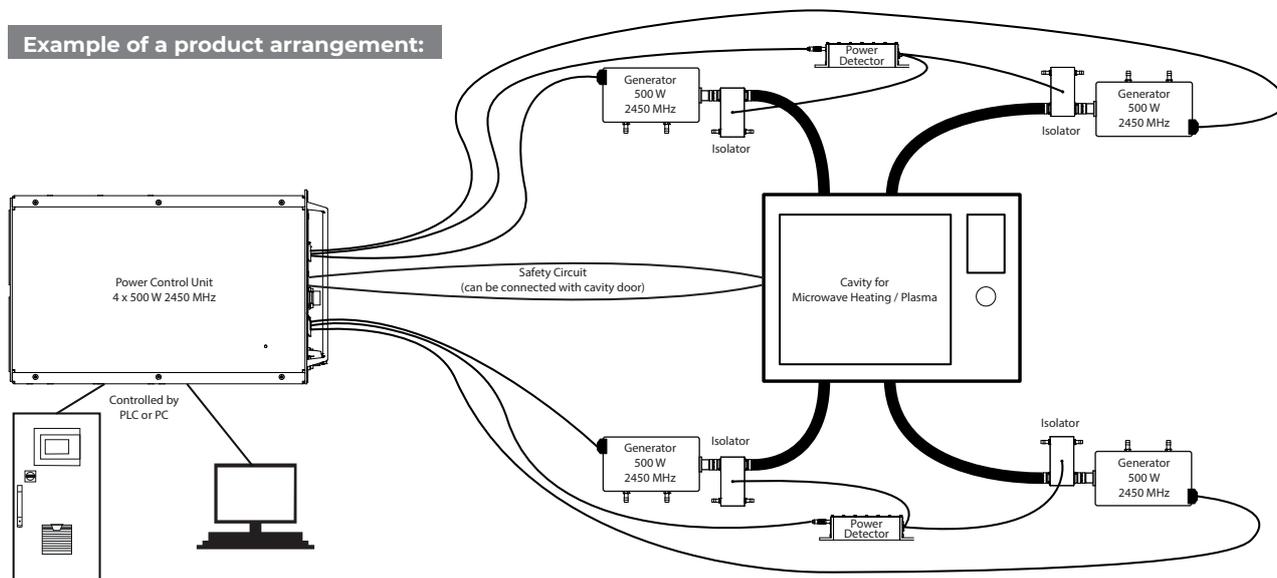
Power Control Unit for 2000 W 2450 MHz

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Interaction of the components

Example of a product arrangement:



Power Control Unit



Solid State Microwave Generator



Microwave - Isolator



Power Detector

Power Control Unit 2000 W 2450 MHz

Type	FM-PCU-4-00
AC-Input	3x 400 V _{AC} / N / PE
Dimensions (WxHxD)	483x310x470 mm

Solid State Microwave Generator 500 W 2450 MHz

Type	FM-SCW2450M0500W
Maximum output power	500 W / 57 dBm
Power Supply	32V _{DC}
Cooling water temperature	+20° to +25°C
Dimensions (WxHxD)	246x40x140 mm

Microwave - Isolator 500 W 2450 MHz

Type	FM-I2450M0500W55T
Max. microwave power	500 W / 57 dBm
Cooling water temperature	+20° to +25°C
Monitor coupling (SMA female)	60 dB ± 1 dB
Dimensions (WxHxD)	135x63x113 mm

Power Detector 2450 MHz

Type	FM-PD2CH2450S
Absolute max. microwave input power	100 mW / 20 dBm
Calibrated power range	+10 to -40 dBm
Power Supply	24V _{DC}
Dimensions (WxHxD)	204x100x54 mm