



SwemaFlow 4000

Operating instructions
vers 1.05 MB20110905

1. General

Thank you for choosing a quality instrument from Swema.

SwemaFlow 4000 measures airflow directly in l/s, m³/h or cfm (when set to US units). The instrument is turned on and off with the red button next to the display. When the instrument is turned on the display shows first the firmware version then the voltage of the battery. After a few seconds the instrument is ready for measurement. The instrument is automatically turned off after ten minutes.

The measuring equipment includes:

- Flow capture instrument
- Flow hood 650x650mm
- Carrying case
- Charger

Accessories:

Flow hood 250 x 1200 mm, h = 800 mm (Part.nr 764.420)

SwemaFlow 4000

2. Function

SwemaFlow 4000 calculates the average value of the airflow during 2 seconds. The average flow is presented on the display with an update two times per second. SwemaFlow 4000 compensate automatically for the air density by measuring air temperature and barometric pressure.

On/Off (RED button)

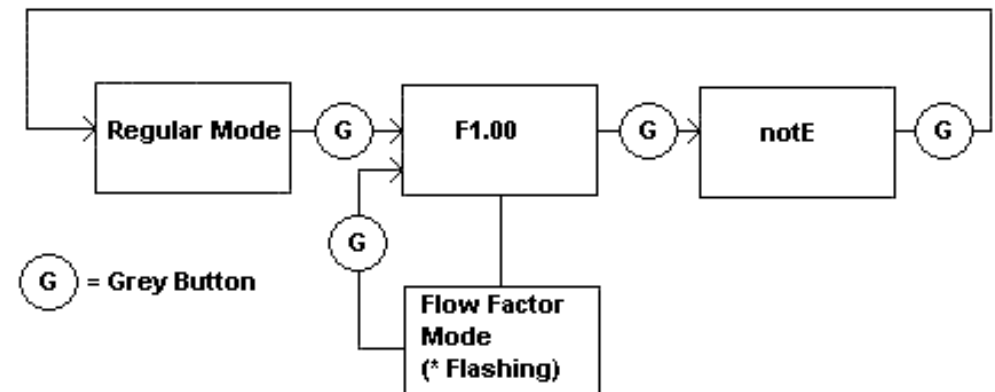
Turn on the instrument by pressing the RED button. When turning on the display will go through a sequence of showing the firmware version, the battery status and showing the barometric pressure, it will after that go into measuring mode. Turn off the instrument by pressing the RED button. The display light is turned on by pressing down the blue button when turning the instrument on. The light is shut off by turning off the instrument.

Unit (BLUE button)

By pressing the BLUE button the display toggles between l/s, m³/h, air temperature (°C) and barometric pressure (hPa). When set to US units it toggles between cfm, air temperature (°F) and barometric pressure (inHg).

Mode (GREY button)

Toggle between Standard mode, Flow Factor mode and stored values (notE) with Grey button.



Standard Measurement

Place the hood with the sealing list making a proper seal around the valve.
Read the air flow value from the display.

HOLD function (RED button on handle)

If the button on the handle (small red button) is pressed down shortly the display will freeze the measured value. This will be shown with a * continuously shown on the display. Release it by pressing down the button shortly again. Press down the BLUE button to toggle between the frozen values (frozen air flow, temperature and barometric pressure).

Save measurement (RED button on handle holded down)

If a measurement is frozen it can be stored by holding down the button on the handle (small red button) for 2 sec. The display will show which number (ex. n.001 = number 1) the measurement is saved as and then return to measuring mode.

FF Measurement (Flow Factor)

In Flow Factor mode the flow is multiplied with a flow factor (flow factor 1.00 will not alter the flow). A flow factor can be used to compensate for example a leakage. Warning: Changing to anything else than 1.00 will alter the reading from calibration certificate.

If in Standard measuring mode and the GREY button is pressed the display will show F1.00 (or the value of flow factor that the instrument is set to).

Make a FF Measurement (RED button on handle)

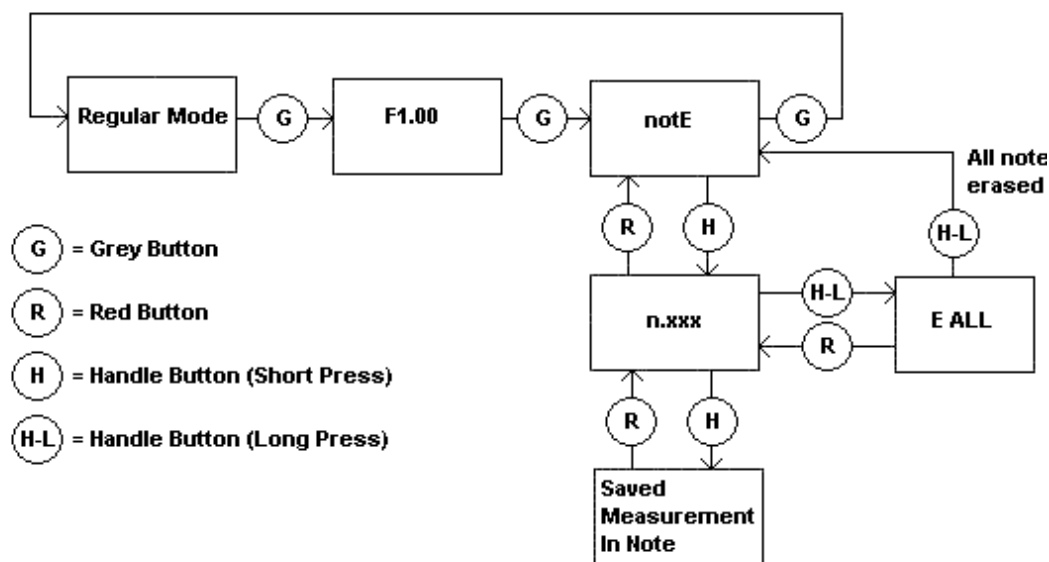
To measure with the flow factor displayed (example F1.10 will multiply measured flow with 1.10 and display the result) press button on the handle (small red button), a * flashing will be shown to indicate that you are in FF-mode. To change FF-value hold down the button on the handle (small red button) for minimum 2 sec when F1.00 is shown. The first digit will start flashing, change value by pressing GREY or BLUE button. When correct value is chosen confirm by press shortly the button on the handle and the second digit will start flashing, repeat the same procedure with the second and third digit. After the third digit is confirmed the instrument will go to FF mode (flashing * will be shown in display). Measurement can be stored in the same way as in regular measuring mode.

To return to regular measuring mode press GREY button 3 times (First press will show FX.XX, second will show notE and the third will take you to Standard measurement mode).

Note book (notE)

If GREY button is pressed two times when in standard measuring mode notE will be displayed. To enter the note book press the button on the handle (small red button). "n.xxx" (xxx will be the number of the last saved note, see "Save measurement") will be shown in the display. With GREY and BLUE button it's possible to scroll through the saved notes. To return to notE press RED button.

To see saved measurement in a note press button on the handle (small red button). With GREY and BLUE button it's possible to scroll through the saved measurements in the note (air flow, temperature and barometric pressure). To return to notes (n.xxx) press the RED button. To erase the note book memory hold down the button on the handle (small red button) for 2sec, "E ALL" (Erase All?) will be shown in the display. To return to notes press the RED button, to erase all notes hold down the measuring button (small red button on handle). After all notes are erased "notE" will be shown in the display, press GREY button to go to regular measuring mode.

**3. Charging**

SwemaFlow 4000 has built-in rechargeable Li-ion-batteries. Battery charge time is approximately 4h (80% after approx. 2h). The charger can be connected to the instrument longer without damaging the battery. The green led will have a fixed light during charging, when fully charged the green led will be turned off. You can use the instrument while charging. Caution! Use only the original charger other charger can damage the batteries.

Battery check

When turning on the instrument the display shows the voltage of the battery. A fully charged instrument shows approximately 4.1 V (it will drop to 3.8-3.9V quite fast). When the supply voltage is lower than 3.2 V a battery symbol will be visible on the display. When the supply voltage is lower than 2.9 V the instrument will be automatically shut off.

4. Calibration

SwemaFlow 4000 is calibrated and adjusted by SWEMA before shipment. It is possible to adjust SwemaFlow 4000 with a special PC-program. If repair is needed the instrument should be sent to Swema or Swema distributor. Swema recommends a calibration and adjustment interval of six months.

5. Technical data**Measuring range:**

Air Flow: 5... 1200 l/s, 20... 4300 m³/h, 10... 2500 cfm

Temperature: 0... 50°C, 32... 122°F

Barometer: 6000... 1200 hPa, 18... 35 inHg

Accuracy (95% coverage probability in non condensing and non moist air, <80% RH):

Air Flow: 4% read value, min 0,5 l/s

Temperature: ±0,6°C under 50 l/s

±0,4°C above 50 l/s

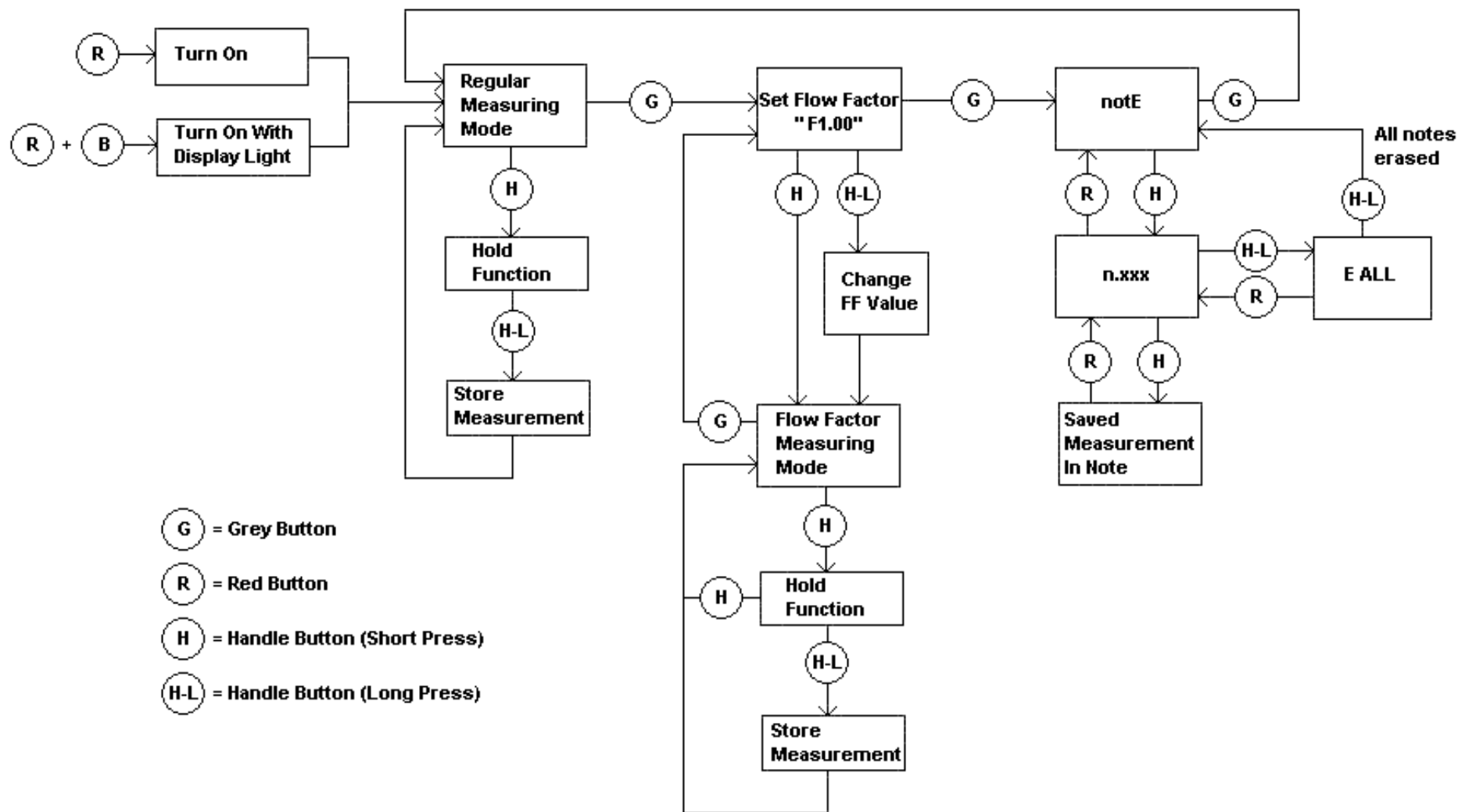
Barometer: ±3,5 hPa

Measuring method:

Mass flow, net of hot wires

Weight:

4,0 kg (including capture hood 650x650mm)



- G** = Grey Button
- R** = Red Button
- H** = Handle Button (Short Press)
- H-L** = Handle Button (Long Press)



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