

Control unit for Pump Stations with single or duplex pumps, 12A each, 1- or 3-phase

Why use the PumpGuard duo control unit?

- Outstanding price-performance ratio
- Single and duplex pump version
- Durable LED display for working-life >> 10 years
- All settings can be done comfortable in the menu
- Level detection by
 - ⇒ Diver's bell / pressure
 - ⇒ Pressure measurement with air-bubble introduction and blower monitoring
 - ⇒ Float switch
 - ⇒ Level probe / analogue input 4-20mA
- ATEX mode
- Inputs for thermal pump monitoring

- Compact & modular design (battery and input module)
- Digital 3-phase current monitoring
- Thermal protection inputs
- Operating hours counter
- Alarm outputs (pot. free & 230VAC)
- Level measurement inputs compatible with common Zener barriers



PumpGuard

PumpGuard details

The *PumpGuard* is designed as a compact control unit with the features of a “big” pump controller for the price of a small one. Therefore, a lot of handy features, that are normally not available at this price range, have been integrated.

Level measurement possibilities

As standard option, level measurement is performed by diver’s bell / pressure sensing. This is a very efficient and reliable way to detect the preset switching levels. This measurement can be combined with one alarm float switch. A second option is, to use float switches. Two float switches for the single-pump operation can be connected in the standard package, a third float switch can be added using the input module. Another possibility is, to use an analogue pressure probe (4-20mA). The probe can be connected to the additional input module.

Pump monitoring options

The pump current consumption is evaluated digitally on all three phases according to applicable standards. Moreover, the reversible temperature sensor and the irreversible temperature sensor are monitored. As a third security level, the maximal pump runtime can be checked.

Special pump behavior settings

To enhance functionality and comfort, the following functions have been added:

- Startup timeout: Delay after mains recovery

Technical data

Attribute	Value
Dimensions (l x w x h); weight	210 x 200 x 110mm; solo: 1.5kg, duo: 1.7kg
Ambient temperature and humidity	-20°C to +50°C; 0-90% rel. humidity, not condensing
Protection classification	IP54
Display / LED	LED display, 6-digit / 7 LED
Pressure sensor	0 - 99mbar measurement range, 400mbar max. pressure
Electrical outputs	1-2x contactor relay 1-/3-phase; max. 5kW potential-free changeover alarm contact (max. 250VAC; 3A; required fuse max. 3A) alarm relay output 230VAC (max. 250VAC; 1A) low voltage alarm output (5V / 50mA max.) for <i>BonFlash</i>
Inputs	All inputs suited for Zener barriers with internal resistance of up to 20kΩ 2x digital input 5VDC / 5mA max. On input module: 1x digital input 5VDC / 0.3mA max. 1x analogue input 4 – 20mA (two wire), range: 0-100mbar, resolution 40µA, processed resolution: 1mbar

- Overcurrent retry delay: Time in minutes for a retry of the pump after detecting overcurrent
- Overtravel duration: A time in seconds can be set to run a pump after detecting the Off-level
- Forced pumping: Each X days the pumps are started for 3s to destroy possible fat crusts
- Forced operation timeout: To prevent smelling, pump to Off-level each X hours
- Single pump operation: Restrict to max. one pump, even at high level

ATEX mode

One way to reach ATEX conformity is, to connect a mini-blower to the diver’s bell measurement. The *PumpGuard* is capable of a minimal pressure monitoring to reach the required security level for this air-bubble introduction measurement.

The digital inputs for the float switches are compatible with common Zener barriers, which limit the max. energy to ensure ATEX compatibility.

Also, the analogue input can be combined with common Zener barriers.

Mains failure signaling

The *PumpGuard* can be equipped with a cost-effective rechargeable battery module containing four AA rechargeable batteries. Together with BONNEL’s low energy LED alarm beacon *BonFlash*, the *PumpGuard* can signalize mains failures of more than 72h.