

FCC/S in combination with SAx/A 1.0.1

Single room control

GPG BUILDING AUTOMATION

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Product: FCC/S 1.x.x.1 + SAx/A 1.0.1

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Despite checking that the contents of this document are consistent with the current versions of the related hard and software of the products mentioned within, deviations cannot be completely excluded. We therefore assume no liability for correctness. Necessary corrections will be introduced as and when new versions of the document are generated.

Introduction

Single room control can be implemented using the analog room control units (SAF/A or SAR/A), which can be connected directly to the Fan Coil Controllers. Depending on the device variant, the user has the option of local control of the setpoint and/or the fan stages. An integrated temperature sensor can be additionally included in the control system to measure the actual temperature.

Objectives of the document

The document is intended for all system administrators. It provides an overview and a rapid introduction to combining the analog control units with the FCC/S 1.x.x.1 in controller mode.

Content



Fig. 1 Fan Coil Controller without membrane keypad



Fig. 2 Fan Coil Controller with membrane keypad

Two analog room control unit device variants are available:

SAR/A 1.0.1

Setpoint adjustment/temperature measurement



Fig. 4 SAR/A 1.0.1

SAF/A 1.0.1

Setpoint adjustment/temperature measurement/fan control

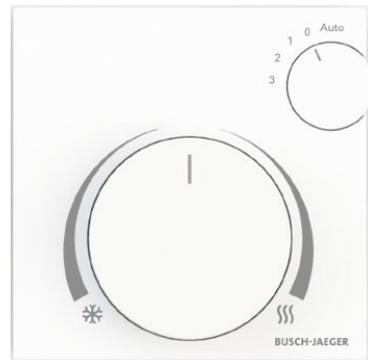


Fig. 3 SAF/A 1.0.1

1. Hardware connection

Both device variants have two connection terminals.



Terminal a: Output of the room control unit. This must be connected to “Input a” of the FCC. **(Setpoint adjustment)**

Terminal b: Connection of the temperature sensor (see note for Fig. 5). Use is optional. **(Act. value detection)**

Note:

Only one analog room control unit SAx/A 1.0.1 can be connected per FCC/S! Terminals a+b are polarity free.

Fig. 5 SAx/A connection

“No parallel connection!”

2. Software activation

The analog room control unit must first be activated in the “Setpoint adjustment” parameter.

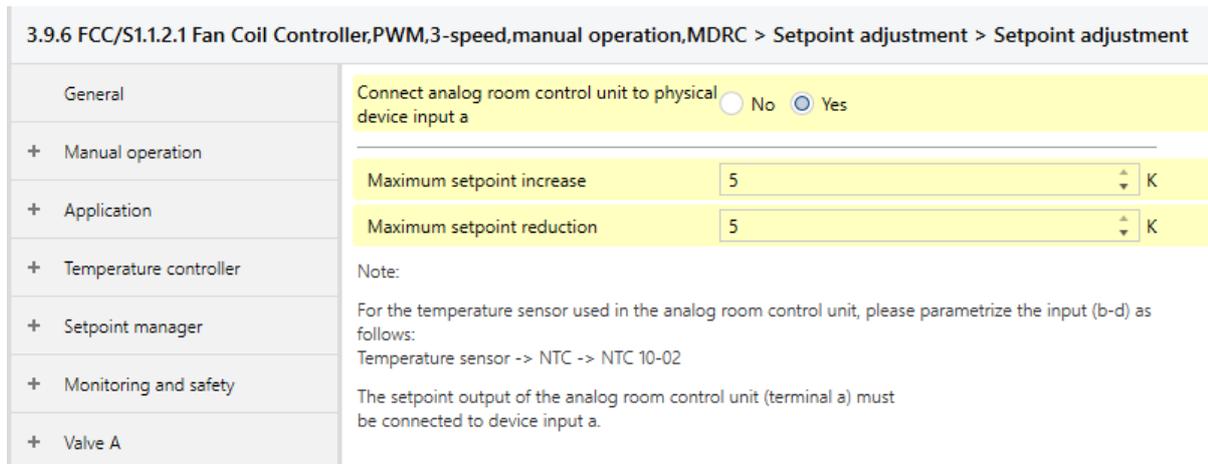


Fig. 6 ETS parameter “Setpoint adjustment” FCC/S 1.x.x.1

Activation automatically reserves “Input a” for the RCU.

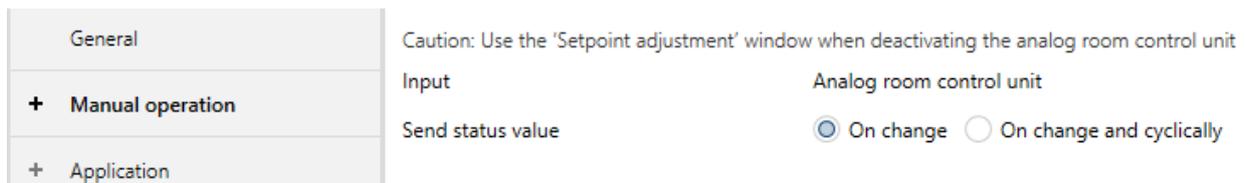


Fig. 7 ETS parameter “Input a” FCC/S 1.x.x.1

3. FCC/S as master (controller)

Setpoint adjustment:

The adjustment on the analog room control unit changes the setpoint display. The possible adjustment, e.g. ± 5 K, is first defined in the parameters (Fig. 6). Absolute setpoint display of the master (controller) is via group object 97.

97	Channel - Controller	Setpoint display (master)	5/1/97	2 bytes	C R - T -	temperature difference (K)
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Another slave is not intended in this concept with the analog room control unit.

If setpoint adjustment was performed locally via the analog room control unit and the basic setpoint is then increased or decreased, the setpoint display is automatically adapted or updated.

Example:

Setpoint adjustment by 2 K via RCU with subsequent basic setpoint change.

1	06.06.2019 09:16:35,628	to bus	Low	3.9.171	-	5/1/76	External Temperature 1 (Controller)	6	GroupValueWrite	9.001 temperature (°C)0C 1A 21 °C
2	06.06.2019 09:16:35,650	from bus	Low	3.9.6	FCC/S1.12.1 Fan Coil Controller,...	5/1/97	Setpoint (Master) (Controller)	6	GroupValueWrite	9.002 temperature d... 19 07 21.04 K
3	06.06.2019 09:16:38,651	from bus	Low	3.9.6	FCC/S1.12.1 Fan Coil Controller,...	5/1/97	Setpoint (Master) (Controller)	6	GroupValueWrite	9.002 temperature d... 19 20 23.04 K
4	06.06.2019 09:16:38,838	from bus	Low	3.9.6	FCC/S1.12.1 Fan Coil Controller,...	5/1/10	Status Fan ON/OFF	6	GroupValueWrite	\$01 On
5	06.06.2019 09:16:38,859	from bus	Low	3.9.6	FCC/S1.12.1 Fan Coil Controller,...	5/1/13	Status Fan Speed	6	GroupValueWrite	5.001 percentage (0.... \$AA 67 %
6	06.06.2019 09:16:38,879	from bus	Low	3.9.6	FCC/S1.12.1 Fan Coil Controller,...	5/1/15	Status Fan Speed II	6	GroupValueWrite	\$01 On
7	06.06.2019 09:16:38,963	from bus	Low	3.9.6	FCC/S1.12.1 Fan Coil Controller,...	5/1/27	Status Control Value A	6	GroupValueWrite	5.001 percentage (0.... \$7F 50 %
8	06.06.2019 09:16:45,433	to bus	Low	3.9.171	-	5/1/85	Base Setpoint (Controller)	6	GroupValueWrite	9.001 temperature (°C)0C 76 23 °C
9	06.06.2019 09:16:45,455	from bus	Low	3.9.6	FCC/S1.12.1 Fan Coil Controller,...	5/1/97	Setpoint (Master) (Controller)	6	GroupValueWrite	9.002 temperature d... 19 39 25.04 K
10	06.06.2019 09:16:45,573	from bus	Low	3.9.6	FCC/S1.12.1 Fan Coil Controller,...	5/1/27	Status Control Value A	6	GroupValueWrite	5.001 percentage (0.... \$FF 100 %
11	06.06.2019 09:16:46,077	from bus	Low	3.9.6	FCC/S1.12.1 Fan Coil Controller,...	5/1/13	Status Fan Speed	6	GroupValueWrite	5.001 percentage (0.... \$FF 100 %
12	06.06.2019 09:16:46,097	from bus	Low	3.9.6	FCC/S1.12.1 Fan Coil Controller,...	5/1/15	Status Fan Speed II	6	GroupValueWrite	\$00 Off
13	06.06.2019 09:16:46,117	from bus	Low	3.9.6	FCC/S1.12.1 Fan Coil Controller,...	5/1/16	Status Fan Speed III	6	GroupValueWrite	\$01 On

Fig. 8 Example of setpoint increase + change of the basic setpoint

- Update of actual temperature
- Setpoint display of the controller device
- Setpoint display after 2 K setpoint increase via RCU
- Effect on valve and fan
- Change of the basic setpoint by +2 K

Fan adjustment:

When the FCC/S is operated in controller mode, a manual adjustment of the fan via the RCU directly affects the outputs.

The following status objects are output with manual fan adjustment.

10	Channel - Fan	Fan ON/OFF status	5/1/10	1 bit	C R - T -	switch
11	Channel - Fan	Status byte fan	5/1/11	1 byte	C R - T -	-
12	Channel - Fan	Status Fan automatic	5/1/12	1 bit	C R - T -	state
13	Channel - Fan	Status Fan speed	5/1/13	1 byte	C R - T -	percentage (0..100%)
14	Channel - Fan	Status Fan speed 1	5/1/14	1 bit	C R - T -	switch
15	Channel - Fan	Status Fan speed 2	5/1/15	1 bit	C R - T -	switch
16	Channel - Fan	Status Fan speed 3	5/1/16	1 bit	C R - T -	switch

Fig. 9 Fan status objects

Note:

If manual fan adjustment was set on the room control unit, all fan states that are received via KNX and calculated are saved in the background. Only when Auto mode is set on the room control unit itself again will all fan states saved in the background be updated. The automatic function cannot be influenced via KNX!

This behavior cannot be changed!

References to other documents

- [FAQ Home and Building Automation](#)
- [FAQ Single room control](#)
- [Engineering Guide Database](#)