ABB i-bus® EIB / KNX

Blower/Fan Coil Actuator, 1-fold, 6 A MDRC
LFA/S 1.1, 2CDG 110 077 R0011

2CDC 071 188 F0006

The Blower/Fan Coil actuator is a modular installation device in Pro*M* design for installation in the distribution board on 35 mm mounting rails.
The 1-fold Blower/Fan Coil actuator can control single phase ventilation, fans and fan coil units (2-pipe systems) with the application program *"FanCoil, 1f 6A/1"*. The connection to the ABB i-bus® EIB / KNX is implemented via bus connection terminals.

The Blower/Fan Coil actuator controls a 3-stage fans as a changeover or step switch via a group with relays. The

relays in a fan group are interconnected by software.

The output not used by the fan control can be used to control a valve or for switching an electrical load.

The 4 outputs are connected using screw terminals in groups of 2 contacts. Each output is controlled separately via the EIB / KNX. The rated current of each output is 6 A.

The device does not require an additional power supply.

Technical data

Power supply	– Operating voltage	21...30 V DC, made available by the bus
	– Current consumption EIB / KNX	< 12 mA
	– Power consumption EIB / KNX	Max. 250 mW
Output nominal values	– Number (potential free contacts 2 per group)	4
	– U_n rated voltage	250 / 440 V AC (50/60 Hz)
	– I_n rated current (per output)	6 A
	– Power loss at max. load	1.5 W
Output switching currents	– AC3 operation ($\cos\varphi = 0.45$) EN 60 947-4-1	6 A / 230 V
	– AC1 operation ($\cos\varphi = 0.8$) EN 60 947-4-1	6 A / 230 V
	– Fluorescent lighting load to EN 60 669-1	6 A / 250 V (35 µF) [2]
	– Minimum switching performance	20 mA / 5 V
		10 mA / 12 V
		7 mA / 24 V
	– DC current switching capacity (ohmic load)	6 A / 24 V DC
Output life expectancy	– Mechanical endurance	$> 10^7$
	– Electrical endurance to IEC 60 947-4-1	
	– AC1 (240 V/$\cos\varphi = 0.8$)	$> 10^5$
	– AC3 (240 V/$\cos\varphi = 0.45$)	$> 1.5 \times 10^4$
	– AC5a (240 V/$\cos\varphi = 0.45$)	$> 1.5 \times 10^4$
Output switching times [1]	– Max. number of relay position changes per output and minute, if all relays are switched simultaneously. The position changes should be distributed equally within the minute.	60
	– Max. number of relay position changes per output and minute only one relay is switched.	240
Connections	– EIB / KNX	Bus Connection Terminal, 0.8 mm Ø, single core
	– Load current circuits (1 terminal per contact)	Screw terminal
	– Phase (1 terminal for 2 contacts)	0.2... 2.5 mm² finely stranded 0.2...4 mm² single core
	– cord-end-sleves with/without plastic	0.25 – 2.5/0.25 – 1.5 mm²
	– TWIN-Cord-end-sleves with plastic	0.5 – 1.5 mm²
	– Tightening torque	Max. 0.6 Nm
EIB / KNX operating and display elements	– LED red and EIB / KNX push button	for assignment of the physical address
Housing	– IP 20	to EN 60 529
Safety class	– II	to EN 61 140
Isolation category	– Overvoltage category	III to EN 60 664-1
	– Pollution degree	2 to EN 60 664-1

Note: "Output life expectancy" → "Operations (state change)" applies to the AC1/AC3/AC5a electrical endurance values.

[1] The specifications apply only after the bus voltage has been applied to the device for at least 10 seconds.
The typical elementary delay of the relay is approx. 20 ms.

[2] The maximum inrush-current peak (see table 2) may not be exceeded.

Table 1 – Part 1: LFA/S 1.1, technical data

ABB i-bus® EIB / KNX   Blower/Fan Coil Actuator, 1-fold, 6 A MDRC
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EIB / KNX voltage	– SELV 24 V DC (safety extra low voltage)	
Temperature range	– Operation	– 5 °C ... + 45 °C
	– Storage	– 25 °C ... + 55 °C
	– Transport	– 25 °C ... + 70 °C
Environment conditions	– humidity	max. 93 %, without bedewing
Design	– Modular DIN-Rail Component (MDRC)	Modular installation device, ProM
	– Dimensions (H x W x D)	90 x 36 x 64
	– Mounting width (modules at 18 mm)	2
	– Mounting depth	64
Weight	– In kg	0.13
Installation	– On 35 mm mounting rail	EN 60 715
Mounting position	– As required	
Housing, colour	– Plastic housing, grey	
Approvals	– EIB / KNX nach EN 50 090-2-2	Certification
CE mark	– In accordance with the EMC guideline and low voltage guideline	

Table 1 – Part 2: LFA/S 1.1, technical data

Lamp loads

Lamps	– Incandescent lamp load	1200 W
Fluorescent lamp T5 / T8	– Uncompensated luminaire	800 W
	– Parallel compensated	300 W
	– DUO circuit	350 W
Low-volt halogen lamps	– Inductive transformer	800 W
	– Electronic transformer	1000 W
	– Halogen lamp 230 V	1000 W
Dulux lamp	– Uncompensated luminaire	800 W
	– Parallel compensated	800 W
Mercury-vapour lamp	– Uncompensated luminaire	1000 W
	– Parallel compensated	800 W
Switching performance (switching contact)	– Max. peak inrush-current I_p (150 µs)	200 A
	– Max. peak inrush-current I_p (250 µs)	160 A
	– Max. peak inrush-current I_p (600 µs)	100 A
Number of electronic ballasts (T5/T8, single element) [1]	– 18 W (ABB EVG 1x58 CF)	10
	– 24 W (ABB EVG-T5 1x24 CY)	10
	– 36 W (ABB EVG 1x36 CF)	7
	– 58 W (ABB EVG 1x58 CF)	5
	– 80 W (Helvar EL 1x80 SC)	3

[1] For multiple element lamps or other types the number of electronic ballasts must be determined using the peak inrush current of the electronic ballasts.

Table 2: Lamp load for LFA/S 1.1

Application programs

Type	Name	Max. number of communication objects	Max. number of group addresses	Max. number of associations
LFA/S 1.1	FanCoil 1f 6A/1	32	254	254

Table 3: Application programs LFA/S 1.1

Note: The programming requires the EIB Software Tool ETS2 V1.3 or higher. If the ETS3 is used a ".VD3" type file must be imported.

The application program is located within the ETS2 / ETS3 in the category ABB/heating, air-con., ventilation/Air-con. actuator/FanCoil 1f 6A/1.

Detailed information about the application can be found in the product manual for the "Blower/Fan Coil Actuator LFA/S 1.1, LFA/S 2.1". This manual can be free downloaded under www.abb.de/eib.

Wiring diagram

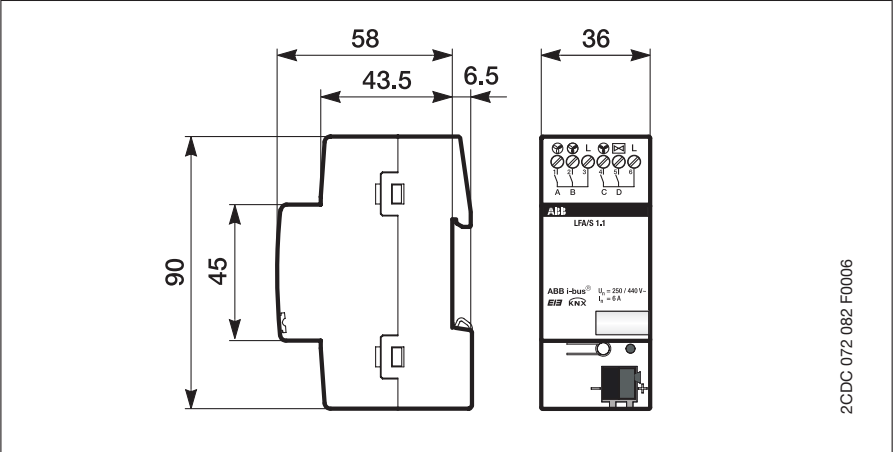2CDC 072 084 F0005
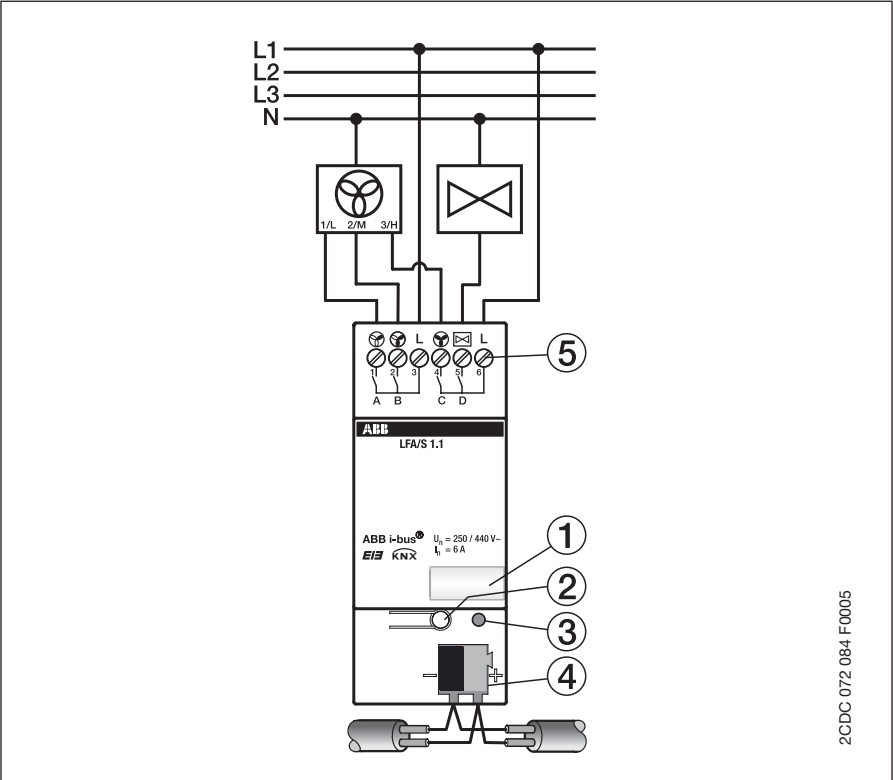
1 Label carrier
2 Programming button
3 Programming LED
4 Bus Connection Terminal

5 Load current circuit
one single input terminal or two
outputs

Note: All-pole disconnection must be observed in order to avoid
dangerous contact voltage which can develop via loads in other
phases.

Dimension drawings

2CDC 072 082 F0006

	LFA/S 1.1
B	36 mm 2 module widths

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