memmert

ICO

ADDITIONAL ACCESSORIES

CO_2 INCUBATOR ICO

MADE IN GERMANY.

www.memmert.com

Manufacturer and customer service

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Please contact our customer service department before sending appliances for repair or before returning equipment, or the shipment may be refused.

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About this handbook

You can order different additional accessories for the CO2incubator ICO for added functionality or customer and application-specific adaptations. The following pages provide an overview of the additional accessories available.

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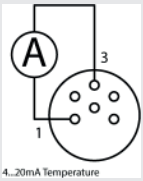
4 – 20 mA current loop interfaces (V3, V7, V9, V1)

With current loop interfaces, you can determine the instantaneous values within the appliance (temperature, humidity, CO_2, O_2) by measuring the current (mA) externally.

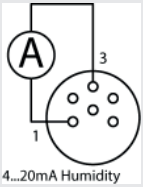
The five-pin connector for connection of an ammeter (display range 0 to 20 mA) is on the back of the appliance.

In case of a malfunction, 0 mA is displayed.

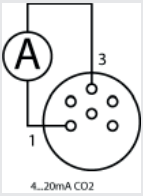
4 – 20 mA current loop interface for temperature (V3)

Pin assignment	Functional description	Other information
	Current loop interface 4 - 20 mA Range: 0 - + 70 °C; 4 mA: 0 °C; 12 mA: 35 °C; 20 mA: 70 °C	R resistance: Max. 2.5 V at 20 mA = 125 Ohm

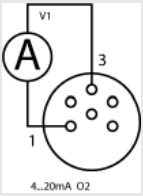
4 – 20 mA current loop interface for humidity (V7)

Pin assignment	Functional description	xxx
	Current loop interface 4 - 20 mA Range: 0 - 100 % rh; 4 mA: 0 % rh; 12 mA: 50 % rh; 20 mA: 100 % rh	R resistance: Max. 2.5 V at 20 mA = 125 Ohm

4 – 20 mA current loop interface for CO_2 (V9)

Pin assignment	Functional description	xxx
	Current loop interface 4 - 20 mA Range: 0 - 25 %; 4 mA: 0 %; 12 mA: 12.5 %; 20 mA: 25 %	R resistance: Max. 2.5 V at 20 mA = 125 Ohm

4 – 20 mA current loop interface for O_2 (V1)

Pin assignment	Functional description	xxx
	Current loop interface 4 - 20 mA Range: 0 - 25 % / 4 mA: 0 % / 12 mA: 12.5 % / 20 mA: 25 %	R resistance: Max. 2.5 V at 20 mA = 125 Ohm

Uninterruptible power supply (battery backup) (C2)

The uninterruptible power supply (UPS), a battery backup installed in the appliance control unit (see image on the right) provides the controller with power for about an hour in case of a power failure. When the controller is powered by the UPS, the CO_2 control remains active and all parameters are recorded as usual. The beginning and the end of the power failure are recorded in the log memory.

NOTICE

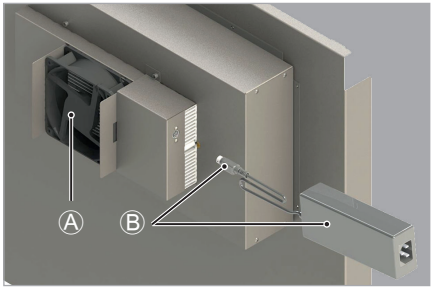
- The UPS does not provide the heating or humidity control with power. This may lead to condensation within the appliance.

When the controller is powered by the UPS, the ControlCOCKPIT is displayed with a yellow background. After the power supply is restored, the battery will recharge automatically.

To activate the UPS, press the button below the main switch (standby, see image on the right). If the UPS is activated, the button is illuminated. The UPS will only provide the appliance with power in case of a power failure if it is activated. To switch off the appliance, you have to deactivate the UPS first (by keeping the illuminated button pressed) and then press the main switch.

To test that the UPS is working, disconnect the mains plug while the system is running with the UPS activated to simulate a power failure.

Peltier cooling unit (housing cooling) for operation at high ambient temperature (K5)



To make it possible to operate the system at temperatures of up to 2 K above room temperature, the ICO's air jacket needs to be cooled (example: 37 °C interior temperature at 35 °C ambient temperature). For this purpose, a housing cooling (Peltier cooling unit) A) can be installed on the back of the appliance. The housing cooling can be used up to an ambient temperature of 35 °C,

To activate the housing cooling, plug the power supply unit included in at the back of the appliance B. The cooling function switches on immediately (fan is running) and regulates itself. You can attach the power supply unit to the appliance using the Velcro fastener provided.

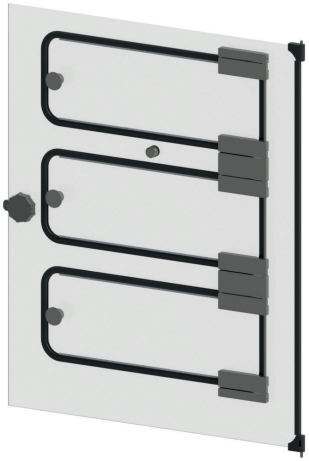
Follow the instructions given in the service manual for retrofitting.

Inner glass door with glass window door sections (K4)

The ICO incubator can be equipped with inner glass doors that have door sections, which can be opened individually. This allows you to avoid opening the whole inner glass door to access part of the interior. The whole surface of both the door and the sections is heated.

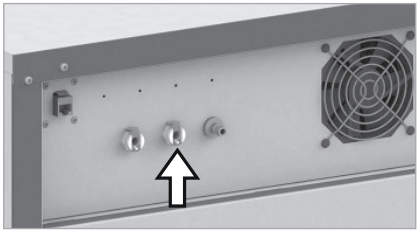
Follow the installation instructions given in the service manual for retrofitting.

Versions	
Appliance size (l)	**Inner glass door version**
50	–
105	two partitions, sections 460 x 170 mm
150	three partitions, sections 460 x 170 mm
240	four partitions, sections 500 x 150 mm

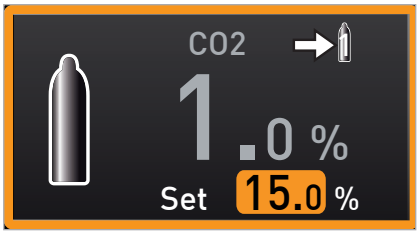


Automatic switch-over of gas bottles (T1)

The automatic switch-over of gas bottles ensures uninterrupted CO_2 supply to the appliance, even when a gas bottle is empty. The gas supply to the appliance is then automatically switched over to the second gas bottle. To facilitate this, the appliance has an additional CO_2 connection on the back of the appliance

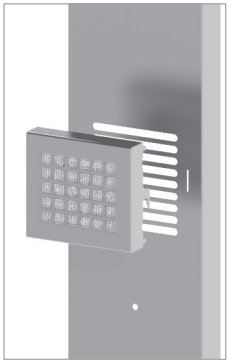


The number 1 or 2 shown on the CO_2 display of the ControlCOCKPIT indicates which gas bottle is currently active. When you switch the appliance on, CO2 IN1 is always used first.



Hepa interior filter (item No. B49935)

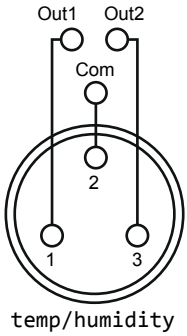
The Hepa interior filter (disposable filter) meets the requirements of filter class E14 according to DIN EN 1822 and is installed in the fan box inside the appliance. The filter and housing are sterilised and sterile packed. The filter is suitable for use at temperatures up to 50 °C and has to be removed from the appliance for sterilisation.



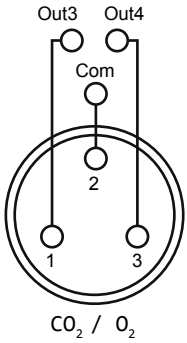
MobileAlertBox (Option C4)

A MobileAlertBox can be used to send an individual error message in the form of a text to a mobile phone. For this purpose and for each parameter, the appliance features a separate potential-free switching output, which triggers the MobileAlertBox. The maximum rating associated with the switching outputs for MobileAlert is 24 V/500 mA.

There is a switching contact for temperature, humidity, CO_2, and O_2 (O_2 only for appliances featuring O_2 control):



- The 'Out 1' switching contact for text messaging sends a text message for the following errors:
  - Maximum value set for temperature exceeded
  - Minimum value set for temperature not reached
  - Automatic ASF tolerance band left
  - Mechanical temperature limiter (TL) has tripped
  - PT100 temperature sensor defective
- The 'Out 2' switching contact for text messaging sends a text message for the following errors:
  - Maximum value set for humidity exceeded
  - Minimum value set for humidity not reached
  - Humidity sensor defective



- The 'Out 3' switching contact for text messaging sends a text message for the following errors:
  - Maximum value set for CO_2 exceeded
  - Minimum value set for CO_2 not reached
  - CO_2 sensor defective
- The 'Out 4' switching contact for text messaging sends a text message for the following errors (only for appliances featuring O_2 control):
  - Maximum value set for O_2 exceeded
  - Minimum value set for O_2 not reached
  - O_2 sensor defective

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English

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