

COMPACT PUMP CONTROL AND WATER MONITORING DEVICE

TECHNICAL SPECIFICATIONS AND CAPABILITIES

AQUA CNT;-Controls the pumps, monitors the water level in water tanks and observes the flow and pressure in the district metered areas (DMA).

Easy to set up and install due to the ergonomic design.

100F series devices come with an internal flowmeter module. It also includes clamp-on measurement probes that can measure the water flow from the pipes that have diameters ranging from DN50 to DN700. The measurement accuracy for the flowmeter is 1%.

The ABS Polymer casing protects against corrosion.

Operates between -20°C and +60°C degrees.

The membrane keypad to manually controls the device alongside with an LCD screen to monitor the status of the device on the front cover.

Internal DC UPS, battery charging unit and a 10.5 Ah Lithium battery which helps the device to operate at energy cuts.

Three 16-bit analogue inputs and a 12-bit analogue output.

Four digital inputs and two digital outputs with relays.

Internal over-current and over-voltage circuits in the analogue inputs. The digital inputs are optically isolated.

There is an internal GSM/GPRS modem with an antenna.

IP filtering is available and APN support ensures the safety of the communication.

Supports MODBUS TCP communication protocol.

Real time clock (RTC).

Hydrostatic water level sensors, flow meters and pressure sensors with 4-20mA current output can be connected to the analogue inputs of AQUA CNT devices. The analogue inputs are also configurable, means that the user can select which sensor is used for each input.

The flowmeters that have a digital pulse output can be connected to the digital inputs of the device.

-Able to operate a pump automatically according to the water level in the tank (Tank Filling Mode) and to the pressure in the water network (Pressure PID Mode).

-In the Tank Filling Mode (TFM) the pump is controlled automatically according to the preset values entered by the user. These values determine the minimum and the maximum water levels that the tank (reservoir) is supposed to contain. The pump control device can read the water level in the target tank device over MODBUS TCP.

-When TFM is selected as the operating mode and there is a communication failure between AQUA CNT device of pump and the target device, the emergency scenarios take over the control of the pump. The emergency scenarios can work according to either imitating the previous work routine of the pump or according to the preset start and stop durations entered by the user.

In the Pressure PID Mode (PPM), the pump is controlled automatically according to the preset start and stop values for the pressure of the network.

It can be integrated to any SCADA system that supports MODBUS TCP protocol.

AQUA CNT devices do not need external batteries and/or voltage regulators due to the included battery and charging regulator. It can be operated with a solar panel if there is no electricity available.

Communicates with energy analyzers over RS-485 communication port.

Supplies 24VDC/500mA power outputs to the external sensors.

The binary status of the digital inputs and the outputs can be monitored at the SCADA system.

The relay outputs can be controlled through SCADA regardless of the operating scenario.

The digital inputs and outputs regarding the operation of the motor are configurable. For example, the user can choose which digital input will be used for reading the start/stop status of the pump motor.

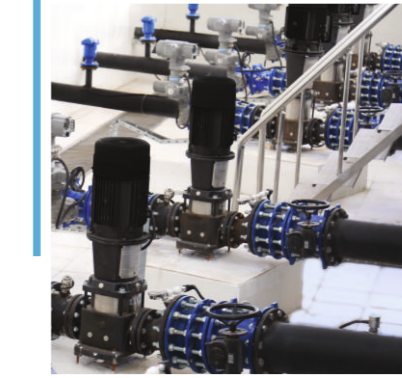


ENVEST – THERE IS NO OTHER WORLD!

Envest, since 2012, produces devices and software systems that are based on the cloud technology which are universal, user and cost friendly, unlike the traditional SCADA/Automation systems that have a high initial investment and operation cost. The systems that are developed under the "Koru1000" brand, manage water from the source to the end user in a sustainable manner.

AQUA CNT devices and software, which contain many water management scenarios within, manages the future of the water in a smart way in today's world where Industry 4.0, Internet of things, Big Data and Artificial Intelligence are emerging technologies.

In today's world where consumption is in an ever-growing trend, we act with the awareness and responsibility, knowing that the sources that we have are limited. We offer modern water management systems based on the sustainability to save water and protect our world.



AQUA CNT

COMPACT PUMP CONTROL AND WATER MONITORING DEVICE

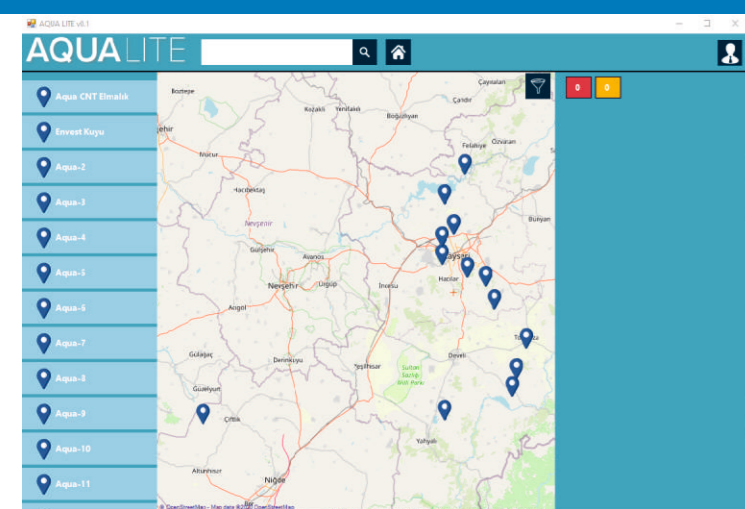
CONTACT US

WHAT IS AQUA CNT ?

AQUA CNT is a control device containing specific algorithms for cases such as, control of submersible pumps, water supply station pumps, industrial water process pumps and irrigational watering stations. It can also be used for monitoring the water level in the water distribution tanks and for monitoring pressure and waterflow in the District Metered Areas (DMAs) to prevent water losses.

AQUA CNT devices can either be used with AQUA LITE software or Koru1000 WMS system. It is also possible to integrate them to any SCADA system that supports MODBUS TCP.

HOW CAN I DOWNLOAD AQUALITE SOFTWARE?



Download and use the AQUA LITE desktop application for free: [HYPERLINK "https://aquacnt.koru1000.com/"](https://aquacnt.koru1000.com/)
<https://aquacnt.koru1000.com>

KORU1000 WMS V1.6 A CLOUD BASED WATER MANAGEMENT SYSTEM

KORU1000 WMS is a system that is developed to control thousands of water stations from one web interface.

Communication with PLCs and RTUs of different brands with different industry protocol including Modbus TCP and FINS.

- Web-based control, monitoring and reporting interface.

- Ability to work redundantly.

- Ability to define unlimited tags.

- Ability to easily export trend graphs to PDF, Excel or printer.

- Ability to make alarm definitions and receive them as SMS, e-mail and notification.

- To be able to make energy efficiency analyzes in pumps.

- To be able to perform loss-leakage management with minimum night flow (MNF) and infrastructure leakage index (ILI) analysis by monitoring DMAs.



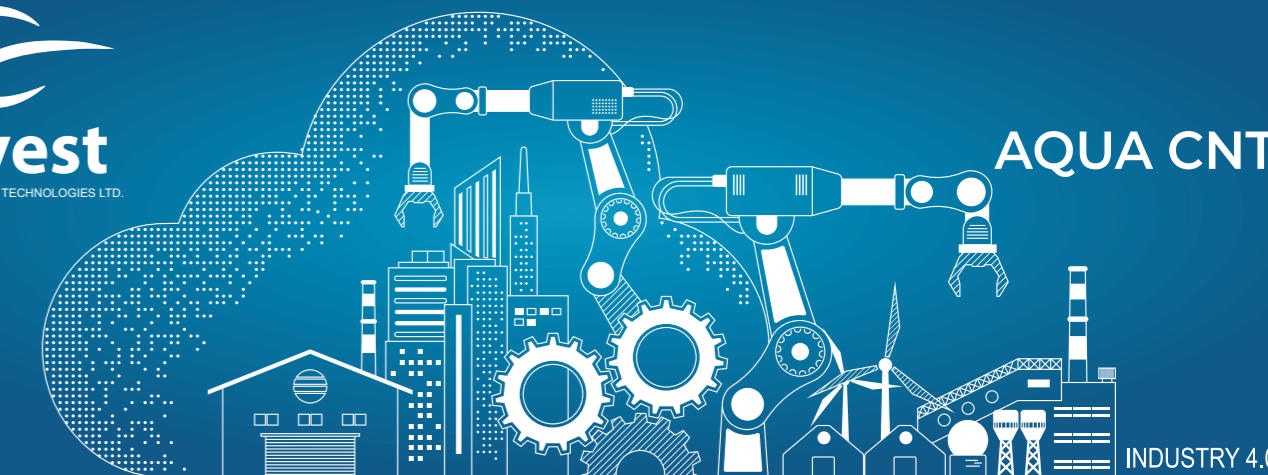
FEATURES OF AQUA CNT DEVICES

AQUA CNT 100S

- Low power microcontroller
- LCD Screen (64x128 Graphic)
- GSM/GPRS Modem + External Antenna
- Battery Management Unit (DC UPS + Charging)
- 14.8V 10500 mA Lithium Battery
- 8MB Flash Memory
- 3 analogue Inputs (16-bits) and 1 analogue output (12-bit)
- 4 digital inputs and 2 digital outputs with relays
- Configurable Input/Output table
- MODBUS TCP Master/Slave Communication (supports up to 5 connections)
- IP Filtering and APN Support
- RTC Update over GSM
- IP65 Protection
- 24VDC Supply Voltage

AQUA CNT 100F

- Internal Flowmeter Module with Clamp-on Probes (Diameter Range: DN50-700, Sensitivity: 1%)
- Low power microcontroller
- LCD Screen (64x128 Graphic)
- GSM/GPRS Modem + External Antenna
- Battery Management Unit (DC UPS + Charging)
- 14.8V 10,500mA Li Battery
- 8MB Flash Memory
- 3 analogue Inputs (16-bits) and 1 analogue output (12-bit)
- 4 digital inputs and 2 digital outputs with relays
- Configurable Input/Output table
- MODBUS TCP Master/Slave Communication (supports up to 5 connections)
- IP Filtering and APN Support
- RTC Update over GSM
- IP65 Protection
- 24VDC Supply Voltage



OPTIONAL ACCESSORIES



PRESSURE SENSOR

- Measures exit pressure and line pressure for the pumps in borehole wells (submersible pumps) and water supply stations (inline/vertical centrifuge pumps).
 - Tracks the presence of faults in the mechanical instruments.
 - Used in monitoring the loss ... leakage of water networks.
- Range: 0-6 Bars | Sensitivity: 0.3% | Output: 4-20mA Current



HYDROSTATIC WATER LEVEL SENSOR

- Tracks the level of the groundwater and the water collected in tanks/reservoirs.
- Range: 0-500 meters | Sensitivity: 0.3% | Output: 4-20mA Current



ULTRASONIC FLOWMETER

- Tracks the waterflow for pumps in wells and water supply stations and for inlet/outlet waterflows for the water tanks.
 - Used in monitoring the loss ... leakage of water networks.
 - Used in the chlorination stations where the chlorination process depends on the waterflow.
- Range: -12...+12 m/s | Sensitivity: 1% | Output: 4-20mA Current and MODBUS RS485



ELECTROMAGNETIC FLOWMETER

- Tracks the waterflow for pumps in wells and water supply stations and for inlet/outlet waterflows for the water reservoirs.
 - Used in monitoring the loss ... leakage of water networks.
 - Used in the chlorination stations where the chlorination process depends on the waterflow.
- Range: -12...+12 m/s. | Sensitivity: 0.2% - 0.5%. | Output: 4-20mA Current and MODBUS RS485.



ENERGY ANALYZER

- Used to monitor the energy consumption for the pumps used in wells and water supply stations
- Measures voltage and current values for 3 | phases as well as the power factor and harmonics of the system | MODBUS RS485 Output



POWER SUPPLY

- Converts AC to DC with high efficiency
- Two +24VDC and Three GND Output Terminals. Universal Input.



SOLAR PANEL

- To be used in water tanks and DMAs in order to provide 24 V DC for AQUA CNT, when electricity is not available.
- Output Power: 2x50W