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Installation Instructions
High temperature TOC analyzer CA72TOC

Gas supply and MV gas connection

Endress+Hauser
People for Process Automation

Table of contents

1 Overview

1.1 Spare parts kits

These installation instructions apply to the following spare parts kits:

Order code	Designation	Page
71101542	CA72TOC gas supply I	→ 🖹 5
71440885	CA72TOC gas supply III	→ 🖹 5
71414586	CA72TOC MV gas connection	→ 🖹 6

2 Intended use

- The parts of the kits are to be used exclusively as spare parts for the CA72TOC analyzers . Any other use is not permitted!
- Only use original parts from Endress+Hauser.
- In the Device Viewer, check if the spare part is suitable for the device in question.

3 Personnel authorized to carry out conversion

- Installation, commissioning, operation and maintenance of the measuring system may be carried out only by specially trained technical personnel.
- The technical personnel must be authorized by the plant operator to perform the stated tasks.
- The electrical connection may only be established by an electrical technician.
- The technical personnel must have read and understood these Installation Instructions and must follow the instructions they contain.
- Measuring point faults may be repaired only by authorized and specially trained personnel.
- In the case of Ex-certified devices, the technical staff must also be trained in explosion protection.

Repairs not described in the Operating Instructions provided must only be carried out directly at the manufacturer's site or by the service organization.

4 Safety instructions

⚠ WARNING

Risk of death due to electric shock!

- ▶ Perform work on the device with the utmost caution, especially when the device remains fully or partially powered on during maintenance tasks.
- ▶ Follow the instructions in the relevant chapters of this manual, as the procedure for electrical safety depends on the service kits used.
- ▶ All work must be carried out according to applicable safety standards.
- ▶ Note the instructions in the Operating Instructions for the analyzer.

⚠ WARNING

Risk of burns!

- ▶ Contact with hot components in the vicinity of the combustion furnace may cause injuries. Where necessary, wear heat-resistant gloves.

⚠ CAUTION

Risk to health due to contact with reagents, chemicals or process solutions!

- ▶ Wear protective gloves, protective goggles and protective clothing.
- ▶ Immediately rinse splashes with plenty of water and a 1% sodium bicarbonate solution ($NaHCO_3$, baking soda).
- ▶ In case of eye contact, rinse the affected area with plenty of water and then seek medical advice. Show the relevant safety data sheet to the physician.
- ▶ Note the nationally applicable workplace safety regulations for the work area when handling toxic or corrosive chemicals.

Potential impact on the process

Before decommissioning an active device, the potential impact on the overall process must be taken into account! This applies in particular when using the switching contacts, the analog signal outputs or the communication interface of the associated measuring instrument to control process variables. Coordinate service tasks with the operator!

The following must never be used for cleaning:

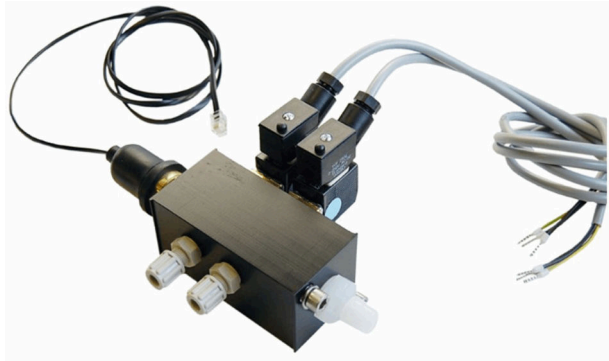
- Concentrated mineral acids or bases
- Benzyl alcohol
- Methylene chloride
- High-pressure steam

5 Scope of delivery

5.1 71101542 Kit CA72TOC gas supply I

The kit contains the following parts → 1, 5:

1 x	Gas supply block type I	1 x	Kit instructions



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1 CA72TOC gas supply I

5.2 71440885 Kit CA72TOC gas supply III

The kit contains the following parts → 2, 6:

1 x	Gas supply block type III	1 x	Kit instructions
2 x	Retaining rings		

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2 CA72TOC gas supply III

5.3 71414586 Kit CA72TOC MV gas connection

The kit contains the following parts → 3, 6:

1 x	Solenoid valve fl. 6011, 2/2, 230 VAC	1 x	Kit instructions
1 x	Cable with plug for solenoid valve		

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3 CA72TOC MV gas connection

6 Replacing the components

6.1 Preparation

WARNING

Risk of death due to electric shock!

▶ **First switch off the main switch!**

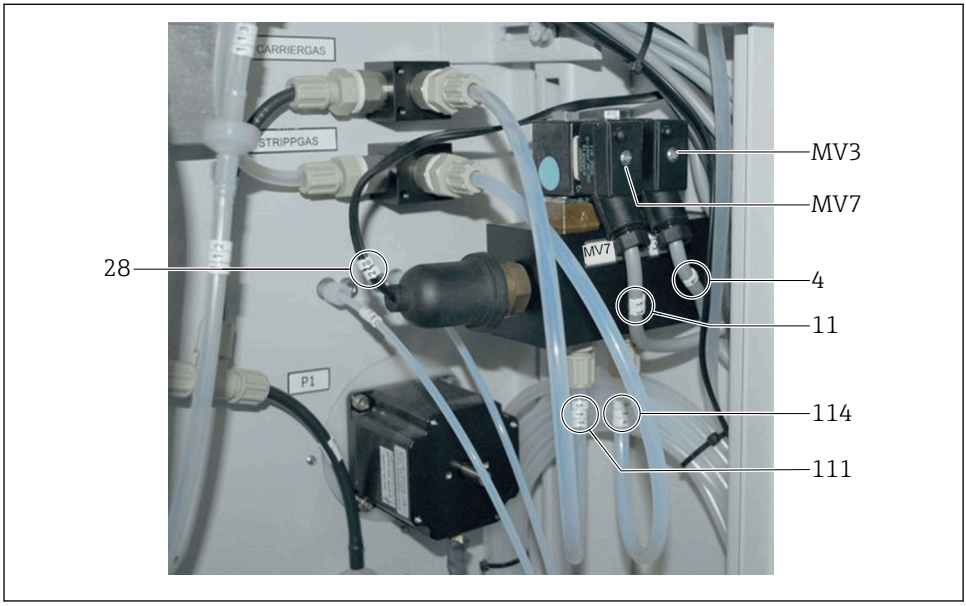
Before removing the gas connection block, make sure that the compressed air supply and oxygen supply have been shut down.

1. End the ongoing analysis and shut down the device.
2. Switch off the main switch of the device.
3. Disconnect the device from the power supply by unplugging the mains plug. Ensure that the analyzer remains disconnected from the power supply during repair and replacement work.
4. Open the rear door of the measuring system. Use the special key supplied for this purpose.
5. Disconnect the gas supply hose from the connection on the outside of the housing.

6.2 Replacing the type I gas supply

Gas supply type I is used for older CA72TOC units to SNR **KC**000A05S00 = Devices with L1 modules.

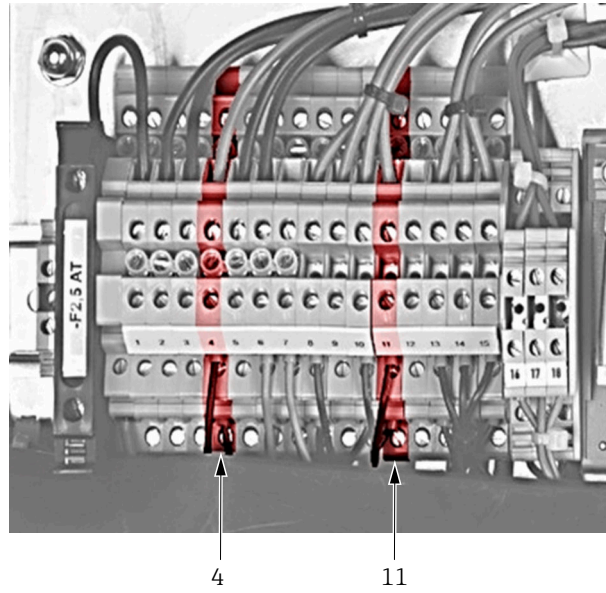
1. Carry out preparatory work as per section 6.1 → 7.
2. Disconnect cable no. **28** from the pressure switch of the gas supply block on the I/O module.
3. If necessary, disconnect cable no. **4** from **MV3** and cable no. **11** from **MV7**.
4. Disconnect hose numbers **111** and **114** from the gas supply block → 4, 8.



4 *Gas supply block type I*

MV3 Cable no. 4, hose no. 114 (Stripping gas)
MV7 Cable no. 11, hose no. 111 (Carrier gas)

5. Holding the gas supply block securely, release the two fixing screws on the outside.
6. Remove the gas supply block from the housing.
7. **Electronics compartment:** If necessary, remove cable numbers **4** (**MV3**) and **11** (**MV7**) from the mains distribution → 5, 9.



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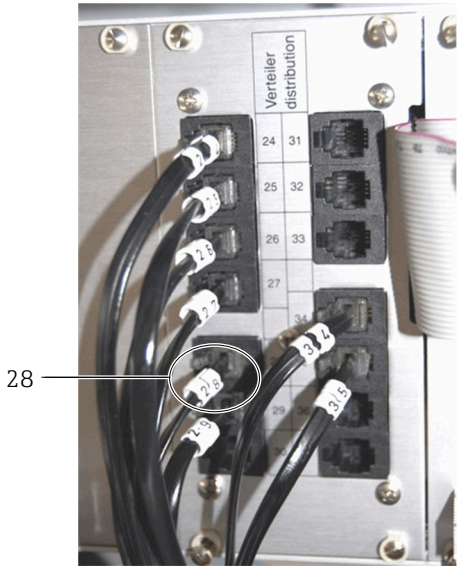
5 Mains distributor

8. **Electronics compartment:** Disconnect the pressure measuring cell cable (cable no. **28**) from the I/O module (connection **28**, → 6, 10).



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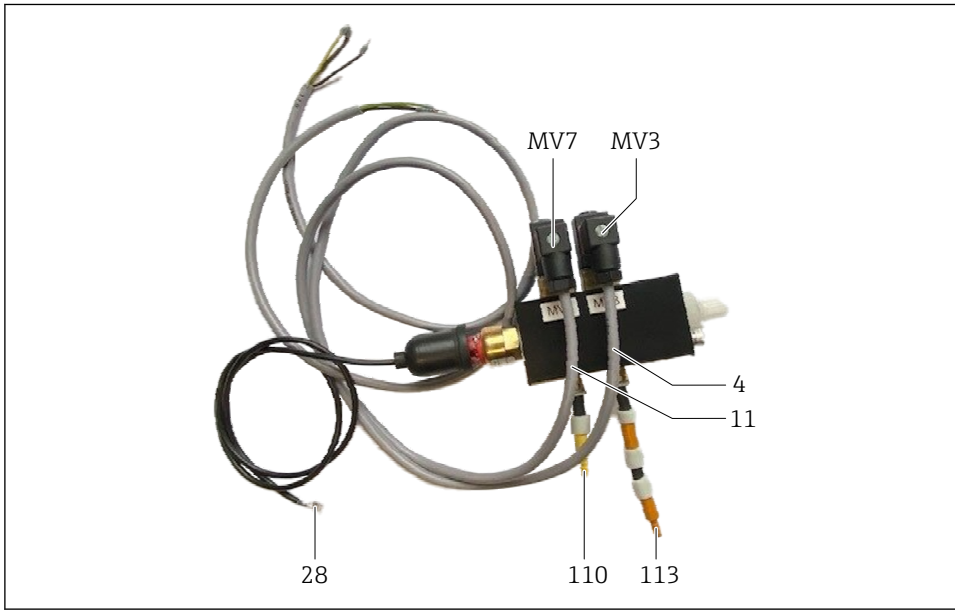
6 I/O module L1

9. Remove all unplugged old cables from the housing.
10. Install the new gas supply and secure it to the external wall.
11. Route all three cables of the new gas supply through the sealing lip and into the electronics compartment.
12. Label the cable of the pressure measuring cell with the number **28**, the **MV3** cable with the number **4** and the **MV7** cable with the number **11**.
13. Insert the cable of the pressure measuring cell into the I/O module at connection **28**.
14. Connect the wires of the following cables to the terminal strip: cable no. **4** to column **4**, cable no. **11** to column **11**→ 5, 9.
15. Connect hose no. **114** to the stripping gas supply (**MV3**) and hose no. **111** to the carrier gas supply (**MV7**).
16. Put the analyzer back into operation → 15.

6.3 Replacing the type III gas supply

Gas supply block type III is used for newer CA72TOC units from SNR **L1**000A05S00 = Devices with M1 modules.

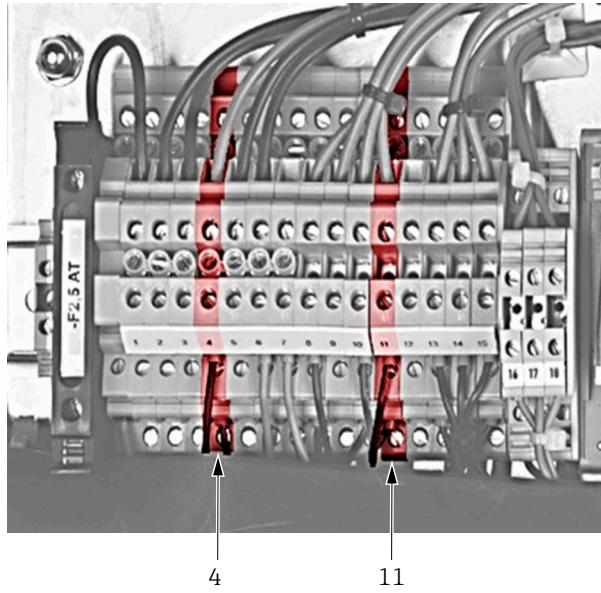
1. Carry out preparatory work as per section 6.1 → 📄 7.
2. If necessary, disconnect cable no. **28** from the pressure switch of the gas supply block.
3. If necessary, disconnect cable no. **4** from **MV3** and cable no. **11** from **MV7**.
4. Disconnect hose numbers **110** and **113** from the gas supply block → 🖼 7, 📄 11.



🖼 7 *Gas supply block type III*

MV3 Cable no. 4, hose no. 113 (Stripping gas)
MV7 Cable no. 11, hose no. 110 (Carrier gas)

5. Holding the gas supply block securely, release the two fixing screws on the outside.
6. Remove the gas supply block from the housing.
7. **Electronics compartment:** If necessary, remove cable numbers **4** (**MV3**) and **11** (**MV7**) from the mains distribution → 🖼 8, 📄 12.



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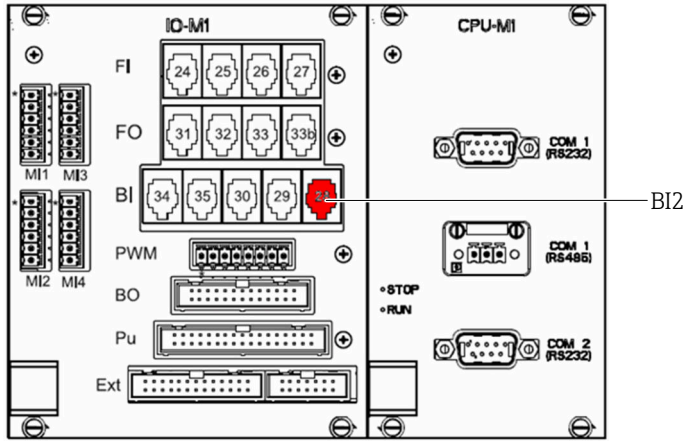
8 *Mains distributor*

8. **Electronics compartment:** Disconnect the pressure measuring cell cable (cable no. **28**) from the I/O module (connection **BI28**, → 9, 12).



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9 *I/O module M1*

9. Remove all unplugged old cables from the housing.
10. Install the new gas supply and secure it to the external wall.
11. Route all three cables of the new gas supply through the sealing lip and into the electronics compartment.
12. Label the cable of the pressure measuring cell with the number **28**, the **MV3** cable with the number **4** and the **MV7** cable with the number **11**.
13. Insert the cable of the pressure measuring cell into the I/O module at connection **BI28**.
14. Connect the wires of the following cables to the terminal strip: cable no. **4** to column **4**, cable no. **11** to column **11**→ 🖼 8, 🖹 12.
15. Pull the retaining rings over hoses no. **110** and **113**.
16. Connect hose no. **113** to the stripping gas connection (**MV3**) and hose no. **110** to the carrier gas connection (**MV7**).
17. Pull the retaining rings over the connectors for reinforcement → 🖼 10, 🖹 13.

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🖼 *10 Retaining rings*

18. If not already connected, connect cable no. **28** to the pressure measuring cell.
19. Put the analyzer back into operation → 🖹 15.

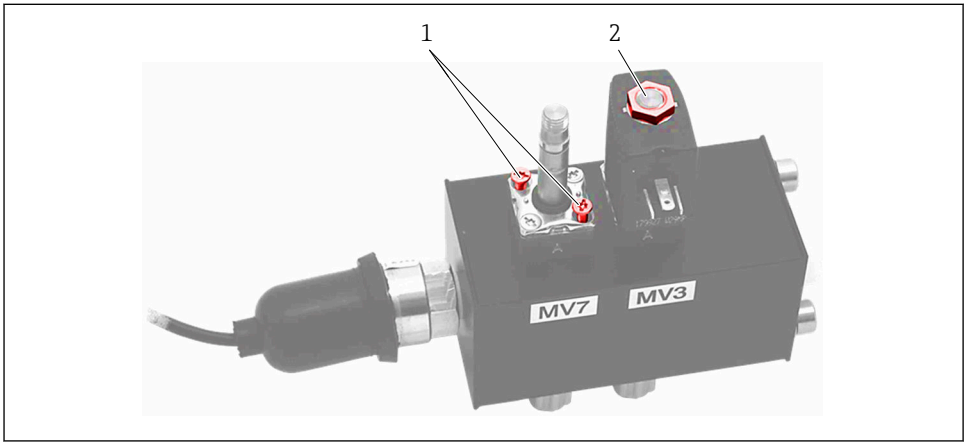
6.4 Replacing a gas supply solenoid valve

Removing the old solenoid valve:

1. Carry out preparatory work as per section 6.1 → 🖹 7.
2. Release the securing nut at the head of the solenoid valve (**MV3** or **MV7**, → 🖸 11, 🖹 14, item 2) in question and pull off the coil.
3. Remove the valve body by loosening the screws at the top left and bottom right, → 🖸 11, 🖹 14, item 1.

Replacing the relevant cable:

1. Remove the cable of the solenoid valve to be replaced and insert the new cable supplied.
2. Label the new cable:
   ↳ If replacing solenoid valve **MV3**, label with no. **4**.
   If replacing solenoid valve **MV7**, label with no. **11**.
3. Connect the wires of the cable to the mains distributor (→ 🖸 5, 🖹 9 or → 🖸 8, 🖹 12):
   ↳ Wires of cable no. **4** to column **4** or
   wires of cable no. **11** to column **11**.



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🖸 11 *Removing the solenoid valve*

Installing the new solenoid valve:

1. Prepare the new solenoid valve by taking off the coil and removing the red cap from the valve body.
2. Check the contact surfaces of the valve and the gas block for contamination and clean the surfaces if necessary.
3. Install the new solenoid valve: To do this, insert the diagonal screws (top left, bottom right), fit the coil and secure it using the fixing nut.

4. Connect the plug of cable no. **4** to **MV3** or of cable no. **11** to **MV7**.
5. Put the analyzer back into operation → 15.

7 Recommissioning

1. Restore the supply of all media.
2. Switch on the analyzer at the main switch.
3. Check the seal of the liquid section as described in the Operating Instructions.
4. Check the seal of the gas section as described in the Operating Instructions.
5. Restart the analyzer as described in the Operating Instructions.
6. Close all doors of the analyzer.

8 Additional documentation

Detailed information on the devices can be found in the Operating Instructions for the analyzer and in the other documentation, available at:
- www.endress.com/device-viewer
- Smartphone/tablet: Endress+Hauser Operations app

9 Disposal

If required by the Directive 2012/19/EU on waste electrical and electronic equipment (WEEE), the product is marked with the depicted symbol in order to minimize the disposal of WEEE as unsorted municipal waste. Do not dispose of products bearing this marking as unsorted municipal waste. Instead, return them to the manufacturer for disposal under the applicable conditions.

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