



Operating instructions for SRD2-OP and other X2 devices with touch button & TFT display

The X2 operating system was designed for universal controllers and sensors. Devices based on the X2 operating system contain a multitude of standardized functions and application possibilities. From simple ventilation controllers for domestic applications to HVAC system solutions for entire buildings. There is a suitable solution for almost every application. With the EasySet program, the controllers can be conveniently configured, programmed and read out.

Content Overview

1	Overview	2
2	Display and Operation	2
3	General Operation	5
4	Applicationspecific Operation	7
5	Extended Operating Level	Error! Bookmark not defined.

1 Overview

1.1 Applications

These operating instructions apply to devices of the X2 series with integrated operating unit with touch buttons and a TFT display.

In addition, the various product descriptions and the programming instructions for technicians are contained in separate documents. This should facilitate the work with the different controllers and operating levels.

2 Display and Operation

2.1 User Interface of SRD2 series

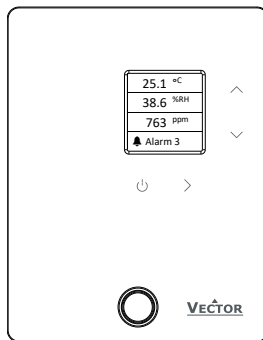


Figure 1: SRD2-OPIR

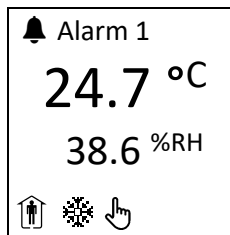
Button Symbol	Function	Description
⏻	Operating mode (ESC)	Operating mode selection (On / Off, Occupied / Unoccupied mode) Menu navigation: ESC to the previous menu Long press: Off if occupation mode is configured
➡	Right (Confirm)	Menu navigation: Next menu point Alarms: Confirm the alarm Long press: activate configuration menu
⬆	Up (+)	Adjust temperature set points and control parameters
⬇	Down (-)	Adjust temperature set points and control parameters

2.2 LCD Display

Overview

This section explains the meaning of the symbols on the LCD Display.

Sample display:



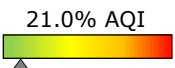
2.3 Operating Modes

Display	Mode	Description
	Occupied (Comfort)	The X2 device maintains the occupied (comfort) temperature set points defined within each control loop. In occupied mode, the fan can be set to auto or manual fan speed.
	Unoccupied (ECO)	The X2 device maintains the unoccupied (ECO, economy) temperature set points defined within each control loop.
	Off / Protection	The X2 device runs in off mode. Alarms and times schedules will still operate according to their configuration.

2.4 Controlling Modes

Display	Mode	Description
	Cooling	Cooling mode activates cooling equipment for temperatures above the set point.
	Heating	Heating mode activates heater for temperatures below set point.
	Manual	Manual override mode
	Fan	The side bars show the fan speed.

2.5 Operation Status

Display	Status	Description
	Alarm	Alarm active (see chapter 2.6).
	Error	Error active (see chapter 2.7).
	Settings	The X2 device general setting is active.
LED on / flashing	Normal	Status LED is on or blinks briefly once every 5 seconds.
LED blinking	Alarm / Error	Status LED blinks every second in case there is an alarm or error condition.
 or 	Special function	The smiley/monitoring bar can be used to monitor air quality levels (temperature, CO ₂ , humidity) See X2 engineering manual section "Display of low, medium and high level" for a detailed description.

2.6 Alarm messages

If an alarm is active, the alarm symbol  is set and an alarm message is shown on the display. A steady alarm is still active. A blinking alarm is not active anymore and can be confirmed by pressing the "Right" button.

Message	Alarm condition
Alarm 1	Up to 8 different alarms can be displayed. The alarm condition is programmable and must be defined when configuring the controller. See separate alarm list for the meaning of the programmed alarms. The list is provided by the configurator of the X2 device.
Alarm 2	
...	
Alarm 7	
Alarm 8	

Sample display SRD2:

25.1 °C
38.6 %RH
763 ppm
 Alarm 3

 Alarm 1
1356 ppm
52.1 %AQI
   

2.7 Error messages

If an Error is active, the error symbol  is set and the Error messages are shown on the display. Some errors can be confirmed by pressing the "Right" button.

Message	Error condition
Error 1	Communication error between operating terminal and controller
Error 2	Internal error: Firmware version of the memory does not match firmware.
Error 3	Internal error
Error 4	Configuration error: An assigned input is not activated or has failed. Check all settings and ensure that all inputs used are activated and functional.
Error 5	Copy error: Communication error with external memory AEC-PM1 or AEC-PM2. The plug-in module is either damaged or missing.
Error 6	Copy error: Checksums of the data record are incorrect. The data record is invalid.

Sample display SRD2:

25.1 °C
38.6 %RH
763 ppm
 Error 4

 Error 4
1356 ppm
52.1 %AQI
   

2.8 Status LED

Most devices have a status LED. The position of the status LED is defined in the product data sheet.

In normal operation, the LED flashes briefly once every 5 seconds.

In an alarm or error condition, the LED flashes every second.

3 General operation

3.1 Switching the X2 Device On and Off

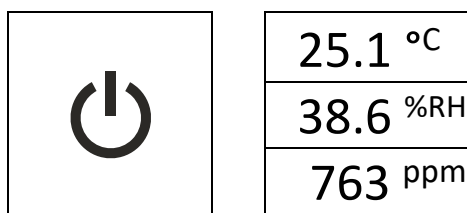
To switch the X2 device on, press the (⏻) button. Press the (⏻) button again to turn the X2 device off. If occupied / unoccupied mode detection is active, a short press will toggle unoccupied / occupied mode and a long press will switch the device off.

 The system may be configured so that it cannot be turned off.

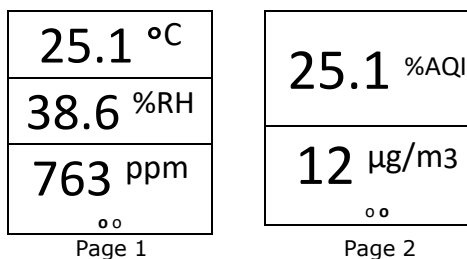
Note on turning off the X2 device

 If turned off, the X2 device runs in off mode. Alarms and time schedules will still be monitored according to their configuration.

Sample display Off / On:



Sample display with 5 enabled inputs:



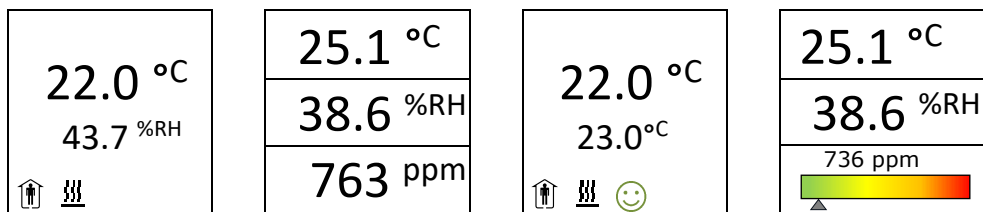
3.2 Idle display

Overview

This section shows the different idle screens that can be configured with the X2 system.

The configuration of the idle display is explained in the "X2 Engineering Manual" in section "User and display settings".

Samples of idle display: (SRD2)



Display of air quality
with a smiley symbol

Display of air quality
with monitoring bar

3.3 Changing setpoints and manual outputs

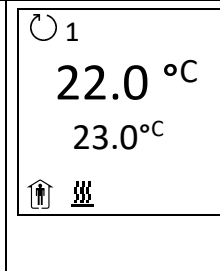
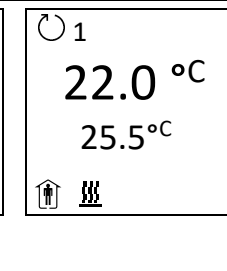
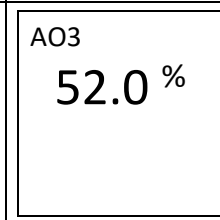
Overview

This section describes how to change the set point of a control loop and set manual outputs.

The large digits show the input value. The small digits show the set point. The loop symbol on the top left indicates which loop is being displayed. It is possible to omit the display of the current value. In this case only the setpoint is shown.

 The X2 device allows for various ways of user access and display screen configurations. The actual display may differ from the samples below.

Procedure

- Press the (➤), (⤴) or (⤵) button briefly to go to the first control loop. ➔ Input value and setpoint are displayed. ➔ Loop symbol indicates control loop (1-4). ➔ Bottom line symbols show operating mode and control mode setting of the control loop. - Change the setpoint with the (⤴) or (⤵) button. The setpoint is automatically saved after 2 seconds. - Press the (➤) button to go to the next control loop or manual output.		
- Change the manual output with the (⤴) or (⤵) button. The output is automatically saved after 2 seconds. - Press the (➤) button to go to the next manual output or control loop.		

3.4 Manual override

The hand symbol  is displayed during a pending controller start up or shut down delay, if a time schedule is overridden or a fan is in manual.

In case of a controller start-up delay is active: - The controller remains switched off and displays the hand symbol until the delay has elapsed. Then the controller switches on and the hand symbol disappears.

3.5 Protection mode (OFF)

The X2 device runs in protection mode. Control function is suspended. The system still monitors any configured alarms or interlocks, special functions and time schedules.

3.6 Power Failure

All parameters and set points are memorized and do not need to be re-entered. The switch-on behavior on return of the power supply is set by the technician.

4 Application specific Operation

i The X2 device allows for various ways of customized operation, user access and display screen configurations.

4.1 Idle Display

The idle display is activated when no key has been pressed for 30 seconds.

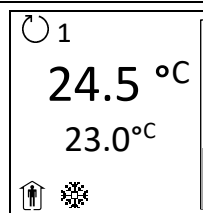
i The idle display can be deactivated by parameter.
If idle display is deactivated, the display will remain in its current state.

4.2 Fan Coil Mode

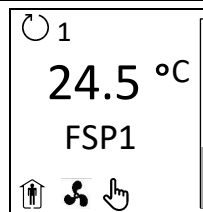
i In "Fan Coil Mode" there is just one control loop and one active fan.

Procedure

1. Press the (➤), (⤴) or (⤵) button briefly to switch to the first control loop.
➔ Input value and setpoint are displayed.
➔ The side bar indicates the actual loop output.
2. Change the setpoint with the (⤴) or (⤵) button.
The setpoint is automatically saved after 2 seconds.



3. Press the (➤) button briefly to display the fan speed.
4. Press the (➤) button briefly to change the fan speed.
➔ The side bar indicates the actual fan speed. The fan speed step through these stages:
FSP0 -> FSP1 -> FSP2 -> FSP3 -> AUTO -> FSP0
FSP0 may be disabled by settings, the number of available fan speeds may be different according to configuration.



5 General settings

5.1 Access configuration

Overview

This section describes how to set general behaviour of the controller and operation terminal.

Procedure

- Press the (➤) button longer than 5 seconds. ➔ Setting screen is displayed. - Use the (↙) or (↗) button to navigate and the (➤) button to change settings. A ↓ indicates that there is more than one page.	 ↓	 ↑
	Unit °C	
	Mode cool	
	Fanonly Off	Base V16r2
	BL On	OP V12r0
Press the (⏻) button to go back to the start menu.		

5.2 Change unit °C / °F

Procedure

- Press the (↙) or (↗) button to navigate to the Unit settings. - Press the (➤) button to toggle unit between °C and °F - Press the (⏻) button to go back to the start menu.	 ↓	 ↓
	Unit °C	Unit °F
	Mode cool	Mode cool
	Fan only Off	Fan only Off
	BL On	BL On

5.3 Heat – Cool –Auto selection

Overview

This section describes how to configure advanced mode of the X2 device.



Depending on the configured application, this submenu can have up to 5 different setting options or is deactivated entirely.

Procedure

Press the (↙) or (↗) button to navigate to the Mode settings.	 ↓	
	Unit °C	
	Mode cool	
	Fan only Off	
	BL On	
Press the (➤) button and select one of the following functions:  = Cooling only. The controller stays in cooling mode only and will not switch to heating.  = Heating only. The controller stays in heating mode only and will not switch to cooling. Auto = Auto operation: Heating and cooling changes automatically as required. For function "Fan only cooling" or "Fan only heating" see below.	 ↓	 ↓
	Unit °C	Unit °C
	Mode cool	Mode heat
	Fan only Off	Fan only Off
	BL On	BL On
	 ↓	
	Unit °C	
	Mode auto	
	Fan only Off	
	BL On	
Press the (⏻) button to go back to the start menu.		

5.4 Fan only selection

Overview

This section describes how to configure fan only mode. Fan only mode is available if there is an activated fan module present and the fan only option is enabled.

Procedure

1. Press the (V) or (^) button to navigate to the **Fan only** settings.
2. Press the (>) button and select one of the following functions:

Fan only Off:	
	Fan only cooling: (Fan only = On and Mode = cool) The controller is in fan-only mode. The fan is controlled according to the controller configuration or setpoint. The cooling output is deactivated.
	Fan only heating: (Fan only = On and Mode = heat) The controller is in fan only heating mode. The fan is controlled according to the controller configuration or setpoint. The heating output is deactivated.

For function "Cooling", "Heating" or "Auto" see above.

	↓
Unit	°C
Mode	cool
Fan only	Off
BL	On

	↓
Unit	°C
Mode	cool
Fan only	On
BL	On

	↓
Unit	°C
Mode	heat
Fan only	On
BL	On

3. Press the (P) button to go back to the start menu.

5.5 Display Software Version

Overview

This section describes how to display the software version of the installed X2 operating system and the firmware version of the display / operation terminal.

Procedure

1. Press the (>) button longer than 5 seconds.
→ Setting screen is displayed.
2. Press the (V) button to go to the end of the list.

→ **Base** and the software version of the X2 system and **OP** and the firmware version of the display / operation terminal are displayed.

	↓
Unit	°C
Mode	cool
Fan only	Off
BL	On

	↑
Base	V16r2
OP	V12r0

3. Press the (P) button to go back to the start menu.

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