

S52



MULTI-POINT SAMPLE-EXTRACTION SYSTEM

GDC-S52

Automatic sequential sampling from up to 12
remote points · Lorentz PLC · 16 relay outputs ·
Modbus TCP · IEC 60870-5-104 · Modbus RTU

WARNING Strictly follow these Instructions for Use. Personnel who install, use or service this system must fully understand and observe the instructions.

CONTENTS

1 • SAFETY

1.1	Maintenance	3
1.2	Accessories	3
1.3	Safe connection	3
1.4	Safety symbols	3

2-3 • PURPOSE & CONSTRUCTION

2	Intended use	3
3	Construction	3
3.1	Nameplate	4
3.2	Technical data	4

4 • SYSTEM DIAGRAM

4	Block & pneumatic diagram	5
4.1	Installation accessories	5
4.2	Spare parts	5

5 • ANALYZER INTEGRATION

5.1	Mounting the analyzer	6
5.2	Sample-tube connection	6
5.3	Electrical connection of the analyzer	6

6 • INSTALLATION

6.1	Required utilities	7
6.2	Cabinet mounting	7
6.3	Sampling lines to the cabinet	7
6.4	Compressed-air connection	7
6.5	Sampling pipework	8
6.6	Sample points	8

7 • ELECTRICAL CONNECTIONS

7.1	Cabinet mains supply	9
7.2	Compressor	9

8 • COMMISSIONING

8	Start-up	9
8.1	External-circuit switching test	10
8.2	Feeding test gas into the cabinet	10

9 • OPERATOR PANEL

9	Operation	11
9.1	System settings & diagnostics	11

10-11 • SERVICE

10	Faults — causes and remedies	13
11	Maintenance	14
11.1	Sample-point filter service	14

12-17 • LOGISTICS

12	Packaging	15
13	Storage	15
14	Transport	15
15	Disposal	15
16	Warranty	15
17	Type tests	16

18 • APPENDIX

18	Drilling template — sample points	16
----	---	----

1 SAFETY

Strictly follow these Instructions for Use. Any use of the GDC-S52 sample-extraction system (hereafter — the system) requires full understanding and strict observation of these instructions.

1.1 MAINTENANCE

Repair and maintenance must be performed only by qualified personnel. We strongly recommend a service contract and entrusting repair and maintenance to Tremon-trained professionals. Use only spare parts from the Tremon catalogue. Read the information in the chapter "Maintenance".

1.2 ACCESSORIES

Use only the accessories listed in the chapter "Spare parts and accessories".

1.3 SAFE CONNECTION

Do not connect electrical devices not mentioned in these instructions without consulting the manufacturer or a specialist. Modification of the electrical equipment is not permitted. Faulty or incomplete parts must not be used. Applicable national regulations must be observed when repairing equipment or components of this type.

1.4 SAFETY SYMBOLS

CAUTION

Indicates a potentially hazardous situation which, if not avoided, could result in physical injury or damage to the equipment. It may also warn of unsafe practices.

NOTICE

Additional information on how to use the system.

2 INTENDED USE

The system is intended for automatic periodic sampling from sample points and transport of the sample to the place of analysis.

3 CONSTRUCTION

The system is an automatic, continuously operating stationary device under the control of the scalable **Tremon Lorentz** automation. Sampling is performed by sequential ejection of the analysed gas mixture from the sample points into the system cabinet.

The operator touch-panel shows the readings at the sample points, error codes in case of a system fault, alarm states and threshold exceedances, and a number of service functions. **16 configurable relay outputs** switch external circuits.

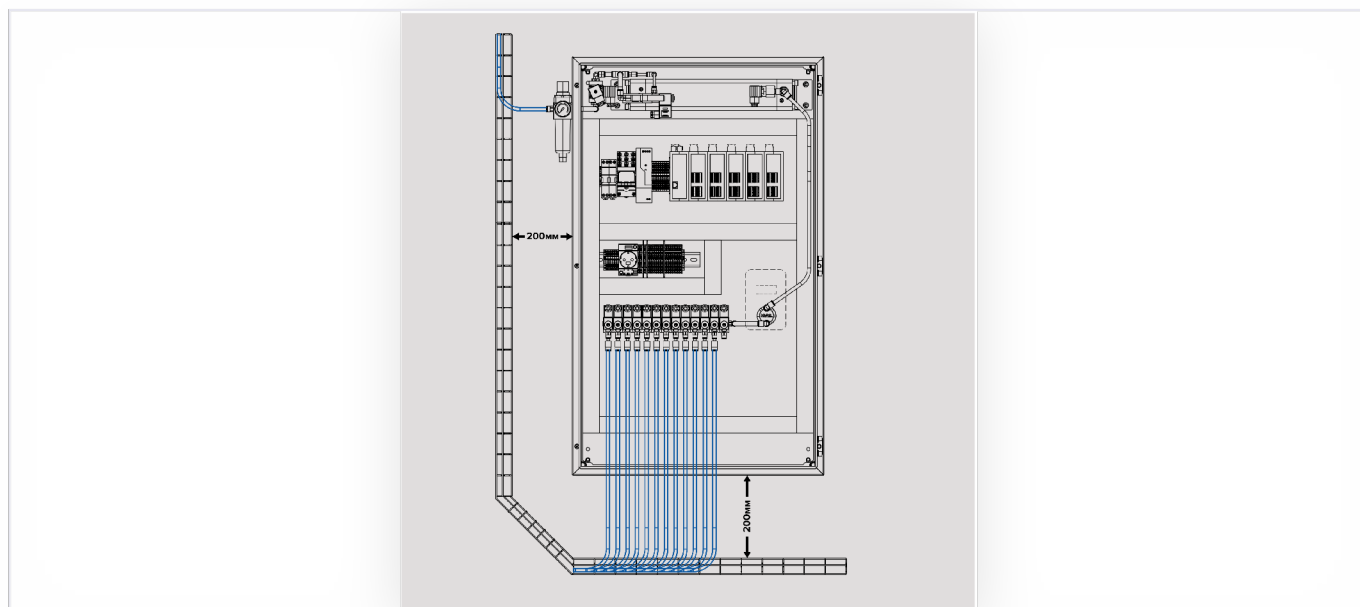
Integration into plant automation: **2 Ethernet ports** (IEC 60870-5-104 and Modbus TCP, PRP) and **1 RS-485 port** (Modbus RTU).

3.1 NAMEPLATE

The nameplate of the GDC-S52 automation cabinet carries: model name · technical specification reference · year of manufacture · serial number.

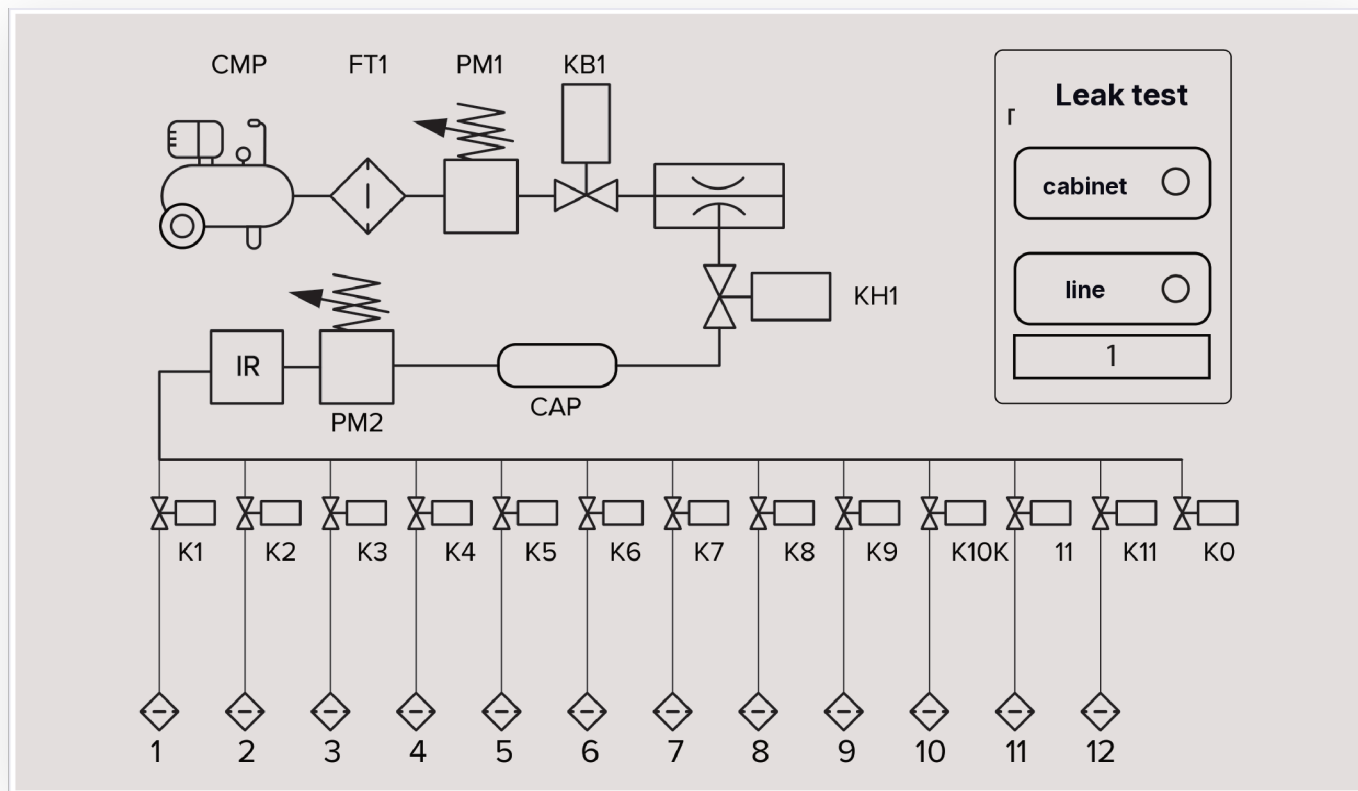
3.2 TECHNICAL DATA

Power supply	~220 V, (50 ± 1) Hz · two feeds with automatic transfer switch (ATS)
Power consumption	cabinet 50 W · compressor while running 2.2 kW
Number of sample points	per project documentation (up to 12 impulse lines per cabinet)
Sample transport velocity	20 m/s
Compressed-air working pressure	5.5 bar (supply line ≥ 6 bar)
Dry-contact switching capacity	220 V, 3 A · 24 V, 200 mA
Digital outputs	2 × Ethernet RJ45 10BaseT/100BaseTX (Modbus TCP · IEC 60870-5-104 · PRP) · 1 × RS-485 (Modbus RTU)
Relay outputs	16 configurable relay outputs
Overall dimensions	1000 × 600 × 250 mm
Ingress protection	IP65
Mass	25 kg
Material	powder-coated steel enclosure
Verification interval	12 months
Mean time between failures	24 000 h
Service life	10 years
Operating conditions	-40 ... +60 °C · 700 ... 1300 mbar · 0 ... 100 % RH
Storage conditions	0 ... +60 °C · 700 ... 1300 mbar · 0 ... 100 % RH (non-condensing)



Cabinet interior – control blocks, valve island K1...K12, filter-regulator on the left wall; keep 200 mm service clearance around the cabinet

4 SYSTEM BLOCK & PNEUMATIC DIAGRAM



Pneumatic scheme of the cabinet – compressed-air inlet CMP, filter-dryer FT1, pressure switch PM1, vacuum switch PM2, receiver CAP, receiver valve KB1, test-gas valve KH1, valve island K1...K12, test-gas/ejector valve K0; leak-test panel (cabinet / line)

CMP compressed-air inlet

PM1 pressure switch

KB1 receiver solenoid valve

IR analyzer (in-cabinet)

K1 ... K12 sample-line valves, valve island

FT1 filter-dryer / regulator, 5.5 bar

PM2 vacuum switch

KH1 test-gas inlet valve

CAP receiver

K0 test-gas / ejector valve

4.1 INSTALLATION ACCESSORIES

ITEM	ORDER CODE
KA-00003254	Polyurethane tube 8 mm
KA-00003704	Elbow fitting
KA-00003239	Tube holder
KA-00002794	Sample point, assembled
KA-00003670	Angle fitting
KA-00003709	Plug 8
KA-00003717	Tube release tool

4.2 SPARE PARTS

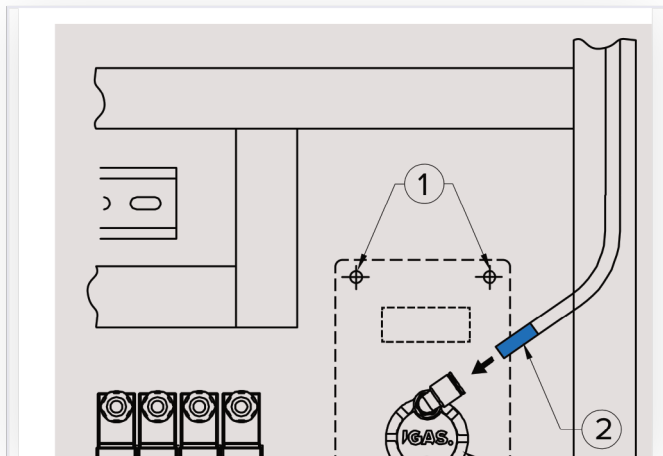
ITEM	ORDER CODE
KA-00003328	Sample-point filter
KA-00003237	Vacuum generator
KA-00003672	Electric compressor
KA-00003250	Vacuum switch
KA-00003235	Pressure switch
KA-00003993	Pneumatic valve 2/2 – 3/8
KA-00003996	Receiver solenoid valve
KA-00003997	Valve-island valve M5

5 ANALYZER INTEGRATION

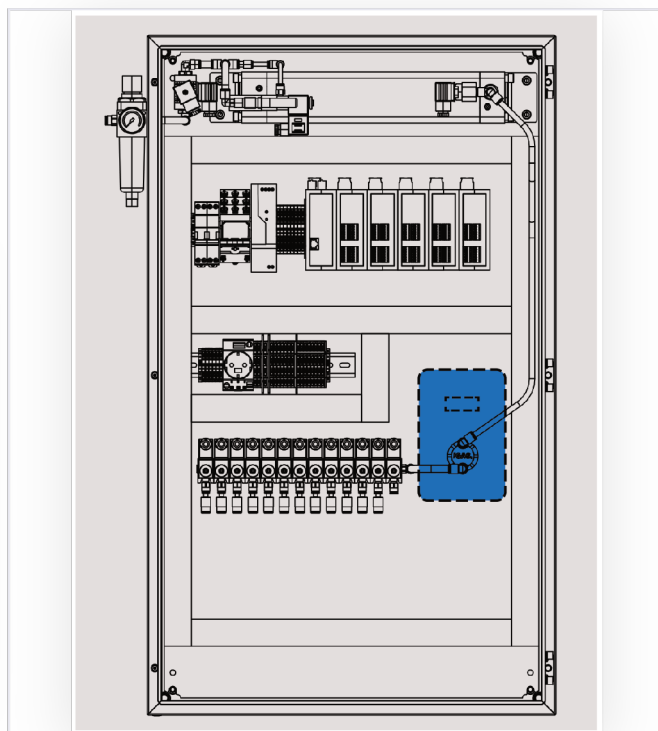
Before installation, carefully study the Instructions for Use of the measuring equipment (hereafter — the analyzer).

5.1 MOUNTING THE ANALYZER

The analyzer can be installed inside the system cabinet or outside (the mounting method is specified at order). Install according to the factory drawing for the cabinet. The figure shows an example.



Mounting example — 1 analyzer • 2 vacuum unit • 3 analyzer inlet/outlet • 4 sample tube • 5 valve island



Analyzer inside the cabinet — sample tube (4) from the valve island (5) to the analyzer inlet (3); analyzer outlet (3) to tube (2) of the vacuum unit

5.2 SAMPLE-TUBE CONNECTION

Connect the sample tube **4** coming from the valve island **5** to the analyzer inlet **3**. Connect the analyzer outlet **3** to tube **2** from the vacuum unit.

5.3 ELECTRICAL CONNECTION OF THE ANALYZER

Power and communication with the analyzer are via terminal block **XT2**. Communication is RS-485 or 4–20 mA, selected at order. With RS-485, set the analyzer address to **1**.

TERMINAL	FUNCTION
XT2:1.1	Analyzer power supply, 0 V
XT2:1.2	Analyzer power supply, +24 V
XT2:2.1	RS-485 — B / 4–20 mA — 0 V
XT2:2.2	RS-485 — A / 4–20 mA — signal

6 GENERAL INSTALLATION REQUIREMENTS

Installation must be carried out only by qualified personnel in compliance with the applicable regional regulations.

- Install where the risk of mechanical damage is minimal; provide convenient access for maintenance.
- Install only in non-hazardous (non-explosive) areas.
- Keep free access to the cabinet doors — service zone in front of the doors not less than 1000 mm.

I NOTICE

Fittings and components required for installation — see the installation drawings.

6.1 REQUIRED UTILITIES

At the control cabinet:

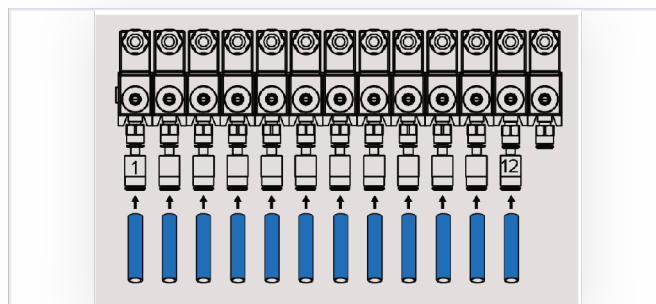
- mains supply (220 V phase, neutral)
- earthing circuit
- impulse lines (KA-00003254) carrying the analysed gas from the control points — up to twelve
- compressed-air line (not less than 6 bar)
Compressed air is supplied by a compressor. At the compressor location provide:
- mains supply (220 V phase, neutral)
- earthing circuit
- compressed-air tube (KA-00003254) from the compressor to the system cabinet

6.2 CABINET MOUNTING

Place and connect on site in accordance with the project. Mount the cabinet on a vertical surface at least **700 mm** above the floor; four fixing holes are provided in the rear wall. Choose the mounting height so that the operator panel is at eye level.

6.3 SAMPLING LINES TO THE CABINET

Route the sampling tubes through the membrane in the bottom of the cabinet to the inlet fittings on the valve island.



Valve-island inlet fittings 1 ... 12

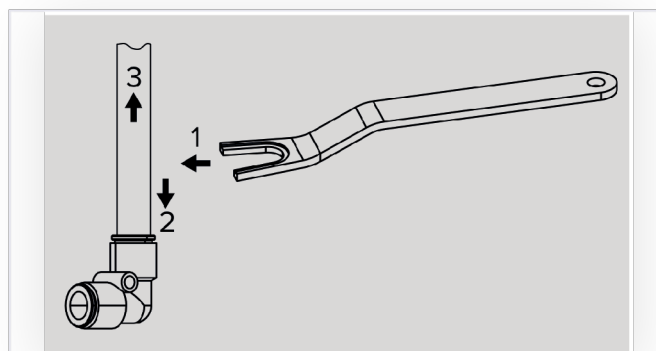
6.4 COMPRESSED-AIR CONNECTION

Run the compressed-air line with 8/6 tube. Line pressure not less than **6 bar**. Connect the supply tube to the filter-dryer on the left wall of the cabinet.

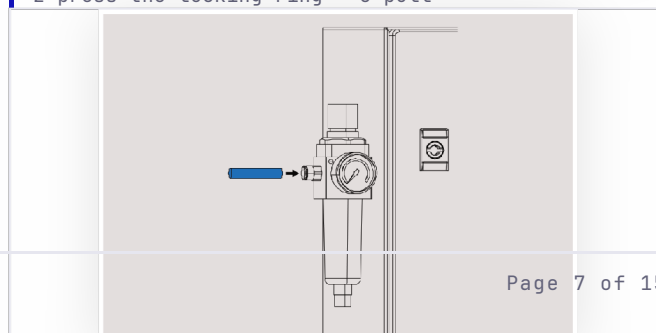
To release tubes from push-in fittings use the tube release tool (KA-00003717): 1 — align the tool with the tube; 2 — press and hold the tool on the locking ring of the fitting; 3 — pull the tube out.

I NOTICE

With push-in (collet) fittings the tube must be inserted fully to the stop.



Releasing a tube from a push-in fitting — 1 align · 2 press the locking ring · 3 pull



Filter-dryer / regulator on the left cabinet wall

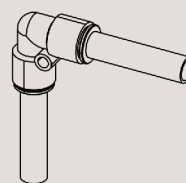
6.5 SAMPLING PIPEWORK

Run the sampling lines and the compressed-air line to the cabinet with 8/6 mm tube. Minimum bend radius **50 mm**; where necessary use the angle fitting (KA-00003670) for right-angle turns. A smooth bend is preferable to a 90° fitting — it reduces line resistance and eases sample delivery.

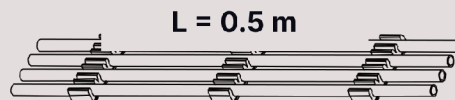
Fix the tube to the wall with tube holders (KA-00003239): install holders directly at bends; on straight runs fix the tube every **50 cm**.



Minimum bend radius $R > 50 \text{ mm}$



Angle fitting KA-00003670 for 90° turns



Tube holders every $L = 0.5 \text{ m}$

6.6 SAMPLE POINTS

- Choose the installation location for maximum detection effect (follow the approved project).
- Ensure free circulation of ambient air around the sample points.
- Install as close as possible to the potential leak.
- For gases heavier than air (SF_6) install the sample point **15 cm above the floor**; take local air-circulation conditions into account.
- Install where the risk of mechanical damage is minimal; provide convenient access for maintenance.

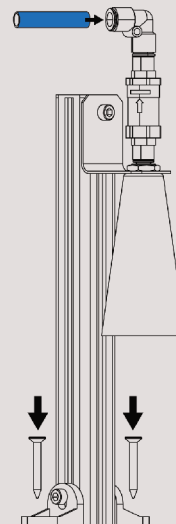
The sample-point mounting is designed for direct fixing to the floor or wall; the mounting kit is included. Prepare the fixing holes using the drilling template (chapter 18) and anchor the stand securely. Position the sample point so that the filter condition is clearly visible.

I NOTICE

Water and/or dirt around the sample points can trigger a warning or a fault.

! CAUTION

Do not kink the tubes. Install where the risk of mechanical damage to components is minimal.



Sample point, assembled (KA-00002794) – transparent filter housing, floor/wall stand

7 ELECTRICAL CONNECTIONS

Electrical connections must be made only by qualified professional personnel in compliance with all applicable regulations and the wiring diagram. When routing cables observe the national regulations on the separation of mains, low-voltage and control lines. If in doubt, consult the responsible authorities before installing the device.

! CAUTION

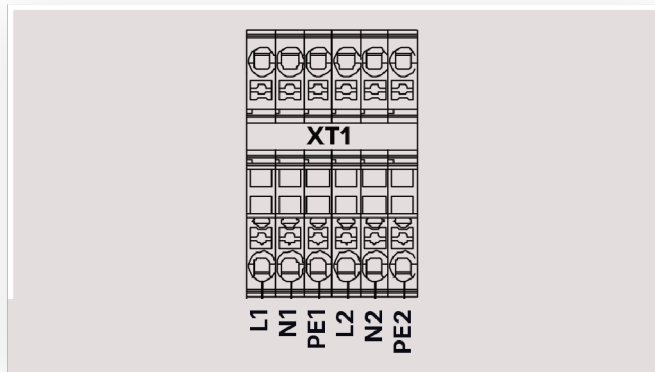
Do not connect the system to the mains until all cables are fully routed and checked. Otherwise the device may be damaged.

7.1 CABINET MAINS SUPPLY

The system cabinet has an internal automatic transfer switch (ATS) and is supplied with 220 V AC from **two phases**, switching automatically on loss of one feed. Use two three-core cables (phase, neutral, earth) and the input terminal block **XT1**.

7.2 COMPRESSOR

The compressor supplying the cabinet with compressed air is powered from 220 V AC mains. Install the compressor in a room separate from the cabinet; for normal operation and cooling the room must be ventilated with a temperature not above **30 °C**.



Input terminal block XT1 – feed 1 (L1, N1, PE1) and feed 2 (L2, N2, PE2)

8 COMMISSIONING – START-UP

1. With a voltmeter check the supply voltage at the cabinet input terminals XT1 and at the compressor. If within limits, energise the devices with the input circuit-breakers in the cabinet and the compressor start button.
2. Wait until the compressor gauge reaches **10 bar** and the compressor switches off.
3. Record the pressure in the protocol — needed for the leak check of the pipe from the compressor to the cabinet filter-dryer.
4. Open the cabinet door: on all control blocks the two upper indicators are green.
5. Make sure all connected sample points are shown on the operator panel.
6. Check the status of all system modules in the **Module status** tab — all indicators green.
7. Return to the compressor after **30 minutes**; record the gauge pressure and compare with the earlier value. A change of not more than **0.1 bar** means the line is tight; otherwise check all connections (soap solution may be used).
8. On the cabinet panel open the **Pneumatic scheme** menu.
9. Make sure the PM1 pressure-switch icon is highlighted green and its contacts are open.
10. On the filter-dryer FT1 (left cabinet wall) set **5.5 bar**; the PM1 pressure switch must close.
11. To leak-test the cabinet press **cabinet**: the line up to the valve island is evacuated; the indicator next to the button turns green on success or red if the sampling system is not tight.
12. Each sampling line is tested separately: plug the line directly before the filter at the sample point (plug KA-00003709), enter the line number and press **line**; the result is shown on the indicator. Remove the plug after the tests.

! CAUTION

If the values observed differ from those described here, stop commissioning and contact Tremon service.

8.1 EXTERNAL-CIRCUIT SWITCHING TEST

The control cabinet contains relay blocks able to control external systems, in particular light-and-sound alarms and ventilation. To test the switching, open the **Relay test** menu on the operator panel:

- in the **Relay block** field set the number of the block under test;
- tick the box under the number of the relay to switch on — the number of relays switched simultaneously is limited by the block;
- press **Apply**;
- to return the block quickly to normal mode press **Exit** — all manual switching is cancelled.

I NOTICE

Relay blocks 1 and 2 switch external circuits. Relay blocks 3 and 4 control the pneumatics.

8.2 FEEDING TEST GAS INTO THE CABINET

1. Prepare the test-gas cylinder.
2. Connect the tube from the cylinder to the fitting of the test-gas inlet valve.
3. On the operator panel open the **Pneumatic scheme** menu and press valve **K0** — the test-gas inlet valve and the ejector valve open.
4. Open the cylinder and adjust the gas flow.
5. When finished, stop the gas by closing the cylinder.
6. Disconnect the tube from the inlet valve.
7. Press valve **K0** again — the inlet and ejector valves close and the system returns to normal sequential sampling.

! CAUTION

The gas cylinder must be closed. Feed gas strictly as described in these instructions!

9 OPERATOR PANEL

For visual control, diagnostics and configuration the cabinet is equipped with an operator touch-panel. After boot-up the main screen is a table with: sample-point number · concentration at the point · sampling-channel status · overall system status · date and time · audible-alarm acknowledge button.

Exceeding the **first threshold** is shown by a yellow screen background with an event comment; the point where the exceedance was recorded is highlighted. Exceeding the **second threshold** is shown by a red background and the comment "second threshold exceeded"; the point is highlighted.

If a system error occurs — e.g. a clogged sample-point filter, the cabinet not receiving the required pressure, etc. — a warning is shown on a red background. All errors are logged with time stamps of the start and end of the event on the operator panel and on the μ SD card in the controller; the log is not limited in length — pages can be turned to start a clean page and previous pages can be recalled.

I NOTICE

Logging on the panel is cyclic — old events are overwritten after a period of 3 years.

9.1 SYSTEM SETTINGS & DIAGNOSTICS

The operator panel allows a number of settings, shows diagnostic information and tests both physical and digital units of the system. Service tabs that can disturb operation are available only with the service password, obtainable from Tremon service support.

! CAUTION

To save a changed configuration press SAVE. To cancel and return press EXIT or LOAD.

1. **Ports.** The system has 4 independent RS-485 ports; this setting binds a physical port to the connected gas analyzer (e.g. ticking PORT 1 on line 2 polls the analyzer from port S2 of the LCP2116 PLC).
2. **Gas-alarm relays.** Selects the relays that operate on exceedance of the first and second thresholds and sets the thresholds themselves (yellow — first, red — second).
3. **Fault relays.** Selects the relays that operate on fault events: analyzer fault · system fault (relay blocks, analogue modules, controller errors) · audible-alarm acknowledge — after pressing the acknowledge button on the main screen the selected relays are switched off for 10 minutes.
4. **Date and time.** Set manually here or, with an IEC 60870-5-104 connection, synchronised by the server command.
5. **Module status.** The system is controlled by a PLC and I/O modules (see the Lorentz automation documentation); the modules and their status are shown here. The RESTART button reboots the central controller.
6. **Signal emulator.** Emulates alarm events, exceedances, loss of communication, etc., with events reported to the upper level, shown on the panel, switched and logged — useful for initial set-up, periodic function checks and configuring data transfer to the SCADA workstation. Select the sensor, set a concentration or select an error, tick EMULATE and press APPLY; to leave emulation clear EMULATE and press APPLY.
7. **Relay test.** Manual control of one selected relay block at a time; no limit on the choice and number of relays within the block. Enter the block number, tick the relays, press APPLY; press EXIT to leave manual mode — all manually switched relays return to their initial state.
8. **IEC 104.** Integration into plant automation over Ethernet with Modbus TCP (default) or IEC 60870-5-104: tick IEC 104 and press APPLY. The controller has two Ethernet ports for a PRP connection; the screen lists the clients currently connected to each port.
9. **Pneumatic scheme.** Service screen showing the state of the pneumatic components; runs the cabinet and line leak tests (buttons **cabinet** / **line**, one line at a time) and activates/deactivates test-gas feed with valve icon K0.
10. **Sensor parameters.** Any line can be taken out of service — e.g. for service work or filter replacement — by selecting disabled/enabled with the line number; confirm with SAVE.
11. **Toolbox.** To connect a PC with the service software to the central controller activate the USB port with the TREMON TOOLBOX flag; deactivate the port before unplugging the USB cable.

! CAUTION

In emulation mode the system reaction fully corresponds to the real reaction to exactly such an event. If the reaction is wrong, the set-up and configuration are wrong.

10 FAULTS – CAUSES AND REMEDIES

The system continuously self-diagnoses its units. If an error or fault occurs, the operator panel shows the information; an error that clears itself later remains recorded in the log.

FAULT	POSSIBLE CAUSE	REMEDY
No indicator in the cabinet is lit	No power supply	Check supply at the circuit-breaker outputs. Check 24 V at the power-supply output.
	Short circuit	Disconnect the automation and the operator panel from supply; check the input terminals of the disconnected devices for shorts.
Operator panel shows no list of sample points	Controller not configured	Check the SD card is present in the controller; remove and re-insert it; check the configuration on the card.
Compressed-air indicator is red	Air pressure below 5 bar	Increase the pressure on the filter-regulator.
	Faulty sensor	Contact Tremon service.
	Compressor not running	Check the compressor.
System fails the leak test	Leaks	Check the installation; check the lines with soap solution while back-feeding compressed air — pressure must not exceed 2 bar.
	Vacuum-sensor fault	Contact Tremon service.
Control-module error	Poor module power contact · module failure	Check the wiring; unplug the module power connector, check supply at the terminals, re-plug. Replace the module.
Compressor does not start	No power · thermal relay tripped	Check supply at the input terminals. Check the thermal relay; reset and wait for restart. If it trips again, contact Tremon service.
Line-clogging indicator active	Filter clogged · tube damaged	Check and clean/replace the sample-point filter. Inspect the sampling lines for damage and kinks.
No communication with the controller	Line break · wrong controller configuration	Check the communication connectors. Check the controller configuration; test with a local connection.

NOTICE

All routine repair must be carried out only by personnel instructed in electrical safety and familiar with these instructions. If a fault cannot be rectified with the measures listed, or is too serious to be solved on site, contact your Tremon representative.

CAUTION

After repair of system parts affecting the metrological characteristics, verification must be carried out per the analyzer verification procedure.

11 MAINTENANCE

Once a year, or earlier if the system reports:

- Visually check the condition of the filters; clean if necessary.
- Drain condensate from the compressor (manual tap at the bottom of the receiver).
- Check the inlet pressure — permissible range 5.5 ... 6 bar.
- Visually inspect the cabinet interior for visible damage.
- Check the event log on the operator panel for errors and alarms.
- Change the compressor oil; check the running hours.

Once a year:

- Run the cabinet leak test.
- Run the leak test of the sample supply lines.
- Check the integrity of the compressed-air line — run the 30-minute main-line leak test.
- Check the ventilation trip.
- Test the operation of the light-and-sound alarm posts.

! CAUTION

Changing the compressor oil less often than once a year will destroy the piston group and break the compressor.

11.1 SAMPLE-POINT FILTER SERVICE

The sample-point filter needs periodic inspection and service. The filter housing is transparent plastic, allowing visual control of the filter element; if necessary the element can be removed and replaced:

1. Using the tube release tool remove the angle fitting from the sample point.
2. Using the tube release tool remove the filter housing from the sample point.
3. With a flat screwdriver press the catch on the filter housing.
4. Remove the released upper flange of the housing.
5. Take out the filter element.

Blow out the filter bowl with compressed air. Refit the filter element and reassemble in reverse order.

12 PACKAGING

The transport packaging of the packed system must be sealed. It must reliably protect the packed equipment from mechanical damage under the transport conditions specified. By agreement with the customer, delivery in other transport packaging that ensures its safety during transport and storage is permitted.

13 STORAGE

Store the equipment in the manufacturer's packaging at **+5 ... +40 °C** and relative humidity up to 80 % at +25 °C. The air in the storage room must not contain aggressive vapours, gases or other admixtures causing corrosion.

14 TRANSPORT

Transport only in the transport packaging in closed vehicles — rail wagons, containers, ship holds and road transport — protected from rain and snow, observing the carriage rules for the respective transport. Arrange and secure the boxes so that they remain stable during transport.

15 DISPOSAL

Regulations on the disposal of electrical and electronic equipment based on Directive 2012/19/EU (WEEE) and national law apply in all EU countries. Because the system is not intended for domestic use, it must not be disposed of with household waste. Return it to the manufacturer or to an authorised recycling point.

16 WARRANTY

The manufacturer guarantees conformity of the system with its technical specification provided the operating, transport and storage conditions in the technical documentation are observed. The warranty period is **12 months** from commissioning; service life of the assemblies — **10 years**.

Under separate agreement the manufacturer performs: post-warranty repair · replacement of remote sensors · periodic maintenance and preparation for verification · supply of components. If during the warranty period the product proves not to conform to the specification, the supplier rectifies the defects by repair or replacement of defective parts in the shortest technically possible time; all costs of replacing defective parts or the product as a whole during the warranty are borne by the manufacturer, except where the defects arose from improper storage or maintenance by the customer. When defective parts or the product are repaired or replaced, the warranty is extended by the time the product was out of use. Training of the customer's personnel in maintenance is provided by the manufacturer before the start of operation, during supervised installation. The manufacturer guarantees supply of spare parts, repair and/or replacement for **5 years** after the end of the warranty under a separate contract; delivery time for spare parts is not more than **6 months** from signing the supply contract.

17 TYPE TESTS

Ingress protection

Dust-tight enclosure, protected against water jets from any direction — IP65 (IEC 60529)

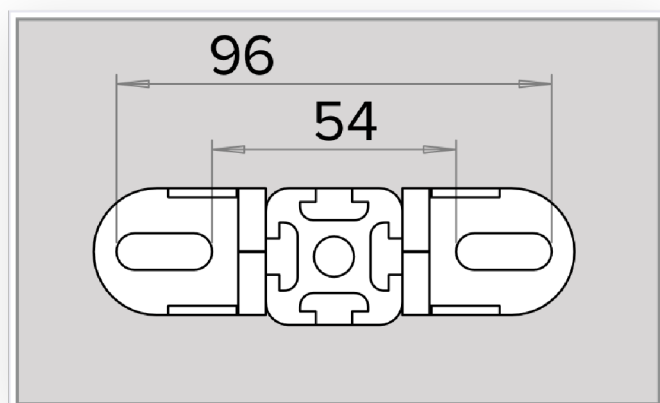
Seismic & vibration

Withstands seismic effects up to intensity 9 (MSK-64 scale) at mounting heights up to 70 m; vibration 5–100 Hz, max. acceleration 10 m/s² (1 g)

EMC

Immune to electrostatic discharge (IEC 61000-4-2), RF fields 80–1000 MHz level 3 and 800–960 / 1400–2000 MHz level 4 (IEC 61000-4-3), surges level 2 (IEC 61000-4-5), conducted RF level 3 (IEC 61000-4-6), voltage dips/interruptions (IEC 61000-4-11), harmonics class 3 (IEC 61000-4-13), voltage fluctuations level 3 (IEC 61000-4-14), power-frequency magnetic field level 3 (IEC 61000-4-8), pulse magnetic field level 3 (IEC 61000-4-9) — performance criterion A

18 APPENDIX – DRILLING TEMPLATE FOR SAMPLE-POINT FIXING HOLES



Drilling template – hole spacing 96 × 54 mm (shown 1:1 in the printed original)

Prepare the fixing holes for the sample-point stand with the template; anchor the stand securely to the floor or wall. Position the sample point so that the filter housing is clearly visible for inspection.

S52

CONTACT

Tremon Solutions

Havensingel 100, 5611 VT Eindhoven, The Netherlands
sales@tremon.nl • www.tremon.nl
KVK 95114289 • BTW-ID NL005130552B15