Product description

FBL – Airflow controller

FBL Version B03

Introduction FBL

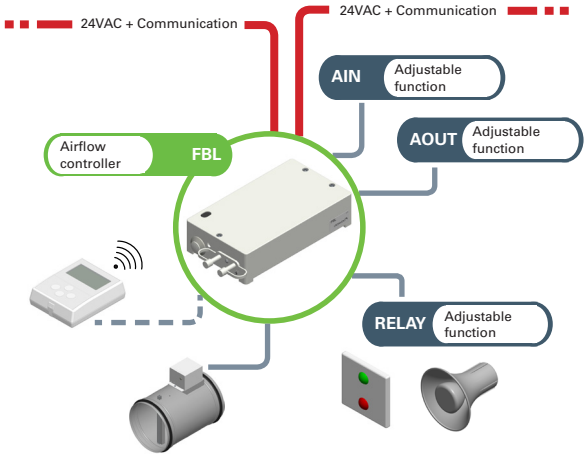
Air flow controller FBL is factory calibrated and it is included in Lindinvent's smart damper and measuring unit DCV-BL. FBL is also used as controller in airflow measuring unit DCV-MF.

Function

- Can measure, add and balance the airflow from specific nodes, e.g., active devices, via CAN protocol. This brings great flexibility when designing systems as there is no need to take account of where the supply air is coming from.
- Can create an airflow zone covering up to 100 units (e.g. active devices and airflow controllers).
- Can add positive or negative offset to the airflow.
- Can be operated using a slave function. This function allows the total balanced airflow to be distributed over several ducts.
- Can be operated to keep a specific airflow constant.
- Can be operated for pure airflow measuring, see DCV-MF.
- Can be connected via node ID to a communication loop (CAN) for access to and communication with other concurrent nodes or systems via LINDINTELL or Gateway NCE with Modbus TCP/RTU.
- The controller has a great number of parameters that can be read and controlled from LINDINTELL/ LINDINSPECT via CAN.

Connections for input and output signals

Many types of functions can be connected to the controller. For example, a fire signal can be connected and a buzzer alarm provided via relay. If exchange to a superior system is desired but is not possible via Modbus, a number of functions can be defined for the controller's inputs and outputs.



Connection diagram FBL. The controller is connected to a voltage feed and communication loop via Lindinvent's standard cable with two conductors for voltage feed and two twisted-pair conductors for communication. The same cable is used for connection of damper actuator and other accessories.

FBL – Airflow controller.

User interface

- Server with LINDINTELL/LINDINSPECT via CAN.
- Direct login on the controller via DHP hand unit (IR or wired communication)
- Fixed wall panel FLOCHECK P (Direct wired communication on FBL)
- Fixed wall panel DRP (Direct wired communication via CAN)

LINDINTELL/LINDINSPECT

LINDINTELL is a software package that is installed on a central server. The software coordinates all optimisation and monitoring functions in Lindinvent's systems for climate control and protective ventilation. LINDINTELL has, among other things, functions for optimisation, oversteering and free programming.

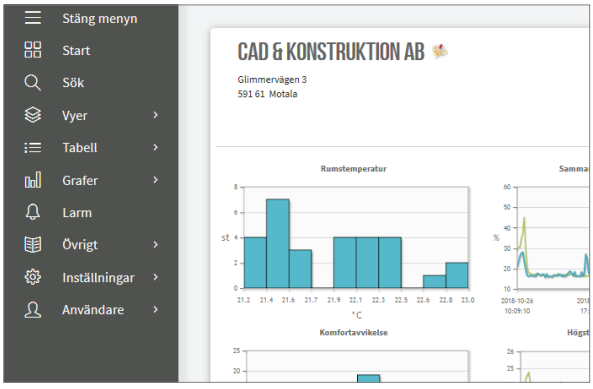
LINDINSPECT is a Web interface that has been developed to be used with LINDINTELL.

Simplified start-up

FBL is supplied factory calibrated. A simplified start-up process is available. Initially you have to select operation mode. If you stay with the default settings the required remaining inputs are: Duct diameter (or the C-factor) and location on either the supply or extract air channel.

Control and alarm

Systems with LINDINTELL/LINDINSPECT can log flows continually and set an alarm flag in the event of any deviations. By mounting FLOCHECK P as fixed panel, an alarm can be indicated both acoustically and optically in the event of air flow deviation.



Detail from the home page of LINDINSPECT where FBL as well as other connected nodes can be visualized and administered.

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Technical specifications FBL

General

Dimension
176 x 100 x 44 mm (LxWxH)

Material
Polystyrene encapsulation

Net weight
0.3 kg

Colour
RAL 9003

IP classification
IP53 encapsulation

Temperature limits
Operation: 0°C to 40°C; <85% RF
Storage: -20°C to 50°C; <90% RF

Electrical system

Supply voltage
24 VAC

Output
1.5 VA

CE marking
Complies with EMC and the Low Voltage Directive

Controlling the airflow

Airflow sensor
FBL is equipped with an internal airflow sensor.

Interval
Recommended interval: 0.5–6.0 m/s
Maximum interval: 0.2 - 7.0 m/s
Note: In laboratories, you should not go lower than 0.5 m/s

Tolerance
±5 % or minimum ± x l/s (x = the duct area in dm^2)

Performance
Speed: Change regulated within 4 s (95% within 3 s)

Connections

- 2 x connection block for 24 VAC + communication loop (CAN)
- 1 x 0-10 VDC analogue out for damper actuator
- 1 x 0-10 VDC analogue in for feedback from damper actuator
- 1 x general 0-10 VDC analogue in
- 1 x general 0-10 VDC analogue out
- 1 x relay (24VAC or potential-free switch)
- 1 x IR port (For wireless communication with DHP)
- 1 x modular jack RJ45 - for connection of user panel DHP or FLOCHECK P.

Additional product documentation FBL

Table 1: Additional documentation for FBL can be obtained via links on the product's website under Products at www.lindinvent.se

Document	Available	Not available	Comments
Installation Instruction	●		Combined installation instruction for FBL and DCV-BL (Assembly + connection).
Start-up instruction	●		Describes the complete menu structure with settings.
Maintenance instruction		●	Regarded as maintenance-free.
External connection diagram	●		
Environmental product declaration	●		Assesed by Byggvarubedömningen.
User information		●	Not applicable.
Modbus list	●		
AMA text	●		

Product documentation can be downloaded via www.lindinvent.se/produkter/

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Lindinvent – Smarter indoor climate. Greener buildings.

The company offers products and systems for controlling ventilation, lighting, solar shading and local utilization. Equipment and climate solutions are being developed for offices, schools, hospitals, laboratories and similar working environments. Lindinvent's systems work together to provide high indoor comfort and the lowest possible energy use.