

# HERZCOMP 650 measuring computer

## Description

Data sheet for 1 8900 05, Issue 0222



### ☑ Introduction

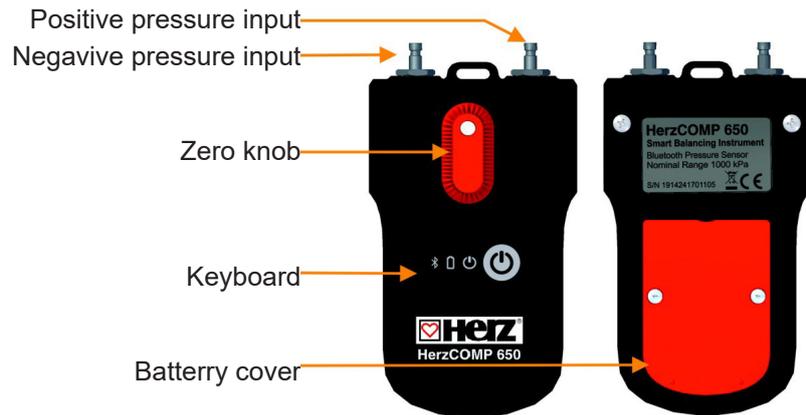
The device essentially consists of a pressure gauge that measures the pressure to balance the components of hot water systems and sends the readings via Bluetooth Low Energy (BLE) to a mobile device equipped with the Android or iOS operating system. The HerzComp 650 measuring unit is very robust with a massive heavy-duty frame that can withstand a fall from 2 meters. Inside the measuring unit, there is a hydraulic section with a built-in symmetrical differential sensor for accurate digital processing of measured data.

### ☑ Characteristics of the HerzCOMP 650

The HerzCOMP 650 is designed for the hydraulic balancing of heating and cooling systems. It allows measuring static pressure, differential pressures and flow in the said systems. The high precision of the HerzCOMP 650 is based on a very precise pressure measurement via a fully differential pressure sensor and 24-bit processing from the pressure sensor. It is possible to set the differential pressure for pressure measuring very low differential pressure. The resetting of measuring is done at the hydraulic bypass of pressure inputs. The HerzComp 650 instrument uses advanced digital technologies that compensate inaccuracies usually occurring in pressure measuring, such as temperature dependencies and measuring non-linearity.

### ☑ Technical data

Dimensions:	180 x 80 x 52 mm
Weight:	420 g
Power supply:	AAA Alkaline batteries or NiMH rechargeable batteries
Wireless data transfer:	Bluetooth Low Energy 5.0
Ambient temperature:	5 to 50 °C
Medium temperature:	-5 to 90 °C
Storage temperature:	-5 to 50 °C
Temperature error:	0,25% of nominal pressure
Nominal pressure range	1000 - 2000 kPa
Max. Overpressure:	2400 kPa
Linearity and hysteresis error:	0,15% of nominal pressure
Water Resistance:	IP 65



The following languages are available: German, English, French, Spanish, Turkish, Finnish, Norwegian, Russian, Swedish and Italian.

The maximum operating time of the device between battery changes is 45 hours. Up to 2000 measurements can be saved. The calibration is valid for 24 months.



**Note: Store frost-free after first use!**

**Function**

The HerzCOMP 650 uses the differential pressure determined by the measuring component in the system to calculate the flow rate in the fitting (balancing valve or integral orifice). The application corrects the calculated flow also for anti-freeze mixes in cooling systems. Another feature of the HerzComp 650 instrument consists in recording measurements. The measuring unit is equipped with a time circuit that allows programming a periodical recording of measurement independently on the application in the mobile device. Once the recording is complete, the measuring unit turns off and the record remains stored in the measuring unit until the application reads it out. Another method of recording consists in recording of current values directly into the mobile device.

**HerzCOMP 650 App**

Using the BLE transmission, the HerzComp 650 application communicates with the measuring unit; a user-friendly interface can be handled via the user mobile device. The application processes pressure values and allows displaying the flows in the measured system based on features of balancing components stored in the mobile device's storage. The application stores in the mobile device's storage balancing valves of most leading European producers. Based on the determined differential pressure and the measured data of the medium (temperature, valve and presetting), the app shows the differential pressure at the measuring points of the connected fitting and the flow rate through this fitting. The app is available for Android and iOS devices.

**Settings for the measurements**

Specific settings in the measurement window, such as medium temperature, valve selection or valve presetting, can be set directly by tapping on the required fields. The valve preset can also be changed using a slider below the displayed preset value.

**Valve presetting**

You can change the valve preset from the Change presetting selection list. For every valve, the preset field displays the interval in which you can enter the preset.

### Valve selection

The appropriate valve can be selected under the menu item Valve selection. HerzCOMP 650 has a device database from the leading valve manufacturers. The manufacturer's Kv values are then used for the flow rate calculation. In case the database of valves does not contain the valve you require you can measure the flow using the Kv direct specification.

### Medium selection

You can select the heat-transfer medium of the measured system by pressing the Select Medium selection list. If you select as the medium the Ethylene glycol or Propylene glycol ant-freeze mix, you will have to enter the given anti-freeze mix concentration in the Concentration field. Then, the application will recalculate the flow calculation using this value. Also, you can find under the Concentration field data on the extent in which the concentration can be specified and entered.

### Set Requested Flow

This function is used for displaying the actual/requested flow ratio at the measured valve (the lambda quantity in the proportional balancing method). This way you can easily and quickly set up the requested flow through the valve. Once the value of requested flow is entered, the flow value in absolute units / the percentage ratio from the previous paragraph will be displayed in the Flow field in the Measuring screen. If you set up the requested flow value back to zero, the Flow field in the Measuring window will show just the flow value in absolute units.

### Medium temperature

Specify the temperature of the medium in the measured system by pressing the Set Temperature selection list. The temperature data must be entered manually in the Temperature field. For water medium, the effect of the temperature on the flow calculation is negligible. If an anti-freeze is selected as the medium, the temperature specification is necessary for the flow calculation.

### Pressure measuring – Zero setting, Deaeration of measuring hoses

For measuring low differential pressures (under 500 Pa), it is necessary to reset the pressure measuring of the measuring unit. The reset function will be activated from the Sensor zero setting selection list. The user is guided through the reset procedure by gradually emerging pictures. By rotating the pressure reset knob to the Zero setting position, the pressure inlets are hydraulically connected and physically there is zero pressure difference between them. In the pressure measuring unit, the zero pressure value is set. The reset button must then be turned back to the Measure position.

The following figure shows switching from measuring position to zero position and vice versa:



The connection of the pressure inlets can also be used to bleed the connection hoses of the measuring unit. For media temperatures above 50 ° C, venting of less than 10 seconds is recommended to avoid unnecessary heating of the pressure unit measuring circuits.

**Quick Record**

Selecting the Quick Record button navigates to a new window where additional details of the recording such as the name or value of the required flow through can be added in the relevant fields. The initial pressure value on the measured valve prior to recording can also be added. The last field in the Quick Recording window can be populated with the name of the folder where the recording will be saved, if left empty the record will be saved in a default location.

**Projects**

The project management in the HerzComp 650 measuring instrument makes the work in the real technology easier. You can prepare the project you need to measure directly in the HerzComp 650 measuring instrument. You can then store two values for each branch of the project - the initial status of the branch before balancing and its status after balancing. From the data of the whole project you can then print a report on the project status before balancing and the report on balancing. For the project measurement you select the respective project and branch. The HerzComp 650 measuring instrument will set the valve and its preset automatically and you are ready for measuring. The measured data will be again stored automatically in the project's correct fields. You can find in the Projects introductory screen two tabs - Projects and Branches.

**Selection matrix for the physical values and their units**

Physical values	Unit
Pressure	bar, mbar, kPa, psi or mmH2O
Flow rate	m3/h, l/h, l/s, l/min, USGPM or UKGPM
Temperature	°C, °F or K

**Accessories for the measuring computer**

Order number	Description	Image
1 0284 00	<b>Pressure transducer set for quick test points</b>	
1 0284 10	<b>Quick test point</b> 1 set = 2 units	
1 6517 04	<b>Pre-setting tampering seal for STRÖMAX-GM/GR</b> for covering the hand wheel fastening screw, destroyed upon removal.	
1 6517 05	<b>Pre-setting marker</b> Plastic hanger for labelling the pre-setting level. For installation on valve or pipeline.	

### **Safety and Device Disposal Instructions**

Incorrect handling with batteries may cause spillage of the electrolyte and fire.

1. When disposing of batteries, contact local authorities or dealers and get information on the correct way of disposal.
2. Do not expose batteries to heat and fire.
3. Do not leave batteries in the car exposed to direct sunshine with windows and doors closed.
4. Do not dismantle batteries and short-circuit them.
5. Do not use batteries with the packing damaged.
6. In case of incorrect replacement of batteries there is the threat of explosion.
7. Only use the battery type recommended by the manufacturer for replacement.



### **Information for Users on Collection and Disposal of Used Devices and Batteries**

This symbol on the device, packing or in appended documents means that the used electric and electronic devices cannot be disposed of in the common communal waste.

For correct disposal, recovery and recycling of used products and batteries, please give them  over to respective collection locations in compliance with the national legislation and directions 2002/96/EC, 2006/66/EC and 2012/19/EC.

By ensuring the correct disposal of the product you can help prevent from occurring potential dangerous impacts on the environment and human health that would threaten when the product is not disposed of properly. Commercial users in European Union may contact their dealers or suppliers.

Please note: all diagrams are indicative in nature and do not claim to be complete.

All specifications and statements within this document are according to information available at the time of printing and meant for informational purpose only. Herz Armaturen reserves the right to modify and change products as well as its technical specifications and/or its functioning according to technological progress and requirements. It is understood that all images of Herz products are symbolic representations and therefore may visually differ from the actual product. Colours may differ due to printing technology used. In case of any further questions don't hesitate to contact your closest HERZ Branch-office.