BundGuard - bund dewatering system Issue 5

Continued development of our products and listening to feedback from clients sees the greatest future improvement to the BundGuard. The information provided here is to demonstrate the improved operation of the Issue 4 unit but also now includes an array of onward communications options for clients who require them. Not all features will be as standard but this modular design means you pay for what you need.

System fault relay
Signals when the BundGuard unit has detected that the probe unit has signalled a state that is not within normal operating parameters. For example, detecting water at the high water probe, but not at any of the lower water probes.

240V Common alarm
Signals when any high water, high oil or system fault is present on the system by switching 240V to the common alarm terminals.

Maximum number of pumps
The new BundGuard unit will support two simultaneously attached pumps. These can be configured to alternate pumping cycles or both operate simultaneously. The user can also configure the high water alarm to trigger both pumps to operate regardless of the normal alternate or simultaneous pumping routine.

Pump current monitoring
A small current transformer enables the controller to detect the current through each of the pumps. A user can specify a current limit for each pump that when exceeded could signify a failing pump, or blocked inlet.

MODBUS RTU via RS485
All information stored by the BundGuard, including event logs can be requested by the connected MODBUS client.

SMS and GSM signalling
The user can enable the plug-in GSM/GPRS module to enable SMS alarm notifications.

Menu System
The BundGuard can be configured via the embedded buttons and LCD user interface. The user can also cycle through event logs, see the pump cycle counter, flow meter values, and receive textual errors should the system encounter a fault.

Event and time logging
As standard, the BundGuard control unit will log the date and time of any alarm or event that occurs which would be of aid to the fault diagnosis process. This data is available to the user via the LCD menu system, or via specific MODBUS data addresses.

Alarm accept
A user can accept an alarm that is currently raised by pressing the accept button on the front of the control panel enclosure. Any currently raised alarm's output relay will be temporarily disabled until the system detects a transition from alarm ON to alarm OFF.

Connector detection
The BundGuard control unit will automatically detect whether a connector is seated correctly in the BundGuard unit. This helps the installation process and is useful in the fault finding process.

Battery backup
A 6v lead acid cell may optionally be installed within the control enclosure to provide backup power to the control and signalling circuitry in the BundGuard unit. When the mains power fails and the battery backup is installed, the BundGuard will deactivate all relays and pumps, and signify the event via GSM (if installed) and MODBUS.
A charging circuit is provided to keep the battery charged from the mains supply.

Flow Metering
A flow meter may optionally be attached to the BundGuard unit to monitor the volume of water pumped from the bund. This volume may be obtained via visual inspection of the menu system, or via specific MODBUS data addresses.

Outlet filter pressure sensors
For each pump, an optional filter pressure sensor can be installed to enable the filter pressure alarm functionality. A user can set a specific pressure threshold and the BundGuard unit will signify this alarm back to the user.

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BundGuard - Issue 4 and Issue 5 features comparison

BundGuard features comparison

Category	Feature	Issue 4	Issue 5
Relays	High oil zero-volt relay	✓	✓
Relays	High water zero-volt relay	✓	✓
Relays	Mains fail zero-volt relay	✓	✓
Relays	System Fault zero-volt relay	✗	✓
Relays	240V common alarm	✗	✓
Pump	Pump protection (disable) circuit	✗	✓
Pump	Maximum pumps per control board	1 max	1 standard, 2 max
Pump	Pump current monitoring	✗	Optional
Communication	MODBUS RTU via RS485	✗	✓
Communication	SMS and GSM signalling	✗	Optional
User Interface	LCD size	1 x 8 Characters	2 x 16 Characters
User Interface	Menu system	✗	✓
User Interface	Pump cycle count	✓	✓
User Interface	Event and time logging	✗	✓
User Interface	Alarm accept	✗	✓
External Interface	Connector detection	✗	✓
External Interface	Battery backup	✗	Optional
External Interface	Flow metering	✗	Optional
External Interface	Outlet filter pressure sensors	✗	Optional
External Interface	IP68 connectors "plug and play"	Optional	Optional

Presentation of information

Alarm	GSM	MODBUS	Relay	LCD	LED
High water	Issue 5	Issue 5	Issue 5	Issue 4 & 5	Issue 4 & 5
High oil	Issue 5	Issue 5	Issue 5	Issue 4 & 5	Issue 4 & 5
Mains failure*	Issue 5	Issue 5	Issue 5	Issue 5	Issue 4 & 5
System fault	Issue 5	Issue 5	Issue 5	Issue 5	Issue 5
High filter pressure	Issue 5	Issue 5	✗	Issue 5	✗
High pump current	Issue 5	Issue 5	✗	Issue 5	✗
Connector detection	Issue 5	Issue 5	✗	Issue 5	✗

* When battery backup installed

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