4-PUMP CONTROLLER PC 4

GB

- **Built-in alternation**
- **In-/Outflow calculation**
- **Pump capacity calculation**
- **Max number of pumps running**
- **Overflow calculations**
- **Back-up control function via float**
- **Dry pumping protection**
- **Stores runningtime, number of starts, pumped volume and overflow**

The PC 4

is a microprocessor based level controller.

The units can control up to 4 pumps, valves, motors etc between 8 adjustable levels. Furthermore the units can calculate the in-/outflow, the pump capacities and handle alarms as high and low levels and low pump capacity. The unit is built-up of electronics and level sensor.

The units can be delivered either for panel mounting or wall mounting with easy accessible operator panel IP65.

For simplest possible mounting, the terminal blocks for the panel mounted version are of plug-in type and of fixed type for the wall mounted version. Cables of maximum 1.5 mm^2 should be used.

All settings, measured and accumulated values are displayed via a 2 x 16 digit illuminated display and with indicating diodes.

As the sensor input is of high resolution type (14½ bit), the level measuring accuracy is very high even at large level variations.

The level proportional galvanically separated output signal 0/4-20 mA is also of high resolution type and limited to max 22,5 mA.

The PC4 can measure levels between 0 and 10 m and has 4 built-in set point switches with automatic switching over for emptying or filling function and a built-in alternation function.

The number of relays to be alternated can easily be set.

For maximum reliability the unit has built-in time delays before switches and alarm operate.The units can calculate the overflow over any standard weir or channel using the same level signal that controls the pumps.

To reduce errors due to 0-level drift a digital input and a overflow switch are used to set the 0-point for the overflow measurement. As overflow switch we recommend the conductive level switch type KV.

Following data are calculated and stored:

Pump starts	0-999 999 999 times
Overflows	0-999 999 999 times
Pump running hours	0-9 999 999:59 hours
Pumped volume	0-99 999 999,9 m^3
Overflow volume	0-99 999 999,9 m^3

The PC4 unit fulfill the requirements of the CE-regulations, which ensures a reliable measurement even in high noise environment.

A high level alarm float can be connected to the units to initiate a time regulated control of the pumps if the sensor should fail to work properly. A second float can be connected to stop all pumps at low level.

Pressure

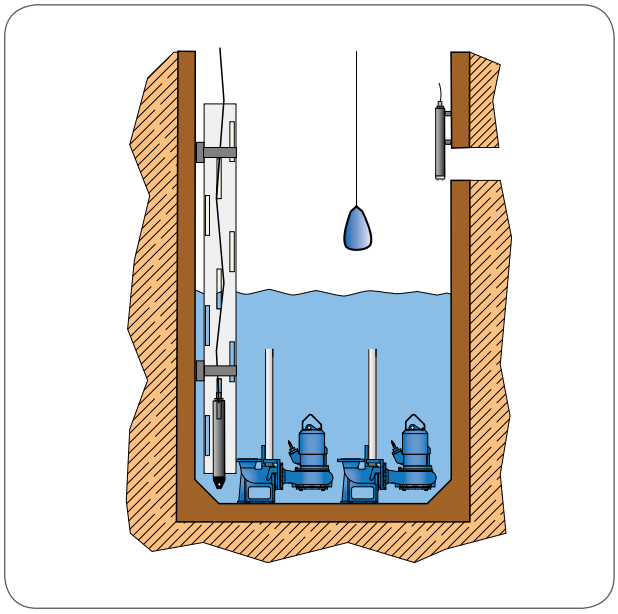
Normally 2-wire submersible sensors are used for level measuring but the unit can be delivered with a sensor for bubble tube measurement on order.

Technical specifications:

Electronics	
Housing:	
Panel mounting:	Aluzinctreated steel, front IP65
Dimensions (wxhxd):	244 x 120 x 75 mm
Wall mounting:	Bluecoated Aluzinctreated steel, IP65
Dimensions (wxhxd):	296 x 139 x 139 mm
Power supply:	230 VAC ±10%, 50/60 Hz 115 VAC ±10%, 50/60 Hz 10-15 VDC
Power consumption:	Max 10 VA
Temperature range:	0 ºC to +60 ºC
Processor:	Texas TMS 370
RAM memory back-up:	NVRAM, 10 years data security
Analogue in:	1 signal, galvanically separated
Signal:	0/4-20 mA
Resolution:	14 ¼ bit (1/20 000)
Total inaccuracy:	< 0.1% F.S.
Input resistance:	100 Ohm
Isolation:	2 kV
Analogue out:	0/4-20 mA, galvanically separated
Resolution:	1µA
Max load:	1 000 Ohm
Input resistance:	100 Ohm
Total inaccuracy:	< 0.1% F.S.
Isolation:	2 kV
Digital in:	6 pcs, potential free or NPN signal
Isolation:	2 kV
Digital out:	5 pcs, potential free relays
Load:	250 V, 4 A max 100 VA resistive load
Isolation:	2 kV

CE

PC 4 fulfill following council directives and generic standards: 89/336/EEC relating to electromagnetic compability (EMC).
EN 50 081-1:1992 Emission
EN 50 082-2:1995 Immunity
72/23/EEC relating to safety requirements (LVD) EN 61 010-1:1993



Mounting

Pressure sensors HSR or HSC2

In pits or tanks without turbulence the sensor can be mounted hanging freely in its cable. If there is a strong turbulence we recommend that the sensor is protected inside a pipe, with a diameter of at least ø 50 mm, which is mounted vertical alongside the tank or pit wall.