Measuring Device 3760XBI

Description

3760XBI comprises from a differential pressure unit with an integrated true differential pressure sensor for the exact measuring of both differential and static pressures in hydronic systems. The flow in the individual branches within the hydronic system is calculated from preprogrammed characteristics of balancing valves. The characteristics of most balancing valves from major European producers are included in 3760XBI memory. 3760XBI is able owing to the advantages gained by the use of digital technology to compensate for temperature effects and non-linearity of differential pressure sensor and achieves excellent measuring accuracy.

USP

- Available in 15 different languages
- Temperature and medium correction
- Upload or Download projects data
- Balancing report available for printing
- Back light display
- Simple valve identification by image
- Memory up to 1200 valves
- Memory up to 20 000 records

General information

Basic measurement for the device is the measurment of the differential pressure on the measurment point in the distribution system of the heat transfer medium (balancing valve or measurement orefice).

For the pressure measurment is used full differential piezoresistive pressure sensor with the digital data treatment. On the digital way is compensated influence of the temperature on the pressure measurement, nonlinearity error and the influence of the static pressure in the systém on the differential pressure measurement and by the help of this corrections we can reach excellent measurement accuracy.

For the flow calculation you can choose measurement point (balancing valve or measurement orifice) from the valve database saved in the internal device memory. For the decreasing the possibility of the bad choice of the valve you can compare the picture of the valve in the database with the valve you see before you. In the systems with the antifreeze liquids you will measure the right flow after the choosing liquid type in the menu and inserting the concentration and temparature of the liquid in the menu.

Pressure and flow you can display in european and american units.

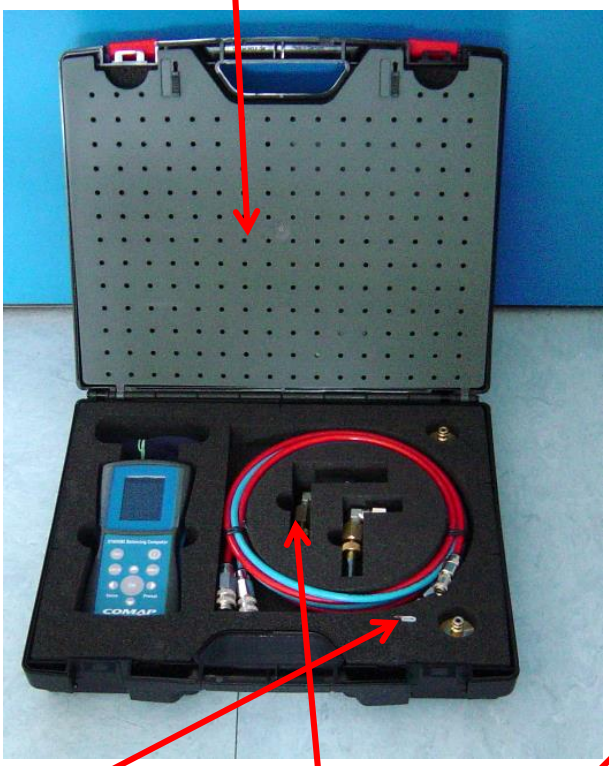
A matter of course is the possibility of the overpressure and underpressure measurement, so it´s possible measure also static pressure of the medium in the heat distribution system.By the measuring of a large heat system you can use the function Projects. In your office you can prepare in the PC model of the system and download it in the device. By the measurement in the in the field you choose only the branch and the measured data are automaticaly saved in the model. Measured project you can read out in the PC after that and print for eg. Balancing protocol.

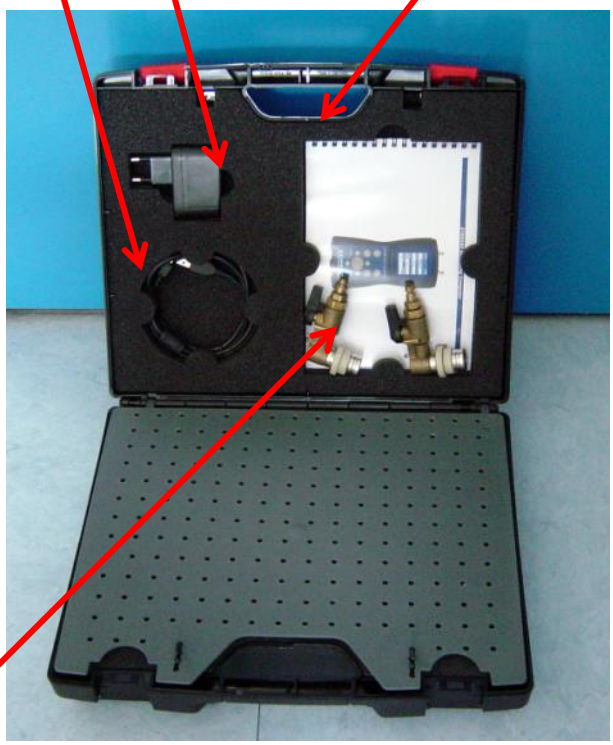
Composition

New case, IP65, with hard separator

Li-ion battery charger with mini-USB connection

Robust foam for long lasting and lean organization

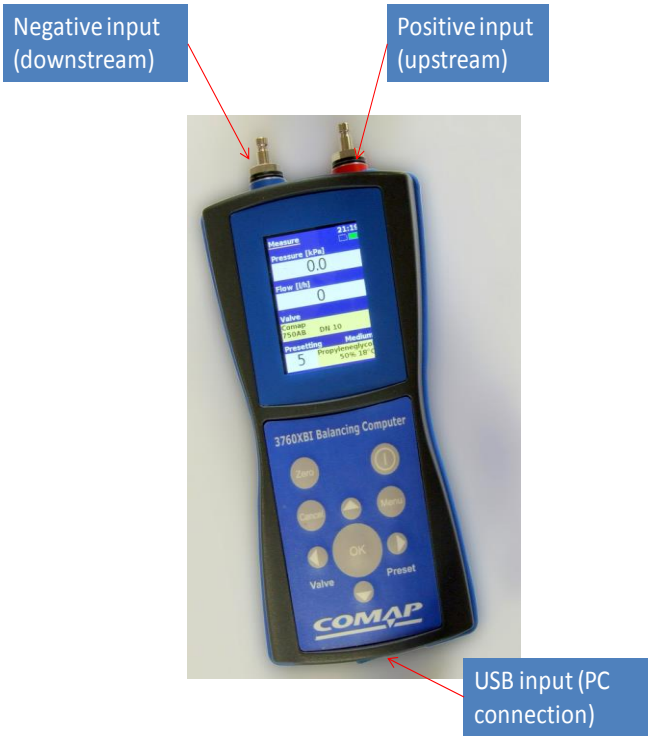


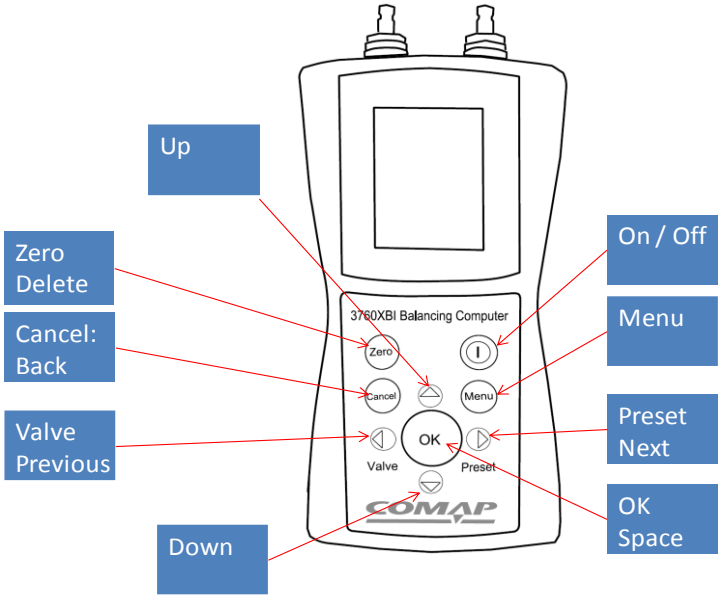


Spare filters

Needle (for TA, Danfoss, Oventrop... valves) and fast connection (Comap) pressure ports adapters

General outlook





Content of the case:

- 1 instrument XBI
- 1 Allen key
- 2 connection hoses (blue and red)
- 1 set of fast connectors (Comap type)*
- 1 adaptor for drain connector *
- 1 set of adaptors needle type
- 1 mini USB for PC connection + Battery charger
- 1 CD for the software
- 1 user manual

*valve Comap 750 Only

Reference

	Designation	Reference
	Measuring device	376010
	Needle adapter TA valve	275631
	Pair of filter	VMP07A06
	Cable for measuring device Red and blu	376015

Technical parameters

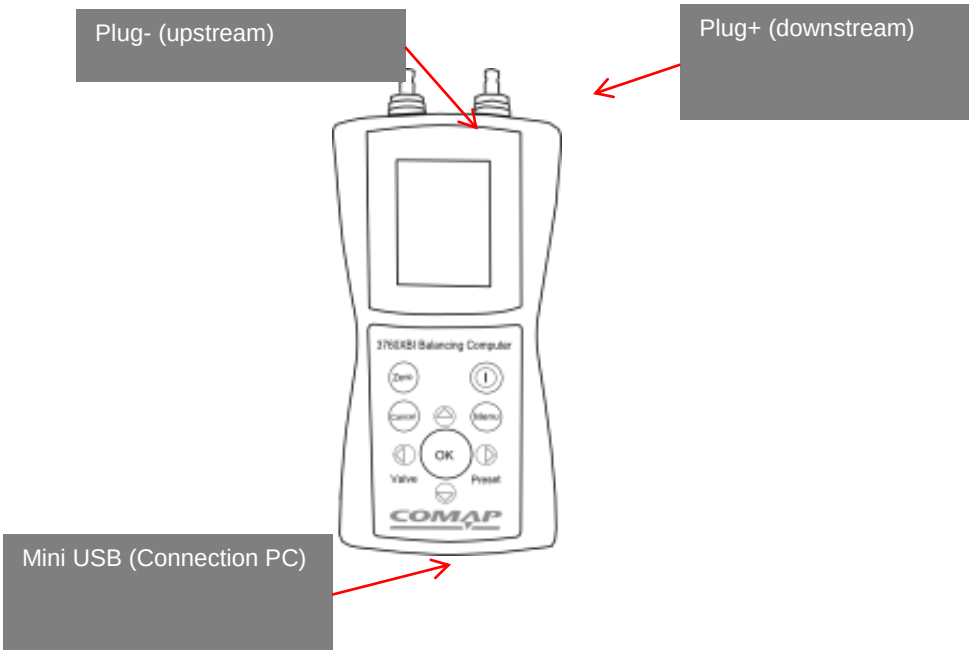
Pressure Sensor	Piezoresistive true differential sensor
Pressure Range	1000 kPa *2000 kPa
Maximum Overpressure	1200 kPa **2200 kPa
Nonlinearity and Hysteresis Error	0,15 % of the pressure range
Temperature Error – influence ambient and medium temperature	0,25 % of the pressure range
Medium Temperature Range	-5 up to 90 °C (at the end of the measuring hoses)
Ambient Temperature Range	-5 up to 50 °C
Storage Temperature	-5 up to 50 °C
Connection of the pressure on the device	quick coupler R20
Connection of the pressure on the hoses – valve site	quick coupler R21
Display	color graphical display 320x240 pixels, diagonal 2,2 inch (56 mm)
Battery	built in Li-Ion rechargeable battery 900 mAh
Power Consumption	80 mA max
Power Comsumption in the Off line	50 uA
Charging	USB charger 5V/200 mA, mini USB, 5 hours
Number of the records	20000 max.
Number of the valve producers	32 max.
Number of the valves	1200 max.
Dimensions	80 x 180 x 52 mm

Weight	420 g
Cover	IP65
Calibration Validity	12 months

* optional ** for optional pressure range 2000 kPa

Quick Start

1. Introduction



Keyboard

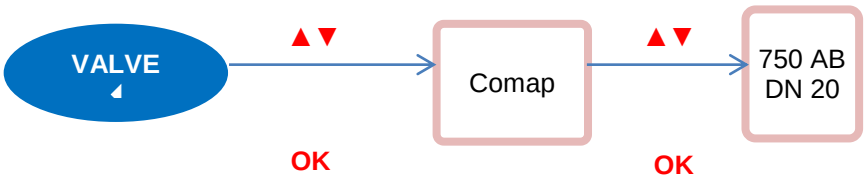
I	Switches ON / OFF the instrument
MENU	Display Menu or- Back to previous menu level
ZERO	Reset or- Delete
Cancel	Cancel or- Back to previous level
OK	Display (pressure, flow, Kv, date / hour) or- validates the selection
VALVE	Valve selection or- Previous page from the list
PRESET	Valve setting position or- Next page from the list
▼	Reduces the value or Next field or- Next element from the list
▲	Increases the value or- Previous field or- Previous element from the list

2. Configuration

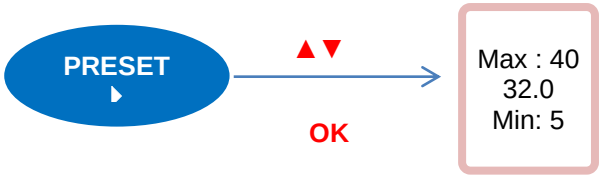
Pre-recorded valve selection

Before starting to measure, please specify the valve

Select a pre-recorded valve



To use identical valves several times, just modify the setting.



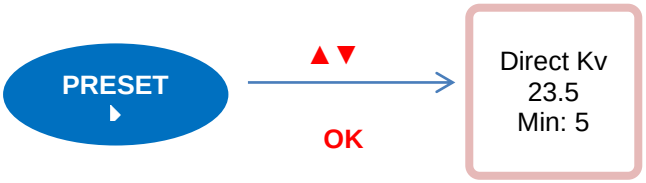
Enter the position indicated on the display of the valve

Measure by kv value

If the valve cannot be found, and the value of the kv is known, the kv value is needed.

Proceed as previously to select in the valves list « Direct Kv » then « 0 – 50000 »

Enter the Kv value



Enter the appropriate kv value

Entering value

Each value is entered digit by digit

ZERO Deletes the last digit

O Validates and creates a new digit

PRESET Next field (OK)

▼ Decreases the value of the digit (0-9 and .)

▲ Increases the value of the digit (0-9 and .)

3. Changing the fluid

The fluid type is displayed on the left bottom of the screen

MENU → ▲▼ → OK → Fluid

Select the type, concentration and temperature

4. Connect

Resetting

This procedure should be done when restarting the device. Recommended before all measure.

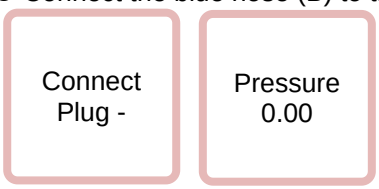
ZERO

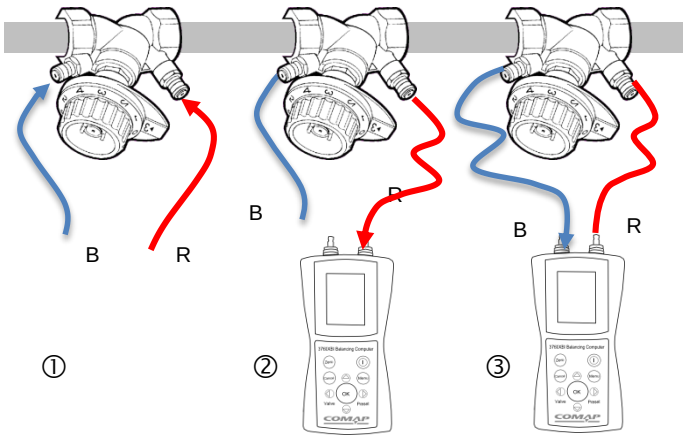
① Connect the hoses to the valve:
Red: Valve upstream
Blue: Valve downstream

② Connect the red hose (R) to the instrument. The value is stabilizing after a few seconds. Press **OK**.

Connect Plug +	Pressure 0.00

③ Connect the blue hose (B) to the instrument. The value is stabilizing after a few seconds. Read the flow

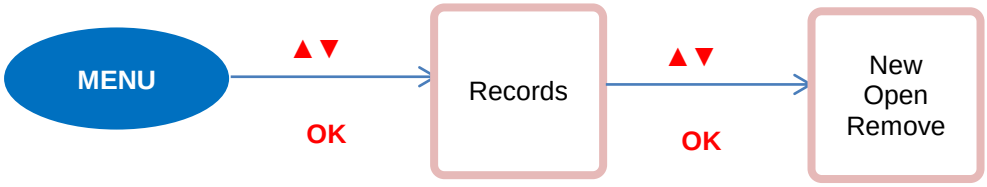




5. Measure

Once the configuration is done, the instrument displays at any time the differential pressure, the flow, the valve, the setting of the valve, and the fluid.

6. Time period record



New record

Before starting recording, select the valve.
Give a name to the record (see « entering values »)
Indicate the recording duration and the number of samples.
Start the recording. The instrument automatically puts into sleep mode to save battery, but keeps on recording.

Press  to turn on the instrument.

Attention: DO NOT FORCE THE EXTINCTION, THIS MAY RESUME THE RECORDING

7. Valve in memory

Most of the valves from the following manufacturers are already pre-recorded in the instrument:
COMAP, Broen, Cimberio, Danfoss, Esbe, Heimeier, Herz, Honeywell, Oras, Oventrop, Quitus, TA, Tiemme, VIR

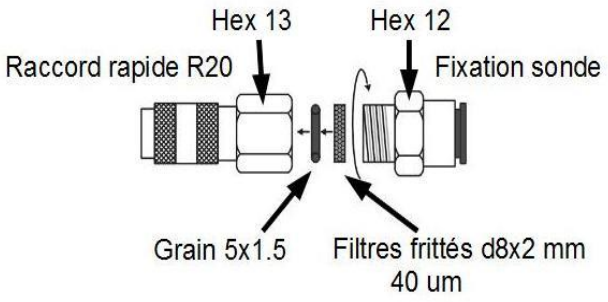
8. Valve in memory

The 3760XBI is able to work with projects by defining the global architecture of a network. Please refer to the user manual for more explanation on this mode.

9. Work with project

The 3760XBI is able to work with projects by defining the global architecture of a network. Please refer to the user manual for more explanation on this mode

10. Maintenance



Replace the hoses filters

The filters for the flexible hoses (ref 3760F) should be replaced every 6 month to prevent dirt obstruction

Instrument periodic maintenance and calibration

The device should be periodically re-calibrated, every year. Please return the device to your local Comap representative.
The information about the last calibration date can be found in the menu « Options / device information »