BalanceCon®

Measuring system for determination and control of calcit saturation

- **High operation safety by defined reaction time in the marble filter**
- **Low maintenance by automatic zero calibration**
- **Integrated controller for optimum decarbonisation**

BalanceCon® in a panel

Applications

Drinking Water / Beverages

Cooling water

Description

The measurement is based on the pH-difference method described in DIN 38404-10 : 1995-04 Calcit saturation of water. Automatic zero-point calibration of the pH-difference measurement. Reaction time in the marble filter controlled by stepmotor-driven peristaltic pumps Two separate controllers both of which can be assigned to the pH value of the incoming water or after the marble filter or to the pH difference.

Particular characteristics

- **Broad range power supply 85.. 265 V AC**
- **Illuminated four-line LC-Display for pH value and pH difference or pH value before and after marble filter or pH value and temperature**
- **4 x scaleable, galvanically isolated 0/4 .. 20 mA outputs**
- **Real time clock**
- **2 separate PID controllers for pH value or difference**
- **Automatic zero calibration of the pH difference in adjustable time interval**
- **Manual or automatic temperature compensation**
- **Semi-automatic two-point-calibration**
- **2 limit values with delay, assigned to alarm relay for pH value or difference**
- **Intuitive and easy menu**
- **Safety by password function**
- **Option: serial interface RS 485 - KUNTZE protocol**

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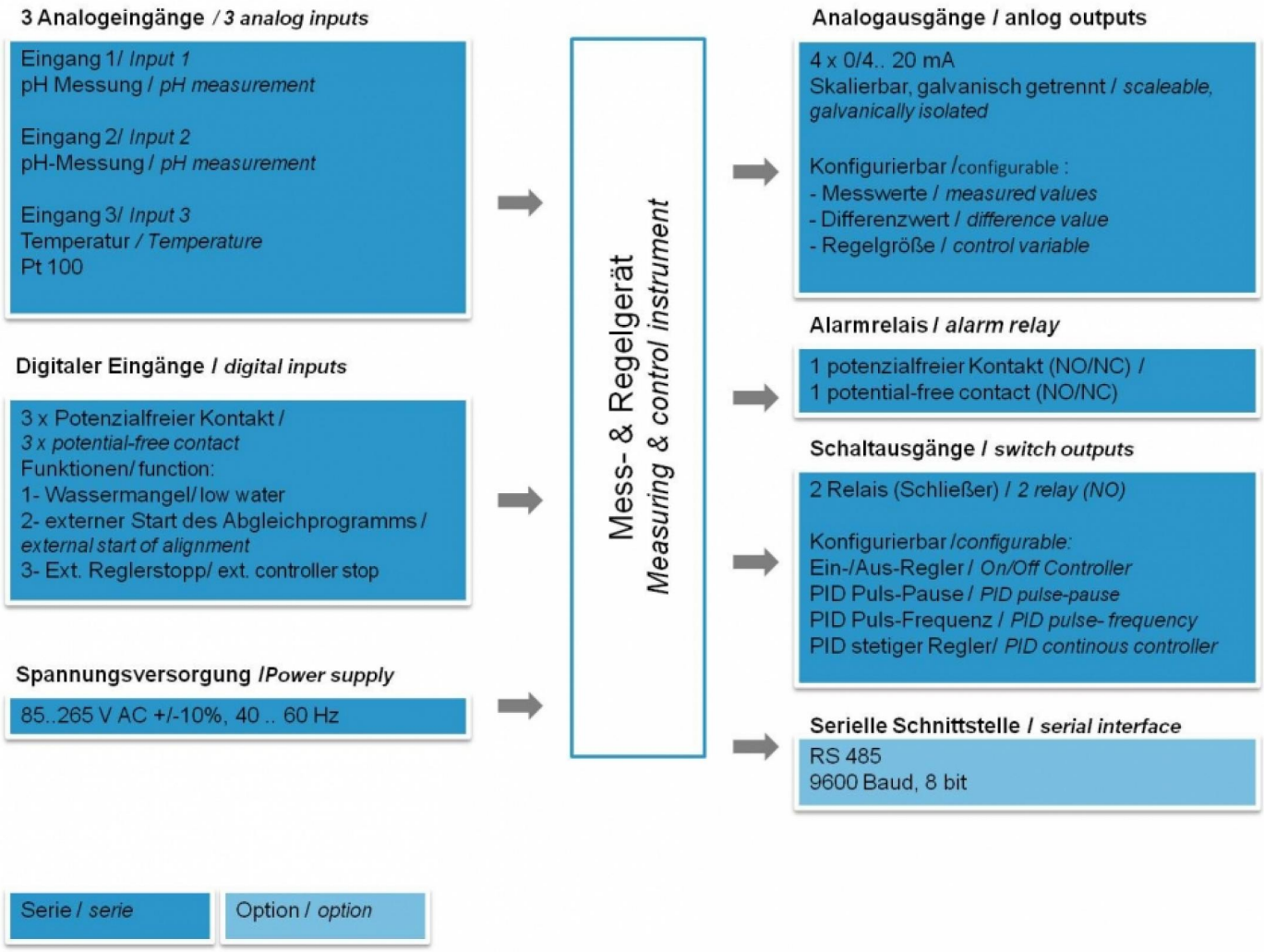
Interface diagram



Technical data

Measuring parameter

pH-value	0.00.. 14.00 pH measuring value 1: before the filter 0.00.. 14.00 pH measuring value 2: after the filter -0.5.. +0.5 pH pH difference (measuring value 2 - measuring value 1)

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Input characteristics

Accuracy	+/- 0.02 pH	
Temperature measuring range	-30.. +140°C display range	
Ambient conditions	Flow	min. 15 l/h
	Min. conductivity	> 150 µS/cm
	Temperature	0.. 50 °C

Output characteristics

Alarm relay	1 x potential-free C/O-contact, max. 250 V, 6A, 550 VA for alarm	
Output signal	4x 0/4.. 20 mA (scaleable, galvanic isolated)	
	Load	max. 500 Ohm
	Registration range	Scaleable within the measuring range
Serial interface	Option: RS 485 - KUNTZE Protocol	
	Baud rate	9600 baud
	Data format	8 bit

Power supply

Line voltage	Wide range power supply 85.. 265 V AC oder DC
Power consumption	36 VA

Ambient conditions

Temperature	Storage	-20.. +65°C, exception sensors 0.. +30°C
	Operation	0.. 50°C
Protection class	Wall mounted	IP 54

Controller

Control mode	On/off controller (adjustable hysteresis) P/PI/PID-controller (pulse-pause, pulse-frequency or continous controller output)
Relay	2 x potential-free N/O contact, max. 250 V, 6 A, 550 VA for activation dosing pumps / Servo-motor
Start delay	0.. 200 sec until controller active
Digital input	1) low water 2) Ext. Initiation of the automatic zero-point calibration 3) external controller stop

Design configuration

Material	board: PVC, assembly: PVC, cocks: PP instrument: ABS, sensors: glass
Dimensions	550 x 545 x 150 mm

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subjects to alterations - version 09/2014

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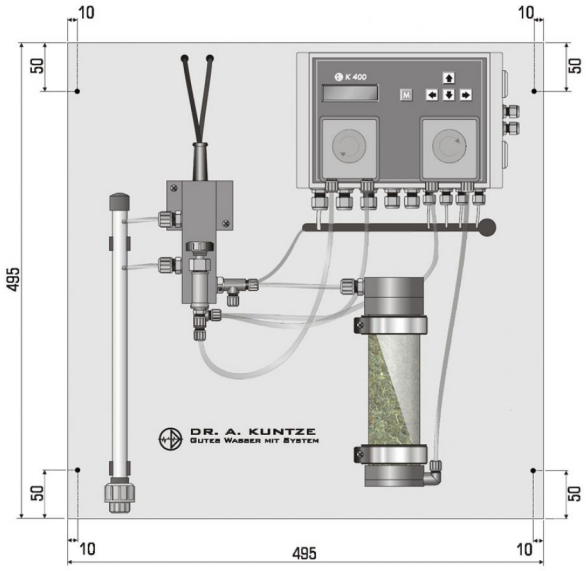
Mechanical drawing



Storage version

Article number	type/configuration	Description
77612729K	BalanceCon	Measuring system to measure and control calcite solubility

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Accessories

accessories

	BalanceCon® cabinet	External dimensions (W x H x D): 600 x 600 x 200 mm, door with integrated inspection glass made of 3mm impact resistant acryl glass
	pH buffer solutions	The slope of pH sensors changes over the time (depending on the measuring media). We recomment a regular calibration with our buffer solutions. We offer 1000 ml packages of pH 2, pH 3.56, pH 4, pH 7, and pH 9.22, and 50 ml packages of pH 4, and pH 7.
	BalanceCon® refill-set	Refill-set for the filter, 600 g pellets

sensors

	201012100	The sensor of the Zirkon pH series are highly sophisticated sensors with a high value for money ratio. They are used in many applications e.g. industrial, process and waste water. We use our high performance AH glass with low alkaline error and a broad temperature range. We use a high class zircon junction which increases the sensor life expectancy and our low maintenance Topax gel. As reference system we use a cartridge system which results for a constant measurement especially in applications with high temperature fluctuations.

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