Getting started with the Statox 560

This instruction is for quick orientation!

Prior to installation and operation please download and read the detailed manual. Manuals in several languages are accessible on our homepage www.compur.com.

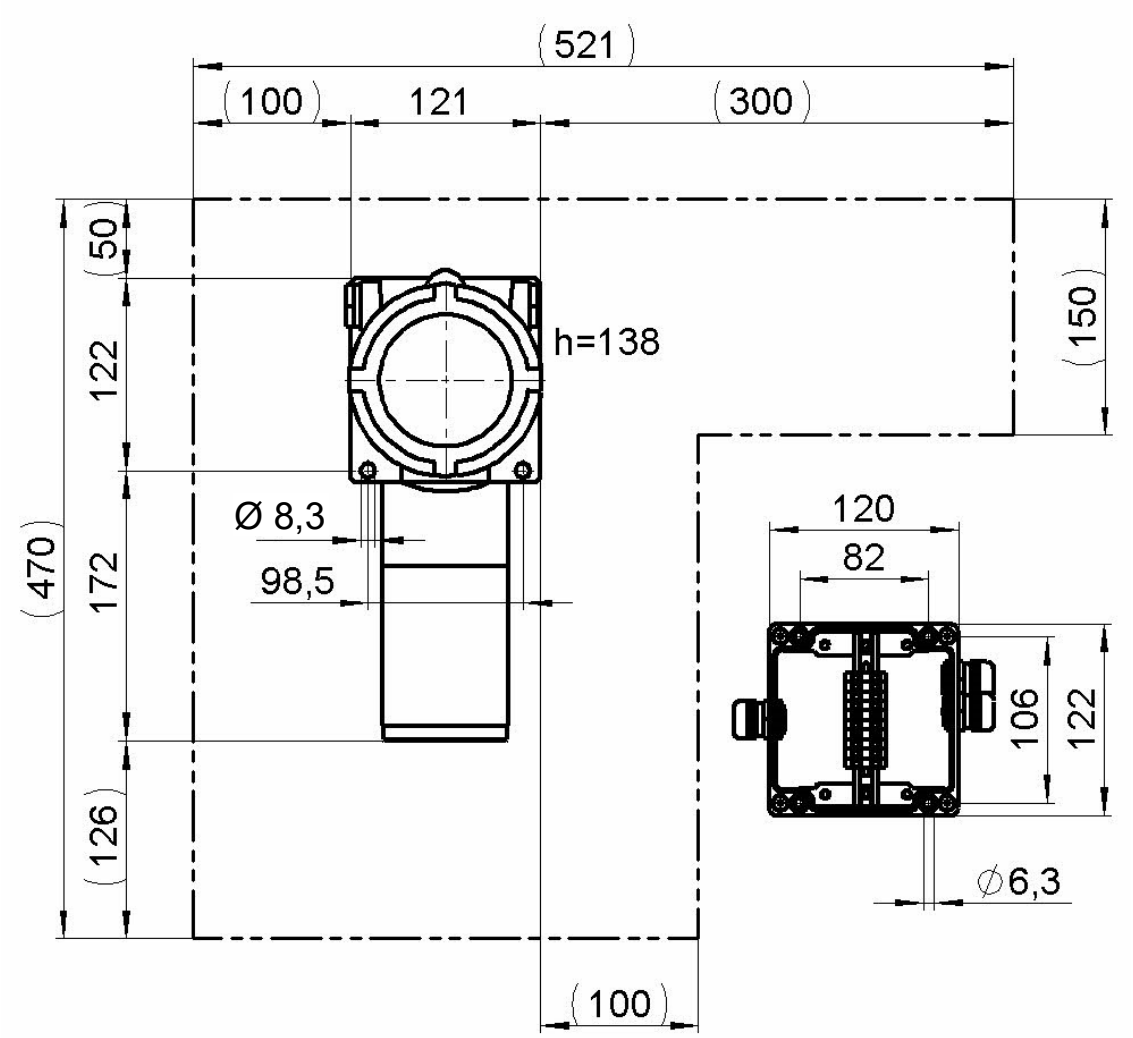
1 Safety Advice

- Read and observe this manual carefully. Store it in a safe place.
- The Statox 560 must not be operated other than in the specified ambient conditions (see Technical Data, page 10).
- In particular the regulations with regards to the protection regulations for instance DIN EN 60079-14 must be observed.
- Installation must be performed by trained and authorized personnel. Only original Compur Monitors parts may be used.
- The Statox 560 must not be connected to mains! The supply voltage is 24 (16-30) VDC.
- All outputs of the Statox 560 may only be operated with 30 VDC.
- Damaged or modified sensor heads must not be used.
- The Ex d housing must not be opened!
- When operated in hazardous atmosphere, the sensor head must be connected to the exLink counterpart or to a certified connection box.

Disregarding these recommendations may compromise the Ex protection and result in a danger for personnel and assets.

2 Installation

Leaving the stainless steel protective cylinder and the protective cap on the instrument protects it from pollution.
Install the Statox 560 sensor head in upright position to the wall. Use two M8 screws and suitable washers.
Compur Monitors offers an Ex e rated terminal box (art. # 562988) made of varnished cast aluminum.



Picture 1: Statox 560 dimensions in mm and the space needed for safe and easy operation.

Outer dimensions and drill plan of the junction box, article number 562988.

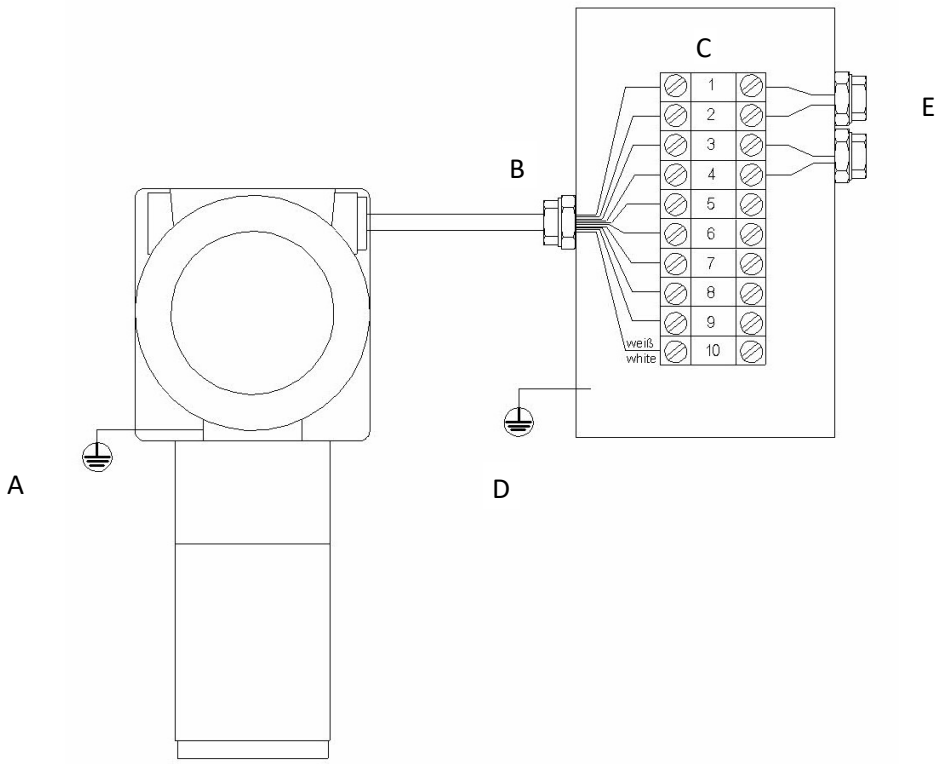
Do not open the blue flame - proof housing!

3 Connection

3.1 Statox 560 Cable Tail Version Connection

The cable tail must be connected to a suitable EMC junction box made of metal. When installed in a hazardous area this must be certified Ex e and have 10 terminals and EMC resistant cable glands. Compur Monitors recommends to use fine mashed cable ≥ 0.75 mm² for instance type Oelflex 415 CP.

Statox 560 must be operated with 24 (16-30) VDC. Connecting it to higher voltages or short circuiting the outputs may destroy it.



Picture 2: Statox 560 cable tail connection

Caution:

A. Connect the grounding contact to the ground of the building, using a cable diameter ≥ 6 mm².
B. Remove the protective tube from the cable shield and insert the cable through the EMC – proof cable gland.
C. Connect the cores in the sequence of their numbers to the terminals, the white core to terminal 10. All cores must be connected, even if you do not use them all.
D. Connect the grounding contact of the junction box to the ground of the building. Use a cable with ≥ 4 mm² diameter.
E. The number of outgoing cable glands depends on your application.

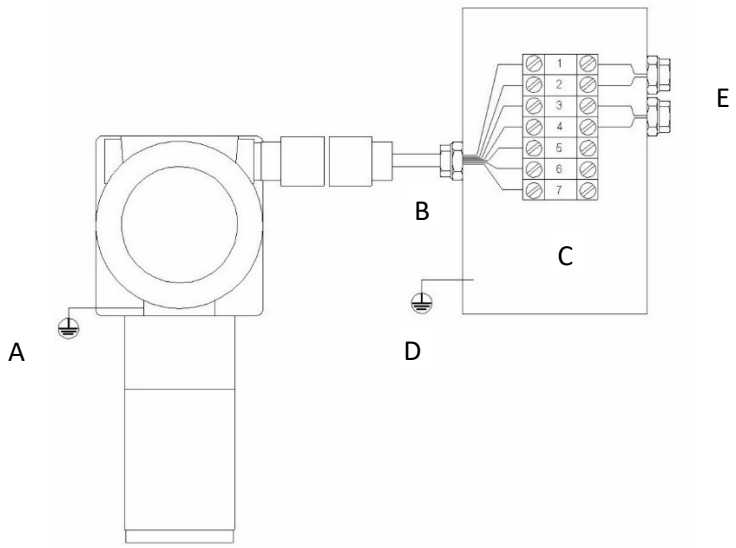
- Do not try to remove the cable tail from the sensor head. It will destroy it!
- Never leave lose cable ends in the terminal box!
- Proper grounding is essential for error– free operation!

Wire	Function	Description
1	+24 VDC	+ 24 V Power supply (16-30 VDC)
2	0 VDC	Power supply ground
3	I_OUT+	0-22 mA Current output
4	I_OUT-	Current output ground
5	Remote self-test	Remote self–test trigger
6	GND_R	Common ground for all relays
7	Maintenance request	Relay output maintenance request (open drain)
8	System failure	Relay output System failure (open drain)
9	A2	Relay output Alarm 2 (open drain)
wt	A1	Relay output Alarm 1 (open drain)

Table 1: Connecting the cable tail

3.2 Statox 560 connecting the eXLink-Plug

The Statox 560 eXLink-Version (7 pole) has a plug installed in the housing. The counterpart must be installed by the user and can be connected to a junction box if necessary. The eXLink can be connected and disconnected in hazardous areas without hot work permit.



Picture 3: Connection of the eXLink

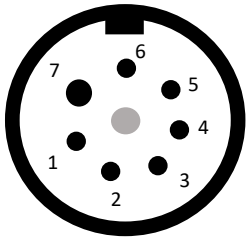
Please observe points A to E in chapter 3.1, they apply to this application method, too. It is not mandatory to connect all contacts on the field side.
Use only coupling Compur Art. # 805594. Observe its installation instructions.

- Take care for correct wiring! Wrong pin assignment may damage the Statox 560!
- Do not try to dismount the eXLink from the sensor head. This is a potted joint. Loosening it will destroy Ex d rating of the housing!

Pin assignment:

Contact	Function	Description
1	+24 VDC	+ 24 V Power supply (16-30 VDC)
2	0 VDC	Power supply ground
3	I_OUT+	0-22 mA Current output
4	I_OUT-	Current output ground
5	Remote Self-test	Remote self-test trigger
6	GND_R	Common ground for relays
7	Maintenance Request	Relay maintenance request (open drain)

Table 2: Pin assignment Statox 560 eXLink-plug



Picture 4:

Pin assignment eXLink-plug

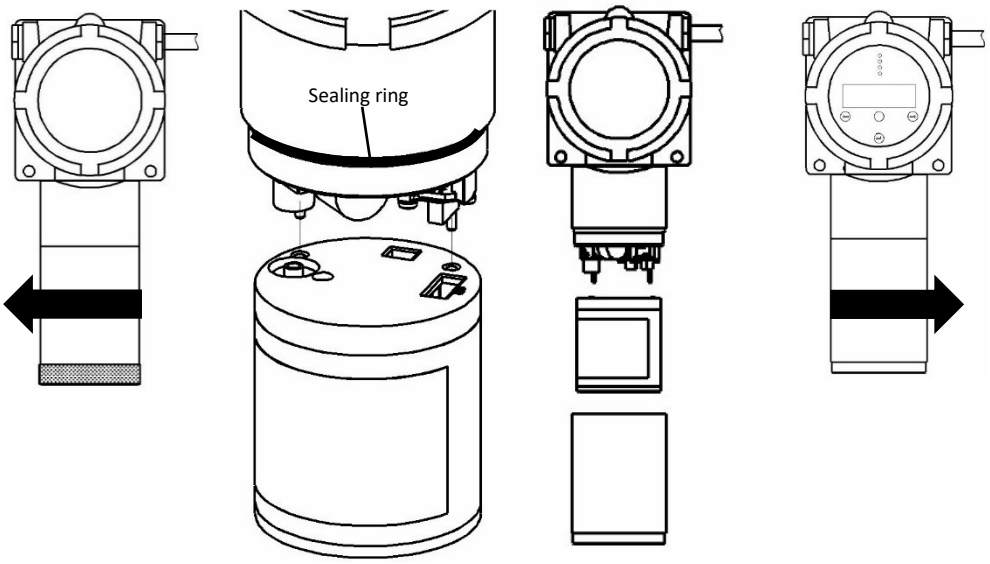
4 Keys

Statox 560 can be operated through the window with a magnetic pin. The magnetic pin activates hall sensors inside the sensor head. Just hold the slim part of the pin next to the key. The individual keys have the following functions:

Keys		Function
↵	Enter	Confirm entries.
R	Reset	Delete false settings. Step back to the recent menu. Reset alarms.
←	Left	Navigates left in the menu, reduces a set value, and accesses the service menu.
→	Right	Navigates right in the menu, increases a set value, and accesses the info - menu.

5 Getting started and menu navigation

Remove the yellow protective cap and unscrew counterclockwise the stainless steel protection cylinder. If there is a short circuit bridge at the sensor module (applicable for 2 electrode sensors) remove it. Insert the guiding pins into the relevant drill holes to connect the sensor module by pushing it carefully upward (see picture 5).



Picture 5: Connecting the sensor module

Now fingertight fasten the protection cylinder. The sealing ring must be clean!
The warm-up procedure (see picture 6) can take some minutes, especially with 3-electrode-sensors. After the warm-up, the Statox 560 will go into the measuring mode.

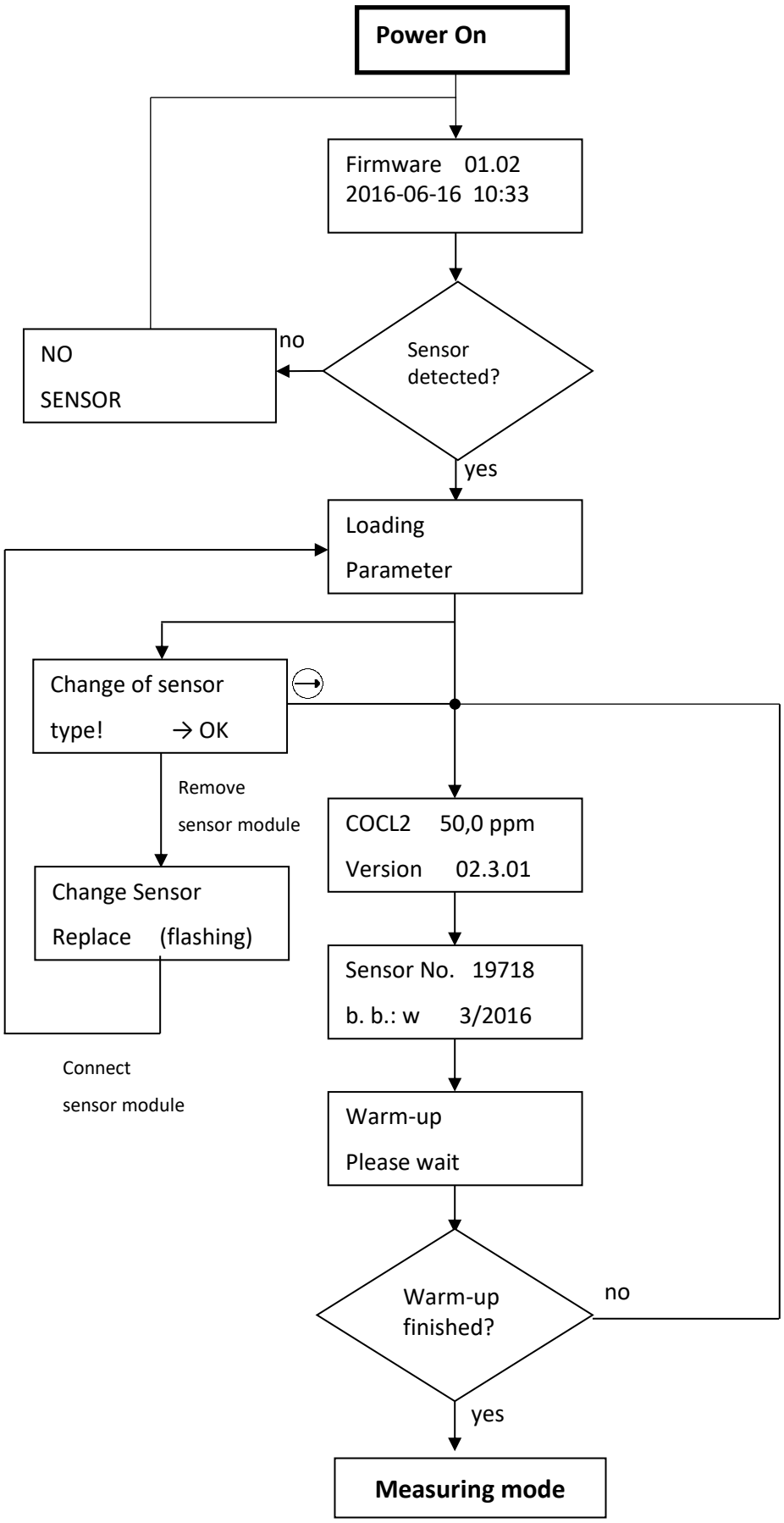
The following settings must be done after the start-up:

- Set the real time clock
- Set the self-test parameters
- Set the alarm relays

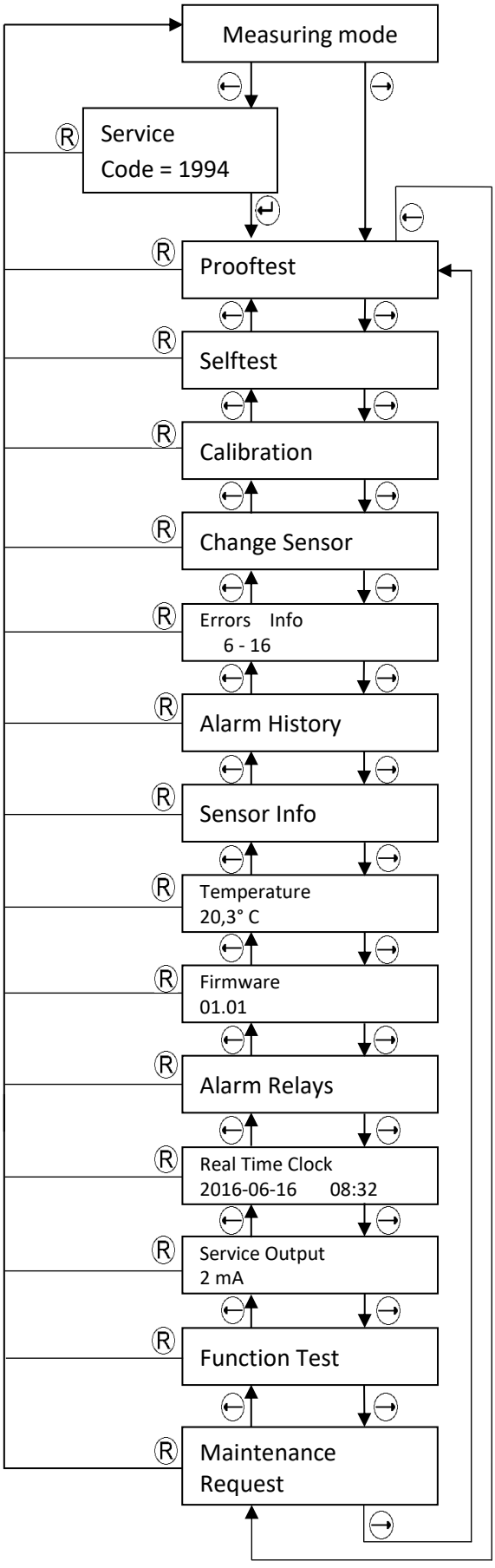
Change the sensor module only in the menu **Change Sensor** in order to avoid a data loss in the sensor memory.

The following schematics show the warm-up and an overview of the main menu of the Statox 560 with a short description.

Hint:
When the symbol ✱ appears on right upper side of the display, internal diagnostics are made. During this time, the buttons are not active and there is no display update!



Picture 6: Schematics warm-up



Short description:

Prooftest start

Self - test start, set self - test schedule

Sensor calibration

Sensor module replacement

Error Code info

Alarm history

Sub menus sensor info

Display the current temperature

Display the current Firmware

Sub menus alarm settings

Time and date settings

Setting of the analog output during service

Test of the alarms, display and mA-output

Maintenance request settings

Picture 7: Main menu

6 System Status

If the display is dark and green LED off, the power supply voltage is off, too low or its polarity is wrong. If none of this is the case, a burned out fuse might be the reason.

! Replacement of the fuse must be done by Compur Monitors!

System status	Analog output	Display	LEDs				switching outputs 4)			
			A1 yellow	A2 yellow	SF red	ON green	A1 3)	A2 3)	WB 3)	SF
Measuring mode	4 - 20 mA	Measured value 8)	OFF	OFF	OFF	ON	passive	passive	passive	active
Alarm 1 2)	4 - 20 mA	Measured value	ON	OFF	OFF	ON	active	passive	passive	active
Alarm 2 2)	4 - 20 mA	Measured value	ON	ON	OFF	ON	active	active	passive	active
Out of range	22 mA	Full scale value flashing	ON	ON	OFF	ON	active	active	passive	active
System failure	0 mA	Error code	OFF	OFF	ON	ON	passive	passive	passive	passive
Maintenance request	4-20 mA 6)	Measured value	OFF	OFF	flashing 5)	ON	passive	passive	active	active
Self-test	2 / 4 mA 1)	Self - test	OFF	OFF	flashing	ON	passive	passive	passive	active
Self-test Monitoring	4-20 mA 7)	Self - test	OFF	OFF	flashing	ON	passive	passive	passive	passive
Service-Mode (password protected)	2 / 4 mA 1)	Service menu	OFF	OFF	flashing	ON	passive	passive	passive	active
Info - Mode (no password)	4-20 mA	Service menu	OFF	OFF	OFF	ON	passive	passive	passive	active
Power off	0 mA	-	OFF	OFF	OFF	OFF	passive	passive	passive	passive

1) Program in menu **Service Output**.
2) If an alarm has been set to AUTO RESET, the actual status is displayed. If it has been set to HOLD, the last alarm status will stay. To delete a latching alarm press the **Reset- Button**.
3) Ex works setting, can be changed by user.
4) Alarm output active means the open collector output is current fed. The SF output is always active in order to detect a potential power outage.
5) Periodic double flash every 5 seconds.
6) Ex works setting, can be changed by user.
7) No ex works setting, can be set by user. The SF Relay is passive in this mode, to differentiate from the 4-20 mA in the measuring mode.
8) The measured value alternates with the message „**Zero adjustment failed“** or „**Calibration failed”** in case any of these procedures has failed.

7 Technical Data

Product name:	Statox 560
Type:	5377
Manufacturer:	COMPUR Monitors GmbH & Co. KG, Weissenseestr. 101, D-81539 Munich
Power supply:	24 (16-30) VDC
Power consumption:	max. 2.7 W (8.7 W for $COCl_2$) at input voltage ≤ 26 VDC
Operating temperature:	-30°C to +60°C
Storage temperature:	-30°C to +60°C
Pressure:	700 to 1300 hPa
Humidity:	0% to 99% r. H. (non condensing)
Application:	II 2G
Explosion protection:	Ex d ib IIC T4 Gb (at U_m = 30 VDC for all connections)
EC type examination certificate:	BVS 16 ATEX E 065 X (X: the measuring function according Annex II, point 1.5.5 of directive 2014/34/EU is not part of the EC type examination certificate.)
Protection class EN60529:	IP 66 (gas intake IP54)
Display:	2 x 16 signs, illuminated
Housing:	Cast aluminum epoxide varnished / stainless steel
Connections:	10-core cable tail (1 m) or 7-pin eXLink plug
Open-Drain-outputs:	2 x alarm, 1 x system failure, 1 x maintenance request Characteristic values max. 30 VDC / 2.5 A
SF-Open-Drain- output:	In normal operation active (conductive)
Analog output:	0 mA in case of system failure 2 or 4 mA in the service mode, programmable 4 - 20 mA in the measuring mode 22 mA when full scale is exceeded max. burden: 450 Ohm
EMC:	EN 61000-6-4:2007 + A1:2011 / EN 50270:2015 (type 2)
Functional safety:	SIL 2 compliant according to IEC 61508:2010
Automatic self-test:	every 24 hours, time is selectable
Weight:	ca. 4800 g
Dimensions:	121 x 294 x 138 mm (W x H x D)

Compur Monitors GmbH & Co. KG
Weißenseestraße 101
D-81539 München
Phone 0049 (0) 89 62038 268
Fax 0049 (0) 89 62038 184
Internet: www.compur.com
E-Mail: compur@compur.de

5377 000 997 07 01 562992