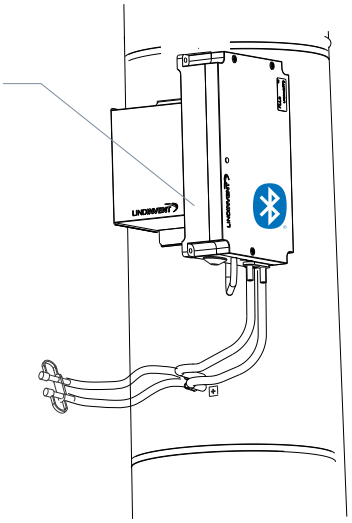
FLLb & DCV-FLb

Preconditions

- The regulator is expected to be connected to 24 VAC + CAN.
- The FLLb regulator, which is part of the smart damper DCV-FLb, is equipped with Bluetooth® and can thus be commissioned via the LINDINSIDE mobile app. A user account with access permissions to the specific building is required for the app. The app can be downloaded from Google Play/App Store. A link to the software can be accessed by scanning the attached QR code.



Commissioning

Follow the instructions below.

Status Screen and Control Parameters

The set of control parameters for the FLLb also applies to the earlier FLL model. A presentation of the status screen and the full set of control parameters for both FLLb and FLL is included in the instructions.

A smartphone with the LINDINSIDE app is required for communication with Lindinvent devices equipped with Bluetooth®.

Read more about LINDINSIDE

Download on the App Store

GET IT ON Google Play

PROCEDURE FOR COMMISSIONING VIA LINDINSIDE

(See the next page for a selection of screenshots from LINDINSIDE)

When the correct building is selected in the app:

1. Pull down to scan and identify devices:
The sought device is identified by activating a sound and light signal from the device via the clock symbol in the device list.

2. Set (change) Node-ID:
Select the Node-ID field for the intended device. Enter the unique Node-ID between 1–239 assigned to the controller according to the recommended allocation from Lindinvent.

After allocation: Optionally, perform a new scan to verify that the device's Node-ID has been correctly updated. When assigning Node-IDs to a large number of devices, the "Set node-IDs" function can be used.

3. Connect to the device:
Press the field for the device's product name to connect. Scan and connect again if there are problems. Once the connection is established, the controller's home screen with available function options is displayed.

4. Set necessary parameters via Quick Setup:

- **Test the damper motor (Manual motor control)**
  - Check that the damper is fully open. Confirm the position.
  - Check that the damper is fully closed. Confirm the position.
- **Set location (G1 placement)**
  Set the current sensor location [Exhaust].
- **Set minimum flow setpoint (Minimum flow)**
  Projected setpoint for minimum flow in l/s [30].
- **Set flow setpoint (Normal flow)**
  Projected setpoint for normal flow in l/s [112].

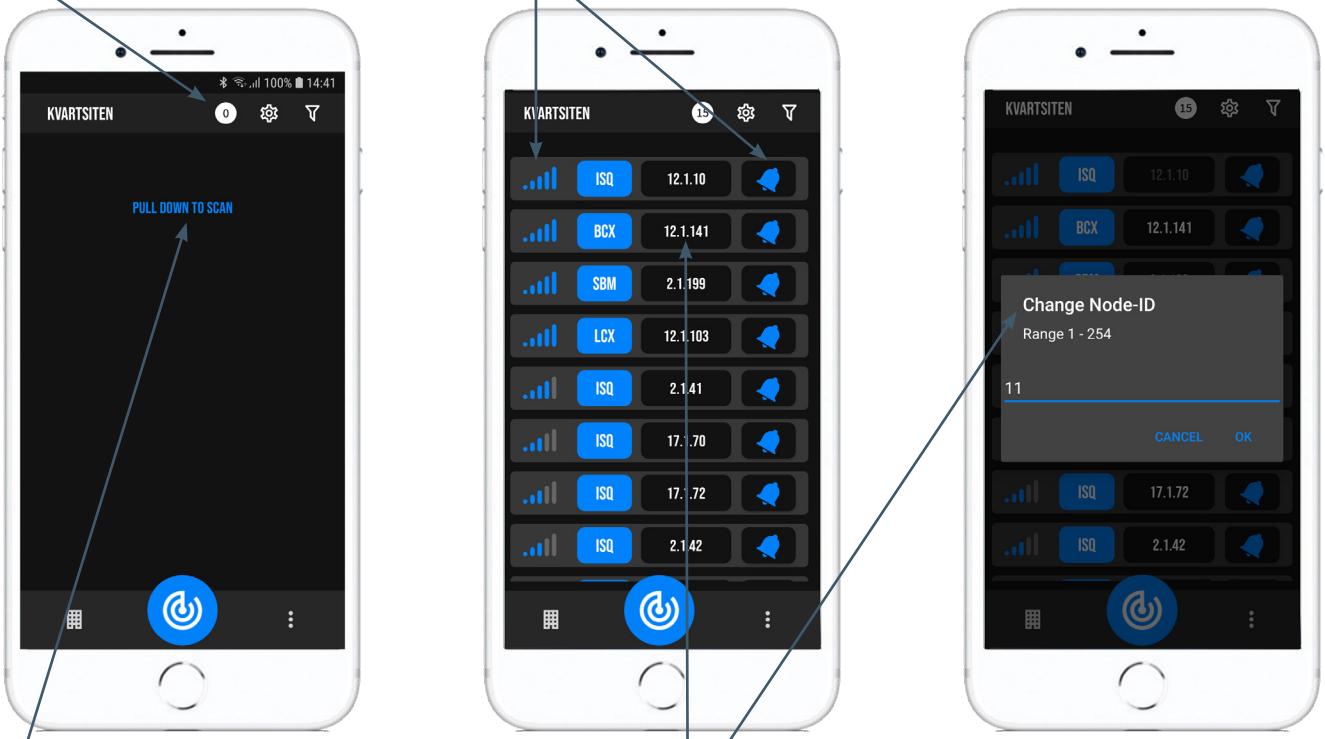
After completing Quick Setup, the regulator is configured with other control parameters set to default values.

SETTING NODE-ID VIA LINDINSIDE

LINDINSIDE

Number of devices found.

After scanning: Indicator for current signal strength and field with clock symbol. By selecting the clock symbol, a sound and light signal is triggered from the selected device.



By pulling down, all available devices are scanned and presented on the screen in LINDINSIDE.

First step in commissioning: Select the field with Node-ID for the intended device. Through the input window, assign a new Node-ID.

AVAILABLE AFTER CONNECTING VIA LINDINSIDE

Status Values

After connecting to the device:
A selection of status values regarding ongoing control is displayed on the home page.

Available Screen Options

- Quick setup
- Symbols
- History
- System
- Peripherals

About Screen Option Symbols

Via Symbols, all settings are grouped for easy access.

STATUS SCREEN AND MENU

This appendix presents the status screen with selected actual values and the entire menu structure of settings in FLL. The set of control parameters is identical for the FLL and FLLb regulators.

NOTE: All settings of the FLLb regulator are accessible from LINDINSIDE via the Symbols screen option.

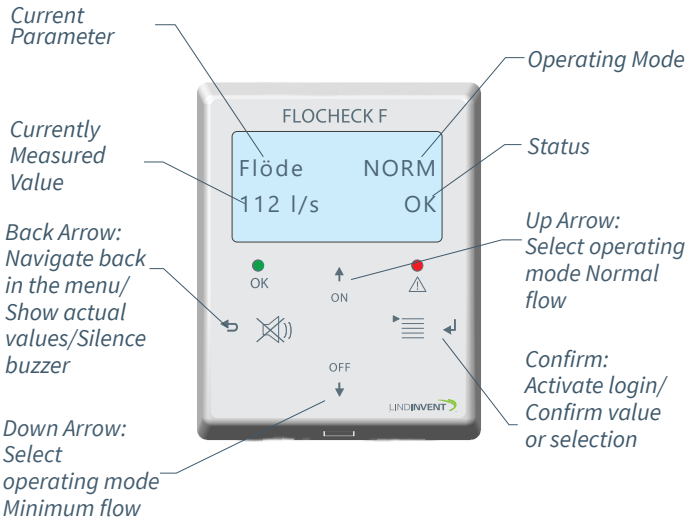
Settings are shown with factory default values, see comments and notes for guidance. The displayed menu structure with the parameter list applies from software version FLL_FLLb_6.0.0.

LOGGING IN

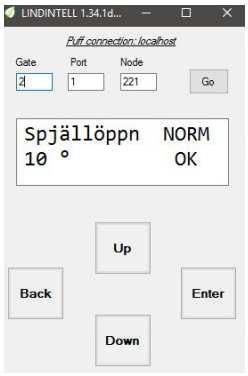
- FLL: Directly to the controller only via the user panel DHP or via the fixed user panel FLOCHECK F. The controller, with the assigned Node-ID, can also be accessed via CAN from the LINDINTELL Remote tool.
- FLLb/DCV-FLb: The controller can be accessed via CAN from the LINDINTELL Remote tool.

For handling FLOCHECK F: See separate instructions.

NOTE: To read status values on FLL, no login is required. To change settings, login is required.



Available for Both FLL and FLLb: User Panel FLOCHECK F. See user information for FLL for a description of alarms and handling.



Both FLLb and FLL: Screen Image from Connecting to the Regulator via Network Connection and LINDINTELL Remote Tool.

STATUS SCREEN

Selected actual values can be displayed on the screen without prior login.

Only FLL: via screen on a directly connected DHP.
Only FLLb: via the home screen in LINDINSIDE.
FLL and FLLb: The status screen can alternatively be accessed via either a permanently connected display (FLOCHECK F) or via CAN from the LINDINTELL Remote tool.

Actual Values	Comments
Flow	Current air flow in l/s STATUS: NORM/MIN/LOW!
Damper Open.	Damper Opening in Degrees

Step Forward in Actual Value Display: With repeated presses on <Back Arrow>

MENU OPTION QUICK CONFIG

Accessing the regulator's menu structure requires login. All necessary settings for easy commissioning have been gathered under the menu option Quick Config.

Settings under Quick Config for FLLb:

Displayed on screen	Comments [Default value]
Quick Config	Heading_1 (Main Menu)
Node-ID	Enter Node-ID
Flow Zone	[0]; 0 = no flow zone assigned
Channel Size (Note 1)	Select damper size [160]
K-factor (Note 1)	Enter as per Note 1
Placement	Select sensor placement [Exhaust]
Minimum Flow SP	Minimum flow setpoint [30] l/s
Flow SP	Normal flow [112] l/s
Damper Calib. (Note 11)	Test of Motor: Find maximum and minimum

PRESENTATION OF CONTROL PARAMETERS

In the order the headings are presented in the controller's main menu.

Meny Bör- och Ärvärden

Visas i display	Kommentar [Defaultvärde]
Börvärden	**Rubrik_2 (Huvudmeny)**
Minflöde	Minflöde BV [30] l/s
Flöde	Normalflöde BV [112] l/s
Tid till min	Tid till minflöde [0]; 0 = Ej aktiverad (h)
Ärvärden	**Rubrik_3 (Huvudmeny)**
Flöde	Aktuellt flöde i l/s
Totalt från	Aktuellt totalt frånluftsflöde
Totalt till	Aktuellt totalt tilluftsflöde
Spjällöppn	Spjällöppning i grader [90]
Spjällåter	Återkoppling från spjällmotor (V)
In/Ut-signaler	Aktuella signalnivåer [V]
AIN1/AIN2	
DIN1	
AUT1/AUT2	
DUT1 (Relä)	

Meny Inställningar

Inställningar	**Rubrik_4 (Huvudmeny)**
Larm	
Larmavvikels	Larm vid överskriden flödesavvikelse [11 l/s]
Tid t larm	Tid till larm i sekunder [10]
Tid t åter	Tid till kvitterat larm återkommer i minuter [20]
Larmljud	[På]; Summer i ansluten panel
Elförregling	
Tid t elför	[0 = ingen förregling]; Tid i sek. till förregling
Bekräfta elf	[PÅ = Kvittering krävs via <Bekräfta> på panel]
Bekr elf v larm	[AV = medger ej återställning under larm]
Elf utan ljud	[AV = löser ut enbart då larm ljuder]
In/Ut-signaler	
Insignaler	
AIN1 och AIN2	[AIN1:spjäll]; [AIN2; Inaktiv]
Funktion (Not 2)	
Parameter 1 (Not 3)	[0.0]
Parameter 2 (Not 3)	[0.0]
DIN1	DIN1[Inaktiv]
Funktion	[Inaktiv]
Parameter	[0.0]
Utsignaler	
AUT1 och AUT2	
Funktion (Not 2)	[AUT1:spjäll]; [AUT2; Inaktiv]
Parameter 1 (Not 3)	[0.0]
Parameter 2 (Not 3)	[0.0]
DUT (Relä)	
Funktion (Not 2)	[Elförregling]
Parameter (Not 3)	[1.0]
Filter AIN8-1 (Not 4)	[11111111 = filter På 8-1]; 0=Av
Regulator	Avancerade inställningar
Parametrar	
R-intervall (Not 5)	[122] Kan ställas via R-int user
R-int user (Not 5)	[-10] Om > 0 ställer R-intervall
Hyst flöde (Not 6)	[2] Kan ställas via Hyst fl user
Hyst fl use (Not 6)	[-10] Om > 0 ställer Hyst flöde
Hyst rel	Flödesavvikelse i % [+/- 5]
Hysterestid	Tid i sekunder [0]
Skalning (Not 7)	PID-skalning [-10 = fast angivna värden]
P	[0.4]
I	[0.04]
Minvinkelbeg	i grader [10]
Maxvinkelbeg	i grader [90]
Maxpulser	[0]

Meny Kommunikation

Visas i display	Kommentar [Defaultvärde]
Kommunikation	**Rubrik_5 (Huvudmeny)**
Nod-ID	1 - 239; Får ej sättas till 0
CAN Hastighet (Not 8)	
Grupper	[0 = ingen grupptillhörighet]
Grupp 8-1 (Not 9)	[0 = ingen grupptillhörighet]
Grupp 16-9	[0 = ingen grupptillhörighet]
Grupp 24-17	[0 = ingen grupptillhörighet]
Grupp 32-25	
Zoner	
Brand	[0 = ingår ej i brandzon]
Brandzon	[0]
Vid zonbrand (Not 10)	[0]
Vid övrbrand (Not 10)	
Flöde	[0];1 - 254; 0 = ej knuten till zon
Flödeszon	

Meny Kalibrering, System, Logga ut, Debug

Kalibrering	**Rubrik_6 (Huvudmeny**
Spjäll (Not 11)	
Hitta max:	[255]
Hitta min:	[0]
Givarkonfig GF1	
GF1-plac.	[Frånluft]
GF1 Storlek	Spjällstorlek alt. "Ange K-faktor"
GF1 K-faktor	[15,4 = för Spjäll 160]
GF1 K-korr	Korrektion av K-faktor i % [0]
LDE (GF1) (Not 12)	
Tryckvärde	Korrigerat uppmätt tryck i Pa
LDE korr (Not 12)	[0.0 %]; korrigeringskoeff. tryck
Prod kalib	Enbart internt Lindinvent
LDE Kalib	
System	**Rubrik_7 (Huvudmeny)**
Firmware	Visar aktuell mjukvaruversion
Reset (Not 13)	
Fabriksinst (Not 14)	
Självtest	Enbart internt Lindinvent
Logga ut (Not 16)	**Rubrik_8 (Huvudmeny)**
Debug	Enbart internt Lindinvent

Menu Presentation in FLL Completed.

NOTES:

Note 1 When applied to a circular duct/circular damper, the actual channel size is selected from a predefined list. For deviating dimensions or rectangular ducts, select the function <Enter K-factor>.

Under <K-factor>: The current K-factor is entered. The value can only be changed if <Enter K-factor> is selected under *Channel Size* as above.

Note 2 Function selection from a predefined list:
AIN: <Inactive>; <DUC>; <Fire>; <Damper (motor)>.
DIN: <Inactive>; <Switch>.
AUT: <Inactive>; <Damper (motor)>; <Flow>; <Parameter>; <Inverse damper>.
DUT: <Inactive>; <Summary Alarm>; <Electric Locking>; <Follow Min/Max>; <Follow Fire>; <Parameter>.

Note 3 Parameter values are used alternatively not used depending on the selected function; can be a value at min or max.

Note 4 Filter function; Binary input AIN1-8; [11111111 = filter on 8-1]; 0=Off

Note 5 Allows correction of the calculated flow change as a function of changed damper opening. If R-int user > 0, the R-interval value is set to the specified value. The calculation takes into account the actual channel size.

Note 6 If Hyst fl user > 0, the Hyst flow value is replaced.

Note 7 Set to -10 (< 0) for the control to take set values on P and I.

Note 8 If loop without NCE: At least one controller on the loop must be switched from AUTO to the projected speed.

Note 9 General group affiliation; Binary input [00000000]; Specified in decimal.

Note 10 If in fire zone; 0 = regulates as usual; 1 = closed in case of fire; 2 = open in case of fire.

Note 11 For testing motor and Damper Calibration; confirm minimum and maximum positions with <Confirm>.

Note 12 The correction coefficient in % indicates how the pressure value has been corrected as a result of calibration. Changing LDE correction allows adjustment to the measured pressure value after control measurement.

Note 13 Menu option Reset restarts with logout; counters and other set values are retained.

Note 14 Menu option Factory settings logs out and resets all settings and counters to factory settings. The exception is node-ID, which is not reset.

Note 15 Menu option Log out logs out. Adjusted values and counters are retained.