

MI_2072: I/O PCB A10 - removal and installation



iVario 2-XS / iVario Pro 2-S



30 min.



Standard



05/08/2026

General information

This section describes the retrofitting for unit sizes 2-XS and 2-S. The retrofitting for unit sizes L and XL can be found in the next section.

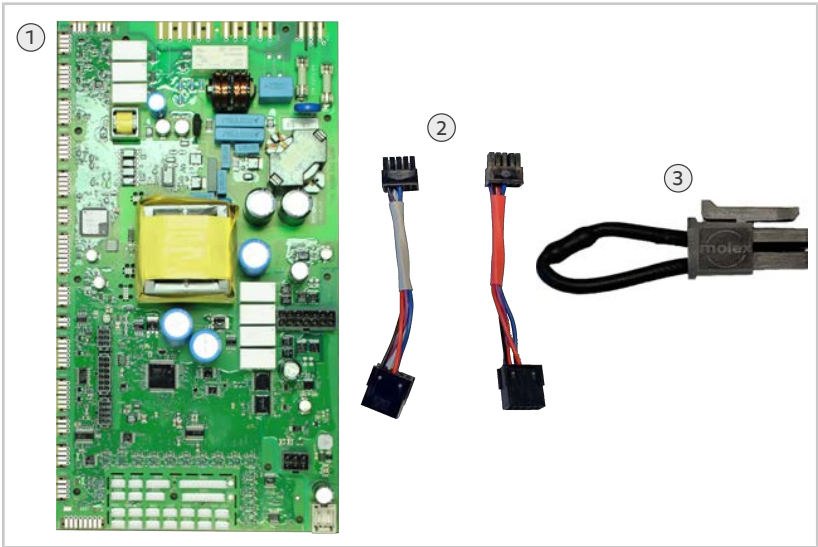
NOTICE

Damage from electrostatic discharge

If you touch the I/O board A10 at the edge of the board on the connections, damage can result from electrostatic discharge.

- Only touch the I/O board A10 on the yellow transformer.
- Wear appropriate protective clothing to avoid charges.

Required components
Kit 87.01.860S



The kit consists of the following components:

No .	Component	Article number
1	I/O PCB A10	42.00.311P
2	Adapter cable X-M2 / X-M6 *	40.07.476
3	Terminating resistor	40.06.252P

* The adapter cable 40.07.476 is only required for unit sizes 2-XS and 2-S if they were produced before 01.04.2022.

Opening the control panel

DANGER

High voltage when connecting to the mains power

Danger to life when working with high voltage.

- Disconnect from the power supply.
- Secure against unintentional switching on.
- Make sure the unit is disconnected from the power.

CAUTION

Sharp edges on the housing

Risk of cuts on the housing when working in the electrical compartment.

- Wear protective gloves.

WARNING

The unit is falling from the installation surface

Risk of crushing and injury from tipping or turning of the unit.

- Do not tip the unit onto the installation surface.
- When turning the unit, make sure that the weight of the unit is evenly distributed and that the unit is completely on the installation surface.

NOTICE

Incorrect objects for opening the control panel

The housing and seal can be damaged by pointed or sharp objects.

- Do not use any sharp or pointy objects to press the control panel upwards.

NOTICE

Damage to the cable trunk and the control panel when removing the control panel

The control panel is connected to the installation compartment by a cable trunk.

- Remove the control panel carefully in order not to damage the cable trunk.
- Put down the control panel carefully and protect it against scratching.

- ✓ The unit is disconnected from the power.
- 1. Open the cover on the console panel and remove the 2 screws (1).
- 2. Place some protection on the pan lid to protect the control panel against scratching and damage, e.g. a cardboard box or bubble wrap (2).
- 3. Remove the control panel.



>> The control panel is open.

Removing the I/O PCB A10

NOTICE

Completely remove Ramoco PCB A13

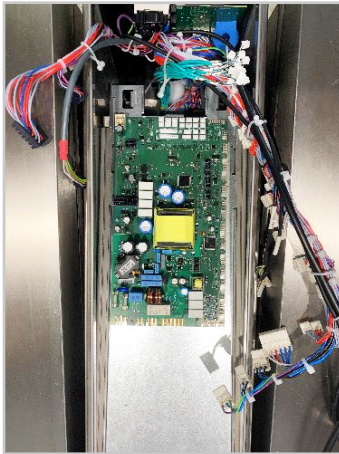
With iVario units built from 10/2021, the **I/O PCB A10** may be connected to a **Ramoco PCB A13**

In this case, you must remove both PCBs completely.

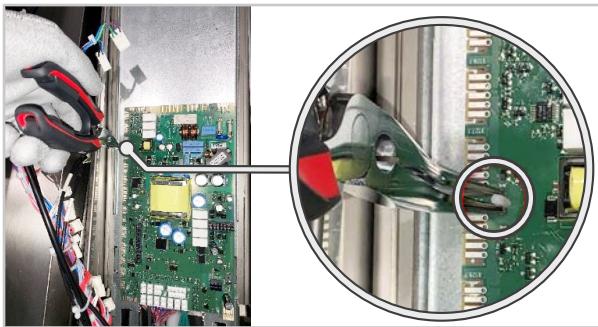
A new generation of the **I/O PCB A10** is installed to replace the two old PCBs.

- Follow the steps outlined below.

- ✓ The I/O PCB A10 is readily accessible.
1. Unplug all cables connected to the I/O PCB A10 (power supply, bus, temperature sensor, etc.)



2. Unclip the I/O PCB A10 from all PCB retaining clips.

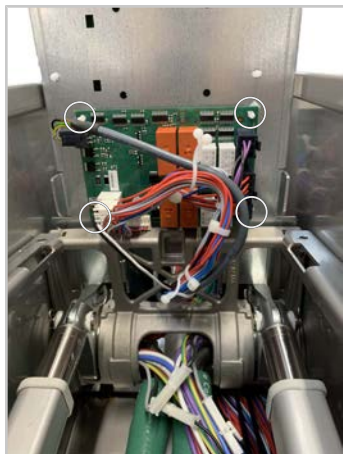


>> The I/O PCB A10 has been removed.

Removing Ramoco PCB A13 – for units from 10/2021

✓ The following steps only apply to units with an installed Ramoco PCB A13.

1. Unclip the Ramoco PCB A13 from all PCB retaining clips.



2. Remove all connected cables from the Ramoco PCB A13.

>> The Ramoco PCB A13 has been removed.

>> Install an up-to-date generation of the I/O PCB A10 as a replacement for the two removed PCBs.

Installing the I/O PCB A10

✓ The current generation of the I/O PCB A10 is available.

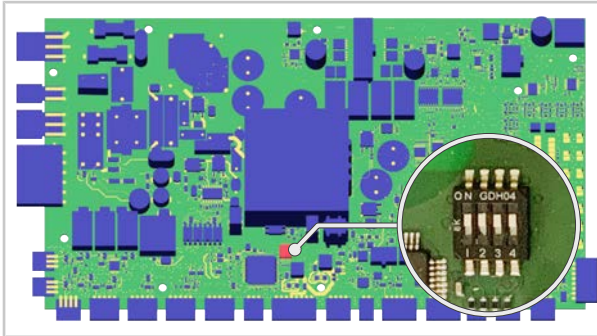
1. Check the position of the dip switch.

NOTICE

Position of the dip switch

The position of the switch depends on the unit size and the voltage supply.

- Make sure that the dip switch on the I/O PCB A10 is set correctly.



Voltage supply			2-XS	2-S
3N AC 400 V 3N AC 415 V	3 AC 200 V (Japan)	3 ph 240 V (UL) 3 ph 440 V (UL) 3 ph 480 V (UL)		
	3 AC 220 V			
	3 AC 230 V			
	3 AC 240 V			
	3 AC 380 V			
	3 AC 400 V			
	3 AC 415 V			
	3 AC 440 V			
	3 AC 480 V			
---	---	3 ph 208 V (UL)		

2. Clip the new I/O PCB A10 onto the PCB holder.
 3. Reconnect all connectors to the I/O PCB A10.
 - > Once you have removed the Ramoco PCB A13, the bus cable at position **X137** is no longer in use.
 4. Connect the supplied terminating resistor 40.06.252P to the position **X137**.
 5. Reconnect the plugs **X138**, **X139**, **X140**, **X141** and **X142** (for pressure units) directly to the I/O PCB A10.
- >> The dip switch is set correctly and the PCB is installed.

NOTICE

Check necessity of adapter cable

For units produced before 01.04.2022, check whether adapter cable 40.07.476 is required.

The test is described below.

- Reinstall the adapter cable if necessary.

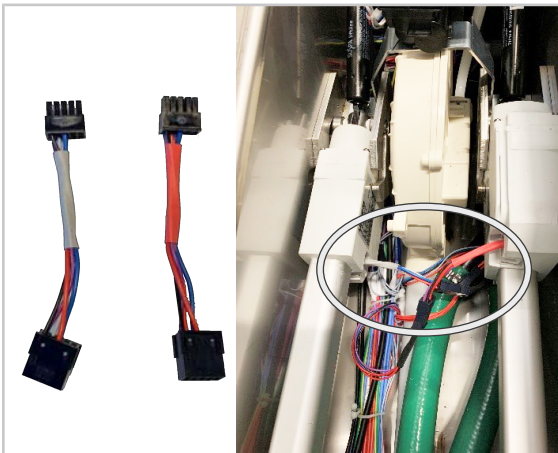
Check unit movements

Check if adapter cable is required.

1. Touch the button to raise the pan or the lid.
 - > The pan or the lid is raised.
 - >> If the pan or the lid lifts, no adapter cable is required. You can skip the following chapter and continue with the "Closing the electrical compartment" chapter.
 - >> If the pan or the lid lowers, install the adapter cable. See next chapter.

Installing the adapter cable

- ✓ The unit was produced before 01.04.2022.
- ✓ The unit has the software version LMX 2.3.15 or higher.
If the unit does not have the required software version, a software update must first be carried out.
- 1. Connect the 2 cables in series with the power supply cable of the pan and lid tilt motors.
 - The cable with grey shrink hose is for the left motor.
 - The cable with red shrink hose is for the right motor.



>> The adapter cable is installed.

Close the electrical compartment

1. Proceed in reverse order to the step *Opening the electrical compartment*.
- >> The electrical compartment is closed.

Performing the allocation

- ✓ The unit is connected to the mains.
 - ✓ The unit is switched on.
1. Perform an allocation via the service level, in order to assign the thermocouples to the correct heating elements.



>> The allocation is complete.

MI_2072: I/O PCB A10 - removal and installation



iVario Pro L / iVario Pro XL



30 min.



Standard



05/08/2026

General information

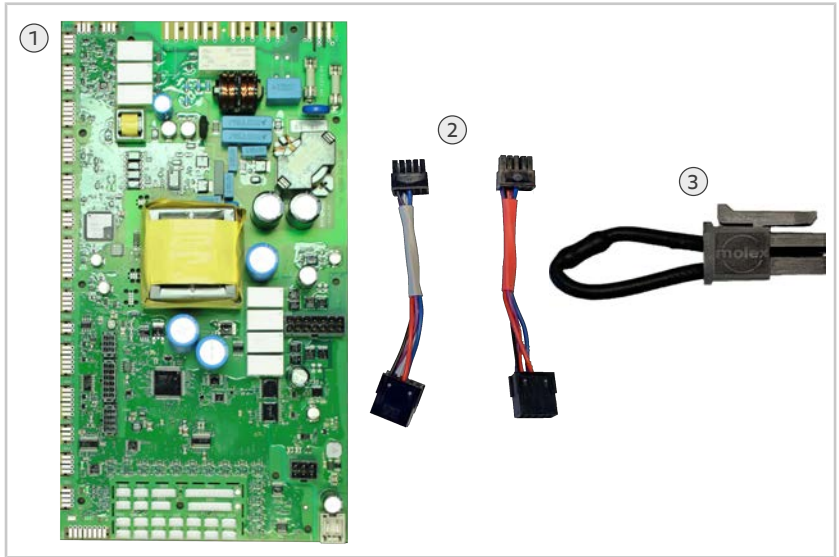
This section describes the retrofitting for unit sizes L and XL. The retrofitting for unit sizes 2-XS and 2-S can be found in the previous section.

NOTICE

Damage from electrostatic discharge

If you touch the I/O board A10 at the edge of the board on the connections, damage can result from electrostatic discharge.

- Only touch the I/O board A10 on the yellow transformer.
- Wear appropriate protective clothing to avoid charges.

Required components**Kit 87.01.860S**

The kit consists of the following components:

No.	Component	Article number
1	I/O PCB A10	42.00.311P
2	Adapter cable X-M2 / X-M6 *	40.07.476
3	Terminating resistor	40.06.252P

* The adapter cable 40.07.476 is only required for unit sizes 2-XS and 2-S if they were produced before 01.04.2022.

Open the electrical compartment

DANGER

High voltage when connecting to the mains power

Danger to life when working with high voltage.

- Disconnect from the power supply.
- Secure against unintentional switching on.
- Make sure the unit is disconnected from the power.

CAUTION

Water damage

If water leaks, the unit can be damaged.

- Turn off the water supply to the unit.
- Use the hand shower to check if the water supply has been turned off.

CAUTION

Sharp edges on the housing

Risk of cuts on the housing when working in the electrical compartment.

- Wear protective gloves.

NOTICE

Incorrect objects for opening the control panel

The housing and seal can be damaged by pointed or sharp objects.

- Do not use any sharp or pointy objects to press the control panel upwards.

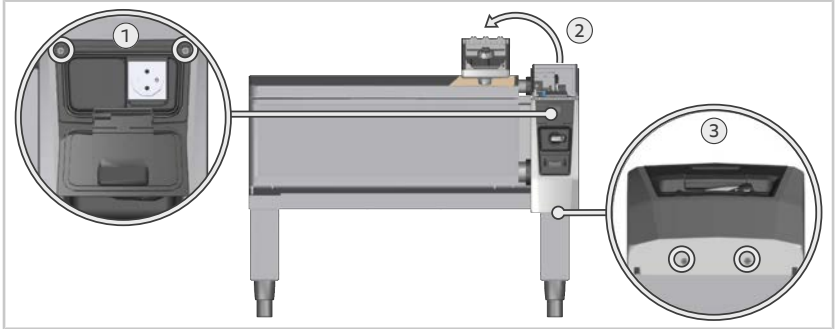
NOTICE

Damage to the cable trunk and the control panel when removing the control panel

The control panel is connected to the installation compartment by a cable trunk.

- Remove the control panel carefully in order not to damage the cable trunk.
- Put down the control panel carefully and protect it against scratching.

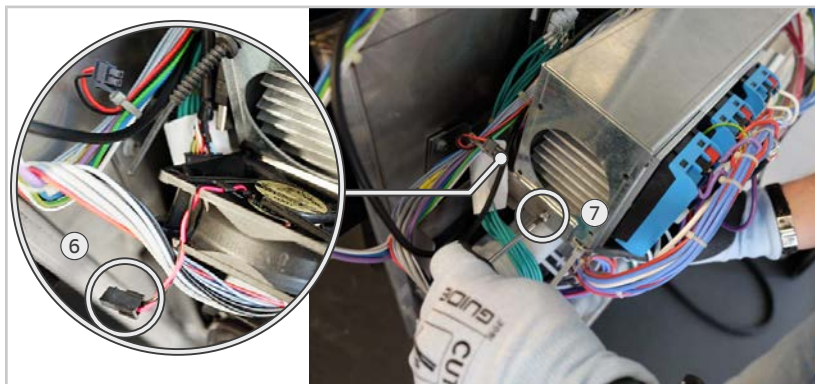
- ✓ The unit is disconnected from the power.
- 1. Open the flap of the console panel and remove the 2 screws (1).
- 2. Place some protection on the pan lid to protect the control panel against scratching and damage, e.g. a cardboard box or bubble wrap (2).
- 3. Remove the control panel.
- 4. Remove the 2 screws on the bottom of the unit (3).



- 5. Unroll the hand shower hose and secure it before rolling it up.
- 6. Remove the hand shower (4).
- 7. Pull the console panel forward, so that you can remove the side panel.
- 8. Remove the side panel (5).



9. Unplug the plug of the cooling fan (6).
10. If necessary, remove the cooling fan to gain better access to the screw (7).
11. Remove the screw (7) on the metal bracket for the SSRs, in order to open the metal bracket to the side.



>> The electrical compartment is open.

Removing the I/O PCB A10

NOTICE

Completely remove Ramoco PCB A13

With iVario units built from 10/2021, the **I/O PCB A10** may be connected to a **Ramoco PCB A13**

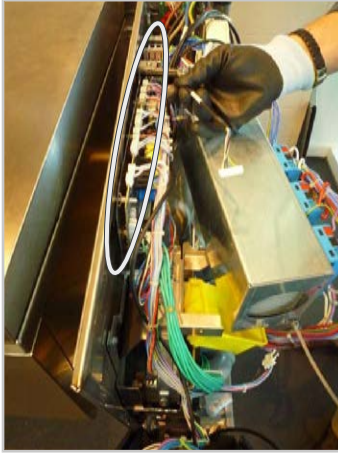
In this case, you must remove both PCBs completely.

A new generation of the **I/O PCB A10** is installed to replace the two old PCBs.

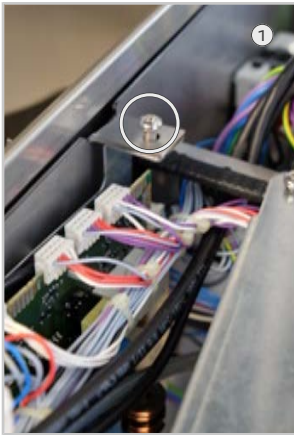
- Follow the steps outlined below.

- ✓ The I/O PCB A10 is readily accessible.

1. Unplug all cables connected to the I/O PCB A10 (power supply, bus, temperature sensor, etc.)

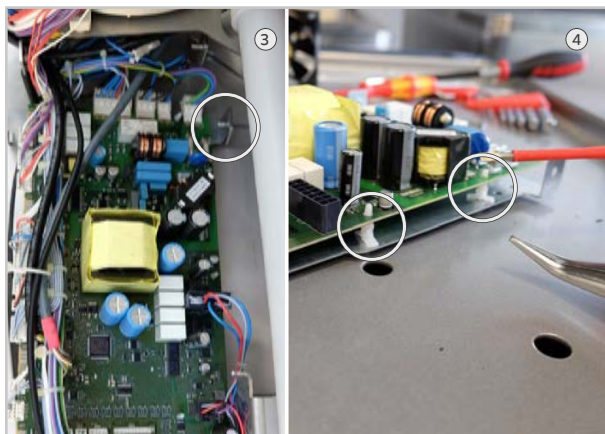


2. Remove the screw on the top of the PCB holder (1).
3. Remove the nuts from the PCB holder on the side of the PCB (2).



4. Now hook the PCB holder together with the PCB out of the pin on the underside of the PCB (3).

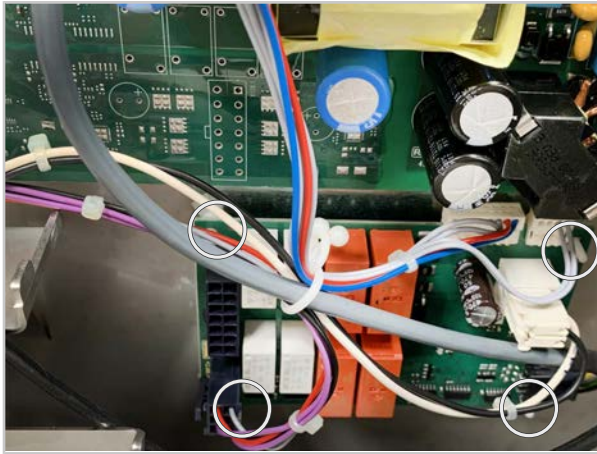
5. Unclip the I/O PCB A10 from all PCB retaining clips (4).



Removing Ramoco PCB A13 – for units from 10/2021

✓ The following steps only apply to units with an installed Ramoco PCB A13.

1. Unclip the Ramoco PCB A13 from all PCB retaining clips.



2. Remove all connected cables from the Ramoco PCB A13.

>> The Ramoco PCB A13 has been removed.

>> Install an up-to-date generation of the I/O PCB A10 as a replacement for the two removed PCBs.

Installing the I/O PCB A10

- ✓ The current generation of the I/O PCB A10 is available.

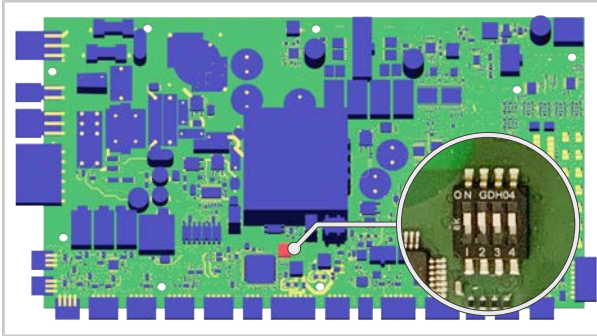
1. Check the position of the dip switch.

NOTICE

Position of the dip switch

The position of the switch depends on the unit size and the voltage supply.

- Make sure that the dip switch on the I/O PCB A10 is set correctly.



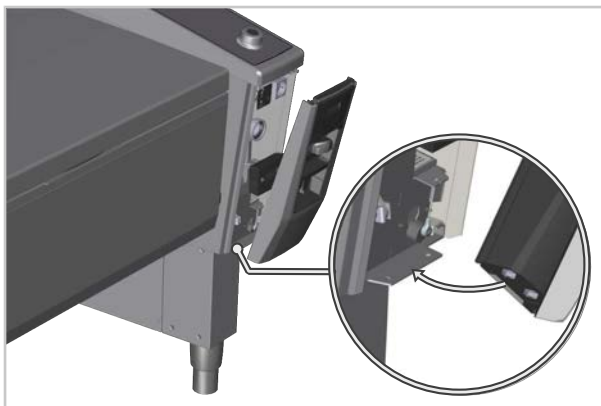
Voltage supply			L	XL
3N AC 400 V* 3N AC 415 V	3 AC 200 V (Japan)	3 ph 240 V (UL)		
	3 AC 220 V 3 AC 230 V 3 AC 380 V 3 AC 400 V 3 AC 415 V 3 AC 440 V 3 AC 480 V	3 ph 440 V (UL) 3 ph 480 V (UL)		
3N AC 400 V (Balanced Power)*	3 AC 240 V	3 ph 240 V (UL)		

*Note that the switch position changes with the **Balanced Power** option. The option is only available for voltage type 3N AC 400 V.

2. Clip the new I/O PCB A10 onto the PCB holder.
 3. Reconnect all connectors to the I/O PCB A10.
 - > Once you have removed the Ramoco PCB A13, the bus cable at position **X137** is no longer in use.
 4. Connect the supplied terminating resistor (40.06.252P) to position **X137**.
 5. Reconnect the plugs **X138**, **X139**, **X140**, **X141** and **X142** (for pressure units) directly to the I/O PCB A10.
- >> The dip switch is set correctly and the PCB is installed.

Close the electrical compartment

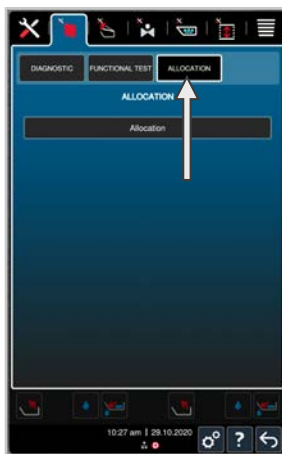
1. Proceed in reverse order to the step *Opening the electrical compartment*.
2. Make sure that the console panel is pushed back onto the metal protrusion at the bottom of the screw connection.



>> The electrical compartment is closed.

Performing the allocation

- ✓ The unit is connected to the mains.
 - ✓ The unit is switched on.
1. Perform an allocation via the service level, in order to assign the thermocouples to the correct heating elements.



>> The allocation is complete.