

MediPlas

Evaluation Kit

Ordering code: Z63000Z2910Z1Z99

Date: 2024-10-24

Version: 1



Note:

This product contains development samples which have prototype status only.
Cautions and warnings and Important notes must be observed.

Note: The product contains development samples which have prototype status only. Preliminary data. Cautions and warnings must be observed.

Intended use

The Evaluation Kit can be used to examine and optimize the behavior and integration parameters of MediPlas components. For this purpose, the kit can be integrated into test environments by specialist staff under suitable conditions and controlled manually or by computer.

Careful study of the operating instructions is a prerequisite for safe operation. The operating instructions and hazard warnings contained therein must be observed, and the appropriate safety measures taken.

Applications

- Exploring the MediPlas Driver and Reactor
- Process development with the MediPlas Driver and Reactor

Features

- Stand-alone operation of MediPlas with HMI
- Simple setting of all existing operating parameters
- Remote supervision via CAN or serial communication
- Integrated input gas measurement of flow, temperature, and humidity
- Independent gas supply by integrated pumps
- Customer specific gas input possible



Note: The product contains development samples which have prototype status only.
Preliminary data. Cautions and warnings must be observed.

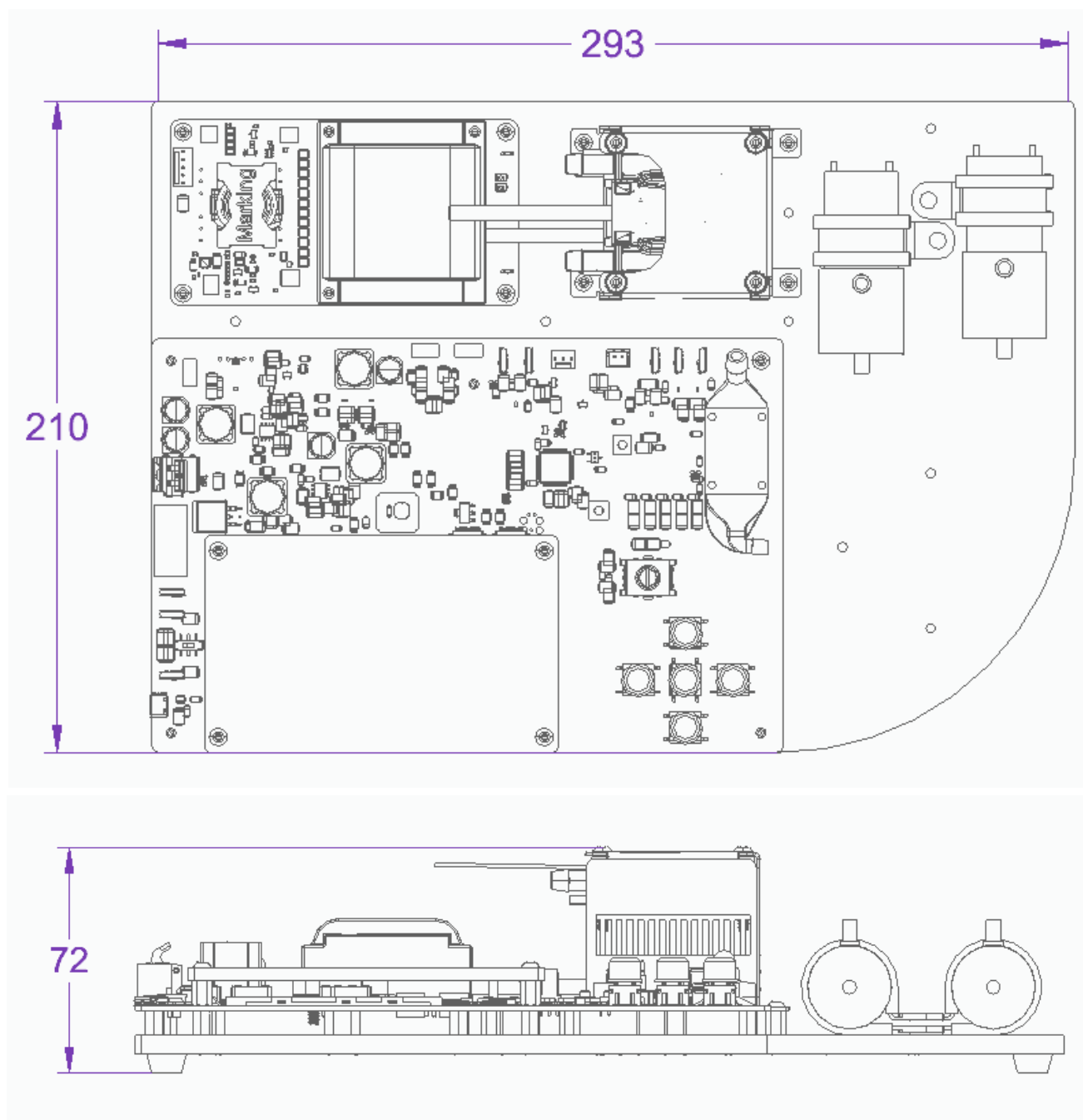
Technical data and specifications

Electrical data	
Supply voltage ¹⁾	24 V DC
Max. power consumption	max. 100 W
Execution	Desktop unit
Dimensions	
Weight	1160 g
Width	297 mm
Depth	210 mm
Height	64 mm
Display	3.5 inch
Gas supply	
Standard gas	Ambient air
Gases without pump	Synthetic air, dry compressed air
Air flow of the pumps	0.5 ... 5.5 L/min
Max. measurable gas flow	10 L/min
MediPlas gas inlet	Hose connection Ø 6 mm
MediPlas gas outlet	Hose connection Ø 6 mm
Maximum ozone concentrations of the plasma gas	
Synthetic air	3500 ppm
CDA	3000 ppm
Ambient air	2500 ppm
Operating conditions	
Humidity	< 80 % rel. (non-condensing)
Temperature	10 ... 40 °C; 50 ... 104 °F
Maximum operating height	3000 m
Storage conditions	
Humidity	< 80% rel. (non-condensing)
Temperature	0 ... 60 °C; 32 ... 140 °F

¹⁾ A supply voltage below 24.0 volts restricts the maximum supply voltage range of the MediPlas Driver.

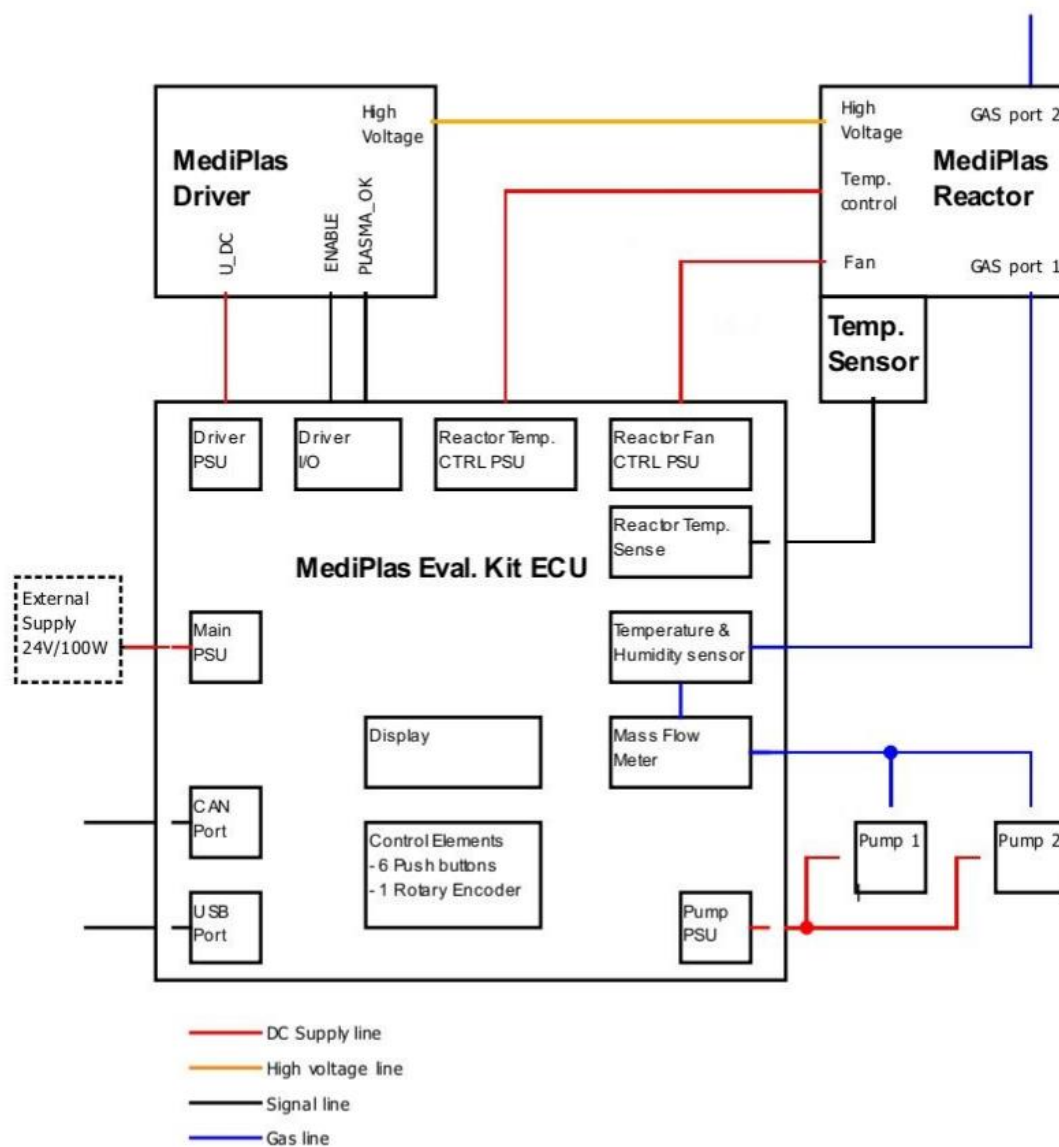
Note: The product contains development samples which have prototype status only.
Preliminary data. Cautions and warnings must be observed.

Dimensional drawings in mm



Note: The product contains development samples which have prototype status only.
Preliminary data. Cautions and warnings must be observed.

Block diagram




Note: The product contains development samples which have prototype status only. Preliminary data. Cautions and warnings must be observed.

Cautions and warnings


The components included in the MediPlas Evaluation Kit have been built according to the relevant international standards. However, as with any technical product, dangers can arise from the components if used improperly or not as intended.

In addition to the instructions in this operating manual, please also observe the generally applicable safety regulations.

■ Notes and obligations for the operator

	<p>WARNING!</p> <ul style="list-style-type: none"> ■ Interference emissions are to be expected in principle. The operator must check and ensure electromagnetic compatibility with other electrical and electronic devices in the immediate vicinity. ■ Make sure that <ul style="list-style-type: none"> – the operating personnel have read and understood these operating instructions. – people in the vicinity of the device must also be made aware of the dangers and provided with the necessary protective equipment. – maintenance work is only carried out by qualified personnel. ■ Instruct the operating personnel, in particular about the safety instructions explained in the operating manual <p>Always keep the device in a functional condition.</p>
---	--

■ Impermissible operating conditions

	<p>WARNING!</p> <p>Operation of the unit is <u>NOT</u> permitted under the following conditions:</p> <ul style="list-style-type: none"> ■ use in potentially explosive atmospheres (EX) ■ in case of insufficient ventilation/insufficient heat exchange ■ in case of condensing intake air ■ in case of heavy dust deposits ■ at altitudes above 3000 m above sea level.
---	---

The protective effect of the device may be impaired, if it is used in a manner not intended by the manufacturer.

Note: The product contains development samples which have prototype status only. Preliminary data. Cautions and warnings must be observed.

■ General



IMPORTANT!

No warranty or liability shall arise for the supplier out of and in connection with these products. The use shall be at the sole risk of the purchaser. The supplied products have prototype status only and may not be used in series products of the purchaser. Our products are subject to a continuous improvement process, which may lead to changes in product specifications. Therefore, we ask you to contact your sales channel or visit our TDK website to find out more about the current specification status of our products for your follow-up orders.



CAUTION! Danger

Please observe and follow the safety instructions and requirements in these operating instructions, as failure to do so can result in serious and possibly fatal injuries when handling the appliances.



CAUTION! Electric voltage

- Only use a suitable power supply unit with 24 V and at least 100 W rated power. Ensure the correct polarity when connecting to the evaluation kit.
- Danger due to mains voltage.
If damage is visible on the power supply unit:
 - Do not operate the device.
 - Have the damaged parts repaired by a specialist or replace them.
- Danger due to high voltage:
The MediPlas Reactor is connected to the DBD driver with a high voltage cable. If the cable is damaged, there is a risk of high voltage shock.



CAUTION! Emissions

Hazardous quantities of the reaction gas ozone (O_3) and other reactive species (e.g. NO_x , HNO_2 , HNO_3 and H_2O_2) may be produced during operation of the appliance.

- Ozone concentrations of more than 0.2 mg/m^3 may arise.
- Please note that national health and safety measures must be considered when using the device.
- Use the device only in conjunction with a suitable extraction system or filter.
- Do not leave the device running unattended.
- Ensure that all gas connections between the MediPlas Reactor and the process

Note: The product contains development samples which have prototype status only.
Preliminary data. Cautions and warnings must be observed.


CAUTION! Device for use in industrial environments

Due to the conducted and radiated disturbances (EMI) that occur, difficulties may arise in ensuring electromagnetic compatibility in other environments in connection with the components of the MediPlas Evaluation Kit.


CAUTION! Hot surface

The MediPlas Reactor, the components of the DBD driver and the diaphragm pumps can become hot during operation.

Do not touch them until they have cooled down and take care during work not to damage thermally sensitive surfaces.

The plasma gas receiver can also heat up during the plasma process, depending on the process parameters. If necessary, allow it to cool down before touching it.


CAUTION! Health hazard: pacemakers

The high-frequency electromagnetic fields generated by the DBD driver and used by the MediPlas Reactor can, under certain circumstances, interfere with the function of pacemakers. This can endanger the health of the pacemaker wearer.

This listing does not claim to be complete but merely reflects the experience of TDK.

Display of ordering codes for TDK Electronics products

The ordering code for one and the same product can be represented differently in data sheets, data books, other publications, on the company website, or in order-related documents such as shipping notes, order confirmations and product labels. **The varying representations of the ordering codes are due to different processes employed and do not affect the specifications of the respective products.** Detailed information can be found on the Internet at www.tdk-electronics.tdk.com/orderingcodes.

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.
2. We also point out that **in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified**. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.
3. **The warnings, cautions and product-specific notes must be observed.**
4. In order to satisfy certain technical requirements, **some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as hazardous)**. Useful information on this will be found in our Material Data Sheets on the Internet (www.tdk-electronics.tdk.com/material). Should you have any more detailed questions, please contact our sales offices.
5. We constantly strive to improve our products. Consequently, **the products described in this publication may change from time to time**. The same is true of the corresponding product specifications. Please check therefore to what extent product descriptions and specifications contained in this publication are still applicable before or when you place an order.

We also **reserve the right to discontinue production and delivery of products**. Consequently, we cannot guarantee that all products named in this publication will always be available. The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products.
6. Unless otherwise agreed in individual contracts, **all orders are subject to our General Terms and Conditions of Supply**.
7. **Our manufacturing sites serving the automotive business apply the IATF 16949 standard**. The IATF certifications confirm our compliance with requirements regarding the quality management system in the automotive industry. Referring to customer requirements and customer specific requirements ("CSR") TDK always has and will continue to have the policy of respecting individual agreements. Even if IATF 16949 may appear to support the acceptance of unilateral requirements, we hereby like to emphasize that **only requirements mutually agreed upon can and will be implemented in our Quality Management System**. For clarification purposes we like to point out that obligations from IATF 16949 shall only become legally binding if individually agreed upon.

Important notes

8. The trade names EPCOS, CarXield, CeraCharge, CeraDiode, CeraLink, CeraPad, CeraPlas, CSMP, CTVS, DeltaCap, DigiSiMic, FilterCap, FormFit, InsuGate, LeaXield, MediPlas, MiniBlue, MiniCell, MKD, MKK, ModCap, MotorCap, PCC, PhaseCap, PhaseCube, PhaseMod, PhiCap, PiezoBrush, PlasmaBrush, PowerHap, PQSine, PQvar, SIFERRIT, SIFI, SIKOREL, SilverCap, SIMDAD, SiMic, SIMID, SineFormer, SIOV, SurfIND, 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.

Release 2024-02