SX:ACCESS

CENTRAL UNIT

CONTENTS

GENERAL

SX:ACCESS is a supervision system for up to 200 fire damper control modules. If the SMOKE EDIT software is used, the modules can be grouped into a maximum of 99 fire cells, and each fire cell can have one or more alarm points, for example from smoke detectors or external fire alarms. Please note that a bus amplifier (8R30:004 plus connection box) must be installed if more than around 100 damper modules are used.

SX:ACCESS has eight built-in digital I/O ports (four inputs and four relay outputs).

SX:ACCESS has a display and a keypad for status monitoring, system setup, damper function testing and smoke detector resets. SX:ACCESS can be accessed in slave mode by higher-level systems via Ethernet (SioxNet or Modbus TCP/IP).

This document describes the SX:ACCESS central unit. See the Installation section for details of how to connect the module.

SYSTEM SETUP

You can set up the system in two different ways.

SX:ACCESS is supplied preloaded with the SMOKE_DEFAULT.cfg file as standard, allowing the keypad and display to be used to set up simple systems. These systems support up to 59 fire damper modules (addressed from 1-59) **in a single fire cell**. Single or dual damper modules can be used.

You can use the keypad to specify the number of dampers (0-2) for each damper module and to activate the module as an alarm point if the system contains smoke detectors. An alarm point is a unit within the system which generates a fire alarm. Be careful to document any changes for future reference.

For more advanced systems, the SMOKE EDIT software is recommended. SMOKE EDIT is a PC program (Windows) that is used to define an installation and configure the SX:ACCESS central unit. This involves creating a project file, compiling it, and transferring the compiled version to the unit.

BUTTON FUNCTIONS

In principle, the buttons are used as follows:

- Press ⬆ and ⬇ to step between menus or increase/decrease values.
- Press ➡ and ⬅ to change the setting or move the cursor within a menu.

- Press ENTER to select a menu/submenu item, save settings and run commands.
- Press C to return to the previous menu/submenu and cancel commands.

DIGITAL I/O

SX:ACCESS has four digital inputs designed to connect to potential free contacts. DI1 (terminals 1-2) is an external fire alarm input. If the contact **opens**, this is interpreted by SX:ACCESS as a fire alarm. The alarm persists until it is reset by DI2 (terminals 3-4) closing (>1.5 s). If terminals 3-4 are jumpered, fire alarms are reset automatically via DI1. If a fire alarm is still active on DI1 it will persist. If DI3 (terminals 5-6) is closed, this indicates that night mode is active and so the dampers will be kept closed. If DI4 (terminals 7-8) closes temporarily (>1.5 s), a function test of all dampers has been requested, meaning that all dampers will close and then open again. In night mode, because all the dampers are closed, an open/close cycle takes place instead. In service mode, however, no function test takes place if DI4 is activated.

SX:ACCESS also has four relay outputs (breaking capacity 1 A at 30 V AC/DC).

DO1 (terminals 15-16) opens if a sum alarm is active (damper error or communication error). DO2 (terminals 17-18) opens if a fire alarm is active. DO3 (terminals 19-20) opens if a service alarm from a smoke detector is active. DO4 (terminals 21-22) is the run indication relay output. The output relay is normally closed but can be set to open under various conditions. For more information see the **RUN INDICATION RELAY OUTPUT** section.

NOTE

All alarm relay outputs open if there is a power failure.

FRONT PANEL CONTROLS

The front panel consists of a display, eight buttons and three LEDs. The three LEDs indicate the system status. The yellow *error LED* (Error) goes on if the system status is B Alarm (see **MAIN MENU** for details). The *error LED* flashes if no configuration is loaded or if it has stopped (**NO APP** also appears in the display of the main menu). The *alarm LED* (Alarm) goes on if the system is in fire alarm mode. The green *OK* LED goes on if there are no alarms or fire indications in the system. If the module is in **SERVICE MODE**, however, the *OK LED* will always be off.

The green *OK* LED will also be off if the communication watchdog has not been activated (set to 0 seconds). In this situation, the *error LED* will flash slowly in time with the corresponding text warning in the main menu.

MENUS

Most of the menus will time out if they are not used (no buttons are pressed) for more than 3 minutes, after which the display returns to the **MAIN MENU**.

Menus such as **MODULE ADDRESSING**, however, do not have a timeout because they can a long time to complete.

MAIN MENU

```
-SMOKE CONTROL-
NORMAL OPERATION
```

EXERCISING...:	Function testing is in progress.
FIRE!:	One or more fire alarm points have detected fire, or one or more fire alarm points are unable to communicate.
FIRE! [EXT]:	Fire via digital input DI1.
FIRE! [MOD]:	Fire via Modbus.
SUM ALARM:	A service alarm from a smoke detector, a damper error from a damper module, or one or more modules in the system are not communicating.
NO CONFIG.:	No configuration file is loaded or it has stopped. This can happen if the Smoke Edit download was cancelled before it finished. In this situation, download the project again. The error LED also flashes every second.

If **NIGHT OPERATION** (or [NIGHT] if a sum alarm is also active) appears, the system is in night mode because the digital input DI3 was activated or night mode was requested via Modbus TCP/IP (register 160), meaning that all dampers are closed.

Press F1 to display a text showing the basic configuration file that was used or, if the configuration file was specified by the customer, a user-defined text such as the name of the installation (up to 16 characters).

SERVICE MODE

Press F2 to enter *service mode* so you can access a number of menus performing various setup and test functions. **Fire alarms are not blocked**. In addition, all dampers are opened and if an automatic scheduled function test is requested from SX:ACCESS, it is blocked. A function test requested via DI4 is also blocked. A function test can still be requested via external I/O modules or Modbus TCP/IP. A function test can also be requested from the **FUNCTION TEST** menu.

In *normal mode (not service mode)* the only menus you can access are **ALARMS**, **FIRE CELLS** and **FUNCTION TEST**.

INFORMATION

When you finish what you are doing, remember to exit service mode by pressing the F2 button followed by C in the main menu.

If the green *OK* LED is on, this means that normal mode is active without alarms, and service mode is not active any more.

NOTE

The *OK LED* will only go on if the communication watchdog has also been activated (set to a value other than 0).

Press F2 to activate **SERVICE MODE**. The display looks like this:

```
PIN CODE: 5555
C=EXIT SERV.MODE
```

Use the arrow buttons to change the PIN code digits. Press ENTER when the correct PIN code is displayed.

The default PIN code on delivery is 5555.

RESET PIN CODE TO FACTORY SETTING

If you forget the PIN code you can restore the factory setting as follows: press and hold the C button while restarting the module (off/on). Press ENTER when the question **RESET PIN CODE TO 5555? ENTER=OK** appears.

CHANGE MENU LANGUAGE

Enter **SERVICE MODE** and press ⬆ in the main menu to select the language. Press ➡ to switch between Swedish and English. Confirm with ENTER.

ALARMS

```
FIRE ALARMS: 0
SUM ALARMS: 1
```

Press ENTER to open the alarms menu.

```
DAMPER 2
DAMPER ERROR FC1
```

Damper error in fire cell 1

The current alarm status is displayed. Press ⬇ to go to the next alarm in the list or ⬆ to return to the previous alarm. If **FIRE VIA EXT. ALARM [ACCESS]** is displayed, this means that a fire alarm is or was active via the external fire alarm input DI1. To reset an external fire alarm, DI2 (terminals 3-4) needs to be activated for at least 1.5 seconds.

If **FIRE VIA MODBUS** is displayed, the system has received a fire alarm via Modbus TCP/IP.

NOTE

C goes one step back in the menus and/or cancels a command.

We have added a check for a very rare kind of error.

```
MODULE FAIL (SD)
Address G:0 A:7
```

If the display shows **MODULE FAIL (SD)**, this means that the damper module at the indicated address is not defined as an alarm point, yet it is in local fire mode and it has therefore closed its damper(s). This is caused by an alarm from the local smoke detector input. Check that the 2.2 kΩ resistor which should be between terminals 4 and 5 in an SC2 module is correctly installed that the terminal screws are securely tightened. It may be necessary to use the buttons on the damper module to reset the alarm.

FIRE CELLS

```
FIRE CELLS
```

Press ENTER to open the fire cells menu.

```
FIRE CELL 1
2 AP 10 DAMPERS
```

The fire cell above has two alarm points and ten dampers You can move the flashing cursor between **A** in **AP** and **D** in **DAMPERS** using ⬅ ➡. Press ⬆ to go to the next fire cell. Press ⬇ to go back to the previous fire cell. Press ENTER to open a list of alarm points or dampers. Use ⬆ ⬇ to move between alarm points/dampers.

```
ALARM POINT 1
OK        R
```

The top line shows the name of the alarm point. The bottom line shows the status. A flashing R means that if you press ENTER, a reset command will be sent to the module to reset a connected smoke detector.

```
DAMPER 1
OK   O   T
```

The top line shows the name of the damper. The bottom line shows the status (**O** for open, **C** for closed). A flashing T means that a request for a function test will be sent to the module if you press ENTER.

If you press the F1 button, the address of the damper module will appear briefly.

FUNCTION TEST OF ALL DAMPERS

```
FUNC.TEST ALL
DAMPERS? <ENTER>
```

Press ENTER to request a function test of all dampers. The dampers will normally start at intervals of 5 seconds within each fire cell.

WATCHDOG

(Only in service mode)

Configuration of communication watchdog.

```
CONFIGURATION OF
WATCHDOG Tc=5 s
```

This is where you specify how long a communication failure can last. If there is no communication with a damper module for the specified time, the module will switch to fire alarm mode. Tc is the measured cycle time in order to communicate with all the modules in the system. The watchdog time must be longer than Tc. The time can be set to 0, 30, 40, 50 s and up to 90 s in 10 s increments.

INFORMATION

If modules have been replaced during servicing, the watchdog setting process will have to be repeated to ensure that the new modules are also configured.

```
WATCHDOG
30 s (ENT=SAVE)
```

Press ↓ ↑ to increase/reduce the time. Press ENTER to send the value to all modules. If the time which is sent is 0, the watchdog function is deactivated. This is useful during commissioning to prevent dampers closing unexpectedly if there is a communication failure. To remind you, a warning **WATCHDOG INACTIVE!** will flash in the main menu (unless **service mode** is active).

INFORMATION

At a suitable time during commissioning, the watchdog must be reactivated to ensure that the dampers are closed if there is a communication failure.

FUNCTION TEST SETTINGS

(Only in service mode)

```
FUNC.TEST
SETTINGS
```

Press ENTER to open the settings menu.

```
T W T F S S I FC1
M          06:00
```

The bottom row shows the day and time of the function test of the dampers in the specified fire cell – in this case FC1.

Press ← → to move along the days of the week to the time field on the right. Press ↑ ↓ to activate the day if the day's first letter is on the bottom line, and to increase/decrease the time in the time field. If no days are selected, the damper modules will perform the function test autonomously at intervals of 48 hours (counting from when they were switched on).

If you select the I option without a day of the week, the **modules will be prevented** from performing the function test autonomously (at intervals of 48 hours) and no scheduled function tests will take place. This option is mainly used if you want function testing to be I/O-controlled or managed via Modbus TCP/IP.

Press ENTER to confirm your changes or C to cancel without applying the changes.

If there are more fire cells to configure, the next fire cell will appear in the order specified in the configuration file.

The default setting is a function test on Monday at 06:00.

CLOCK/DATE SETTINGS

(Only in service mode)

```
2021-06-11  14:10
FRIDAY
```

The flashing value can be changed. Press ← → to move the cursor between year, month, day, etc. Press ↑ ↓ to increase/decrease the value. Press ENTER to confirm your changes or C to cancel without applying the changes.

SETUP OF RUN INDICATION RELAY OUTPUT

(Only in service mode)

```
SETUP RUN IND.
OPEN AT FUNC.TEST
```

There are 15 different combinations of conditions causing the run indication relay output to open **DO4**. Press ← → to move between the options:

OPEN AT FUNC. TEST	Relay opens during a function test of any module.
OPEN AT NIGHT	Relay opens for night mode.
NIGHT+FUNC.TEST	Relay opens if the system is in night mode or during a function test.
OPEN AT SUM	Relay opens for sum alarm (damper error or communication error).
SUM+FUNC.TEST	Relay opens for sum alarm (damper error or communication error) or function test.
SUM+NIGHT	Relay opens for sum alarm (damper error or communication error) or night mode.
SUM+NIGHT+ FUNC.TEST	Relay opens for sum alarm (damper error or communication error), night mode or function test.
OPEN AT FIRE	Relay opens for fire.
FIRE+FUNC.TEST	Relay opens for fire or function test.
FIRE+NIGHT	Relay opens for fire or night mode.
FIRE+NIGHT+ FUNC.TEST	Relay opens for fire, night mode or function test.
FIRE+SUM ALARM	Relay opens for fire or sum alarm (damper error or communication error).
FIRE+SUM+ FUNC.TEST	Relay opens for fire, sum alarm (damper error or communication error) or function test.
FIRE+SUM+NIGHT	Relay opens for fire or sum alarm (damper error or communication error) or night mode.
FIRE+SUM+ NIGHT+FUNC.TEST	Relay opens for fire, sum alarm (damper error or communication error), night mode or function test.

Press ENTER to confirm your changes or C to cancel.

MODULE ADDRESSING

(Only in service mode)

```
MODULE ADDRESSING
```

This function is used to address damper modules. Each module must have a unique address. The address consists of a *group address* and a *module address. The group address* is either **0** (zero), which is used to address the first 1-59 damper modules, or it can be 61, 62 or 63 **(only available if SMOKE EDIT is used)**. Each group can contain up to 59 damper modules.

NOTE

If digital I/O modules are used, they must be addressed from 59 down in group 0. This reduces the number of damper modules you can install in group 0.

Press ENTER to select the addressing function.

```
ENTER = START
GROUP:0   ADDR:1
```

The modules must be addressed in the range 1-59, so the first address is 1. If you want to start with a different address, for example if a module has been replaced during servicing, you can use ⬆ ⬇ to change the address. Press ⬅ ➡ to switch between the module address and the group address.

When you press ENTER again, SX:ACCESS starts sending addressing commands. The LEDs on the damper modules will begin rapidly flashing red in a repeating sequence.

```
ADRESSING...
GROUP:0   ADDR:1
```

While the addressing command is running, press the test buttons on the modules in the order in which you want them to be addressed.

INFORMATION

Press the buttons with care to make sure you do not press them twice.

After you press a button, the module responds with a sequence of green flashes to indicate that the address has been accepted. The address in the display is incremented by one. If you press twice by mistake, you can fix this by pressing ⬇. If the number 59 is reached, the address will not be incremented. To use group addresses 61-63, you can restart the addressing process and set the group address to the address you want (61, 62 or 63).

NOTE

⬇ can be used as a shortcut to these group addresses (0->63->62->61).

End the addressing command by pressing C.

SIMPLE SYSTEM CONFIGURATION

(Only in service mode, for systems configured from the keypad. Not available if **SMOKE EDIT** *is used.)*

The purpose of configuration is to tell the system how many modules are connected so it knows which ones are being used. This also means that all modules must be running to allow them to be identified. The system also checks that the modules are addressed sequentially from 1 up, and that there are no missing modules between the first and last ones.

```
SIMPLE SYSTEM
CONFIGURATION
```

Activate the function with ENTER. The SIOX bus is scanned over the address range 1-59. The number of modules found is counted.

```
  SEARCHING...
NMBR:2   A:1  SC2
```

Wait for the scan to finish.

```
 FOUND MODULES
NMBR:2   A:1  SC2
```

This menu is used to check that all modules are communicating. The module type is also shown.

NMBR	total number of modules found
A	current address
SC2	module type (example)

Press ENTER if the number of modules found is as expected.

The system now checks that the modules found are addressed sequentially from 1 up, and that there are no missing modules between the first and last ones. If the check is unsuccessful, the command remains active to help with troubleshooting.

Use ⬆ ⬇ to step between the addresses to check them one by one. **COM** is displayed to indicate a communication error if no module is found for the address. **DBL** is displayed if an address is duplicated (**at least** two modules with the same address). If there is a communication error during the check, make a note of the addresses and check the electrical connections of the modules. If an address is duplicated, at least two modules will have a communication error. **DBL** is displayed for the module with the correct address, and **COM** for the other modules (indicating a communication error because they are not responding). Run the addressing command again and change the addresses showing **COM**.

When all the modules are working properly, you can repeat the **SIMPLE SYSTEM CONFIGURATION** for the whole system.

INFORMATION

If the check is successful, the message **OK, CONFIGURATION FOR nn MODULES** is displayed and the next menu *Module configuration* appears.

MODULE CONFIGURATION

(Only in service mode, for systems configured from the keypad. Not available if **SMOKE EDIT** *is used.)*

```
MODULE
CONFIGURATION
```

Press ENTER to select the module configuration.

```
CONFIGURATION FOR
ADDR:1  LP S1 S2
```

This menu shows the available damper modules in the system. LP means that the smoke detector input on the module has been activated as an alarm point and can trigger fire alarms.

Press F1 to activate all damper modules as alarm points. F2 deactivates all alarm points. This does not affect the selected number of dampers per module. **S1** and **S2** indicate that both dampers are used.

Use ⬆ ⬇ to manually activate/deactivate alarm/damper settings and to move to a particular module address in the list. Use ➡ to choose from the five options:

- One damper
- One damper+alarm point
- Two dampers
- Two dampers+alarm point
- Alarm point only

INFORMATION

Changes are applied immediately. To end the command press ENTER or C.

NOTE

If a dual damper module (DUO) is used with just one damper attached, the damper must be connected to channel 1. The open and closed inputs for damper 2 must be jumpered. For SC2, terminals 24-25 and 26-27 are jumpered.

INFORMATION

The default setting on delivery is no alarm points and one damper connected per module.

If **COMERR** is displayed, there is no response from a module at this address. Unless there is a fault in the module preventing it responding, this error means that this address also higher addresses are not in use in the system. Check that the previous address was the highest address in use.

CHANGE PIN CODE

(Only in service mode)

```
CHANGE PIN CODE
```

Press ENTER to change the PIN code.

```
NEW PIN: 5555
C=ABORT
```

Use the arrows to change the digits in the PIN code. When you have finished, press ENTER to save the new PIN code.

If you forget your PIN code, follow the instructions in **RESET PIN CODE TO FACTORY SETTING**.

IP CONFIGURATIONS

(Only in service mode)

```
IP CONFIGURATIONS
```

This is a general menu you can use to change the IP address, gateway address, subnet mask and TCP/IP port number (not normally necessary). You must restart the module after making changes. To do this, either disconnect the power for a few seconds or use the fifth menu **RESTART?** under **IP CONFIGURATIONS**.

CHANGE IP ADDRESS

(Only in service mode)

To connect the unit to the Ethernet, you may need to change the IP address. The default setting on delivery is 192.168.0.234.

```
CHANGE IP ADDRESS
```

Press ENTER to change the IP address.

```
C=ABORT,ENTER=OK
192.168.000.234
```

Use the arrows to change the digits in the IP address. Press ENTER to save the new address.

INFORMATION

The module must be restarted in order to apply the new address.

NOTE

If you want to connect SX:ACCESS directly to a PC (Windows), the IP addresses for the PC and SX:ACCESS must be in the same address range. Usually, this means that the first three IP address fields must be identical.

You can check the IP address of the PC from the **START** menu: select **RUN**, type **cmd** and click **OK**. A command prompt window appears. Type *ipconfig* and press ENTER to display information about the IP address.

You can either change the IP address used by SX:ACCESS so it is in the same address range as the PC, or you can change the IP address used by the PC. In Windows, use the Control Panel. Click on the properties for the local network. Open the properties for **INTERNET PROTOCOL (TCP/IP)**. Make sure that **USE THE FOLLOWING IP ADDRESS** is selected. The following fields are for the IP address. If the computer is already configured for a fixed IP address, it is important to make a note of the old IP address so it can be restored later. Now change the IP address in the fields and click **OK**. The computer does not normally need to be restarted.

You also need to specify the IP address of SX:ACCESS in the programs that will connect to it to enable them to communicate with each other.

CHANGE IP GATEWAY ADDRESS

(*Only in service mode*)

To connect the unit to the Ethernet, you may need to change the gateway address. The default setting on delivery is 000.000.000.000. The gateway address is used if the module is accessed from a network outside the network it is connected to. In this situation, the module sends its responses to the gateway address, from where they are passed on.

```
CHANGE IP GATEWAY
```

Press ENTER to change the IP gateway address.

```
C=ABORT,ENTER=OK
192.168.000.001
```

Use the arrows to change the digits in the IP address. Press ENTER to save the new address.

INFORMATION

The module must be restarted in order to apply the new address.

SET SUBNET MASK

(*Only in service mode*)

To connect the unit to the Ethernet, you will have to change the subnet mask to the one used by the network. The default setting on delivery is 255.255.255.0.

```
SET SUBNET MASK
```

Press ENTER to change the subnet mask.

```
C=ABORT,ENTER=OK
255.255.255.000
```

Use the arrows to change the digits in the subnet mask. Press ENTER to save the new subnet mask.

INFORMATION

The module must be restarted in order to apply the new subnet mask.

SET TCP/IP PORT NUMBER

(*Only in service mode*)

```
SET TCP/IP PORT
```

Press ENTER to change the port number.

```
C=ABORT,ENTER=OK
PORT:01024
```

This port is used for SioxNet TCP/IP communication (SioxTools and VisualSetup forms), but not for Modbus TCP/IP communication.

INFORMATION

Modbus TCP/IP communication must use the default Modbus TCP/IP port 502.

NOTE

There is normally no reason to change the port number. The default port is 1024. Lower port numbers cannot be used. The highest available port number is 65535.

Use the arrows to change the digits. Press ENTER to save the new port number.

INFORMATION

The module must be restarted in order to apply the new port number.

SET FUNCTION TEST START DELAY

(*Only in service mode*)

When a scheduled function test is requested via digital inputs, the **FUNC.TEST ALL DAMPERS** menu, or Modbus TCP/IP, you can select the time (0-500 s) for which the relevant fans in the fire cells will stop **before** the function test starts. For example, the output DO4 can be configured to open during the function test. If the time is set to 60 s, DO4 will open 60 s before the function test begins so there is time for the fans to stop.

```
FUNC.TEST START
DELAY
```

Press ENTER to change the time.

```
SET FUNC.TEST
START DELAY 040 s
```

Use ⬆ to increase the time by 10 s for each press. Press ⬇ to set the time to 0. You can choose any time in the range 0-500 s. The factory setting is 0 s.

Press ENTER to confirm your changes or C to cancel and keep the old setting.

SHOW DIGITAL I/O STATUS

(*Only in service mode*)

```
I/O STATUS
```

This is a general menu which displays the status of the digital inputs and outputs. You can also change the output status, for example to help with troubleshooting.

SHOW DIGITAL INPUT STATUS

(*Only in service mode*)

Each of the four digital inputs DI1-DI4 has its own menu showing the status, which may be useful for troubleshooting.

```
STATUS EXTERNAL
ALARM DI1:CLOSED
```

```
STATUS FIRE RESET
DI2:OPEN
```

```
STATUS NIGHT MODE
DI3:OPEN
```

```
STATUS FUNC.TEST
DI4:OPEN
```

SHOW DIGITAL OUTPUT STATUS

(*Only in service mode*)

Each of the four digital outputs DO1-DO4 has its own status menu. You can also change the output status with ⬅ ➡, which may be useful for troubleshooting.

NOTE

The outputs cannot by controlled by the SX:ACCESS application while these menus are open.

Reversal of outputs can also affect external systems, for example fire alarms may be generated.

Press C or ENTER to exit.

```
SUM ALARMS
OUTPUT DO1:OPEN
```

```
FIRE ALARM
OUTPUT DO2:CLOSED
```

```
SD SERVICE
OUTPUT DO3:CLOSED
```

```
RUN INDICATOR
OUTPUT DO4:CLOSED
```

SET SERVICE MODE TIMEOUT

(*Only in service mode*)

Automatic return from *service mode* to normal mode can be set to a time of between 1 and 72 hours, or it can be deactivated (no automatic return). The factory setting is automatic return after 8 hours.

If you leave a unit in *service mode* by mistake, it will return to normal mode after the specified time.

NOTE

The timeout restarts every time you press a button on the keypad.

```
SET SERVICE MODE
TIMEOUT
```

Press ENTER to change the timeout.

```
SERVICE MODE
TIMEOUT 1 h
```

Press ⬆ to deactivate automatic return.

Use ⬇ to increase the time by one hour for each press, up to a maximum of 72 hours.

Press C to exit the command and keep the old setting.

Press ENTER to save the new time and exit the command.

SET SIOX REPEATS

(*Only in service mode*)

You will only need to use the functions in this menu if the bus is experiencing communication problems.

The number of retransmissions (repeats) before a communication is classed as failed can be set to any value in the range of 3-30 times. The default setting is 3. To help with troubleshooting, you can increase the number of repeats with ⬆. To decrease it, press ⬇.

```
SIOX REPEATS:3
H:3   G:0   A:1
```

In this example, the number of repeats has been increased to 10. On the bottom line, H:5 (H=highest) means that maximum number of repeats required by the module at group address 0 and module address 8 is 5, indicating possible communication problems. The group/module address is displayed for the first module with the highest number of repeats. If (in this example) the module did not answer at all, H:10 would be displayed because the maximum number of repeats was reached. Press ➡ to reset the highest indication and start counting from the beginning. You can now focus your troubleshooting on the part of the bus with the most communication problems.

SYSTEM INFORMATION

(*Only in service mode*)

This set of three menus displays basic system information.

```
Fw:EX2 ver 2.00
Baudrate: 4800
SIOX address: 60
SIOX curr.: 100 mA
```

- The transmission speed for the SIOX bus must be **4800 baud**.
- The SIOX address for SX:ACCESS must be **60**.
- SIOX current must be **100 mA**.

If these settings are changed, the easiest way to reset them is to use SX_ACCESS – Manager_.dff.

Press ⬇ to go to the next menu.

```
Number of damper
modules: 40
MAC Address:
NN-NN-NN-NN-NN-NN
```

The number of damper modules in the configuration is displayed. The unit's MAC address is also shown.

Press ⬇ to go to the next menu.

```
MODBUS MESSAGES
Correct: 800
Errors: 0
Right-arrow=Clear
```

The number of correct and incorrect Modbus TCP/IP messages is displayed. After 99999 the counters start again from 0.

You can reset the counters with ➡.

Press C or ENTER to close these menus. Press ⬆ to go to the previous menu.

COMMISSIONING A SYSTEM WITH SMOKE_CONTROL

NOTE

These instructions are not relevant if you are using SMOKE EDIT. The following section describes commissioning if you are using SMOKE EDIT to configure SX:ACCESS.

SX:ACCESS is supplied preloaded with the SMOKE_DEFAULT.cfg file as standard, allowing the keypad and display to be used to set up simple systems. These systems support up to 59 fire damper modules (addressed from 1-59) **in a single fire cell**. Single or dual damper modules such as SC2 and SC2-1 (SX:UNO/SX:DUO) can be used.

Once the electrical work has been done and all damper modules are installed, there are just a few steps remaining before the system can be started.

INFORMATION

The specific menu functions are described in more detail in the relevant sections elsewhere in this document.

STEP 1: ADDRESS THE MODULES

NOTE

Alternatively, if there is a PC connected to SX:ACCESS, you can use the PC software Sequential Addressing Tool which is part of SioxTools.

Switch to service mode and open the **MODULE ADDRESSING** menu. Press ENTER to start the addressing function.

NOTE

Addressing starts with group address=**0** and station address=**1**, which is the address of the first module. The address range for the modules in the system is **1** to **59**. The group address must always be 0.

If the display shows…

```
   ADDRESSING
GROUP:0   ADDR:1
```

…addressing commands are being sent to the modules, where the LEDs flash red in short sequences to indicate that the commands are being received.

In this state, you can press the test buttons on the damper modules one by one in the order you want to use for the module addresses. When you press the button on the first module, it is given the address 1. Continue with the next module, which will have the address 2, and so on. The green LED on the damper module flashes five times in quick succession to indicate that addressing was successful.

If you press the button more than once by mistake, thereby increasing the address number beyond the address you intended for the module, you can press ⬇ repeatedly until the right address is shown. Go back to the module and press the button again to apply the address. Continue with the other modules in the system.

When all the modules have been addressed, go back to the SX:ACCESS unit and check that the address in the display is one higher than the highest address used in the system. If so, addressing has been successful.

Press C to exit the addressing command and return to the **MODULE ADDRESSING** menu.

STEP 2: PERFORM SIMPLE SYSTEM CONFIGURATION

Press ⬇ to display the **SIMPLE SYSTEM CONFIGURATION** menu.

Press ENTER to start the configuration process and find out how many modules have been found. They must be addressed consecutively starting from 1, with no gaps.

STEP 3: CONFIGURE DAMPERS AND ALARM POINTS

Each module must be configured with the number of dampers and whether it is an alarm point.

See **MODULE CONFIGURATION**

STEP 4: SYSTEM TEST

In this step, SX:ACCESS communicates with the damper modules in the system and the status is updated.

If an alarm is active, you can find out more about what happened and where in the **ALARMS** and **FIRE CELLS** menus.

The dampers can undergo a function test to check that they all close and open correctly.

You can request this from the **FUNC.TEST ALL DAMPERS** menu.

STEP 5: CONFIGURE THE RUN INDICATION RELAY OUTPUT

The run indication relay output (DO4) is a normally closed relay that opens under one of 15 conditions, which are combinations of sum alarm (damper error or communication error), night mode, function test and fire alarm.

If you want to use the run indication relay output, you need to configure it. Otherwise skip to the next step.

There is more information in **SETUP OF RUN INDICATION RELAY OUTPUT**.

STEP 6: SET THE CLOCK/DATE

The clock is necessary for scheduled automatic function testing if this is used (function testing at a certain time on certain days of the week per fire cell).

There is more information in **CLOCK/DATE SETTINGS**.

STEP 7: CONFIGURE THE FUNCTION TEST SETTINGS

There are three ways to request a function test:

1. By activating (>1.5 seconds) DI4.
2. On specific days of the week at a certain time.
3. Autonomously by the modules (at 48 hour intervals).

Option 3 is used if neither a day/time nor the I option is selected.

NOTE

Activating DI4 always generates a request for a function test unless service mode is active.

There is more information in **FUNCTION TEST SETTINGS**.

STEP 8: SYSTEM TEST

Check if there are any alarms in the display and fix them. If external systems are connected to the digital inputs and outputs, you can check that they are working properly. The sections **SHOW DIGITAL INPUT STATUS AND SHOW DIGITAL OUTPUT STATUS** above contain more details.

STEP 9: CHANGE THE PIN CODE

You can change the PIN code if necessary to prevent unauthorised access to the configuration menus. Make a note of the PIN code and keep it somewhere safe. The factory setting is **5555**.

There is more information in **CHANGE PIN CODE**.

STEP 10: ACTIVATE THE WATCHDOG

Open the **WATCHDOG** menu and set the time to a value other than 0.

See the **WATCHDOG** section for more details.

STEP 11: SET THE TIME FOR AUTOMATIC RETURN FROM SERVICE MODE

If necessary you can set the time for automatic return from *service mode*. The factory setting is automatic return after 8 hours. The time can be set to 1-72 hours or the function can be deactivated.

See **SET SERVICE MODE TIMEOUT** for more details.

STEP 12: RETURN THE SYSTEM TO NORMAL MODE

To return the system to normal mode, exit **SERVICE MODE** by pressing F2 and C in the main menu.

INFORMATION

The green *OK* LED must be on, indicating that normal mode is active without alarms and that service mode is not active. If the watchdog has not be activated, **WATCHDOG INACTIVE!** will flash in the main menu.

INFORMATION

If the watchdog is inactive when the module is in normal mode (not service mode), the green *OK* LED is off and the error LED flashes in time with the warning **WATCHDOG INACTIVE!** in the main menu.

NOTE

The flashing indicates a higher priority than other errors for which the LED does not flash.

Fix the error by activating the watchdog.

You have successfully commissioned SX:ACCESS.

COMMISSIONING A SYSTEM WITH SMOKE EDIT

Single or dual damper modules such as SC2 and SC2-1 (SX:UNO/SX:DUO) can be used.

Once the electrical work has been done correctly and all damper modules are installed, there are a few steps remaining before the system can start running.

These instructions also assume that SMOKE EDIT has been used to create a project file that can be compiled without errors.

INFORMATION

The specific menu functions are described in more detail in the relevant sections elsewhere in this document.

STEP 1: ADDRESS THE MODULES

NOTE

Alternatively, if there is a PC connected to SX:ACCESS, you can use the PC software Sequential Addressing Tool which is part of SioxTools.

Switch to **SERVICE MODE** and open the **MODULE ADDRESSING** menu. Press ENTER to start the addressing function.

NOTE

Note that addressing starts with group address=0 and station address=1.

The station address range for the modules in the system is 1 to 59. The group address is 0, although larger systems can have group addresses 61, 62 or 63 for the modules that do not fit in group 0. For precise details of the relevant addresses, refer to the information that was applicable when SMOKE EDIT generated the configuration file for the system.

See **MODULE ADDRESSING** for more information.

STEP 2: DOWNLOAD THE CONFIGURATION FILE

Open the relevant project in SMOKE EDIT. Check that the project file has the right IP address for SX:ACCESS by right-clicking on the **SX:ACCESS** symbol in the **MODULES** tab and selecting **PROPERTIES**. Check that a watchdog time has been set by right-clicking on the **SMOKE CONTROL** symbol in the **MODULES** tab and selecting **PROPERTIES**. The default value for a new project is 30 seconds.

NOTE

To configure the run indication relay output DO4 in **SMOKE EDIT**, right-click on the **SX:ACCESS** symbol in the **MODULES** tab and select **PROPERTIES**. There is nothing to stop you using the keypad to change the configuration, but this would require you to also update the project file.

Similarly, the function test settings for each fire cell can be configured by right-clicking on the relevant fire cell symbol in the **MODULES** tab and selecting **PROPERTIES**. You could use the keypad to change this configuration too, but as above, this would require you to update the project file. It is always preferable simply to download a corrected project file.

You can now download the configuration file from SMOKE EDIT to SX:ACCESS.

STEP 3: SYSTEM TEST

In this step, SX:ACCESS communicates with the damper modules in the system and the status is updated.

If an alarm is active, you can find out more about what happened and where in the **ALARMS** and **FIRE CELLS** menus.

If external systems are connected to the digital inputs and outputs, you can now check that they are working properly. The sections **SHOW DIGITAL INPUT STATUS** and **SHOW DIGITAL OUTPUT STATUS** contain useful descriptions.

The dampers can undergo a function test to check that they can all close and open.

You can request this from the **FUNC.TEST ALL DAMPERS** menu.

STEP 4: SET THE CLOCK/DATE

The clock is necessary for scheduled automatic function testing if this is used (function testing at a certain time on certain days of the week per fire cell).

There is more information in **CLOCK/DATE SETTINGS**.

STEP 5: CHANGE THE PIN CODE

You can change the PIN code if necessary to prevent unauthorised access to the configuration menus. Make a note of the PIN code and keep it somewhere safe. The factory setting is **5555**.

There is more information in **CHANGE PIN CODE**.

STEP 6: ACTIVATE THE WATCHDOG

Open the **WATCHDOG MENU** and set the time to a value other than 0.

There is more information in the **WATCHDOG** section.

STEP 7: SET THE TIME FOR AUTOMATIC RETURN FROM SERVICE MODE

If necessary you can set the time for automatic return from *service mode*. The factory setting is automatic return after 8 hours. The time can be set to 1-72 hours or the function can be deactivated.

See **SET SERVICE MODE TIMEOUT** for more details.

STEP 8: RETURN THE SYSTEM TO NORMAL MODE

To change to normal mode, exit **SERVICE MODE** by pressing F2 and C in the main menu.

INFORMATION

The green *OK* LED must be on, indicating that normal mode is active without alarms and that *service mode* is not active. If the watchdog is not activated, **WATCHDOG INACTIVE!** will appear in the main menu.

If the watchdog is inactive when the module is in normal mode (not service mode), the green *OK* LED is off and the error LED flashes in time with the warning **WATCHDOG INACTIVE!** in the main menu.

NOTE

The flashing indicates a higher priority than other errors for which the LED does not flash.

Fix the error by activating the watchdog.

You have successfully commissioned SX:ACCESS.

INSTALLATION

SX:ACCESS is designed for installation on standard 35 mm DIN rails according to EN 50022 (DIN 46277-3). The unit must be housed in an equipment cabinet or other enclosure which prevents unauthorised access.

The module can work with an AC or DC power supply. The supply voltage for AC must be 12-24 V, and 18-35 V for DC. The unit's power consumption is about 3.5 W in normal mode.

CONNECTING AC POWER

The secondary winding of the transformer is connected between terminals 13 and 14.

CONNECTING DC POWER

Connect the negative wire from the power supply unit to terminal 14 and the positive wire to terminal 13.

THREE WIRE BUS

The module supports the three wire bus concept used by SMOKE CONTROL products, based on terminal connections for SIOX, power supply (G) and ground (G0).

Outgoing SIOX uses terminal 10. The power supply for the first damper modules (before additional transformers take over for their group of damper modules) can be taken from terminal 11 (G) and terminal 12 (G0).

Terminals 13 and 14 are normally used for the power supply. Terminal 14 (G0) is internally connected to terminal 12 and also to terminals 9 and 23 in the I/O contacts. Terminal 13 (G) is internally connected to terminal 11.

Other SIOX product that do not need a power supply from SX:ACCESS are connected with their SIOX buses between terminals 10 (SIOX) and 12 (G0).

NOTE

Note that certain I/O modules must be powered with 24 V DC.

The ground wire (G0) must **always** run continuously to all modules throughout the system and must **only be interrupted** if SX:ECHO bus extenders are used, connected to provide galvanic separation between the incoming and outgoing buses.

The power supply (G) powers the damper modules, and it must provide electrical separation so that each transformer supplies a group of dampers, for example 10 units. The power supply (G) must not have a connection between the groups (transformer connected to transformer). The secondary side of a transformer is connected between G0 and G for the group of dampers it powers.

Three wire bus:

- Terminal 10 is the SIOX bus.
- Terminal 11 is the power supply (G) for the first damper modules.
- Terminal 12 is the ground wire (G0).

There is more information about the choice of cables in this document: **http://www.siox.se/download/pdf/kabelval.pdf**

WARNING ABOUT INCORRECT CONNECTIONS

If the SIOX at terminal 10 is connected to ground or +24 V AC/DC by mistake, the following warning will appear:

SIOX SHORTED TO GROUND,
SIOX SHORTED TO +24 VDC,
SIOX SHORTED TO 24 VAC

Press C for 3 seconds to continue to the menu system. After 3 minutes of keypad inactivity the error will appear again unless it has been fixed.

GROUNDING

Terminal 12 (G0) must be grounded close to the SX:ACCESS module to prevent the system "floating" in the electrical sense.

NOTE

To avoid ground currents, there should only be one grounding point. However, after R30 bus expanders connected to provide galvanic separation between incoming and outgoing buses, the G0 connected to the secondary side of the R30 module and further to other damper modules must be grounded.

Note that terminals 9 and 23 on the two 9-pole terminal blocks for DI/DO are electrically connected to 12 and 14 (G0).

DIGITAL INPUTS

The four digital inputs are designed for potential free contacts There is a detailed functional description in **DIGITAL I/O**.

Note that terminal 9 on the 9-pole terminal block for DI is electrically connected to 12 and 14 (G0).

DIGITAL OUTPUTS

The outputs consist of four relay outputs (breaking capacity 1 A at 30 V AC/DC). Note that the relay outputs are normally closed, and they open in the presence of an alarm. There is a functional description in **DIGITAL I/O**.

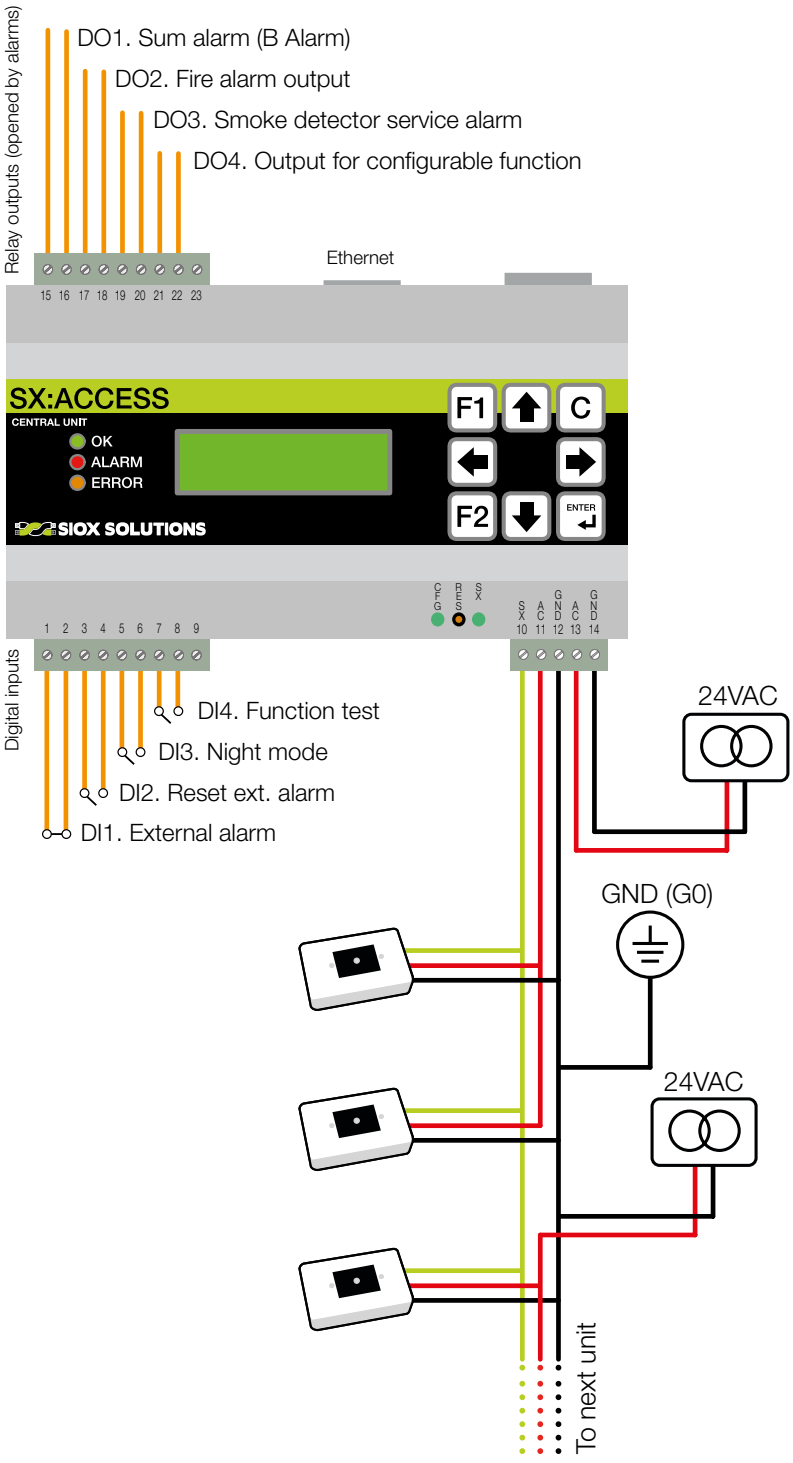
Note that terminal 23 on the 9-pole terminal block for DO is electrically connected to 12 and 14 (G0).

ETHERNET

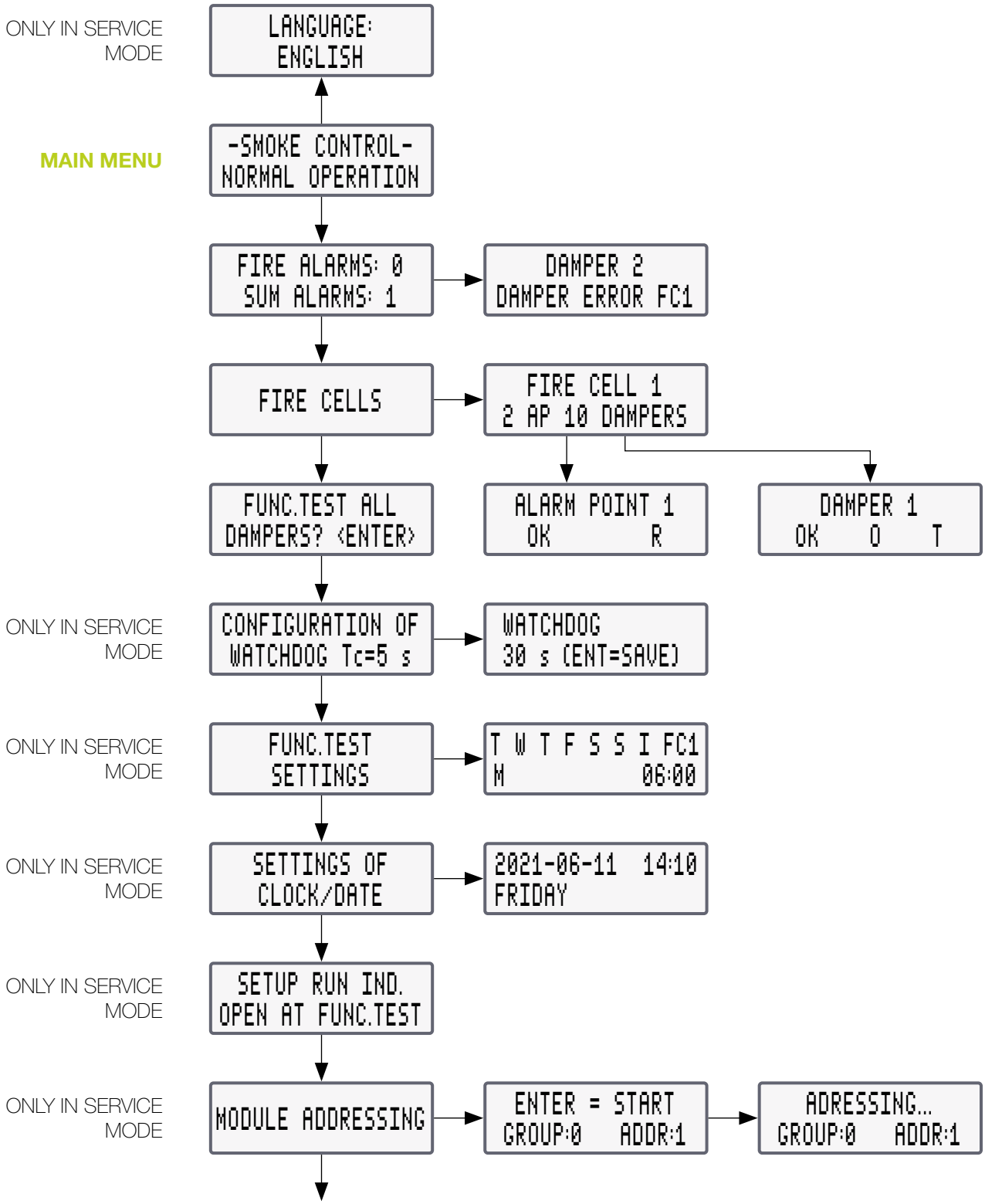
Ethernet 100BaseT (100 Mbit/s) is connected via the RJ45 connector on the top of the module, and is used for Modbus TCP/IP or SioxNet communication.

A new configuration can also be imported in this way, for example if SMOKE EDIT is used to generate the system configuration.

SX:ACCESS CONNECTIONS

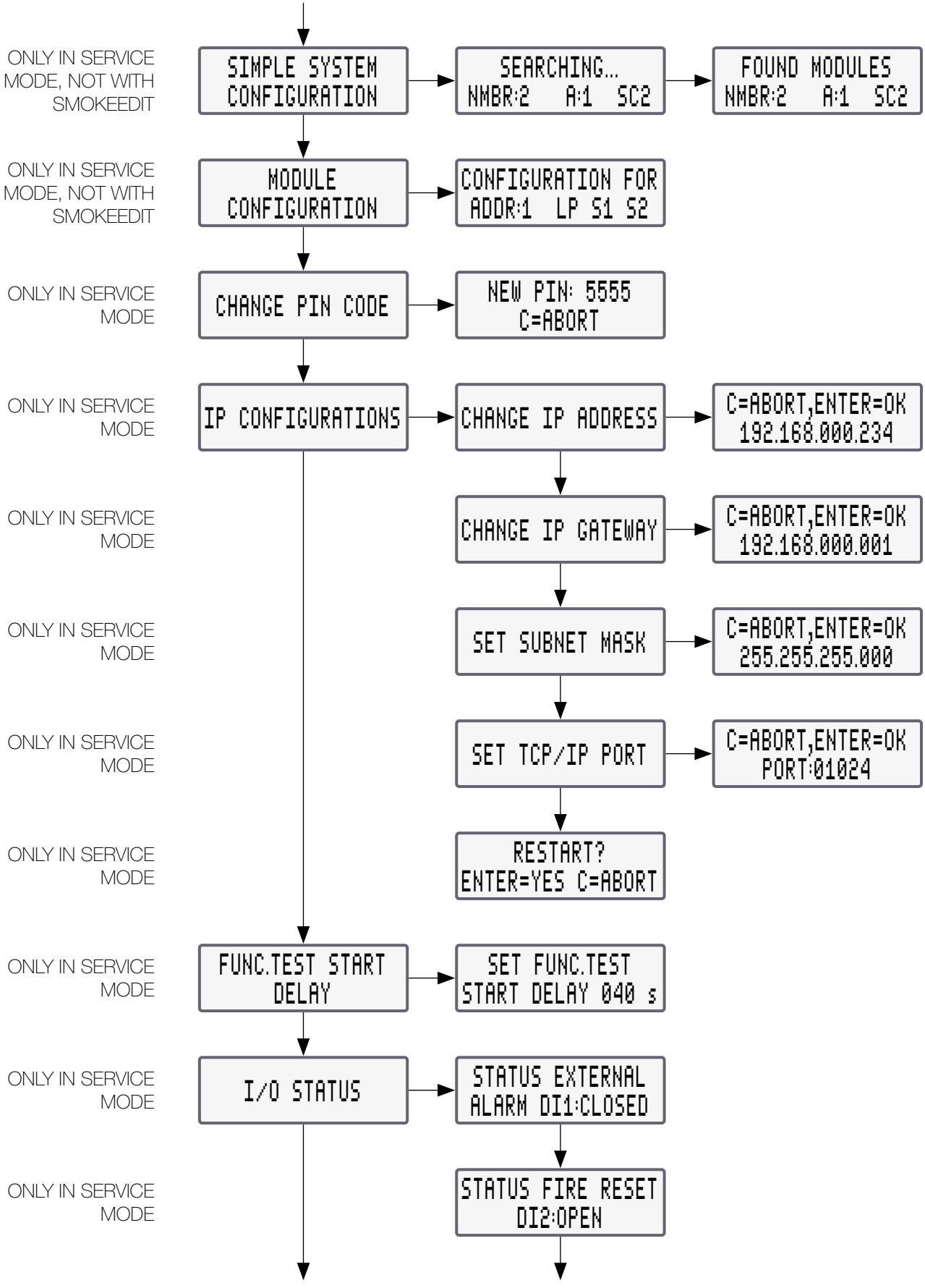


SX:ACCESS MENU SYSTEM

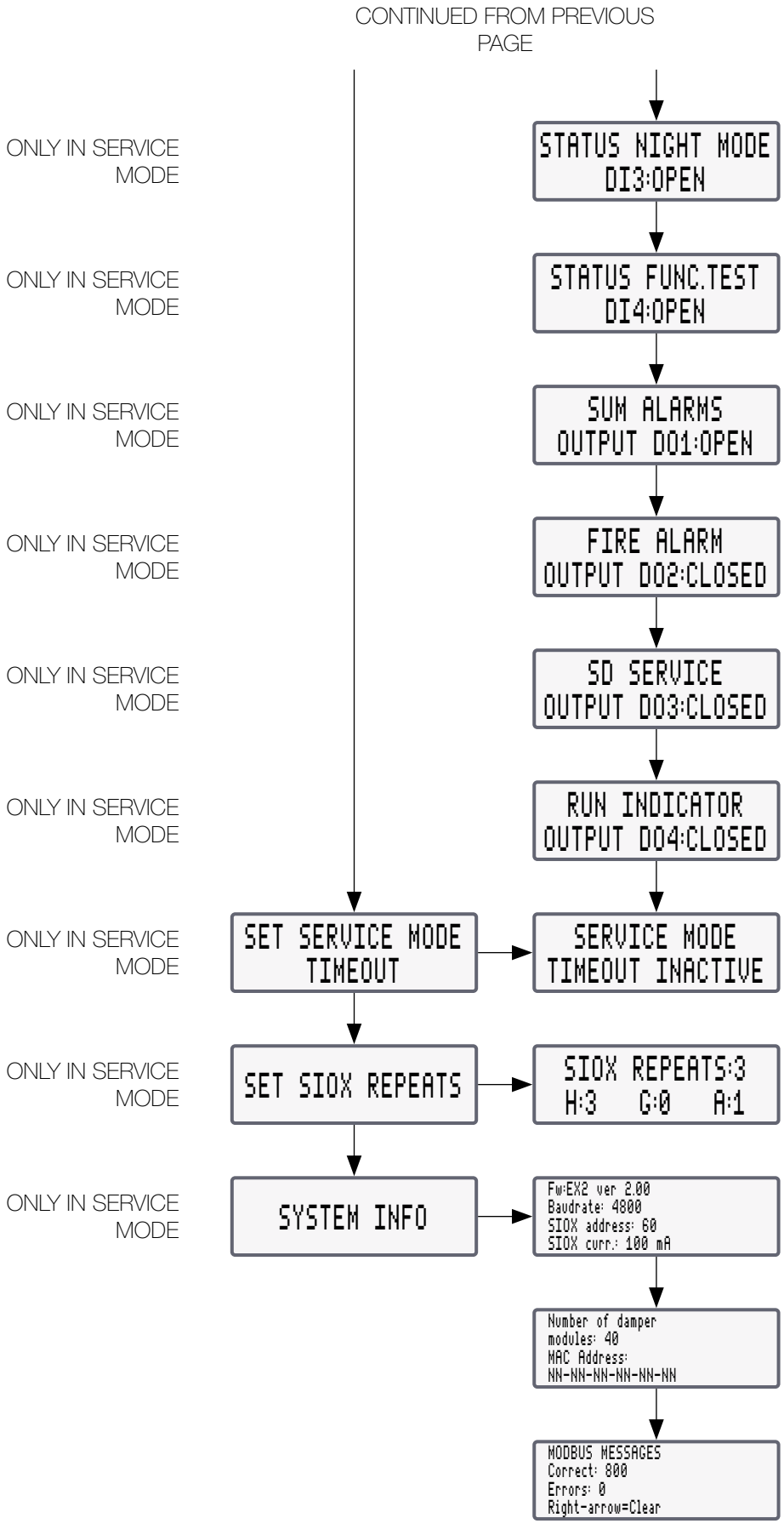


CONTINUED ON NEXT PAGE

CONTINUED FROM PREVIOUS PAGE



CONTINUED ON NEXT PAGE


CONTINUED FROM PREVIOUS PAGE
ONLY IN SERVICE MODE
STATUS NIGHT MODE DI3:OPEN
ONLY IN SERVICE MODE
STATUS FUNC.TEST DI4:OPEN
ONLY IN SERVICE MODE
SUM ALARMS OUTPUT DO1:OPEN
ONLY IN SERVICE MODE
FIRE ALARM OUTPUT DO2:CLOSED
ONLY IN SERVICE MODE
SD SERVICE OUTPUT DO3:CLOSED
ONLY IN SERVICE MODE
RUN INDICATOR OUTPUT DO4:CLOSED
ONLY IN SERVICE MODE
SET SERVICE MODE TIMEOUT
SERVICE MODE TIMEOUT INACTIVE
ONLY IN SERVICE MODE
SET SIOX REPEATS
SIOX REPEATS:3 H:3 G:0 A:1
ONLY IN SERVICE MODE
SYSTEM INFO
Fw:EX2 ver 2.00
Baudrate: 4800
SIOX address: 60
SIOX curr.: 100 mA
Number of damper modules: 40
MAC Address: NN-NN-NN-NN-NN-NN
MODBUS MESSAGES
Correct: 800
Errors: 0
Right-arrow=Clear