BlueLinQ Pro controller (EC 541)

The BlueLinQ Pro is a 1 to 6 pump monitor and controller, designed mainly to be used in municipal wastewater pumping stations. The software included in the BlueLinQ Pro is a further development of the EC 531 and PC 441 controllers. The controller consists of a 7" touch screen display, which can be connected to a range of modules for monitoring and controlling any pump pit configuration. The back-plane DIN rail power and communication connections and slim-line design of the modules allows for simplified installation and space saving in any electrical cabinet. Monitoring of pump/pit data, viewing of alarms, manual control of pumps and changing of settings etc. can be made locally via the 7" touch screen or via the configuration software AquaProg on a PC, connected directly to the local service port or remotely via modem. Settings are password protected in two levels to avoid unauthorized or accidental changes.

Modules available for the BlueLinQ Pro

BlueLinQ DI-12 module (CA 811)
Digital Input module for connection of up to 12 Digital Inputs. Digital Inputs are divided into 6 groups of 2 galvanically isolated inputs.

BlueLinQ DO-8 module (CA 821)
Digital Output module for the connection of up to 8 Digital Outputs. The digital outputs are externally powered in 2 groups of 4 outputs, with each output having a max. load of 1 A (4 A total for all outputs).

BlueLinQ AI-6 module (CA 831)
Analog Input module for connection of up to 6 Analog inputs (4 – 20 mA) with a resolution of 0.01 mA.

BlueLinQ AO-6 module (CA 841)
Analog Output module for connection of up to 6 Analog Outputs (4 – 20 mA) with a resolution of 0.01 mA.

BlueLinQ LI-6 module (CA 861)
Leakage module for connection of up to 6 Leakage signals all of which are galvanically isolated from the connecting field bus.

BlueLinQ TI-6 module (CA 832)
Temperature module for connection of up to 6 Temperature signals all of which are galvanically isolated from the connecting field bus.

Key control parameters

- Advanced monitoring of 1-6 pumps
- Advanced control of 1-6 pumps
- Communication via modem, RS485, RS232, USB and Ethernet
- Logging of analogue signals, digital signals and alarms
- Mixer and drain pump control
- Advanced pump capacity, inflow and outflow calculation with alarm handling
- Overflow measurement
- Best Efficiency Point (BEP) with parallel running pump support
- Modbus support for external VFD, energy meter etc.
- Panel mounted

Pumps control function

- Variable start / stop levels per day and night in a week
- Alternative stop level
- Best Efficiency Point
- Start / Stop based on speed of level change
- Ratio starts of pumps
- Random start levels
- Smart VFD control
- Auto reverse of pump
- Max. runtime check
- Cyclic motion timer
- Remote blocking of pump via communication
- Support for controlled pump valves

Sump monitoring function

- Max. number of pumps running
- Mixer control logic
- Drain pump monitoring
- Level signal check against high/low level sensor and level deviation over time.
- Timer based back-up run of pump via high level float
- Sump level indication calculated from sump bottom or sea level
- Support for controlled mains valve

Communication interface

- 1 RS232 port connects to modem, radio or other serial communication carrier.
- 1 USB service port
- 1 Com port for Modbus on TCP, RJ-45 Ethernet
- 2 ModBus on RS485 (Galvanically Isolated)
- Register & IO cross reference table

Other functions
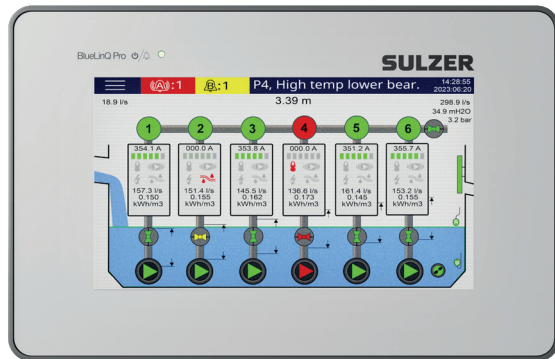
- Micro SD card interface

Table specifications

Screen Type	7" Touch Screen, 480 * 800 Pixel Resolution
Ambient operating temperature	-20 to +50 °C (-4 to +122 °F)
Ambient storage temperature	-30 to +80 °C (-22 to +176 °F)
Degree of protection	Front panel IP65 / Back panel IP20
Housing material	Frame: PC UL 94 V0 Rear Hood: Galvanised sheet steel
Mounting	Panel Mounted. Cut-out of 208 x 128 mm (8.19 x 5.04 inch)
Dimensions H x W x D	146 x 226 x 52.5 mm (5.75 x 8.90 x 2.07 inch)
Humidity	0 - 95% RH non-condensing
Power supply	10-30 VDC, Device is supplied by Class 2, SELV, Limited Energy Source.
Power consumption	< 6.0 W
Power consumption max. load	< 112 W (30 modules attached)
Installation category	CAT I
Digital outputs	4 Outputs, Positive logic, Sourcing from power Vdo (Pin8), 1.7 A/output, Total Load 4 A.
Digital inputs	4 inputs, 1.8 kΩ input resistance, 0-30 V input voltage, 4 V ≈ trig level, 1 kHz max. pulse rate
Field Bus (to CA 811/CA 821... etc.)	1 CAN FD Port. Max. current load 6 A
Max. Modules supported on Field Bus	30
Communication ports	1 USB 2.0 service port, 1 RS232 port for telemetry interface (modem), 2 Modbus on RS485 (galvanically isolated), 1 ethernet port for Modbus TCP
Data logging:	
Analogue signals	31 days for 32 channels @ 1 min interval
Digital signals and alarms	4096 events
Crash Log	4 logs, 138 parameters, 6 min pre- and 2 min post-crash log initiation, 1 sec resolution
Memory	1 micro SD interface for uploading/ downloading updates or data.
Max. Altitude	2000 m (6560 ft)
Compliance	CE ☒ REACH RoHS COMPLIANT

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