



Prototype – Ozone generator system

MediPlas® Driver & Reactor

Series/Type:
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Preliminary data



Sample Device

The device is designed for testing and development purposes only and should be operated by skilled and trained personnel. It is recommended that proper safety protocols are established before operating the equipment to ensure the safety of those involved in the testing and development process.

The device is a prototype and modifications and improvements may be implemented in the future.

Do not open or disassemble the device.
Do not let the device run unattended.

Intended use

- Ozone generation unit

Applications

- Ozone generation for disinfection, sterilization and small-scale chemical processing

Features

- High ozone concentration
- Power control
- Active cooling
- Optional gas supply and conditioning

Scope of delivery

- Ozone generator device

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- Mains cable
- Specification Sheet / Instructions for use



Figure 1: Front side with gas connectors, activation switch and power control unit

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Figure 2: Back side with power socket, main switch, BNC signal out and cooling air outlet

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Specification

parameter	symbol	value	unit
Typical electrical power	P_{el}	30	W
Maximal electrical power	P_{max}	40	W
Input electrical voltage (AC)	U_{in}	110...230	V
Frequency range for power control	f_{PWM}	up to 100	Hz
Typical frequency for power control	$f_{PWM_{typ}}$	70	Hz
Duty Cycle range for power control	PWM	0 - 100	%
Typical duty cycle for power control	PWM_{typ}	20 - 80	%
Feed gas*		air	
Typical ozone concentration (@ 0.3 l/min, CDA, typ. settings) **	$C(O_3)_{typ}$	>3500	ppm
Operating temperature range	T_{op}	10 - 35	°C
Permissible humidity during operation	rF_{op}	< 80 not condensing	%
Storage temperature range	T_{Store}	0 - 60	°C
Permissible humidity during storage	rF_{Store}	< 80 not condensing	%

*Depending on customer requirement:

there are two variants of the device available, one with an integrated pump that works with ambient air and another without a pump that can be charged with individual gases and flow rates (compatible gases should be confirmed with relyon plasma).

** Note that the maximum ozone concentration can vary depending on the feed gas and environmental conditions.

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Application

For integration, connect the device to your system using appropriate hoses.









1. During installation or integration, the device should be disconnected from the mains.
2. Check regularly that the gas connections are tight and undamaged.
3. If you notice the smell of ozone, switch off the appliance immediately and ventilate.
4. Connect the BNC signal port to a voltmeter or oscilloscope to monitor the process control.
5. Set the power control to a frequency of 70 Hz and adjust the PWM duty cycle as per your needs.
6. Adjust the gas flow to your needs.
7. Press the activation switch for ozone generation.
8. To switch off the ozone generator, use the switch on the front panel or switch off the supply voltage.
9. An active ozone generator can be recognized by the red light on the switch.
10. The power controller keeps the last parameter set in memory.
11. If the supply voltage is restored after switching off the ozone generator via the main switch or supply, it will restart automatically unless the switch has been deactivated.
12. Always follow the instructions provided in the user manual.
13. Do not operate the device unless you have received proper training.
14. Do not operate the device in an area without proper ventilation.
15. In case of malfunction, switch off the device disconnect from the mains and contact the manufacturer or authorized service center for assistance.
16. Always comply to regulations and guidelines for the use of ozone generators.

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Safety instructions and warnings

	Caution: This device may generate heat during operation. Do not touch the device or its components until it has cooled down.
	Only use the device in a well-ventilated area to avoid the build-up of potentially harmful gases.
	Ensure that the device is properly grounded to prevent electrical shock and fire hazards.
	Do not use the device near water or in damp conditions to avoid the risk of electrical shock.
	Keep the device out of reach of children and untrained individuals. Only trained personnel should operate and maintain the device.
	Before cleaning or servicing the device, disconnect the voltage supply and allow the device to cool down.
	Do not modify or alter the device in any way. Doing so may compromise the safety and functionality of the device.
	If you experience any issues with the device or have any questions about its safe operation, contact the manufacturer for assistance.

General

The publication acknowledges that the statements made about the suitability of the plasma system for certain areas of application are based on the manufacturer's knowledge of typical requirements in those areas. However, the manufacturer expressly states that these statements cannot be considered binding statements about the suitability of the system for a particular customer application. It is ultimately the responsibility of the customer to determine whether the system, with the properties described in the product specification, is suitable for use in their specific application.

The manufacturer also advises customers not to use the system for purposes not identified in the product specification. They recommend testing the system for reliability during design-in and evaluating it under worst-case conditions to ensure its suitability. Additionally, they advise paying special attention to the reliability of the system when used in safety-critical applications, such as medical equipment, automotive, spacecraft, or nuclear power plants.

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Storage

The following are some guidelines for storing a system:

- Store the system in its original packaging: The original packaging provides the best protection for the system. It helps prevent damage and ensures that the system is not exposed to any harmful elements during storage.
- Storage conditions in original packaging: The temperature range for storing the system is 0 to +60 °C. The relative humidity should not exceed 75% on average annually, and the maximum humidity level should be 80% on 30 days a year. The system should not be stored in an area where dew precipitation is possible as it can cause damage to the system.
- Avoid storing the system where they are exposed to heat or direct sunlight: Direct sunlight and high temperatures can cause damage to the system. Store the system in a cool, dry place away from direct sunlight or any heat sources.
- Avoid contamination of the system surface during storage and handling: The system's surface should be kept clean to prevent contamination that may affect its performance. Use clean and dry gloves while handling the system to prevent any oil or dirt from getting on its surface.

By following these guidelines, you can ensure that the system is stored correctly, minimizing the risk of damage or deterioration during storage

Important notes

The following applies to all products named in this publication:

1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application**. As a rule we are either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether a product with the properties described in the product specification is suitable for use in a particular customer application.
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Important notes

8. The trade names EPCOS, CarXield, CeraCharge, CeraDiode, CeraLink, CeraPad, CeraPlas, CSMP, CTVS, DeltaCap, DigiSiMic, ExoCore, FilterCap, FormFit, InsuGate, LeaXield, MiniBlue, MiniCell, MKD, MKK, ModCap, MotorCap, PCC, PhaseCap, PhaseCube, PhaseMod, PhiCap, PowerHap, PQSine, PQvar, SIFERRIT, SIFI, SIKOREL, SilverCap, SIMDAD, SiMic, SIMID, SineFormer, SIOV, ThermoFuse, WindCap, XieldCap are **trademarks registered or pending** in Europe and in other countries. Further information will be found on the Internet at www.tdk-electronics.tdk.com/trademarks.

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