2-PUMP CONTROLLER PC 241/242

GB

- **Advanced control of 2 pumps**
- **Communication via GPRS, GSM, tele modem or cable**
- **Logging of analogue signals, digital signals and alarms**
- **Level sensing by 4-20 mA sensor or float switches**
- **Mixer/flush valve control**
- **Pump capacity calculation and alarm**
- **Overflow measurement**
- **DIN-rail mounted**

PC 241

PC 242

The PC 241 and 242

is a 2 pump controller designed mainly to be used in municipal wastewater pumping stations of either gravitation or pressurised type. It is has many advanced features to minimise the costs in the pumping station throughout the whole life-cycle.

The controller comes in two versions: with graphical display to have a full user interface and without display to fit in budget applications.

The level sensing in the pit may be done using either float switches or 4-20 mA sensor.

Viewing of alarms, manual control of pumps and changing of settings etc. can be made locally via the graphical user interface. It can also be done via the configuration software AquaProg at a PC, connected directly to the local service port or remotely via e.g. modem.

Settings are password protected in two levels to avoid unauthorised or accidental changes.

AquaProg can also be used for backing up the controllers settings on the hard disc, download alarms, events and historical data.

The PC 241 and 242 can be fitted in a standard norm enclosure.

Following values are accumulated and stored:

- Pump start count
- Pump run time
- Overflow count
- Overflow time
- Overflow volume
- Pumped volume
- Energy/rain

Functions

- Pump run confirmation via motor current or contactor feedback.
- Pump stop after max runtime setting.
- Cyclic pump motion timer.
- Emergency pump run timer on high float.
- Overflow calculation and monitoring.
- Pulse frequency to analogue, value conversion (energy/rain inputs).
- Alarm dial-up.
- GSM/SMS alarms.
- GPRS modem support.
- Modbus & Comli communication protocol.
- Data logger 8 analogue channels 1-60 minute/sample: Level, motor current P1/P2, inflow/out flow, pressure, motor temperature (Pt 100) P1/P2, calculated energy/rain
- Data logger digital: Pump 1/2 on/off, alarms on/off/acknowledged
- SW clock for time and date. Must be set after each power up.
- Inflow calculation
- Outflow calculation
- Pump capacity calculation and alarm
- Personell alarm

Technical specifications:

Ambient operating temperature:	-20 °C to +70 °C
Ambient storage temperature:	-30 °C to +80 °C
Degree of protection:	IP20
Housing material:	PPO and PC
Mounting:	DIN rail 35 mm
Humidity:	0-95% RH non condensing
Dimensions:	Controller: 86 x 160 x 60 (H x W x D)
Power supply:	9-34 VDC
Power consumption:	< 150 mA average at 24 VDC
Max load DO relays:	250 VAC 4 A max 100 VA resistive load
Digital input voltage:	5-34 VDC
Digital input resistance:	10 k ohm
Analogue inputs:	0/4-20 mA
Analogue input resolution:	Level sensor 16 bits Other AI 10 bits
Telemetry interface:	RS 232
PCx component sharing interface:	CAN bus
Data memory (logger):	
Analogue signals:	15 days at 8 channels, 1 min interval
Digital signals and alarms:	4096 events

CE

PC 241/ PC 242 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

Analogue inputs:

- 2-wire level sensor 4-20 mA
- Current transformer P1 4-20 mA
- Current transormer P2 4-20 mA
- Pressure sensor for conditional pump blocking in pressurized systems (4-20 mA)

Digital outputs (potential free contacts):

- Pump control P1
- Pump control P2
- Common alarm output
- Mixer control/cleaning control/drain pump control
- Motor protector reset/pump fail P1
- Motor protector reset/pump fail P2

Telemetry interface:

- 1 RS 232 port connects to modem, radio or other serial communication carrier.
- 1 RS 232 service port

BUS interface:

- CAN bus for future external graphical operator panel and other possible future modules.

Digital inputs:

- High level float
- Overflow sensor
- Start float/run confirmation P1
- Start float/run confirmation P2
- Stop float (common)/ low level float (blocks pumping)
- Motor protector P1
- Motor protector P2
- Manual start of pump 1
- Manual start of pump 2
- P1 not in auto/pump fail
- P2 not in auto/pump fail
- Energy or rain meter 1
- Energy or rain meter 2
- Alarm reset

Integrated amplifiers:

- Leakage monitor (integrated DI amplifier with differential inputs) P1
- Leakage monitor (integrated DI amplifier with differential inputs) P2
- Temperature monitor. Integrated amplifier for PTC or Pt100 sensor (Klixon) P1
- Temperature monitor. Integrated amplifier for PTC or Pt100 sensor (Klixon) P2