



ABB i-bus® EIB / KNX

LFA/S x.1

**Blower-/Fan Coil-
Actuator**



Blower-/Fan Coil Actuators

- Blower- and Fan Coil Actuators are basic devices in HVAC
- Completion of the ABB i-bus[®] EIB / KNX range with two actuators
- Control of 3- or 5 speed fans
- No integrated controller to regulate the room temperature
- Control values sent by external components like room thermostat or EIB/KNX push button



Blower-/Fan Coil Actuators, LFA/S x.1

- LFA/S 1.1, MDRC, 1fold (1 Fan)
- LFA/S 2.1, MDRC, 2fold (2 Fans)



LFA/S 1.1



LFA/S 2.1

Hardware LFA/S x.1



LFA/S 1.1



LFA/S 2.1

- Compact component with 2 outputs per module
- No manual operation in order to exclude damage of fan
- 1fold actuator for 3 level Fan control
- 2fold actuator for two 3- or one 5 level Fan control

Blower-/Fan Coil Actuators, LFA/S x.1

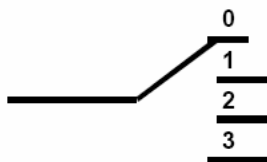
- LF/A x.x receives input signal via EIB / KNX
- Manual Operation
 - 1Bit object for each fan speed
 - 1Byte object for any fan speed
 - 1Bit object for going up/down
- Automatic Control
 - Temperature detection and regulation via room thermostat
 - Control output Heating and / or Cooling
 - Switching between Heating / Cooling



Blower-/Fan Coil Control

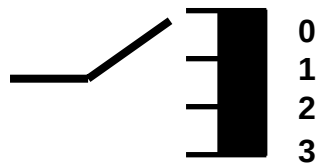
■ Types of Fan control (3- and 5 speed)

■ Control via toggle switch (3 steps)



	Output A	Output B	Output C
OFF	0	0	0
Fan speed 1	1	0	0
Fan speed 2	0	1	0
Fan speed 3	0	0	1

■ Control via switch (3 steps)



	Output A	Output B	Output C
OFF	0	0	0
Fan speed 1	1	0	0
Fan speed 2	1	1	0
Fan speed 3	1	1	1

Parameterisation Fan

- Toggle switch or switch
- Start up behaviour (direct or any fan speed)
- Waiting time between switching
- Minimum time in a level
- Threshold for switching to another speed
- Hysterese
- Object fan status
e.g. for activation of an external fan or
a fan main switcher



Control of a valve via LFA/S x.1

- LF/A x.1 generates additional control signals for heating- and / or cooling valves
- Control Signal available as an EIB / KNX communication object
 - ➔ High flexibility regarding switching load, life span and noise
- Valve objects will be set to „1“ or „0“ depending on the control output (heating / cooling)



Forced control and operating modes LFA/S x.1

- Separate Fan- and Valve limitation
- Limitation to a speed level or to a speed range
- Activation via 1Bit or 1Byte objects
- Forced control (only 1 Bit object) e.g.
 - Frost / Heat protection
 - Comfort mode
 - Night mode
 - Standby mode
 - Automatic mode



Additional functions LFA/S x.1

- Monitoring of room thermostat with adjustable fault operation
- Function of fan and valve adjustable in case of bus voltage failure (unchanged or OFF) and recovery (variable)
- Status Byte for indication of operating mode
- Separate feedback of required and real fan speed



Free channels of „Switch Actuator“ LFA/S x.1

- Functionality of a Switch Actuator
 - ON / OFF
 - Time function (Staircase light)
 - Time for staircase light via EIB/KNX changeable
 - Time function can be enabled /disabled via EIB/KNX
 - No warning

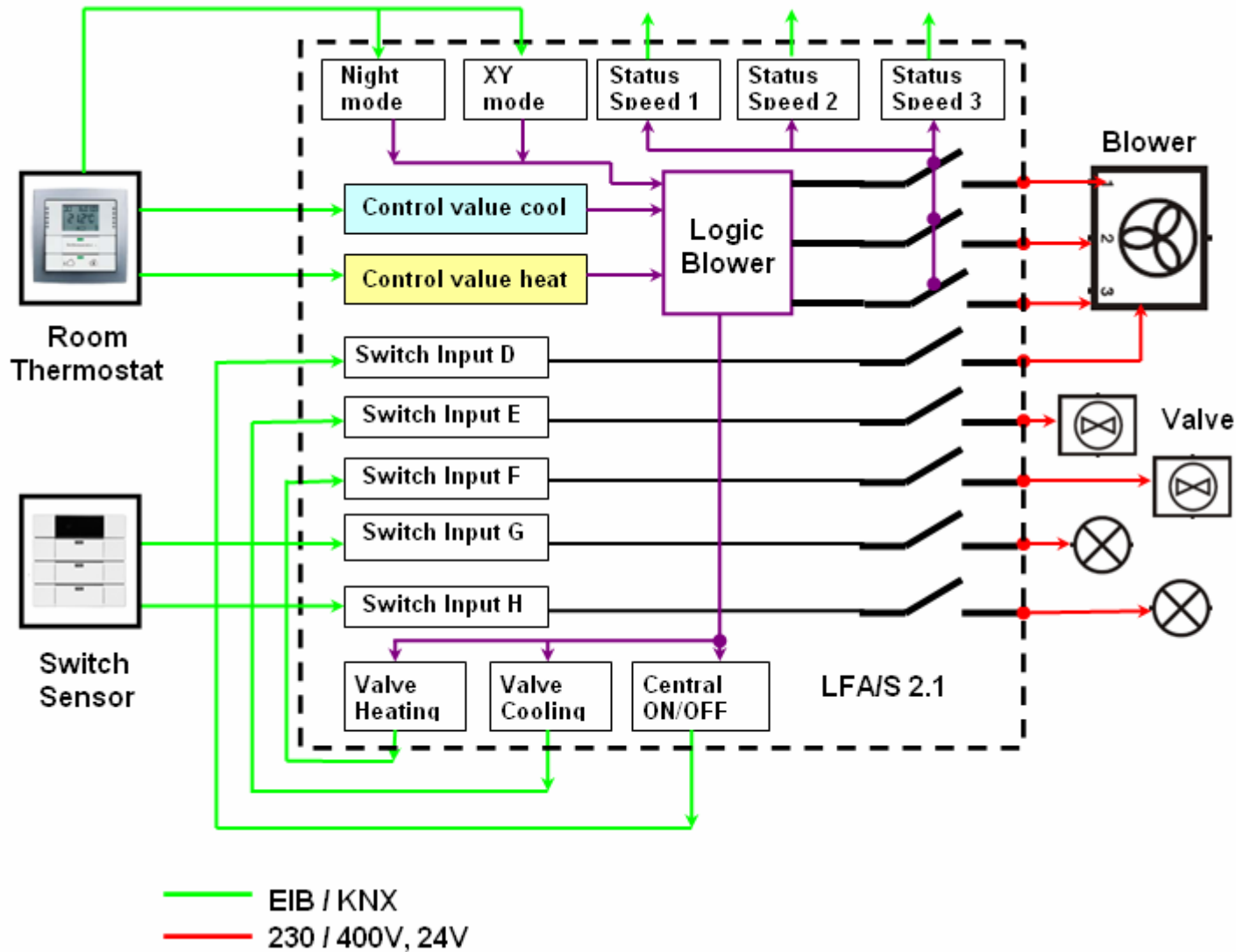


Free channels of „Switch Actuator“ LFA/S x.1

- Valve Control
 - Same functionality as the heating actuator SA/S
 - Continuous control (1Byte) or 2-step control (1Bit)
 - Valve normally closed or open
 - Forced operation
 - Monitoring of room thermostat
 - Functionality flushing

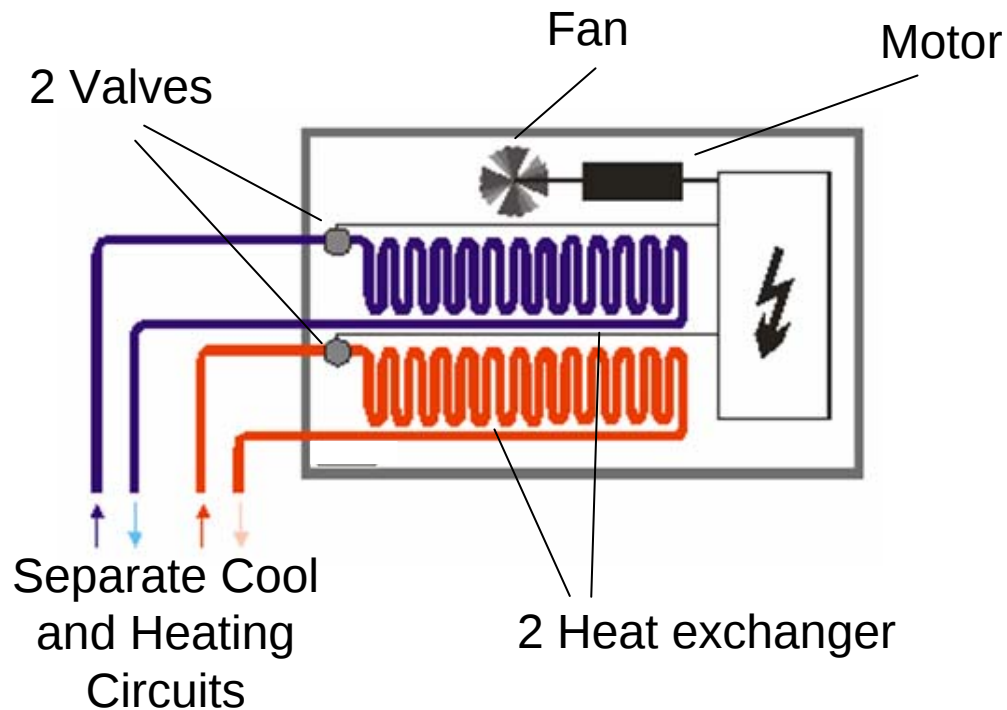


Circuit Diagram Blower and Fan Coil actuator



Principle Fan Coil Unit

- Example: Fan Coil Unit, 4 – pipe system
 - 2 Heat exchanger for Heating and Cooling



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