

Koru1000 hardware are PLC based and they are suitable to be expanded. All the equipment that are used in Koru1000 control and power panels are industrial and they can work under hard conditions without any problems. The communication between the hardware and the server is ensured by the 2G/3G modems over the GSM network.

Over 3000 water stations are monitored and managed by Koru1000 water management system. The customers are supported 7/24 with care by the after-sales support units.

In our world where the overconsumption is a trend, we, as Envest, act by knowing that the resources we have are not unlimited as they seem to be. Based on the principle of sustainability, we offer modern water management systems to protect our world. With Koru1000, we not only care for establishing efficiency-oriented results, but also care for the management of the water resources and the future of the water. While achieving our goals, we take strength from our motto "There is no other world!"



- Can Be Used in Submersible Pump Wells
- Water Reservoir working with Grid Power
- Can be used in pumps used in water supply stations
- Water Reservoir working with solar Power
- Can be used in waste-water pumps
- Pressure-controlled valve application
- Driver support
- Energy efficiency can be applied
- Can measure Temperature
- Easy use with Human Machine Interface (HMI)
- Valves with proportional actuators
- Valves with actuators
- Chlorine Dosing



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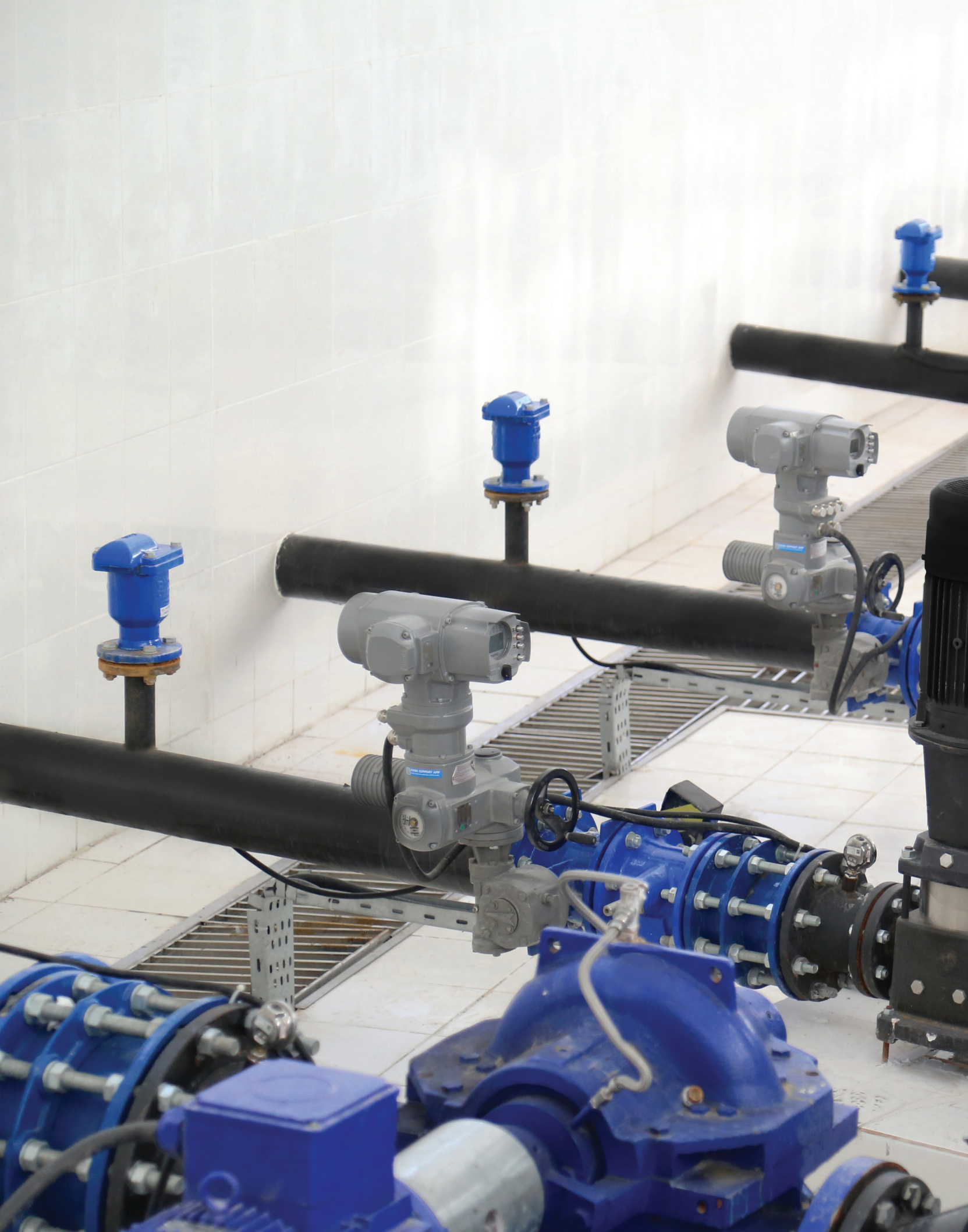
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CP SERIES DEVICES
FOR CONTROLLING WELL PUMPS and
WATER SUPPLY STATION PUMPS

CP100-GM

WELL PUMP
CONTROLLING DEVICE



TECHNICAL SPECIFICATIONS

The Specifications of the PLC Controller:

- 9 channel 24VDC PNP/NPN Input
- 6 channel 230VAC 5A relay output
- 1 channel 0-10VDC/0-20mA optional analog input (12-bit resolution)
- 1 channel 0-20mA analog output (14-bit resolution)
- Can be expanded by maximum 16 expansion units due to the modular structure
- Communication over the network via a 100MBit ethernet port
- MODBUS TCP support
- RS232 ve RS485 communication ports
- MODBUS RTU support
- Decimal operation support
- 12ns processing speed
- RTC (Real Time Clock)
- Supplied by 24VDC
- Power Consumption < 3W
- Working temperature between 0°C and +50°C
- Can be programmed with Ladder Logic Diagram Editor

Power Supply:

- 2.5A, 60W SMPS
- 24VDC Output, 100-240VAC or 90-350VDC Input
- Efficiency %88
- Over power protection, over voltage protection
- Working temperature between -25°C and +60°C

ABILITIES



Where can I use this product?	<ul style="list-style-type: none"> • Drinking water applications • Agricultural irrigation applications • Management of process water
In what kind of stations, I can use this product?	• Well Water Control
Automatic Operating Scenarios	<ul style="list-style-type: none"> • Can work automatically depending on the linked water reservoir (Koru1000 Link) • Can work according to a time table
Sensor support	1 analog sensor can be connected: <ul style="list-style-type: none"> • Flowmeter • Pressure Sensor • Ground water level or reservoir water level sensor
What happens when the communication is interrupted?	Works automatically according to the determined time periods
Hardware upgradeable?	✓
7/24 system support?	✓
Software support	Integration to the Koru1000 water management system over Koru1000 cloud.
External SCADA support	Integration to all SCADA systems that supports Modbus TCP

Uninterruptible Power Supply: <ul style="list-style-type: none"> • 600VA AC UPS • Controlled by line-interactive microcontroller • 162-290VAC input voltage range • Protections for short circuit, overcurrent, overload, overcharging or over-discharging the battery • 1x12V 7Ah Battery • Working temperature is between 0°C ile +40°C 	Malfunction Indicators and Buttons: <ul style="list-style-type: none"> • 2 LEDs as malfunction and run indicators • 3-step button (Koru1000 SCADA, Service/Stop mode, manual start mode)
GSM Communication: <ul style="list-style-type: none"> • 3G Industrial Router • Communication speed; 3G 14.4Mbps, 2G 236.8 Kbps • IEEE 802.11b/g/n, can be used as Wifi access point or station • 2 Ethernet ports • Routing, network protocols, firewall, DHCP, QoS, network backup, load balancing, DDOS prevention, port scanning prevention, WPA-2Ent Wifi encryption, mobile quota control, web filters, access control, VPN, APN • RutOS: Linux-based operating system • 1 digital input, 1 digital output • Operates with 9-30VDC • Power consumption < 5W • Working temperature is between -40°C ile +75°C 	Panel Specifications and Dimensions: <ul style="list-style-type: none"> • PVC 40x60x22 cm
	Panel Weight: <ul style="list-style-type: none"> • 11,85 Kg

CP110-GM

WELL PUMP and SUPPLY STATION
PUMP CONTROLLING DEVICE



TECHNICAL SPECIFICATIONS

The Specifications of the PLC Controller:

- 9 channel 24VDC PNP/NPN input
- 6 channel 230VAC 5A relay output
- 1 channel 0-10VDC/0-20mADC optional analog input (12-bit resolution)
- 1 channel 0-20mADC analog output (14-bit resolution)
- Can be expanded by maximum 16 expansion units due to the modular structure
- Communication over the network via a 100MBit ethernet port
- MODBUS TCP support
- RS232 ve RS485 communication ports
- MODBUS RTU support
- Decimal operation support
- 12ns processing speed
- RTC (Real Time Clock)
- Supplied by 24VDC
- Power Consumption < 3W
- Working temperature between 0°C and +50°C
- Can be programmed with Ladder Logic Diagram Editor

Power Supply:

- 2.5A, 60W SMPS
- 24VDC Output, 100-240VAC or 90-350VDC Input
- Efficiency %88
- Over power protection, over voltage protection
- Working temperature between -25°C and +60°C

ABILITIES



Where can I use this product?	<ul style="list-style-type: none"> • Drinking water applications • Agricultural irrigation applications • Management of process water
In what kind of stations, I can use this product?	<ul style="list-style-type: none"> • Well Pump Control • Lift Pump Control
Automatic Operating Scenarios	<ul style="list-style-type: none"> • Can work automatically depending on the linked water reservoir (Koru1000 Link) • Can work as booster pump (hydrophore mode) • Can work according to a time table
Sensor support	Up to 4 analog sensors can be connected: <ul style="list-style-type: none"> • Flowmeter • Input pressure, output pressure, line pressure • Ground water level, reservoir level sensors • Remaining chlorine • Turbidity
What happens when the communication is interrupted?	Works automatically according to the determined time periods
Hardware upgradeable?	✓
7/24 system support?	✓
Driver (frequency convertor) support	✓ Adaptive PID can be performed with respect to pressure, flow, ground water level or power.
Proportional actuator valve control	✓ (1)
Hardware upgradeable?	✓
7/24 sistem desteği	✓
Software support	Integration to the Koru1000 water management system over Koru1000 cloud.
External SCADA support	Integration to all SCADA systems that supports Modbus TCP

Uninterruptible Power Supply:	<ul style="list-style-type: none"> • DC UPS • Input 22.5V-28V, Output 24V • Output current 30A • At least 7 Ah 12V dry accumulator • Working temperature is between -40°C and +70°C
GSM Communication:	<ul style="list-style-type: none"> • 3G Industrial Router • Communication speed; 3G 14.4Mbps, 2G 236.8 Kbps • IEEE 802.11b/g/n, can be used as Wifi access point or station • 2 Ethernet ports • Routing, network protocols, firewall, DHCP, QoS, network backup, load balancing, DDOS prevention, port scanning prevention, WPA-2Ent Wifi encryption, mobile quota control, web filters, access control, VPN, APN • RutOS: Linux-based operating system • 1 digital input, 1 digital output • Operates with 9-30VDC • Power consumption < 5W • Working temperature is between -40°C and +75°C
Energy Analyzer:	<ul style="list-style-type: none"> • The measured parameters are: 3xV, 3xI, Frequency, W, Var, VA, kWh, kVarh, Min, Max, Demand, Cos φ • RS485 Modbus RTU Communication • LCD Screen • Sensitivity %0.5 • Power Consumption < 4W • Working temperature is between -10°C and +55°C

Analog Expansion Module:	<ul style="list-style-type: none"> • 4 Channel 0-10VDC, 0-20mA, 4-20mA analog input • 2 Channel 0-10VDC, 0-20mA, 4-20mA analog output • The channels can be used as different input/output types independent of one another • Inputs and outputs are isolated by galvanization • 14-bit resolution
Malfunction Indicators and Buttons:	<ul style="list-style-type: none"> • 2 LEDs for malfunction indicator and run indicator • 3-step button (Koru1000 SCADA, Service/Stop mode, manual start mode)
Panel Specifications and Dimensions:	• PVC 40x60x22 cm
Panel Weight:	• 10,25 Kg

CP120-GM

WELL PUMP and SUPPLY
STATION PUMP
CONTROLLING DEVICE



TECHNICAL SPECIFICATIONS

The Specifications of the PLC Controller:

- 9 channel 24VDC PNP/NPN input
- 6 channel 230VAC 5A relay output
- 1 channel 0-10VDC/0-20mADC optional analog input (12-bit resolution)
- 1 channel 0-20mADC analog output (14-bit resolution)
- Can be expanded by maximum 16 expansion units due to the modular structure
- Communication over the network via a 100MBit ethernet port
- MODBUS TCP support
- RS232 ve RS485 communication ports
- MODBUS RTU support
- Decimal operation support
- 12ns processing speed
- RTC (Real Time Clock)
- Supplied by 24VDC
- Power Consumption < 3W
- Working temperature between 0°C and +50°C
- Can be programmed with Ladder Logic Diagram Editor

Power Supply:

- 5A, 120W SMPS
- 24VDC Output, 100-240VAC or 90-350VDC Input
- Efficiency %88
- Over power protection, over voltage protection
- Working temperature between -25°C and +60°C

ABILITIES



Where can I use this product?	<ul style="list-style-type: none"> • Drinking water applications • Agricultural irrigation applications • Management of process water
In what kind of stations, I can use this product?	<ul style="list-style-type: none"> • Well Pump Control • Lift Pump Control
Automatic Operating Scenarios	<ul style="list-style-type: none"> • Can work automatically depending on the linked water reservoir (Koru1000 Link) • Can work as booster pump (hydrophore mode) • Can work according to a time table
Sensor support	Up to 4 analog sensors can be connected: <ul style="list-style-type: none"> • Flowmeter • Input pressure, output pressure, line pressure • Ground water level, reservoir level sensors • Remaining chlorine • Turbidity
Temperature Sensor	4 different temperature sensors can be connected (for panel, motor, environment, water temperature)
What happens when the communication is interrupted?	Works automatically according to the determined time periods
Pano üzerinde dokunmatik kontrol ekranı	✓ (7" TFT)
Enerji izleme özelliği	✓
Pompa verimi hesaplama özelliği	✓
Sürücü (frekans konvertörü) desteği	✓ Adaptive PID can be performed with respect to pressure, flow, ground water level or power.
Actuator valve control	✓ (1 adet)
Hardware upgradeable?	✓
7/24 system support?	✓
Software support	Integration to the Koru1000 water management system over Koru1000 cloud.
External SCADA support	Integration to all SCADA systems that supports Modbus TCP

Uninterruptible Power Supply:	<ul style="list-style-type: none"> • DC UPS • Input 22.5V-28V, Output 24V • Output current 30A • At least 7 Ah 12V dry accumulator • Working temperature is between -40°C and +70°C
GSM Communication:	3G Industrial Router Communication speed; 3G 14.4Mbps, 2G 236.8 Kbps IEEE 802.11b/g/n, can be used as Wifi access point or station 2 Ethernet ports Routing, network protocols, firewall, DHCP, QoS, network backup, load balancing, DDOS prevention, port scanning prevention, WPA-2Ent Wifi encryption, mobile quota control, web filters, access control, VPN, APN RutOS: Linux-based operating system 1 digital input, 1 digital output Operates with 9-30VDC Power consumption < 5W Working temperature is between -40°C and +75°C
Energy Analyzer:	<ul style="list-style-type: none"> • The measured parameters are: 3xV, 3xI, Frequency, W, Var, VA, kWh, kVarh, Min, Max, Demand, Cos φ • RS485 Modbus RTU Communication • LCD Screen • Sensitivity %0.5 • Power Consumption < 4W • Working temperature is between -10°C and +55°C

HMI Screen:	<ul style="list-style-type: none"> • 7" TFT 800x480 Touchscreen • 32bit 800Mhz Processor • 128MB Flash, 64MB SDRAM, • RTC • USB, RS232, RS485 Port • Ethernet, Modbus TCP • Remote desktop support with VNC • Power consumption < 7.2W • Working temperature is between 0°C and +50°C
Temperature Sensor:	<ul style="list-style-type: none"> • 4 independent universal inputs • 15-bit resolution, 0.1°C accuracy • Input types: PT-100 or PT-1000 type RT (Accuracy at full scale %0.2); B, C, E, J, K, N, R, S and T type thermocouple (accuracy at full scale %0.2); 25°C @10kOhm NTC (Accuracy 0.2°C); 0...60mVDC (0.01mV accuracy) • Short circuit and current protection
Analog Expansion Module:	<ul style="list-style-type: none"> • 4 Channel 0-10VDC, 0-20mA, 4-20mA analog input • 2 channel 0-10VDC, 0-20mA, 4-20mA analog output • Channels can be used as different types of inputs and outputs independent of one another • Inputs and outputs are isolated by galvanization • 14-bit resolution
Panel Specifications and Dimensions:	• PVC 50x70x25 cm
Panel Weight:	• 15,60 Kg

CP130-GM

WELL PUMP and SUPPLY
STATION PUMP
CONTROLLING DEVICE



TECHNICAL SPECIFICATIONS

The Specifications of the PLC Controller:

- 9 channel 24VDC PNP/NPN input
- 6 channel 230VAC 5A relay output
- 1 channel 0-10VDC/0-20mADC optional analog input (12-bit resolution)
- 1 channel 0-20mADC analog output (14-bit resolution)
- Can be expanded by maximum 16 expansion units due to the modular structure
- Communication over the network via a 100MBit ethernet port
- MODBUS TCP support
- RS232 ve RS485 communication ports
- MODBUS RTU support
- Decimal operation support
- 12ns processing speed
- RTC (Real Time Clock)
- Supplied by 24VDC
- Power Consumption < 3W
- Working temperature between 0°C and +50°C
- Can be programmed with Ladder Logic Diagram Editor

Digital expansion module:

- 8 channel 24VDC digital input
- Inputs are isolated and can be used as PNP and NPN
- 8 channel 230VAC 5A relay output

Power Supply:

- 5A, 120W SMPS
- 24VDC Output, 100-240VAC or 90-350VDC Input
- Efficiency %88
- Over power protection, over voltage protection
- Working temperature between -25°C and +60°C

ABILITIES



Where can I use this product?	<ul style="list-style-type: none"> • Drinking Water • Agricultural irrigation • Management of Process water • Chlorine dosing
In what kind of stations, I can use this product?	<ul style="list-style-type: none"> • Well Pump Control • Lift Pump Control
Automatic Operating Scenarios	<ul style="list-style-type: none"> • Can work automatically depending on the linked water reservoir (Koru1000 Link) • Can work as booster pump (hydrophore mode) • Can work according to a time table
Sensor support	Up to 4 analog sensors can be connected: <ul style="list-style-type: none"> • Flowmeter • Input pressure, output pressure, line pressure • Ground water level, reservoir level sensors • Remaining chlorine • Turbidity
Temperature Sensor	4 different temperature sensors can be connected (for panel, motor, environment, water temperature)
What happens when the communication is interrupted?	Works automatically according to the determined time periods
Pano üzerinde dokunmatik kontrol ekranı	✓ 1 3-phase actuator)
Enerji izleme özelliği	✓
Pompa verimi hesaplama özelliği	✓
Sürücü (frekans konvertörü) desteği	✓ Adaptive PID can be performed with respect to pressure, flow, ground water level or power.
Actuator valve control	✓ (1 adet, 3 fazlı)
Klor dozajlama pompası kontrolü	✓
Fonksiyonel giriş çıkışlar	✓ (3 adet)
Hardware upgradeable?	✓
7/24 system support?	✓
Software support	Integration to the Koru1000 water management system over Koru1000 cloud.
External SCADA support	Integration to all SCADA systems that supports Modbus TCP

Uninterruptible Power Supply:	<ul style="list-style-type: none"> • DC UPS • Giriş 22.5V-28V, Çıkış 24V • Çıkış akımı 30A • En az 7 Ah 12V Kuru Akü • -40°C ile +70°C arası çalışma sıcaklığı
GSM Communication:	<ul style="list-style-type: none"> • 3G Endüstriyel Router • Haberleşme hızı 3G 14.4Mbps, 2G 236.8 Kbps • IEEE 802.11b/g/n Wifi erişim noktası veya istasyonu olarak kullanılabilme • 2 adet Ethernet portu • Yönlendirme, Ağ protokolleri, Gelişmiş İzleme, Güvenlik Duvarı, DHCP, QoS, Ağ yedekleme, Yük dengeleme, DDOS önleme, Port taraması önleme, WPA-2Ent Wifi Şifreleme, Mobil Kota Kontrol, Web Filtresi, Erişim Kontrolü, VPN, APN • RutOS: Linux tabanlı işletim sistemi • 1 dijital giriş, 1 dijital çıkış • 9-30VDC besleme • Güç tüketimi < 5W • -40°C ile +75°C arası çalışma sıcaklığı
Energy Analyzer:	<ul style="list-style-type: none"> • Ölçülen parametreler: 3xV, 3xI, Frekans, W, Var, VA, kWh,kVArh, Min, Max, Demand, Cos φ • RS485 Modbus RTU Haberleşme • LCD ekran • Doğruluk %0.5 • Güç tüketimi < 4W • -10°C ile +55°C arası çalışma sıcaklığı

HMI Screen:	<ul style="list-style-type: none"> • 7" TFT 800x480 TOUCHSCREEN Ekran • 32bit 800Mhz İşlemci • 128MB Flash, 64MB SDRAM, • RTC • USB, RS232, RS485 Port • Ethernet, Modbus TCP • VNC ile uzak masaüstü desteği • Güç tüketimi < 7.2W • 0°C ile +50°C arası çalışma sıcaklığı
Temperature Sensor:	<ul style="list-style-type: none"> • 4 kanal birbirinden bağımsız çalışan evrensel giriş • 15 bit çözünürlük, 0.1°C okuma hassasiyeti • Giriş Tipleri: PT-100 veya PT-1000 tipi RT (Doğruluk tam skalada %0.2); B,C,E,J,K,N,R,S ve T tipi termokupl (Doğruluk tam skalada %0.2); 25°C @10kOhm NTC (Doğruluk 0.2°C); 0...60mVDC (0.01mV okuma hassasiyeti) • Kısa devre ve ani gerilim yüklenme koruması
Analog Expansion Module:	<ul style="list-style-type: none"> • 4 Kanal 0-10VDC, 0-20mA, 4-20mA analog giriş • 2 kanal 0-10VDC, 0-20mA, 4-20mA Analog çıkışa sahiptir • Kanallar birbirinden bağımsız farklı giriş/çıkış tipi olarak kullanılabilir • Girişler ve çıkışlar galvaniz izoleli • Çözünürlük 14bit
Panel Specifications and Dimensions:	• PVC 50x70x25 cm
Panel Weight:	• 15,90 Kg

CP140-GM

WELL PUMP and SUPPLY
STATION PUMP
CONTROLLING DEVICE



TECHNICAL SPECIFICATIONS

The Specifications of the PLC Controller:

- 9 channel 24VDC PNP/NPN input
- 6 channel 230VAC 5A relay output
- 1 channel 0-10VDC/0-20mADC optional analog input (12-bit resolution)
- 1 channel 0-20mADC analog output (14-bit resolution)
- Can be expanded by maximum 16 expansion units due to the modular structure
- Communication over the network via a 100MBit ethernet port
- MODBUS TCP support
- RS232 ve RS485 communication ports
- MODBUS RTU support
- Decimal operation support
- 12ns processing speed
- RTC (Real Time Clock)
- Supplied by 24VDC
- Power Consumption < 3W
- Working temperature between 0°C and +50°C
- Can be programmed with Ladder Logic Diagram Editor

Digital expansion module:

- 8 channel 24VDC digital input
- Inputs are isolated and can be used as PNP and NPN
- 8 channel 230VAC 5A relay output

Power Supply:

- 5A, 120W SMPS
- 24VDC Output, 100-240VAC or 90-350VDC Input
- Efficiency %88
- Over power protection, over voltage protection
- Working temperature between -25°C and +60°C

ABILITIES



Where can I use this product?	<ul style="list-style-type: none"> • Drinking Water • Agricultural irrigation • Management of Process water • Chlorine dosing
In what kind of stations, I can use this product?	<ul style="list-style-type: none"> • Well Pump Control • Lift Pump Control
Automatic Operating Scenarios	<ul style="list-style-type: none"> • Can work automatically depending on the linked water reservoir (Koru1000 Link) • Can work as booster pump (hydrophore mode) • Can work according to a time table
Sensor support	Up to 8 analog sensors can be connected: <ul style="list-style-type: none"> • Flowmeter • Input pressure, output pressure, line pressure • Ground water level, reservoir level sensors • Remaining chlorine • Turbidity
Temperature sensor	4 different temperature sensors can be connected (for panel, motor, environment, water temperature)
What happens when the communication is interrupted?	Works automatically according to the determined time periods
Touchscreen on the panel	✓ (7" TFT)
Energy tracking feature	✓
Pump efficiency calculation	✓
Driver (frequency convertor) support	✓ Adaptive PID can be performed with respect to pressure, flow, ground water level or power.
Actuator valve control	✓ (1 3-phase actuator)
Chlorine dosing pump control	✓
Functional inputs and outputs	✓ (3 adet)
Hardware upgradeable?	✓
7/24 system support ?	✓
Software support	Integration to the Koru1000 water management system over Koru1000 cloud.
External SCADA support	Integration to all SCADA systems that supports Modbus TCP

Uninterruptible Power Supply:	<ul style="list-style-type: none"> • DC UPS • Input 22.5V-28V, Output 24V • Output current 30A • At least 7 Ah 12V dry accumulator • Working temperature is between -40°C and +70°C
GSM Communication:	<ul style="list-style-type: none"> • 3G Industrial Router • Communication speed; 3G 14.4Mbps, 2G 236.8 Kbps • IEEE 802.11b/g/n, can be used as Wifi access point or station • 2 Ethernet ports • Routing, network protocols, firewall, DHCP, QoS, network backup, load balancing, DDOS prevention, port scanning prevention, WPA-2Ent Wifi encryption, mobile quota control, web filters, access control, VPN, APN • RutOS: Linux-based operating system • 1 digital input, 1 digital output • Operates with 9-30VDC • Power consumption < 5W • Working temperature is between -40°C and +75°C
Energy Analyzer:	<ul style="list-style-type: none"> • The measured parameters are: 3xV, 3xI, Frequency, W, Var, VA, kWh, kVarh, Min, Max, Demand, Cos φ • RS485 Modbus RTU Communication • LCD Screen • Sensitivity %0.5 • Power Consumption < 4W • Working temperature is between -10°C and +55°C

HMI Screen:	<ul style="list-style-type: none"> • 7" TFT 800x480 Touchscreen • 32bit 800Mhz Processor • 128MB Flash, 64MB SDRAM, • RTC • USB, RS232, RS485 Port • Ethernet, Modbus TCP • Remote desktop support with VNC • Power consumption < 7.2W • Working temperature is between 0°C and +50°C
Temperature Sensor:	<ul style="list-style-type: none"> • 4 independent universal inputs • 15-bit resolution, 0.1°C accuracy • Input types: PT-100 or PT-1000 type RT (Accuracy at full scale %0.2); B, C, E, J, K, N, R, S and T type thermocouple (accuracy at full scale %0.2); 25°C @10kOhm NTC (Accuracy 0.2°C); 0...60mVDC (0.01mV accuracy) • Short circuit and current protection
Analog Expansion Module:	<ul style="list-style-type: none"> • 4 Channel 0-10VDC, 0-20mA, 4-20mA analog input • 2 Channel 0-10VDC, 0-20mA, 4-20mA analog output • The channels can be used as different input/output types independent of one another • Inputs and outputs are isolated by galvanization • 14-bit resolution
Panel Specifications and Dimensions:	• PVC 50x70x25 cm
Panel Weight:	• 16,20 Kg

Depo Kapasitesi

5000 m³

Su Miktarı

2512.5 m³

Boş

2487.5 m³

Hat Çıkış Bakiye Klor

0.40 mg/L

Hat Giriş Bakiye Klor

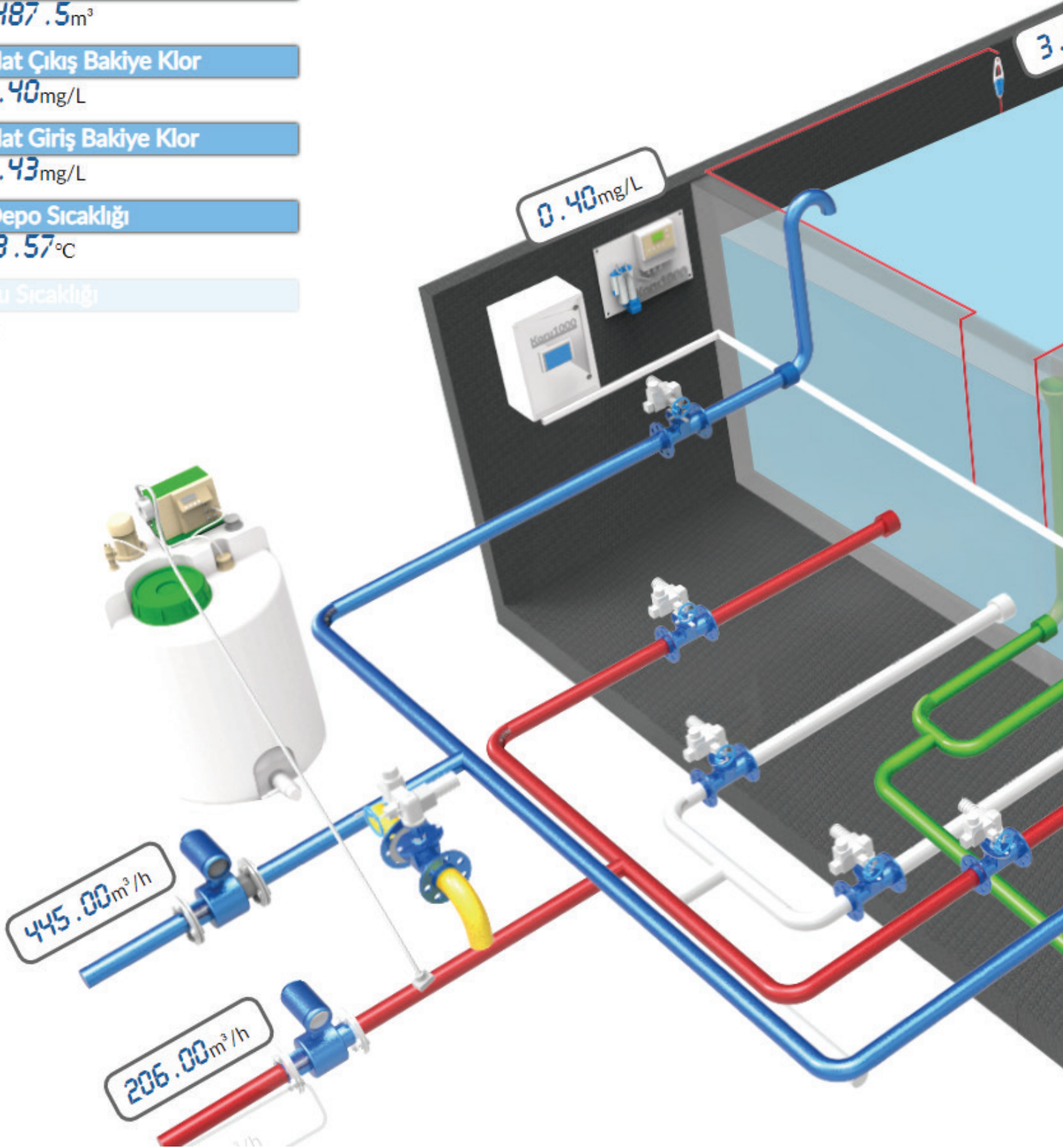
0.43 mg/L

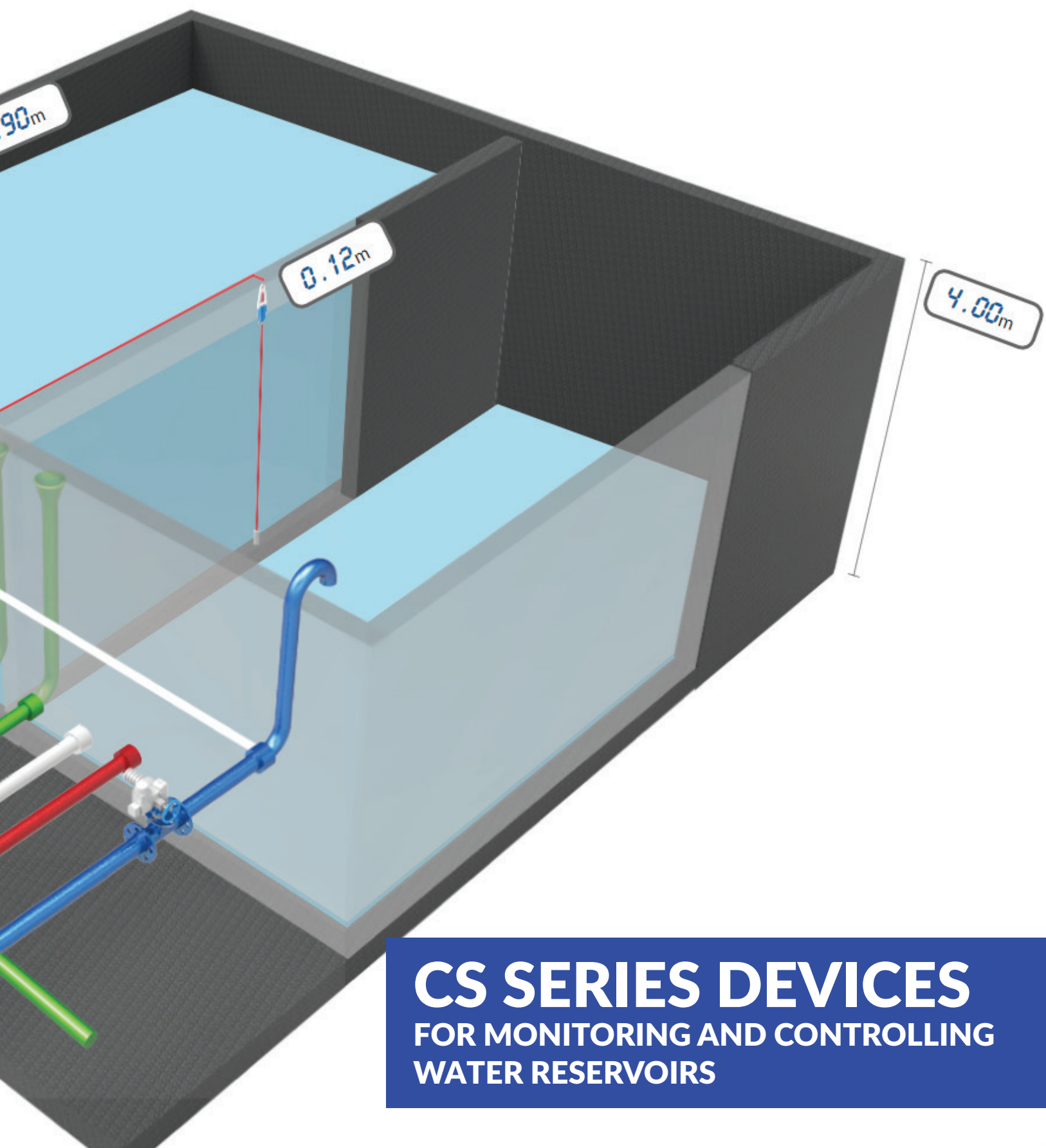
Depo Sıcaklığı

13.57 °C

Su Sıcaklığı

°C

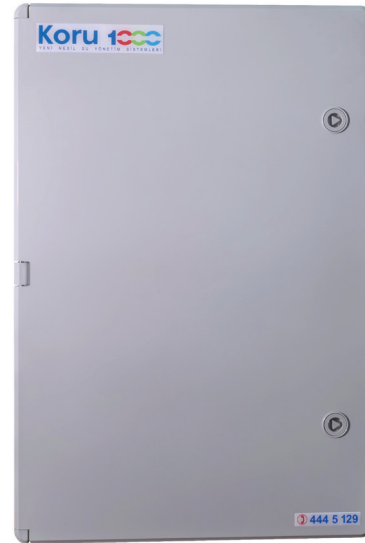




CS SERIES DEVICES
FOR MONITORING AND CONTROLLING
WATER RESERVOIRS

CS100-GM

RESERVOIR MONITORING AND CONTROLLING DEVICE



TECHNICAL SPECIFICATIONS

The Specifications of the PLC Controller:

- 9 channel 24VDC PNP/NPN input
- 6 channel 230VAC 5A relay output
- 1 channel 0-10VDC/0-20mADC optional analog input (12-bit resolution)
- 1 channel 0-20mADC analog output (14-bit resolution)
- Can be expanded by maximum 16 expansion units due to the modular structure
- Communication over the network via a 100MBit ethernet port
- MODBUS TCP support
- RS232 ve RS485 communication ports
- MODBUS RTU support
- Decimal operation support
- 12ns processing speed
- RTC (Real Time Clock)
- Supplied by 24VDC
- Power Consumption < 3W
- Working temperature between 0°C and +50°C
- Can be programmed with Ladder Logic Diagram Editor

Power Supply:

- 2.5A, 60W SMPS
- 24VDC Output, 100-240VAC or 90-350VDC Input
- Efficiency %88
- Over power protection, over voltage protection
- Working temperature between -25°C and +60°C

ABILITIES



Where can I use this product?	<ul style="list-style-type: none"> • Drinking water • Management of Process water • Observation stations
In what kind of stations, I can use this product?	<ul style="list-style-type: none"> • Controlling the water reservoirs • Observation wells • Seepage loss management (Pressure & Flow Observation rooms)
Sensor support	1 analog sensor can be connected: <ul style="list-style-type: none"> • Flowmeter • Pressure • Ground water level and Reservoir water level
Operates with the grid power?	✓
Hardware upgradeable?	✓
7/24 system support?	✓
Software support	Integration to the Koru1000 water management system over Koru1000 cloud.
External SCADA support	Integration to all SCADA systems that supports Modbus TCP

Uninterruptible Power Supply:

- 600VA AC UPS
- Controlled by line-interactive microcontroller
- 162-290VAC input voltage range
- Protections for short circuit, overcurrent, overload, overcharging or over-discharging the battery
- 1x12V 7Ah Battery
- Working temperature is between 0°C ile +40°C

GSM Communication:

- 3G Industrial Router
- Communication speed; 3G 14.4Mbps, 2G 236.8 Kbps
- IEEE 802.11b/g/n, can be used as Wifi access point or station
- 2 Ethernet ports
- Routing, network protocols, firewall, DHCP, QoS, network backup, load balancing, DDOS prevention, port scanning prevention, WPA-2Ent Wifi encryption, mobile quota control, web filters, access control, VPN, APN
- RutOS: Linux-based operating system
- 1 digital input, 1 digital output
- Operates with 9-30VDC
- Power consumption < 5W
- Working temperature is between -40°C and +75°C

Panel Specifications and Dimensions:

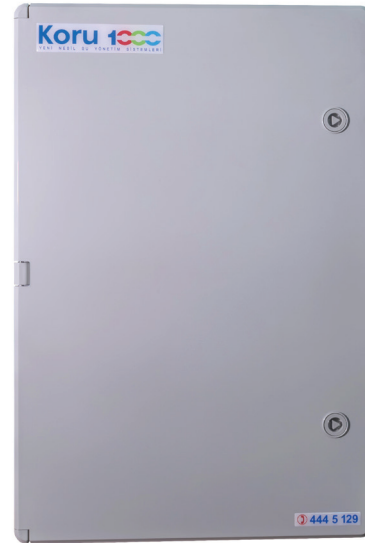
- PVC 40x60x22 cm

Panel Weight:

- 11,00 Kg

CS101-GM

RESERVOIR MONITORING AND CONTROLLING DEVICE



TECHNICAL SPECIFICATIONS

The Specifications of the PLC Controller:

- 9 channel 24VDC PNP/NPN input
- 6 channel 230VAC 5A relay output
- 1 channel 0-10VDC/0-20mADC optional analog input (12-bit resolution)
- 1 channel 0-20mADC analog output (14-bit resolution)
- Can be expanded by maximum 16 expansion units due to the modular structure
- Communication over the network via a 100MBit ethernet port
- MODBUS TCP support
- RS232 ve RS485 communication ports
- MODBUS RTU support
- Decimal operation support
- 12ns processing speed
- RTC (Real Time Clock)
- Supplied by 24VDC
- Power Consumption < 3W
- Working temperature between 0°C and +50°C
- Can be programmed with Ladder Logic Diagram Editor

Solar Energy Regulator:

- 20A load current and DC working current
- LCD screen
- Automatic recognition for the system voltage, reverse connection protection and overcurrent protection, to be able to select the accumulator type (gel or dry)
- Power consumption < 1W
- - Working temperature between -25°C and +55°C

ABILITIES



Where can I use this product?	<ul style="list-style-type: none"> • Drinking water • Management of Process water • Observation stations
In what kind of stations, I can use this product?	<ul style="list-style-type: none"> • Controlling the water reservoirs • Observation wells • Seepage loss management (Pressure & Flow Observation rooms)
Sensor support	1 analog sensor can be connected: <ul style="list-style-type: none"> • Flowmeter • Pressure • Ground water level and Reservoir water level
Operates with the solar power?	✓
Hardware upgradeable?	✓
7/24 system support?	✓
Software support	Integration to the Koru1000 water management system over Koru1000 cloud.
External SCADA support	Integration to all SCADA systems that supports Modbus TCP

(Battery and the panel are not included.)

GSM Communication:

- 3G Industrial Router
- Communication speed; 3G 14.4Mbps, 2G 236.8 Kbps
- IEEE 802.11b/g/n, can be used as Wifi access point or station
- 2 Ethernet ports
- Routing, network protocols, firewall, DHCP, QoS, network backup, load balancing, DDOS prevention, port scanning prevention, WPA-2Ent Wifi encryption, mobile quota control, web filters, access control, VPN, APN
- RutOS: Linux-based operating system
- 1 digital input, 1 digital output
- Operates with 9-30VDC
- Power consumption < 5W
- Working temperature is between -40°C and +75°C

Panel Specifications and Dimensions:

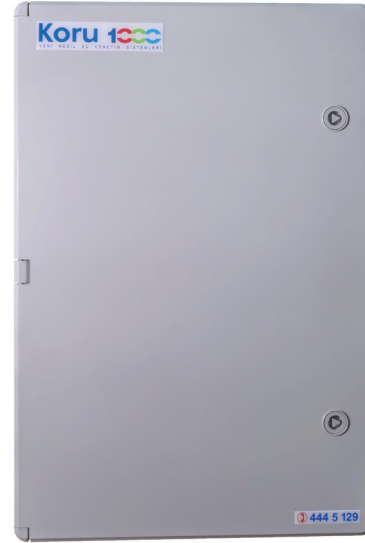
Panel Weight:

- PVC 40x60x22 cm

- 7,10 Kg

CS110-GM

RESERVOIR MONITORING AND CONTROLLING DEVICE



TECHNICAL SPECIFICATIONS

The Specifications of the PLC Controller:

- 9 channel 24VDC PNP/NPN input
- 6 channel 230VAC 5A relay output
- 1 channel 0-10VDC/0-20mADC optional analog input (12-bit resolution)
- 1 channel 0-20mADC analog output (14-bit resolution)
- Can be expanded by maximum 16 expansion units due to the modular structure
- Communication over the network via a 100MBit ethernet port
- MODBUS TCP support
- RS232 ve RS485 communication ports
- MODBUS RTU support
- Decimal operation support
- 12ns processing speed
- RTC (Real Time Clock)
- Supplied by 24VDC
- Power Consumption < 3W
- Working temperature between 0°C and +50°C
- Can be programmed with Ladder Logic Diagram Editor

Power Supply:

- 2.5A, 60W SMPS
- 24VDC Output, 100-240VAC or 90-350VDC Input
- Efficiency %88
- Over power protection, over voltage protection
- Working temperature between -25°C and +60°C

ABILITIES



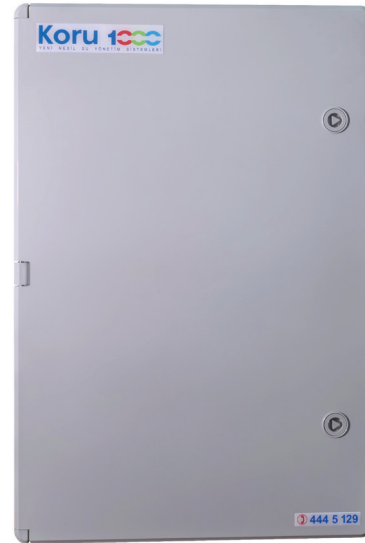
Where can I use this product?	<ul style="list-style-type: none"> • Drinking water • Management of Process water • Observation stations • Chlorine Dosing
In what kind of stations, I can use this product?	<ul style="list-style-type: none"> • Controlling the water reservoirs • Observation wells • Seepage loss management (Pressure & Flow Observation rooms) • Liquid chlorine dosing
Sensor support	4 analog sensors can be connected: <ul style="list-style-type: none"> • Flowmeter • Pressure • Ground water level and Reservoir water level
Operates with the grid power?	✓
Chlorine dosage pump control	✓ (Proportional / Constant)
Proportional valve control	✓ (2)
Hardware upgradeable?	✓
7/24 system support?	✓
Software support	Integration to the Koru1000 water management system over Koru1000 cloud.
External SCADA support	Integration to all SCADA systems that supports Modbus TCP

Uninterruptible Power Supply:	<ul style="list-style-type: none"> • DC UPS • Input 22.5V-28V, Output 24V • Output current 30A • At least 7 Ah 12V dry accumulator • Working temperature is between -40°C and +70°C
GSM Communication:	<ul style="list-style-type: none"> • 3G Industrial Router • Communication speed; 3G 14.4Mbps, 2G 236.8 Kbps • IEEE 802.11b/g/n, can be used as Wifi access point or station • 2 Ethernet ports • Routing, network protocols, firewall, DHCP, QoS, network backup, load balancing, DDOS prevention, port scanning prevention, WPA-2Ent Wifi encryption, mobile quota control, web filters, access control, VPN, APN • RutOS: Linux-based operating system • 1 digital input, 1 digital output • Operates with 9-30VDC • Power consumption < 5W • Working temperature is between -40°C and +75°C

Analog Expansion Module:	<ul style="list-style-type: none"> • 4 Channel 0-10VDC, 0-20mA, 4-20mA analog input • 2 Channel 0-10VDC, 0-20mA, 4-20mA analog output • The channels can be used as different input/output types independent of one another • Inputs and outputs are isolated by galvanization • 14-bit resolution
Panel Specifications and Dimensions:	• PVC 40x60x22 cm
Panel Weight:	• 8,00 Kg

CS111-GM

RESERVOIR MONITORING AND CONTROLLING DEVICE



TECHNICAL SPECIFICATIONS

The Specifications of the PLC Controller:

- 9 channel 24VDC PNP/NPN input
- 6 channel 230VAC 5A relay output
- 1 channel 0-10VDC/0-20mADC optional analog input (12-bit resolution)
- 1 channel 0-20mADC analog output (14-bit resolution)
- Can be expanded by maximum 16 expansion units due to the modular structure
- Communication over the network via a 100MBit ethernet port
- MODBUS TCP support
- RS232 ve RS485 communication ports
- MODBUS RTU support
- Decimal operation support
- 12ns processing speed
- RTC (Real Time Clock)
- Supplied by 24VDC
- Power Consumption < 3W
- Working temperature between 0°C and +50°C
- Can be programmed with Ladder Logic Diagram Editor

Solar Energy Regulator:

- 20A load current and DC working current
- LCD screen
- Automatic recognition for the system voltage, reverse connection protection and overcurrent protection, to be able to select the accumulator type (gel or dry)
- Power consumption < 1W
- - Working temperature between -25°C and +55°C

ABILITIES



Where can I use this product?	<ul style="list-style-type: none"> • Drinking water • Management of Process water • Observation stations • Chlorine dosing
In what kind of stations, I can use this product?	<ul style="list-style-type: none"> • Controlling the water reservoirs • Observation wells • Seepage loss management (Pressure & Flow Observation rooms) • Liquid chlorine dosing
Sensor support	4 analog sensors can be connected: <ul style="list-style-type: none"> • Flowmeter • Pressure • Ground water level and Reservoir water level
Chlorine dosage pump control	✓ (Proportional / Constant)
Proportional valve control	✓ (2 adet)
Operates with the solar power?	✓
Hardware upgradeable?	✓
7/24 system support	✓
Software support	Integration to the Koru1000 water management system over Koru1000 cloud.
External SCADA support	Integration to all SCADA systems that supports Modbus TCP

(Battery and the panel are not included.)

GSM Communication:

- 3G Industrial Router
- Communication speed; 3G 14.4Mbps, 2G 236.8 Kbps
- IEEE 802.11b/g/n, can be used as Wifi access point or station
- 2 Ethernet ports
- Routing, network protocols, firewall, DHCP, QoS, network backup, load balancing, DDOS prevention, port scanning prevention, WPA-2Ent Wifi encryption, mobile quota control, web filters, access control, VPN, APN
- RutOS: Linux-based operating system
- 1 digital input, 1 digital output
- Operates with 9-30VDC
- Power consumption < 5W
- Working temperature is between -40°C and +75°C

Analog Expansion Module:

- 4 Channel 0-10VDC, 0-20mA, 4-20mA analog input
- 2 Channel 0-10VDC, 0-20mA, 4-20mA analog output
- The channels can be used as different input/output types independent of one another
- Inputs and outputs are isolated by galvanization
- 14-bit resolution

Panel Specifications and Dimensions:

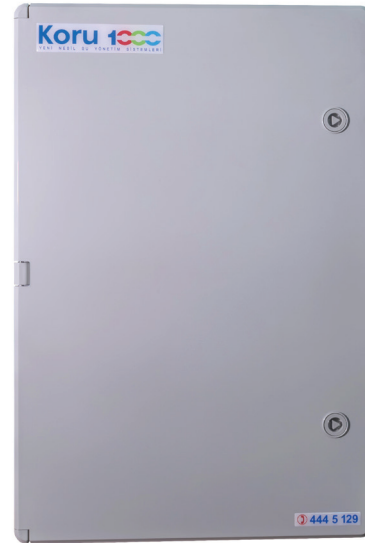
- PVC 40x60x22 cm

Panel Weight:

- 7,20 Kg

CS120-GM

RESERVOIR MONITORING AND CONTROLLING DEVICE



TECHNICAL SPECIFICATIONS

The Specifications of the PLC Controller:

- 9 channel 24VDC PNP/NPN input
- 6 channel 230VAC 5A relay output
- 1 channel 0-10VDC/0-20mADC optional analog input (12-bit resolution)
- 1 channel 0-20mADC analog output (14-bit resolution)
- Can be expanded by maximum 16 expansion units due to the modular structure
- Communication over the network via a 100MBit ethernet port
- MODBUS TCP support
- RS232 ve RS485 communication ports
- MODBUS RTU support
- Decimal operation support
- 12ns processing speed
- RTC (Real Time Clock)
- Supplied by 24VDC
- Power Consumption < 3W
- Working temperature between 0°C and +50°C
- Can be programmed with Ladder Logic Diagram Editor

Power Supply:

- 2.5A, 60W SMPS
- 24VDC Output, 100-240VAC or 90-350VDC Input
- Efficiency %88
- Over power protection, over voltage protection
- Working temperature between -25°C and +60°C

ABILITIES



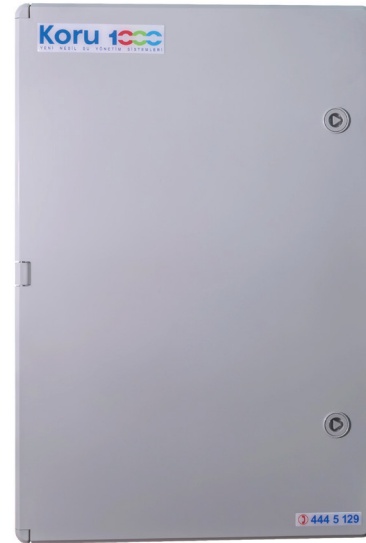
Where can I use this product?	<ul style="list-style-type: none"> • Drinking water • Management of Process water • Observation stations • Chlorine dosing
In what kind of stations, I can use this product?	<ul style="list-style-type: none"> • Controlling the water reservoirs • Observation wells • Seepage loss management (Pressure & Flow Observation rooms) • Liquid chlorine dosing
Sensor support	4 analog sensors can be connected: <ul style="list-style-type: none"> • Flowmeter • Pressure • Ground water level and Reservoir water level
Temperature Sensor	Two sensors can be connected for either two of the panel, environment and the water temperature.
Operates with the grid power?	✓
Chlorine dosage pump control	✓ (Proportional / Constant)
Proportional valve control	✓ (2 adet)
Hardware upgradeable?	✓
7/24 system support	✓
Software support	Integration to the Koru1000 water management system over Koru1000 cloud.
External SCADA support	Integration to all SCADA systems that supports Modbus TCP

Uninterruptible Power Supply:	<ul style="list-style-type: none"> • DC UPS • Input 22.5V-28V, Output 24V • Output current 30A • At least 7 Ah 12V dry accumulator • Working temperature is between -40°C and +70°C
GSM Communication:	<ul style="list-style-type: none"> • 3G Industrial Router • Communication speed; 3G 14.4Mbps, 2G 236.8 Kbps • IEEE 802.11b/g/n, can be used as Wifi access point or station • 2 Ethernet ports • Routing, network protocols, firewall, DHCP, QoS, network backup, load balancing, DDOS prevention, port scanning prevention, WPA-2Ent Wifi encryption, mobile quota control, web filters, access control, VPN, APN • RutOS: Linux-based operating system • 1 digital input, 1 digital output • Operates with 9-30VDC • Power consumption < 5W • Working temperature is between -40°C and +75°C

Temperature Sensor:	<ul style="list-style-type: none"> • 2 independent universal inputs • 15-bit resolution, 0.1°C accuracy • Input types: PT-100 or PT-1000 type RT (Accuracy at full scale %0.2); B, C, E, J, K, N, R, S and T type thermocouple (accuracy at full scale %0.2); 25°C @10kOhm NTC (Accuracy 0.2°C); 0...60mVDC (0.01mV accuracy) • Short circuit and current protection
Analog Expansion Module:	<ul style="list-style-type: none"> • 4 Channel 0-10VDC, 0-20mA, 4-20mA analog input • 2 Channel 0-10VDC, 0-20mA, 4-20mA analog output • The channels can be used as different input/output types independent of one another • Inputs and outputs are isolated by galvanization • 14-bit resolution
Panel Specifications and Dimensions:	• PVC 40x60x22 cm
Panel Weight:	• 8,60 Kg

CS121-GM

RESERVOIR MONITORING AND CONTROLLING DEVICE



TECHNICAL SPECIFICATIONS

The Specifications of the PLC Controller:

- 9 channel 24VDC PNP/NPN input
- 6 channel 230VAC 5A relay output
- 1 channel 0-10VDC/0-20mADC optional analog input (12-bit resolution)
- 1 channel 0-20mADC analog output (14-bit resolution)
- Can be expanded by maximum 16 expansion units due to the modular structure
- Communication over the network via a 100MBit ethernet port
- MODBUS TCP support
- RS232 ve RS485 communication ports
- MODBUS RTU support
- Decimal operation support
- 12ns processing speed
- RTC (Real Time Clock)
- Supplied by 24VDC
- Power Consumption < 3W
- Working temperature between 0°C and +50°C
- Can be programmed with Ladder Logic Diagram Editor

Solar Energy Regulator:

- 20A load current and DC working current
- LCD screen
- Automatic recognition for the system voltage, reverse connection protection and overcurrent protection, to be able to select the accumulator type (gel or dry)
- Power consumption < 1W
- - Working temperature between -25°C and +55°C

ABILITIES



Where can I use this product?	<ul style="list-style-type: none"> • Drinking water • Management of Process water • Observation stations • Chlorine Dosing
In what kind of stations, I can use this product?	<ul style="list-style-type: none"> • Controlling the water reservoirs • Observation wells • Seepage loss management (Pressure & Flow Observation rooms) • Liquid chlorine dosing
Sensor support	4 analog sensors can be connected: <ul style="list-style-type: none"> • Flowmeter • Pressure • Ground water level and Reservoir water level
Temperature Sensor	Two sensors can be connected for either two of the panel, environment and the water temperature.
Chlorine dosage pump control	✓ (Proportional / Constant
Proportional valve control	✓ (2 adet)
Operates with the solar power?	✓
Hardware upgradeable?	✓
7/24 system support	✓
Software support	Integration to the Koru1000 water management system over Koru1000 cloud.
External SCADA support	Integration to all SCADA systems that supports Modbus TCP

(Battery and the panel are not included.)

GSM Communication:

- 3G Industrial Router
- Communication speed; 3G 14.4Mbps, 2G 236.8 Kbps
- IEEE 802.11b/g/n, can be used as Wifi access point or station
- 2 Ethernet ports
- Routing, network protocols, firewall, DHCP, QoS, network backup, load balancing, DDOS prevention, port scanning prevention, WPA-2Ent Wifi encryption, mobile quota control, web filters, access control, VPN, APN
- RutOS: Linux-based operating system
- 1 digital input, 1 digital output
- Operates with 9-30VDC
- Power consumption < 5W
- Working temperature is between -40°C and +75°C

Temperature Sensor:

- 2 independent universal inputs
- 15-bit resolution, 0.1°C accuracy
- Input types: PT-100 or PT-1000 type RT (Accuracy at full scale %0.2); B, C, E, J, K, N, R, S and T type thermocouple (accuracy at full scale %0.2); 25°C @10kOhm NTC (Accuracy 0.2°C); 0...60mVDC (0.01mV accuracy)
- Short circuit and current protection

Analog Expansion Module:

- 4 Channel 0-10VDC, 0-20mA, 4-20mA analog input
- 2 Channel 0-10VDC, 0-20mA, 4-20mA analog output
- The channels can be used as different input/output types independent of one another
- Inputs and outputs are isolated by galvanization
- 14-bit resolution

Panel Specifications and Dimensions:

- PVC 40x60x22 cm

Panel Weight:

- 8,20 Kg

CS130-GM

RESERVOIR MONITORING AND CONTROLLING DEVICE



TECHNICAL SPECIFICATIONS

The Specifications of the PLC Controller:

- 9 channel 24VDC PNP/NPN input
- 6 channel 230VAC 5A relay output
- 1 channel 0-10VDC/0-20mADC optional analog input (12-bit resolution)
- 1 channel 0-20mADC analog output (14-bit resolution)
- Can be expanded by maximum 16 expansion units due to the modular structure
- Communication over the network via a 100MBit ethernet port
- MODBUS TCP support
- RS232 ve RS485 communication ports
- MODBUS RTU support
- Decimal operation support
- 12ns processing speed
- RTC (Real Time Clock)
- Supplied by 24VDC
- Power Consumption < 3W
- Working temperature between 0°C and +50°C
- Can be programmed with Ladder Logic Diagram Editor

Power Supply:

- 5A, 120W SMPS
- 24VDC Output, 100-240VAC or 90-350VDC Input
- Efficiency %88
- Over power protection, over voltage protection
- Working temperature between -25°C and +60°C

ABILITIES



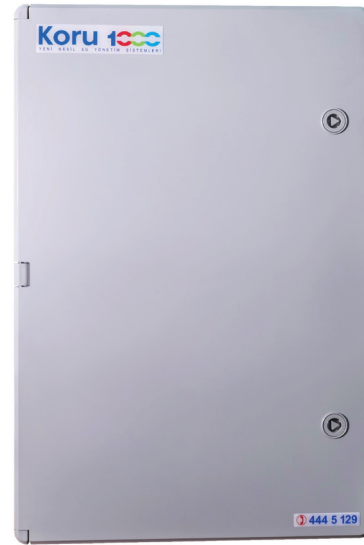
Where can I use this product?	<ul style="list-style-type: none"> • Drinking water • Management of Process water • Observation stations
In what kind of stations, I can use this product?	<ul style="list-style-type: none"> • Controlling the water reservoirs • Observation wells • Seepage loss management (Pressure & Flow Observation rooms)
Sensor support	4 analog sensors can be connected: <ul style="list-style-type: none"> • Flowmeter • Pressure • Ground water level and Reservoir water level
Operates with the grid power?	✓
Chlorine dosage pump control	✓ (Proportional / Constant)
Actuator valve control	✓ (2 3-phase actuators)
Proportional valve control	✓ (2)
Hardware upgradeable?	✓
7/24 system support	✓
Software support	Integration to the Koru1000 water management system over Koru1000 cloud.
External SCADA support	Integration to all SCADA systems that supports Modbus TCP

Uninterruptible Power Supply:	<ul style="list-style-type: none"> • DC UPS • Input 22.5V-28V, Output 24V • Output current 30A • At least 7 Ah 12V dry accumulator • Working temperature is between -40°C and +70°C
GSM Communication:	<ul style="list-style-type: none"> • 3G Industrial Router • Communication speed; 3G 14.4Mbps, 2G 236.8 Kbps • IEEE 802.11b/g/n, can be used as Wifi access point or station • 2 Ethernet ports • Routing, network protocols, firewall, DHCP, QoS, network backup, load balancing, DDOS prevention, port scanning prevention, WPA-2Ent Wifi encryption, mobile quota control, web filters, access control, VPN, APN • RutOS: Linux-based operating system • 1 digital input, 1 digital output • Operates with 9-30VDC • Power consumption < 5W • Working temperature is between -40°C and +75°C

Digital expansion module:	<ul style="list-style-type: none"> • 8 channel 24VDC digital input • Inputs are isolated and can be used as PNP and NPN
Analog Expansion Module:	<ul style="list-style-type: none"> • 4 Channel 0-10VDC, 0-20mA, 4-20mA analog input • 2 Channel 0-10VDC, 0-20mA, 4-20mA analog output • The channels can be used as different input/output types independent of one another • Inputs and outputs are isolated by galvanization • 14-bit resolution
Panel Specifications and Dimensions:	• PVC 50x70x25 cm
Panel Weight:	• 14,90 Kg

CS140-GM

RESERVOIR MONITORING AND CONTROLLING DEVICE



TECHNICAL SPECIFICATIONS

The Specifications of the PLC Controller:

- 9 channel 24VDC PNP/NPN input
- 6 channel 230VAC 5A relay output
- 1 channel 0-10VDC/0-20mADC optional analog input (12-bit resolution)
- 1 channel 0-20mADC analog output (14-bit resolution)
- Can be expanded by maximum 16 expansion units due to the modular structure
- Communication over the network via a 100MBit ethernet port
- MODBUS TCP support
- RS232 ve RS485 communication ports
- MODBUS RTU support
- Decimal operation support
- 12ns processing speed
- RTC (Real Time Clock)
- Supplied by 24VDC
- Power Consumption < 3W
- Working temperature between 0°C and +50°C
- Can be programmed with Ladder Logic Diagram Editor

Power Supply:

- 5A, 120W SMPS
- 24VDC Output, 100-240VAC or 90-350VDC Input
- Efficiency %88
- Over power protection, over voltage protection
- Working temperature between -25°C and +60°C

ABILITIES



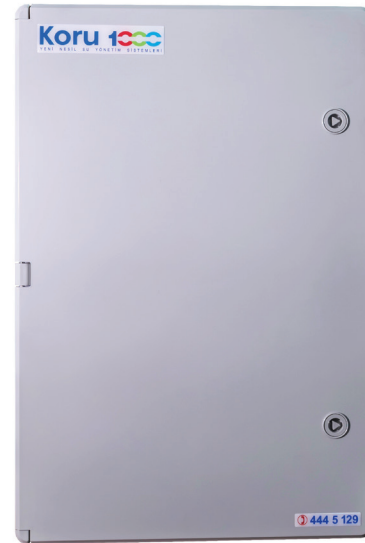
Where can I use this product?	<ul style="list-style-type: none"> • Drinking water • Management of Process water • Observation stations
In what kind of stations, I can use this product?	<ul style="list-style-type: none"> • Controlling the water reservoirs • Observation wells • Seepage loss management (Pressure & Flow Observation rooms)
Sensor support	8 analog sensors can be connected: <ul style="list-style-type: none"> • Flowmeter • Pressure • Ground water level and Reservoir water level
Operates with the grid power?	✓
Chlorine dosage pump control	✓ (Proportional / Constant)
Proportional valve control	✓ (4 adet)
Hardware upgradeable?	✓
7/24 system support	✓
Software support	Integration to the Koru1000 water management system over Koru1000 cloud.
External SCADA support	Integration to all SCADA systems that supports Modbus TCP

Uninterruptible Power Supply:	<ul style="list-style-type: none"> • DC UPS • Input 22.5V-28V, Output 24V • Output current 30A • At least 7 Ah 12V dry accumulator • Working temperature is between -40°C and +70°C
GSM Communication:	<ul style="list-style-type: none"> • 3G Industrial Router • Communication speed; 3G 14.4Mbps, 2G 236.8 Kbps • IEEE 802.11b/g/n, can be used as Wifi access point or station • 2 Ethernet ports • Routing, network protocols, firewall, DHCP, QoS, network backup, load balancing, DDOS prevention, port scanning prevention, WPA-2Ent Wifi encryption, mobile quota control, web filters, access control, VPN, APN • RutOS: Linux-based operating system • 1 digital input, 1 digital output • Operates with 9-30VDC • Power consumption < 5W • Working temperature is between -40°C and +75°C

Analog Expansion Module:	<ul style="list-style-type: none"> • 4 Channel 0-10VDC, 0-20mA, 4-20mA analog input • 2 Channel 0-10VDC, 0-20mA, 4-20mA analog output • The channels can be used as different input/output types independent of one another • Inputs and outputs are isolated by galvanization • 14-bit resolution
Panel Specifications and Dimensions:	• PVC 40x60x22 cm
Panel Weight:	• 8,30 Kg

CS141-GM

RESERVOIR MONITORING AND CONTROLLING DEVICE



TECHNICAL SPECIFICATIONS

The Specifications of the PLC Controller:

- 9 channel 24VDC PNP/NPN input
- 6 channel 230VAC 5A relay output
- 1 channel 0-10VDC/0-20mADC optional analog input (12-bit resolution)
- 1 channel 0-20mADC analog output (14-bit resolution)
- Can be expanded by maximum 16 expansion units due to the modular structure
- Communication over the network via a 100MBit ethernet port
- MODBUS TCP support
- RS232 ve RS485 communication ports
- MODBUS RTU support
- Decimal operation support
- 12ns processing speed
- RTC (Real Time Clock)
- Supplied by 24VDC
- Power Consumption < 3W
- Working temperature between 0°C and +50°C
- Can be programmed with Ladder Logic Diagram Editor

Solar Energy Regulator:

- 20A load current and DC working current
- LCD screen
- Automatic recognition for the system voltage, reverse connection protection and overcurrent protection, to be able to select the accumulator type (gel or dry)
- Power consumption < 1W
- Working temperature between -25°C and +55°C

ABILITIES



Where can I use this product?	<ul style="list-style-type: none"> • Drinking water • Management of Process water • Observation stations
In what kind of stations, I can use this product?	<ul style="list-style-type: none"> • Controlling the water reservoirs • Observation wells • Seepage loss management (Pressure & Flow Observation rooms)
Sensor support	8 analog sensors can be connected: <ul style="list-style-type: none"> • Flowmeter • Pressure • Ground water level and Reservoir water level
Chlorine dosage pump control	✓ (Proportional / Constant)
Proportional valve control	✓ (4)
Operates with solar power?	✓
Hardware upgradeable?	✓
7/24 system support	✓
Software support	Integration to the Koru1000 water management system over Koru1000 cloud.
External SCADA support	Integration to all SCADA systems that supports Modbus TCP

(Battery and the panel are not included.)

GSM Communication:

- 3G Industrial Router
- Communication speed; 3G 14.4Mbps, 2G 236.8 Kbps
- IEEE 802.11b/g/n, can be used as Wifi access point or station
- 2 Ethernet ports
- Routing, network protocols, firewall, DHCP, QoS, network backup, load balancing, DDOS prevention, port scanning prevention, WPA-2Ent Wifi encryption, mobile quota control, web filters, access control, VPN, APN
- RutOS: Linux-based operating system
- 1 digital input, 1 digital output
- Operates with 9-30VDC
- Power consumption < 5W
- Working temperature is between -40°C and +75°C

Analog Expansion Module:

- 4 Channel 0-10VDC, 0-20mA, 4-20mA analog input
- 2 Channel 0-10VDC, 0-20mA, 4-20mA analog output
- The channels can be used as different input/output types independent of one another
- Inputs and outputs are isolated by galvanization
- 14-bit resolution

Panel Specifications and Dimensions:

- PVC 40x60x22 cm

Panel Weight:

- 8,30 Kg

CS150-GM

RESERVOIR MONITORING AND CONTROLLING DEVICE



TECHNICAL SPECIFICATIONS

The Specifications of the PLC Controller:

- 9 channel 24VDC PNP/NPN input
- 6 channel 230VAC 5A relay output
- 1 channel 0-10VDC/0-20mADC optional analog input (12-bit resolution)
- 1 channel 0-20mADC analog output (14-bit resolution)
- Can be expanded by maximum 16 expansion units due to the modular structure
- Communication over the network via a 100MBit ethernet port
- MODBUS TCP support
- RS232 ve RS485 communication ports
- MODBUS RTU support
- Decimal operation support
- 12ns processing speed
- RTC (Real Time Clock)
- Supplied by 24VDC
- Power Consumption < 3W
- Working temperature between 0°C and +50°C
- Can be programmed with Ladder Logic Diagram Editor

Power Supply:

- 5A, 120W SMPS
- 24VDC Output, 100-240VAC or 90-350VDC Input
- Efficiency %88
- Over power protection, over voltage protection
- Working temperature between -25°C and +60°C

ABILITIES



Where can I use this product?	<ul style="list-style-type: none"> • Drinking water • Management of Process water • Observation stations
In what kind of stations, I can use this product?	<ul style="list-style-type: none"> • Controlling the water reservoirs • Observation wells • Seepage loss management (Pressure & Flow Observation rooms)
Sensor support	8 analog sensors can be connected: <ul style="list-style-type: none"> • Flowmeter • Pressure • Ground water level and Reservoir water level
Temperature Sensor	Two sensors can be connected for either two of the panel, environment and the water temperature.
Operates with the grid power?	✓
Chlorine dosage pump control	✓ (Proportional / Constant)
Actuator valve control	✓ (2 3-phase actuators)
Proportional valve control	✓ (4)
Hardware upgradeable?	✓
7/24 system support	✓
Software support	Integration to the Koru1000 water management system over Koru1000 cloud.
External SCADA support	Integration to all SCADA systems that supports Modbus TCP

Uninterruptible Power Supply:	<ul style="list-style-type: none"> • DC UPS • Input 22.5V-28V, Output 24V • Output current 30A • At least 7 Ah 12V dry accumulator • Working temperature is between -40°C and +70°C
GSM Communication:	<ul style="list-style-type: none"> • 3G Industrial Router • Communication speed; 3G 14.4Mbps, 2G 236.8 Kbps • IEEE 802.11b/g/n, can be used as Wifi access point or station • 2 Ethernet ports • Routing, network protocols, firewall, DHCP, QoS, network backup, load balancing, DDOS prevention, port scanning prevention, WPA-2Ent Wifi encryption, mobile quota control, web filters, access control, VPN, APN • RutOS: Linux-based operating system • 1 digital input, 1 digital output • Operates with 9-30VDC • Power consumption < 5W • Working temperature is between -40°C and +75°C

Temperature Sensor:	<ul style="list-style-type: none"> • 4 independent universal inputs • 15-bit resolution, 0.1°C accuracy • Input types: PT-100 or PT-1000 type RT (Accuracy at full scale %0.2); B, C, E, J, K, N, R, S and T type thermocouple (accuracy at full scale %0.2); 25°C @10kOhm NTC (Accuracy 0.2°C); 0...60mVDC (0.01mV accuracy) • Short circuit and current protection
Digital expansion module:	<ul style="list-style-type: none"> • 8 channel 24VDC digital input • Inputs are isolated and can be used as PNP and NPN • 8 channel 230VAC 5A relay output
Analog Expansion Module:	<ul style="list-style-type: none"> • 4 Channel 0-10VDC, 0-20mA, 4-20mA analog input • 2 Channel 0-10VDC, 0-20mA, 4-20mA analog output • The channels can be used as different input/output types independent of one another • Inputs and outputs are isolated by galvanization 14-bit resolution
Panel Specifications and Dimensions:	• PVC 50x70x25 cm
Panel Weight:	• 15,35 Kg



BÜYÜKŞEHİR ALT GEÇİDİ



CC SERIES DEVICES

FOR WASTE WATER CONTROLLING
SYSTEMS

CC100-GM

WASTE WATER
CONTROLLING DEVICE



TECHNICAL SPECIFICATIONS

The Specifications of the PLC Controller:

- 9 channel 24VDC PNP/NPN input
- 6 channel 230VAC 5A relay output
- 1 channel 0-10VDC/0-20mADC optional analog input (12-bit resolution)
- 1 channel 0-20mADC analog output (14-bit resolution)
- Can be expanded by maximum 16 expansion units due to the modular structure
- Communication over the network via a 100MBit ethernet port
- MODBUS TCP support
- RS232 ve RS485 communication ports
- MODBUS RTU support
- Decimal operation support
- 12ns processing speed
- RTC (Real Time Clock)
- Supplied by 24VDC
- Power Consumption < 3W
- Working temperature between 0°C and +50°C
- Can be programmed with Ladder Logic Diagram Editor

Power Supply:

- 2.5A, 60W SMPS
- 24VDC Output, 100-240VAC or 90-350VDC Input
- Efficiency %88
- Over power protection, over voltage protection
- Working temperature between -25°C and +60°C

ABILITIES



Where can I use this product?	Wastewater applications
In what kind of stations, I can use this product?	Controlling sewer waste water pumps (1 or 2 pumps)
Automatic Operating Scenarios	Automatic cascade operation depending on the water level
Sensor support	1 analog sensor can be connected Reservoir water level sensor
What happens when the communication is interrupted?	Works automatically according to the determined time periods
Hardware upgradeable?	✓
7/24 system support	✓
Software support	Integration to the Koru1000 water management system over Koru1000 cloud.
External SCADA support	Integration to all SCADA systems that supports Modbus TCP

Uninterruptible Power Supply:

- 600VA AC UPS
- Controlled by line-interactive microcontroller
- 162-290VAC input voltage range
- Protections for short circuit, overcurrent, overload, overcharging or over-discharging the battery
- 1x12V 7Ah Battery

GSM Communication:

- 3G Industrial Router
- Communication speed; 3G 14.4Mbps, 2G 236.8 Kbps
- IEEE 802.11b/g/n, can be used as Wifi access point or station
- 2 Ethernet ports
- Routing, network protocols, firewall, DHCP, QoS, network backup, load balancing, DDOS prevention, port scanning prevention, WPA-2Ent Wifi encryption, mobile quota control, web filters, access control, VPN, APN
- RutOS: Linux-based operating system
- 1 digital input, 1 digital output
- Operates with 9-30VDC
- Power consumption < 5W
- Working temperature is between -40°C and +75°C

Panel Specifications and Dimensions:

- PVC 40x60x22 cm

Panel Weight:

- 11,85 kg

CC110-GM

WASTE WATER
CONTROLLING DEVICE



TECHNICAL SPECIFICATIONS

The Specifications of the PLC Controller:

- 9 channel 24VDC PNP/NPN input
- 6 channel 230VAC 5A relay output
- 1 channel 0-10VDC/0-20mADC optional analog input (12-bit resolution)
- 1 channel 0-20mADC analog output (14-bit resolution)
- Can be expanded by maximum 16 expansion units due to the modular structure
- Communication over the network via a 100MBit ethernet port
- MODBUS TCP support
- RS232 ve RS485 communication ports
- MODBUS RTU support
- Decimal operation support
- 12ns processing speed
- RTC (Real Time Clock)
- Supplied by 24VDC
- Power Consumption < 3W
- Working temperature between 0°C and +50°C
- Can be programmed with Ladder Logic Diagram Editor

Power Supply:

- 2.5A, 60W SMPS
- 24VDC Output, 100-240VAC or 90-350VDC Input
- Efficiency %88
- Over power protection, over voltage protection
- Working temperature between -25°C and +60°C

Uninterruptible Power Supply:

- DC UPS
- Input 22.5V-28V, Output 24V
- Output current 30A
- At least 7 Ah 12V dry accumulator
- Working temperature is between -40°C and +70°C

ABILITIES



Where can I use this product?	Wastewater applications
In what kind of stations, I can use this product?	Controlling sewer waste water pumps (1, 2 or 3 pumps)
Automatic Operating Scenarios	Automatic cascade operation depending on the water level
Sensor support	1 analog sensor can be connected Reservoir water level sensor
Temperature sensor	4 different temperature sensors can be connected
What happens when the communication is interrupted?	Works automatically according to the determined time periods
Touchscreen on the panel	✓ (7" TFT)
Energy tracking feature	✓
Hardware upgradeable?	✓
7/24 system support	✓
Software support	Integration to the Koru1000 water management system over Koru1000 cloud.
External SCADA support	Integration to all SCADA systems that supports Modbus TCP

GSM Communication:

- 3G Industrial Router
- Communication speed; 3G 14.4Mbps, 2G 236.8 Kbps
- IEEE 802.11b/g/n, can be used as Wifi access point or station
- 2 Ethernet ports
- Routing, network protocols, firewall, DHCP, QoS, network backup, load balancing, DDOS prevention, port scanning prevention, WPA-2Ent Wifi encryption, mobile quota control, web filters, access control, VPN, APN
- RutOS: Linux-based operating system
- 1 digital input, 1 digital output
- Operates with 9-30VDC
- Power consumption < 5W
- Working temperature is between -40°C and +75°C

Energy Analyzer:

- The measured parameters are: 3xV, 3xI, Frequency, W, Var, VA, kWh, kVarh, Min, Max, Demand, Cos ϕ
- RS485 Modbus RTU Communication
- LCD Screen
- Sensitivity %0.5
- Power Consumption < 4W
- Working temperature is between -10°C and +55°C

HMI Screen:

- 7" TFT 800x480 Touchscreen
- 32bit 800Mhz Processor
- 128MB Flash, 64MB SDRAM,
- RTC
- USB, RS232, RS485 Port
- Ethernet, Modbus TCP
- Remote desktop support with VNC
- Power consumption < 7.2W
- Working temperature is between 0°C and +50°C

Temperature Sensor:

- 4 independent universal inputs
- 15-bit resolution, 0.1°C accuracy
- Input types: PT-100 or PT-1000 type RT (Accuracy at full scale %0.2); B, C, E, J, K, N, R, S and T type thermocouple (accuracy at full scale %0.2); 25°C @10kOhm NTC (Accuracy 0.2°C); 0...60mVDC (0.01mV accuracy)
- Short circuit and current protection

Digital expansion module:

- 8 channel 24VDC digital input
- Inputs are isolated and can be used as PNP and NPN

Panel Specifications and Dimensions:

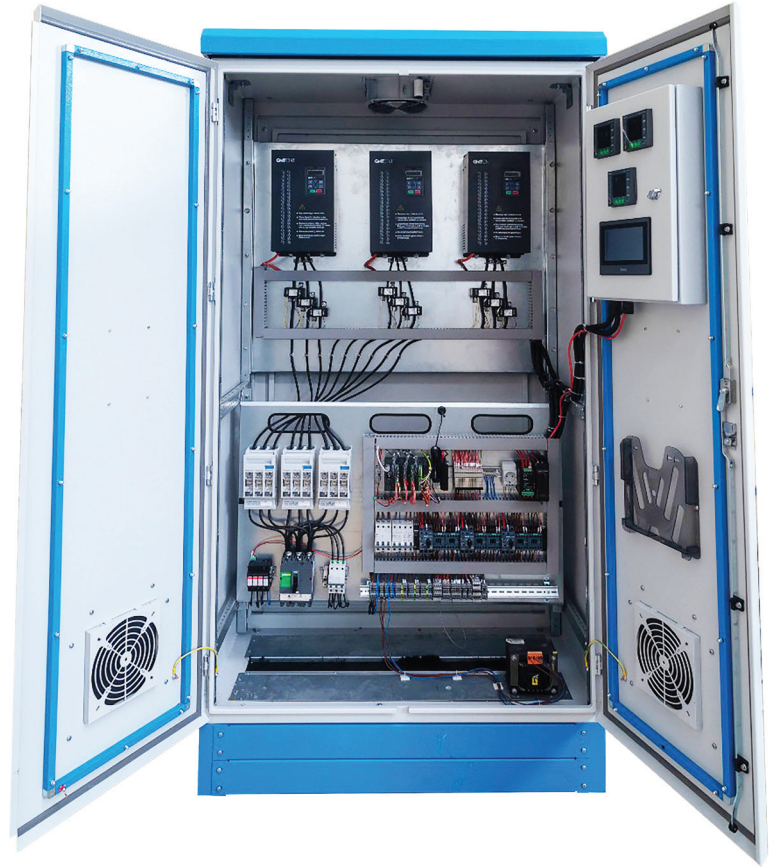
- PVC 50x70x25 cm

Panel Weight:

- 16,8kg

CC120-GM

WASTE WATER
CONTROLLING DEVICE



TECHNICAL SPECIFICATIONS

The Specifications of the PLC Controller:

- 9 channel 24VDC PNP/NPN input
- 6 channel 230VAC 5A relay output
- 1 channel 0-10VDC/0-20mADC optional analog input (12-bit resolution)
- 1 channel 0-20mADC analog output (14-bit resolution)
- Can be expanded by maximum 16 expansion units due to the modular structure
- Communication over the network via a 100MBit ethernet port
- MODBUS TCP support
- RS232 ve RS485 communication ports
- MODBUS RTU support
- Decimal operation support
- 12ns processing speed
- RTC (Real Time Clock)
- Supplied by 24VDC
- Power Consumption < 3W
- Working temperature between 0°C and +50°C
- Can be programmed with Ladder Logic Diagram Editor

Power Supply:

- 5A, 120W SMPS
- 24VDC Output, 100-240VAC or 90-350VDC Input
- Efficiency %88
- Over power protection, over voltage protection
- Working temperature between -25°C and +60°C

Uninterruptible Power Supply:

- DC UPS
- Input 22.5V-28V, Output 24V
- Output current 30A
- At least 7 Ah 12V dry accumulator
- Working temperature is between -40°C and +70°C

ABILITIES



Where can I use this product?	Wastewater applications
In what kind of stations, I can use this product?	Controlling sewer waste water pumps (1, 2 or 3 pumps)
Automatic Operating Scenarios	Automatic cascade operation depending on the water level
Sensor support	1 analog sensor can be connected Reservoir water level sensor
Temperature sensor	4 different temperature sensors can be connected
What happens when the communication is interrupted?	Works automatically according to the determined time periods
Touchscreen on the panel	✓ (7" TFT)
Energy tracking feature	✓
Driver Support	✓ (3 Drivers)
On/Off Actuator valve control	✓ 3 3-phase actuators)
Hardware upgradeable?	✓
7/24 system support	✓
Software support	Integration to the Koru1000 water management system over Koru1000 cloud.
External SCADA support	Integration to all SCADA systems that supports Modbus TCP

GSM Communication:	<ul style="list-style-type: none"> • 3G Industrial Router • Communication speed; 3G 14.4Mbps, 2G 236.8 Kbps • IEEE 802.11b/g/n, can be used as Wifi access point or station • 2 Ethernet ports • Routing, network protocols, firewall, DHCP, QoS, network backup, load balancing, DDOS prevention, port scanning prevention, WPA-2Ent Wifi encryption, mobile quota control, web filters, access control, VPN, APN • RutOS: Linux-based operating system • 1 digital input, 1 digital output • Operates with 9-30VDC • Power consumption < 5W • Working temperature is between -40°C and +75°C
Energy Analyzer:	<ul style="list-style-type: none"> • Measured parameters: 3xV, 3xI, Frequency, W, Var, VA, kWh, kVarh, Min, Max, Demand, Cos ϕ • RS485 Modbus RTU Communications • LCD Screen • Sensitivity %0.5 • Power consumption < 4W • Working temperature: Between -10°C +55°C

HMI Screen:	<ul style="list-style-type: none"> • 7" TFT 800x480 Touchscreen • 32bit 800Mhz Processor • 128MB Flash, 64MB SDRAM, • RTC • USB, RS232, RS485 Port • Ethernet, Modbus TCP • Remote desktop support with VNC • Power consumption < 7.2W • Working temperature is between 0°C and +50°C
Temperature Sensor:	<ul style="list-style-type: none"> • 4 independent universal inputs • 15-bit resolution, 0.1°C accuracy • Input types: PT-100 or PT-1000 type RT (Accuracy at full scale %0.2); B, C, E, J, K, N, R, S and T type thermocouple (accuracy at full scale %0.2); 25°C @10kOhm NTC (Accuracy 0.2°C); 0...60mVDC (0.01mV accuracy) • Short circuit and current protection
Digital Expansion Module:	<ul style="list-style-type: none"> • 16 channel 24VDC digital input • Inputs are isolated and can be used as PNP and NPN • 16 channel 230VAC 5A relay output
Analog Expansion Module:	<ul style="list-style-type: none"> • 4 Channel 0-10VDC, 0-20mA, 4-20mA analog input • 2 Channel 0-10VDC, 0-20mA, 4-20mA analog output • The channels can be used as different input/output types independent of one another • Inputs and outputs are isolated by galvanization • 14-bit resolution
Panel Specifications and Dimensions:	<ul style="list-style-type: none"> • Sheet Metal Case, 220x120x60 cm





M SERIES DEVICES

AS POWER PANELS

M100

POWER PANEL WITH CONTACTORS



ABILITIES

Where can I use this product?	<ul style="list-style-type: none"> • Drinking Water • Agricultural irrigation • Management of Process water
In what kind of stations, I can use this product?	<ul style="list-style-type: none"> • Well Pumps • Lift Pumps • Waste water pumps
What are the advantages?	<ul style="list-style-type: none"> • Quick start is the most common way of starting a motor. • Suitable for devices powered by a grid with constant power and also in good condition and scaled well.

TECHNICAL SPECIFICATIONS

Power Management Method:	<ul style="list-style-type: none"> • Contactor
Power Range	<ul style="list-style-type: none"> • 4 - 300 kW
Technical Specifications:	<ul style="list-style-type: none"> • 380-400V 3-phase motor control contactor • Protection against voltage fluctuations
Current Transformer:	✓
Surge Protection:	<ul style="list-style-type: none"> • Optional
Compensation:	<ul style="list-style-type: none"> • (Please contact for further information)
Panel Material and Dimensions:	<ul style="list-style-type: none"> • Sheet metal panel 40x60x20 cm • Please contact for systems with power consumption greater than 45 kW

M200

POWER PANEL WITH SOFT STARTER



ABILITIES

Where can I use this product?	<ul style="list-style-type: none"> • Drinking Water • Agricultural irrigation • Management of Process water
In what kind of stations, I can use this product?	<ul style="list-style-type: none"> • Well Pumps • Lift Pumps • Waste water pumps
What are the advantages?	<ul style="list-style-type: none"> • Used in full speed applications to soft start the motor. • Eliminates the voltage surge and drawing over current when motor starts

TECHNICAL SPECIFICATIONS

Power Management Method:	<ul style="list-style-type: none"> • Soft starter
Power Range:	<ul style="list-style-type: none"> • 4 kW • 5.5 kW • 7.5 kW • 11 kW • 15 kW • 18.5 kW • 22 kW • 30 kW • 37 kW • Please contact for systems with power consumption greater than 45 kW
Technical Specifications:	<ul style="list-style-type: none"> • 2-phase control • Main line voltage: 208-600V • Control voltage: 100...240 VAC or 24 VAC/DC • Bypass included • Soft start and stop by the usage of voltage ramp • Easy adjust with the aid of 3 potentiometers • Operation and ramp end relays for state tracking
Current Transformer:	<ul style="list-style-type: none"> • ✓
Surge Protection:	<ul style="list-style-type: none"> • Optional
Compensation	<ul style="list-style-type: none"> • (Please contact for further information)
Panel Material and Dimensions:	<ul style="list-style-type: none"> • Sheet metal panel 60x80x35 cm • Please contact for systems with power consumption greater than 45 kW

M300-DF

POWER PANELS WITH DRIVERS



**M300-DF
TYPE 1**



**M300-DF
TYPE 2**



**M300-DF
TYPE 3**



TECHNICAL SPECIFICATIONS

Power Management Methods:	<ul style="list-style-type: none"> • Speed Control Driver (Frequency Converter)
Power Options:	<ul style="list-style-type: none"> • Type 1: <ul style="list-style-type: none"> o 4 kW o 5.5 kW o 7.5 kW o 11 kW o 15 kW o 18.5 kW o 22 kW • Type 2: <ul style="list-style-type: none"> o 30 kW o 37 kW o 45 kW o 55 kW o 75 kW • Type 3: <ul style="list-style-type: none"> o 90 kW o 110 kW o 132 kW o 160 kW o 200 kW o 250 kW o 285 kW

Technical Specifications:

- Special design for water and wastewater pump applications
- Nominal Input Voltage and Power Range: 380 – 480 V $\pm 10\%$
- THD: THD $< 48\%$ (at $80\% - 100\%$ load)
- Power Factor : At nominal load 0,98
- Efficiency: 98% for the standard speed control devices
- Speed up/down time: Adjustable, linear ramp, S ramp, U profile or specific profile,
- Over loadability: 110% of the nominal current is drawn for 1 minute in every 10 minutes. And in hard conditions, 150% of the nominal current is drawn for 1 minute in every 10 minutes.
- Working temperature : For standard AC speed controlling devices, no losses between $0^{\circ}\text{C} - + 45^{\circ}\text{C}$
- Storage temperature : Between $-15^{\circ}\text{C} + 60^{\circ}\text{C}$,
- Maximum relative humidity: According to IEC 60068-2-2' up to 95% without condensation.
- Corrosion level: According to IEC 721-3-3 3C3 Class towards cooling weather and chemical gasses.
- Biological protection : Compatible with IEC 721-3-3
- Dust protection : Compatible with IEC 721-3-3 and class 3S3

ABILITIES

Where can I use this product?	<ul style="list-style-type: none"> • Drinking Water • Agricultural irrigation • Management of Process water
In what kind of stations, I can use this product?	<ul style="list-style-type: none"> • Well Pumps • Lift Pumps • Waste water pumps
What are the advantages?	<ul style="list-style-type: none"> • Used in full speed applications to soft start the motor. • Eliminates the voltage surge and drawing over current when motor starts
Advanced options	<ul style="list-style-type: none"> • Can perform energy efficiency <ul style="list-style-type: none"> o Constant pressure o Constant flow o Constant underground water level

Technical Specifications:	<ul style="list-style-type: none"> • The AC Speed Control Device can supply more than 110% of the nominal motor moment for 1 minute in every 10 minutes in normal mode. • The automatic motor recognition mode, which models the electrical modelling of the motor, is present to prevent the mismatches between the motor and the motor equipment. • To be able to perform PID control by connecting the equipment that are used in the process (e.g. Pressure Converter) to the analog input. • The pressure value (in Bar) can be read from the panel that is on the device. • PLC Included • "PID Autotuning" • 3 different quantities can be monitored from the panel that is on the device. These quantities may be associated with the motor, the process or the device. • Speed control devices have adjustable control panel and the speed can be adjusted from the panel or from the digital inputs. • The motor control can be cancelled from the panel or the parameters that belong to the driver can be locked with a password. • This panel can be mounted on the panel door in which the driver is present with an extension cable. • Auto and manual modes can be selected from the panel • All circuit boards are varnished in order to be protected from the problems that can arise from the environmental conditions. • Has an internal Modbus RTU port. • Also supports additional communication cards such as Profibus, Ethernet, Profinet, Devicenet etc.
Current Transformer:	• ✓ (Depends on the Power)
Cooler:	• ✓ (Depends on the Power)
Surge Detection:	• Optional
Panel Material and Dimensions:	<ul style="list-style-type: none"> • Tip 1 : 60x140x50 cm • Tip 2 : 60x190x50 cm • Tip 3 : 60x220x60 cm



Technical Specifications:

- Vibration and shock level: Compatible with IEC 60068-2 Electrostatic Discharging: Compatible with IEC/EN 61000-4-2
- Electromagnetic Field: Compatible with IEC/EN 61000-4-3
- Fast Transient Response: Compatible with IEC/EN 61000-4-4
- Surge Compatibility: Compatible with IEC/EN 61000-4-5
- Electromagnetic Compatibility: Compatible with IEC/EN 61800-3 so that the device which has RFI/EMC filter, can feed without the need of additional equipment up to 150 m with its own cabling
- Automatic energy saving and optimization mode which will operate according to the model of the motor and can provide additional energy saving.
- Internal circuitry or external DC choke coil to protect the grid and the devices around which suppresses the harmonics in the frequency converter and limits the input current.
- Has a vectoral and scalar control modes that are designed to drive loads that has variable or constant moments.
- Able to drive motors that has permanent magnets and with high efficiency.





P1

PERIPHERALS

TR-11 TEMPERATURE SENSOR



TECHNICAL SPECIFICATIONS

Technical Specifications

- Temperature Sensor
- -40°C — +350°C Range
- Sensitivity :< 0.5°C
- Fast response time
- Dimensions: 30mmx6mm
- 1.4301 DIN Stainless
- 3 wires 1metets standard cabling (silicon or armored)

ABILITIES

What type of temperature I can measure?

- Panel Temperature
- Environment temperature
- Motor Temperature
- Water Temperature

Where can I use?

- Tracking the temperature to prevent malfunctioning
- To calculate the pump efficiency in advanced fluid mechanics
- Tracking the temperature of the underground water in observation applications
- To activate the heater and the cooler automatically for the pump or the environment in unfavorable weather conditions.

BT-214-G1 BASINÇ SENSÖRÜ



TECHNICAL SPECIFICATIONS

Technical Specifications

- EMC and reverse polarity protection
- Analog output; 4 ... 20mA (2-Cables),
- 0-60 Bar range
- Operates with 12-30VDC
- Sensitivity %0,3 @ +25°C
- Operation temperature -20°C ... +85°C
- Silicon, steel or ceramic membrane
- Stainless steel body (304L steel material)
- IP65 or IP67 protection

Pressure Range

- 0-1 bar
- 0-6 bar
- 0-10 bar
- 0-16 bar
- 0-25 bar
- 0-40 bar
- 0-60 bar

ABILITIES

What type of pressure can I measure?

- Well exit pressure
- Well line pressure
- Water supply station input, exit and line pressure
- Reservoir exit pressure

Where can I use?

- Monitoring well exit pressure
- Monitoring well line pressure and tracking the malfunctioning of the equipment between the well exit and the line (check valve, valve, sand filter etc.)
- Seepage loss applications

PTL-110

HYDROSTATIC WATER LEVEL SENSOR



TECHNICAL SPECIFICATIONS

Technical Specifications	<ul style="list-style-type: none"> • Piezoresistive measurement • EMC ve reverse polarity protection • Analog çıkış; 4...20 mA • Range between 1 and 150 meters • Operates with +12...30 VDC • IP68 protection • Sensitivity %0,3 • Stainless steel body (316L Steel material)
Measurement intervals: *	<ul style="list-style-type: none"> • 0-6 mss • 0-10 mss • 0-20 mss • 0-30 mss • 0-40 mss • 0-50 mss • 0-60 mss • 0-70 mss • 0-80 mss • 0-100 mss • 0-150 mss

ABILITIES

What type of water levels I can measure	<ul style="list-style-type: none"> • Well underground water level • Reservoir level • Waste water level • Observation center underground water level
Where can I use it?	<ul style="list-style-type: none"> • Monitoring the well water level • Monitoring reservoir fill rate • Underground water monitoring in observation applications • The water level observation for interchange roads

* For wells, the dynamic and the static water levels need to be considered. Please contact for further information and time intervals.

ULTRASONIC FLOWMETER



TECHNICAL SPECIFICATIONS

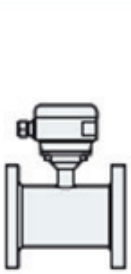
Technical Specifications:	<ul style="list-style-type: none"> • Drinking water measurements • Diameter range: DN32...6000 • Operates with: DC 8~36V and AC 85~264V • 2 Line LCD Screen with LED light • Membrane keypad • 1 Analog output (4~20mA) (0 ~ 1K resistance) • A 4~20mA analog input (0 ~ 1K resistance) • An OCT Pulse output (6-1000 Ms pulse width) • A relay output • RS485 Communication port • Probes with magnets
Measurement interval	• 0 ~ ±12m/s
Measurement sensitivity	• ±1%
Operation Temperature:	• -20...+60°C
Operation Humidity:	<ul style="list-style-type: none"> • For the main unit: %85 RH • For the convertor: IP67

ABILITIES

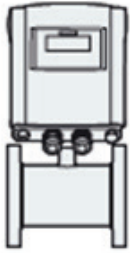
What kind of water flow I can measure?	<ul style="list-style-type: none"> • Well exit flow • Water supply station exit waterflow • Reservoir level input/exit flow • Line flow
Where can I use it?	<ul style="list-style-type: none"> • Well exit waterflow monitoring • Water supply station exit waterflow monitoring • Reservoir input/exit waterflow monitoring • Line waterflow monitoring • Seepage loss monitoring • For proportional chlorine dosing in chlorine dosing centres

ELECTROMAGNETIC FLOWMETER

- Integrated type (the signal convertor is directly on the measurement sensor)
- Separate type (has a connection box and a separate signal convertor)



Ayrık tip



Bütünleşik tip



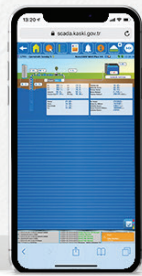
TECHNICAL SPECIFICATIONS

Technical Specifications:	<ul style="list-style-type: none"> • Drinking water and wastewater measurements • Two spot calibration by direct volume comparison • Diameter range: DN25...3000 • Forward and backward flow
	• -20...+65°C
Working Temperature:	• -12...+12 m/s
Measurement temperature:	<ul style="list-style-type: none"> • DN50-150 PN16 • DN200-300 PN10
	<ul style="list-style-type: none"> • Sheet steel • Other materials can be provided upon request.
Nominal pressure standard:	• Austenitic stainless steel
Flow sensor Protection	<ul style="list-style-type: none"> • Standard <ul style="list-style-type: none"> o Aluminum signal convertor and protected plates • Optional <ul style="list-style-type: none"> o Stainless steel signal converter, protected low temperature carbon / steel plates or stainless-steel plates • Other materials can be provided upon request.
Measurement tube:	<ul style="list-style-type: none"> • Standard <ul style="list-style-type: none"> o DN25...150 / 1...6": polypropylene o DN200...3000 / 8...120": hard rubber • Optional <ul style="list-style-type: none"> o DN25...150 / 1...6": Hard rubber o DN200...1000 / 8...40": polyolefin or PTFE
Plates:	<ul style="list-style-type: none"> • Standard <ul style="list-style-type: none"> o Hastelloy® C • Optional <ul style="list-style-type: none"> o Stainless-steel, titanium

Grounding Rings	<ul style="list-style-type: none"> • Standard <ul style="list-style-type: none"> • stainless-steel • Optional <ul style="list-style-type: none"> o Hastelloy® C, titanium , tantalum
Protection	<ul style="list-style-type: none"> • Standard <ul style="list-style-type: none"> o IP67 • Optional <ul style="list-style-type: none"> o IP68

ABILITIES

What kind of flow I can measure?	<ul style="list-style-type: none"> • Well exit waterflow • Water supply station exit flow • Reservoir input and exit flow • Line flow
Where can I use this product?	<ul style="list-style-type: none"> • Well exit water flow control • Water Supply station water flow monitoring • Reservoir input and exit water flow monitoring • Line water flow tracking • Seepage loss monitoring • Waste water counter for factories and production centers. • For proportional chlorine dosing in chlorine dosing centre



WATER MANAGEMENT SOFTWARE

WEB BASED WATER MANAGEMENT SOFTWARE

TECHNICAL SPECIFICATIONS AND ABILITIES

Koru1000 is an integrated water management software.

It fulfills the user expectations with a user-friendly interface and an advanced methodology.

Koru1000 is used in

- Wells,
- Water supply stations,
- Reservoirs,
- Chlorine dosing stations,
- Waste water stations,
- Pressure control valve rooms.

The data that is obtained from the field applications is processed in a smart way which helps managing various processes such as the production of drinking water, the distribution of the drinking water to the water pipeline, the evacuation of the waste water, agricultural irrigation, dehydration and using water in industrial processes.

Koru1000 Standards

The leading issues that Koru1000 is mainly concerned are the efficiency of the pumps, field hydraulics, the hydraulics and the specific capacity and the performance of the well pipes, supply centers and the energy cables that are used in water systems. Koru1000 offers smart solutions and a competent management about these complex processes with a simple and user-friendly interface.

- Remote control of the water management systems
- Easy use and user-friendly interface
- Instantly updated data flow
- Unlimited tag definition
- User authorization and unlimited user generating
- Storing all data and saving them by date
- Graphical representation of the obtained data
- To be able to work independent from the user by the help of the automatic working scenarios
- Saving events and creating alarms (Notification by SMS, e-mail or mobile app notification)
- Able to perform pump efficiency analysis
- Can change the speed of the motor depending on the waterflow, water level, pressure and power.
- Underground water level control.
- Able to perform cost analysis
- Able to perform water production and consumption analysis.
- Able to define system screens and create dashboards specific for the defined screens.

How do I use Koru1000?

Koru1000 can be used in all computers, tablets and smart phones which have an internet access. It also supports two users logging in to the Koru1000 account at the same time simultaneously. The system can work automatically with the parameters that are set by the user.

Koru1000 User Screens

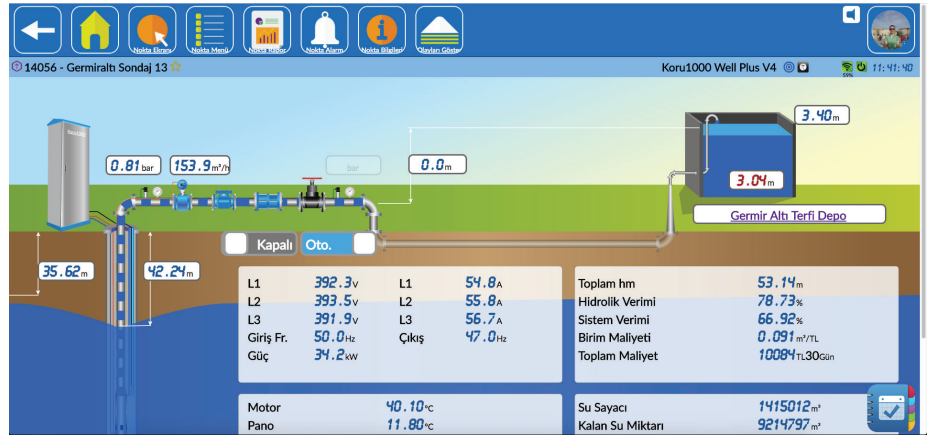
Koru1000 offers different screens for each system such as wells, water supply stations, water reservoirs, chlorine dosing, waste water systems, observation systems and pressure control rooms. This provides the separation and the easy management of the stations. All actions performed by the users are archived in the database.

Koru1000 and SCADA

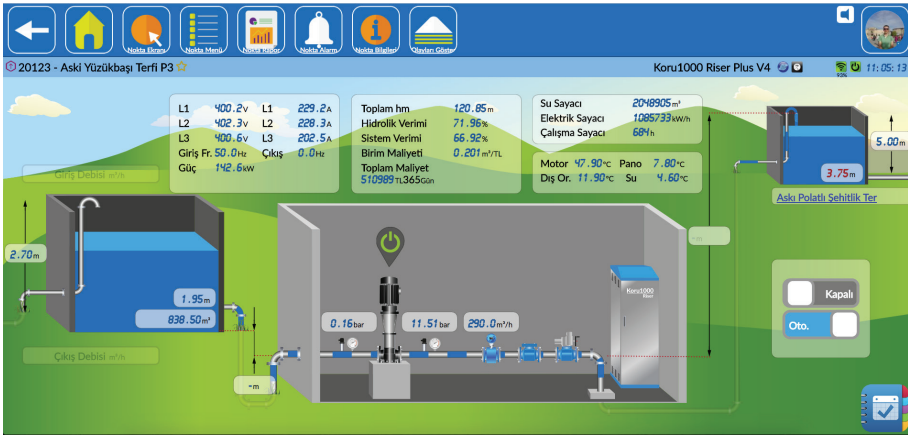
The most obvious feature of Koru1000 that distinguishes it from traditional SCADA systems is that it is only designed for water applications and it is a result of our group of companies' 40 years of field experience in the fields of drilling, hydrogeology, project planning, choosing the correct mechanical instruments such as suitable pumps and motors.

In today's world where the concepts of Industry 4.0, Internet of Things, Big Data and Artificial Intelligence come to the front, Koru1000 manages the future of the water in a smart way with all the equipment that it possesses.

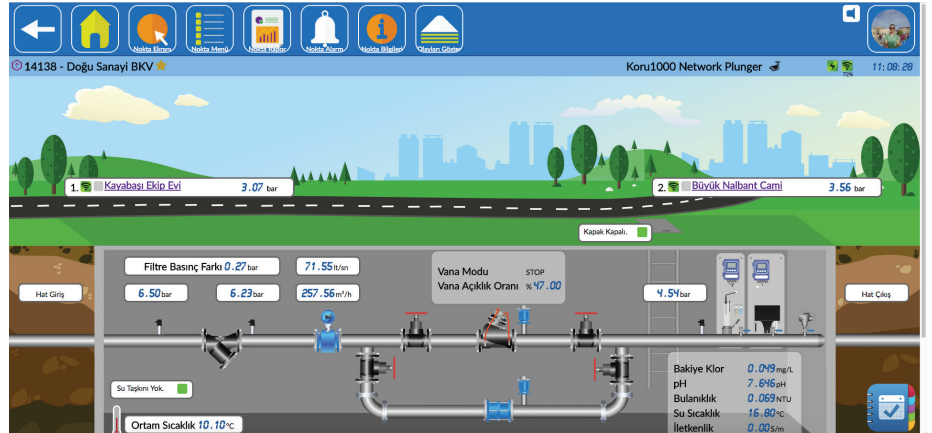
Well pump control screen



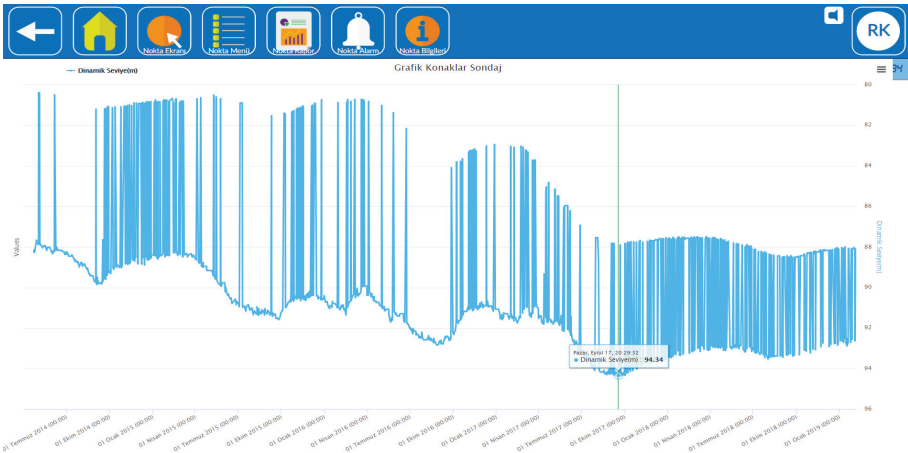
Water supply station control screen



Pressure control valve room screen



The graph that shows the change in the underground water level in 5 years



THE CLOUD WATER MANAGEMENT SERVICE IN ENVEST DATA CENTER

One can use the CP, CS and CC Series water controlling devices regardless of the need of a computer, server or the internet connection. The data center that is operated by the experienced staff working under Envest serves 7/24. During the term of service, the data is stored safely. The cloud service is backed up in another server simultaneously

TECHNICAL SPECIFICATIONS

Servers:	New generation powerful servers (XEON processor, SSD disks)
Switches:	New generation gigabit switches
Firewalls:	New generation high security firewalls
Electrical Infrastructure:	UPS and generator
Internet Infrastructure:	Metro, Satellite and 4.5G internet
Failsafe Operation:	Redundant web, OPC and database servers
Disaster Recovery:	Backup server (İstanbul)
Security:	Physical security, server security and application security

ABILITIES

Where can I use?	<ul style="list-style-type: none"> • Drinking water • Agricultural irrigation • Management of the process water • Chlorine dosing • Observation stations • Pressure control in water networks
In which types of stations it can be used?	<ul style="list-style-type: none"> • Wells • Supply stations and waste water pumps • Chlorine dosing and remaining chlorine monitoring • Observation systems • Seepage loss tracking • Pressure control valve room
Advantages	<ul style="list-style-type: none"> • Provides cost efficient cloud service without the need of a high cost data center. • Eliminates the need of technical maintenance and staff costs. • Eliminates extra costs. • You pay for as much as you needs.
Uptades	• Free
Support	• 7/24 Teknik Destek (444 5 129)





THE ESTABLISHMENT SPECIFIC WATER MANAGEMENT SOFTWARE AND THE SERVER

TECHNICAL SPECIFICATIONS

Servers:	Installation for the existing servers in the data processing centers or for the new servers if need be.
Electrical Infrastructure:	The installation of the existing UPS or the new UPS if need be.
Internet Infrastructure:	The installation of the existing Internet structure or the new Internet structure if need be.
Failsafe Operation:	Redundant Web, OPC and database servers
Disaster Recovery:	Backup server (Istanbul)
Security:	Physical security, server security and application security

ABILITIES

Where can I use?	<ul style="list-style-type: none"> • Drinking water • Agricultural irrigation • Management of the process water • Chlorine dosing • Observation stations • Pressure control in water networks
In which types of stations it can be used?	<ul style="list-style-type: none"> • Wells • Supply stations and waste water pumps • Chlorine dosing and remaining chlorine monitoring • Observation systems • Seepage loss tracking • Pressure control valve room
How many stations are supported?	<ul style="list-style-type: none"> • It is advised that the number of stations can be used with S300 servers should not exceed 300 • It is advised that the number of stations can be used with S1000 servers should not exceed 1000 • If the establishment decides to use its own servers, the number of supported stations may change
Advantages	<ul style="list-style-type: none"> • Provides server support specific for the establishment
Updates	<ul style="list-style-type: none"> • Included in the yearly maintenance agreement
Support	<ul style="list-style-type: none"> • Included in the yearly maintenance agreement





You can install the software that is needed to use devices in CP, CS and CC Series to the physical/virtual servers that are already in your establishment . If need be, the software can be adjusted so that it can be reached from outside of the establishment by installing the software to the recommended server hardware.

S300 SERVER SYSTEM

Server (1):	XEON E5 2620 2.1x8C, RAM 16GB, RAID5 3x300GB HDD
Security:	Firewall
Internet Infrastructure:	The installation of the existing Internet structure or the new Internet structure if need be.
Supported devices	Up to 300
Electricity Infrastructure	3 kVA UPS
Cabinet	20U rack cabinet
Backup:	Automatic daily backup to a hard disk
Disaster recovery:	Backup server (İstanbul)

S1000 SERVER SYSTEM

Servers (2):	XEON E5 4114 2.2x10C, RAM 32GB, RAID1 2x960GB SSD (Main server) XEON E5 4110 2.2x8C RAM 32GB, RAID5 6x300GB HDD (Backup server)
Security:	Firewall
Switch	24 Port Gigabit
Internet Infrastructure:	The installation of the existing Internet structure or the new Internet structure if need be.
Supported devices	Up to 1000
Electricity Infrastructure	10 kVA UPS
Cabinet	42U rack cabinet
Backup:	Automatic daily backup to the backup server
Backup operating mode:	Redundant web, OPC and database servers
Disaster recovery:	Backup server (İstanbul)

WELL 1



SUPPLY
STATION



WELL 2





RESERVOIR

An aerial photograph of a water treatment facility. In the top left, a red building with a green roof is labeled 'RESERVOIR'. A white line points from the text to the building. In the center, a red building with a green roof is labeled 'WELL 4'. A white line points from the text to the building. In the bottom right, a red building with a green roof is labeled 'WELL 3'. A white line points from the text to the building. The facility includes several circular filter basins with concrete walls and metal grates, and a network of concrete roads. The surrounding landscape is arid and hilly.

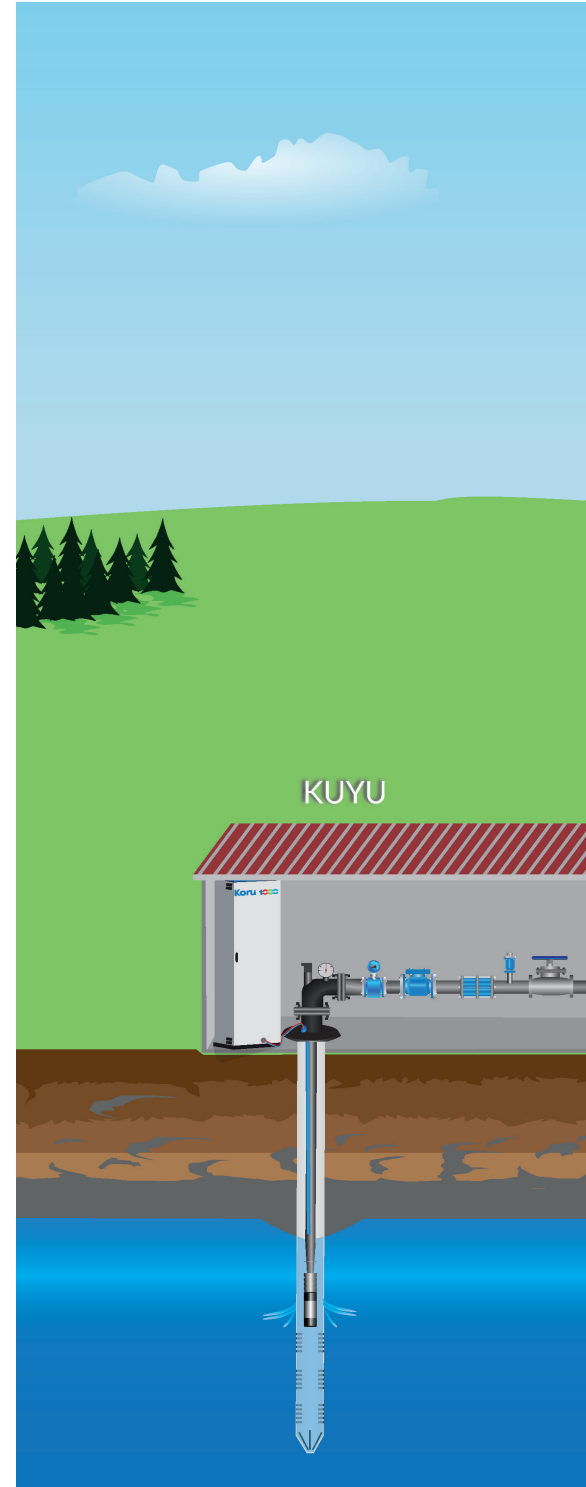
WELL 4

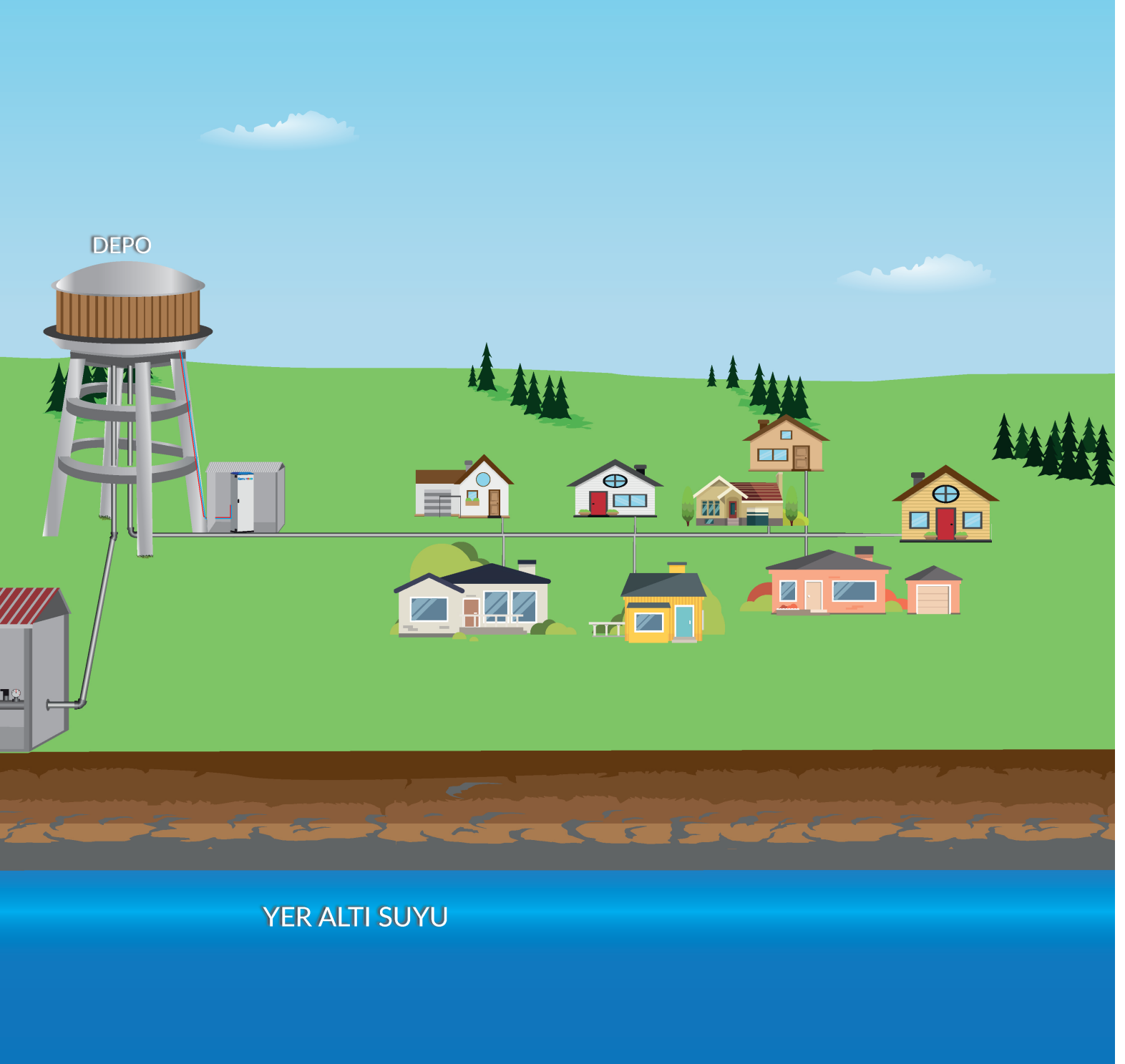
MODEL IMPLEMENTATIONS

WELL 3

MODEL IMPLEMENTATION - 1

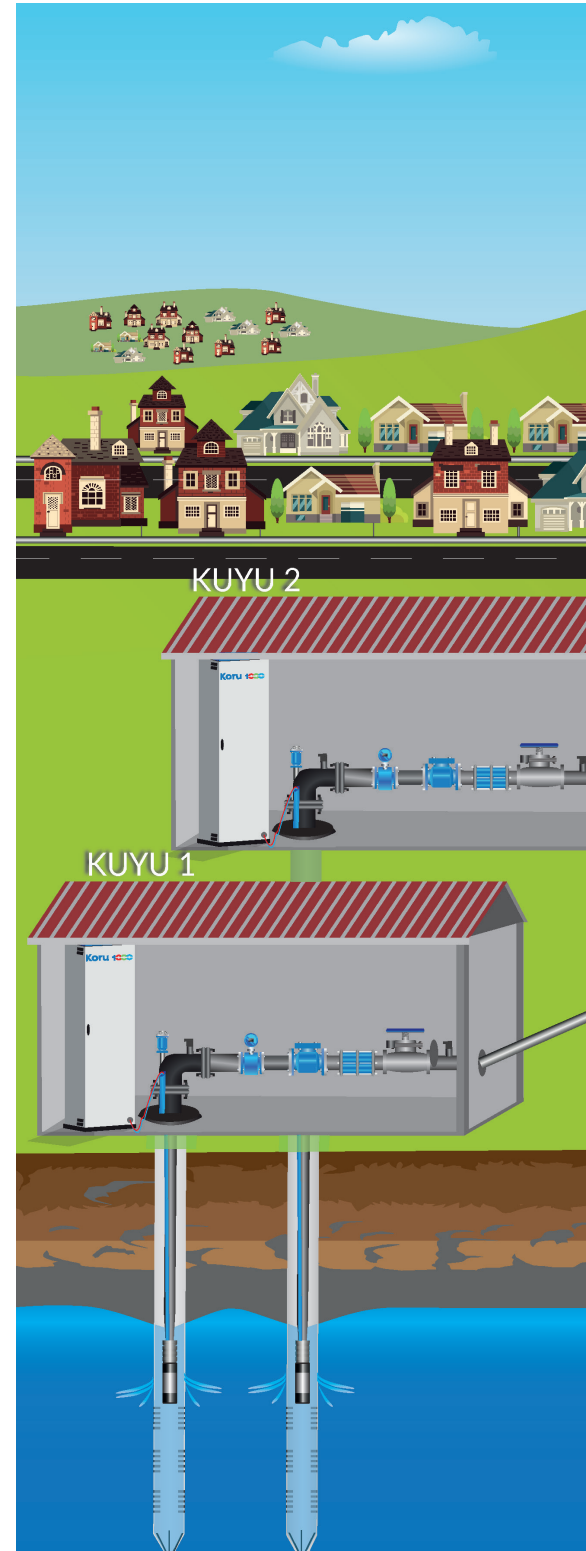
Implementation Type	Drinking Water	
Number of the water management devices	2	
Stations	<ul style="list-style-type: none"> • 1 Water Well • 1 Water Reservoir 	
<ul style="list-style-type: none"> • Well: <ul style="list-style-type: none"> o CP100-GM (Quantity: 1) o M100 or M200 (Quantity: 1) • Reservoir: <ul style="list-style-type: none"> o CS100-GM or CS101-GM (Quantity: 1) 	<ul style="list-style-type: none"> • Well: <ul style="list-style-type: none"> o CP110-GM (Quantity: 1) o M300-DF (Quantity: 1) • Reservoir: <ul style="list-style-type: none"> o CS110-GM or CS111-GM (Quantity: 1) 	<ul style="list-style-type: none"> • Well: <ul style="list-style-type: none"> o CP130-GM (Quantity: 1) o M300-DF (Quantity: 1) • Reservoir: <ul style="list-style-type: none"> o CS120-GM or CS121-GM (Quantity: 1)
Starter Solution	Standard Solution	Professional Solution
<p>Abilities:</p> <ul style="list-style-type: none"> • The ability to control the submersible pump of the well remotely and from the panel. • The ability to operate according to the water level in the water reservoir. • The ability to operate automatically according to the entered time periods • Can integrate with the existing power panel of the well • Reading sensor values such as waterflow, pressure or water level from the well (Supports 1 sensor) • Reading sensor values for waterflow or water level in the reservoir (Supports 1 sensor) • Can operate with grid power or solar power in water reservoirs 	<p>Abilities:</p> <ul style="list-style-type: none"> • Can perform energy efficiency in wells • If there is a driver present in the system, values from 4 different sensors (Waterflow, water level, pressure, power) can be read and the pump can be controlled according to these values adaptively • In water reservoirs, values from different sensors such as waterflow, water level, pressure, remaining chlorine, PH, turbidity can be read (supports up to 4 sensors) • Can control valves with proportional actuators in water reservoirs (supports 2 actuators) • Can perform liquid chlorine dosing in water reservoirs 	<p>Abilities:</p> <ul style="list-style-type: none"> • Easy control in the wells with the colored HMI screen on the panel • Can perform 4 different temperature measurements in the well • Can control a valve with On/Off actuator • Can perform liquid chlorine dosing in the well • Can control 1 proportional valve in the well • General purpose Input/Output assignments in the well • Can perform 2 different temperature measurements in the water reservoir

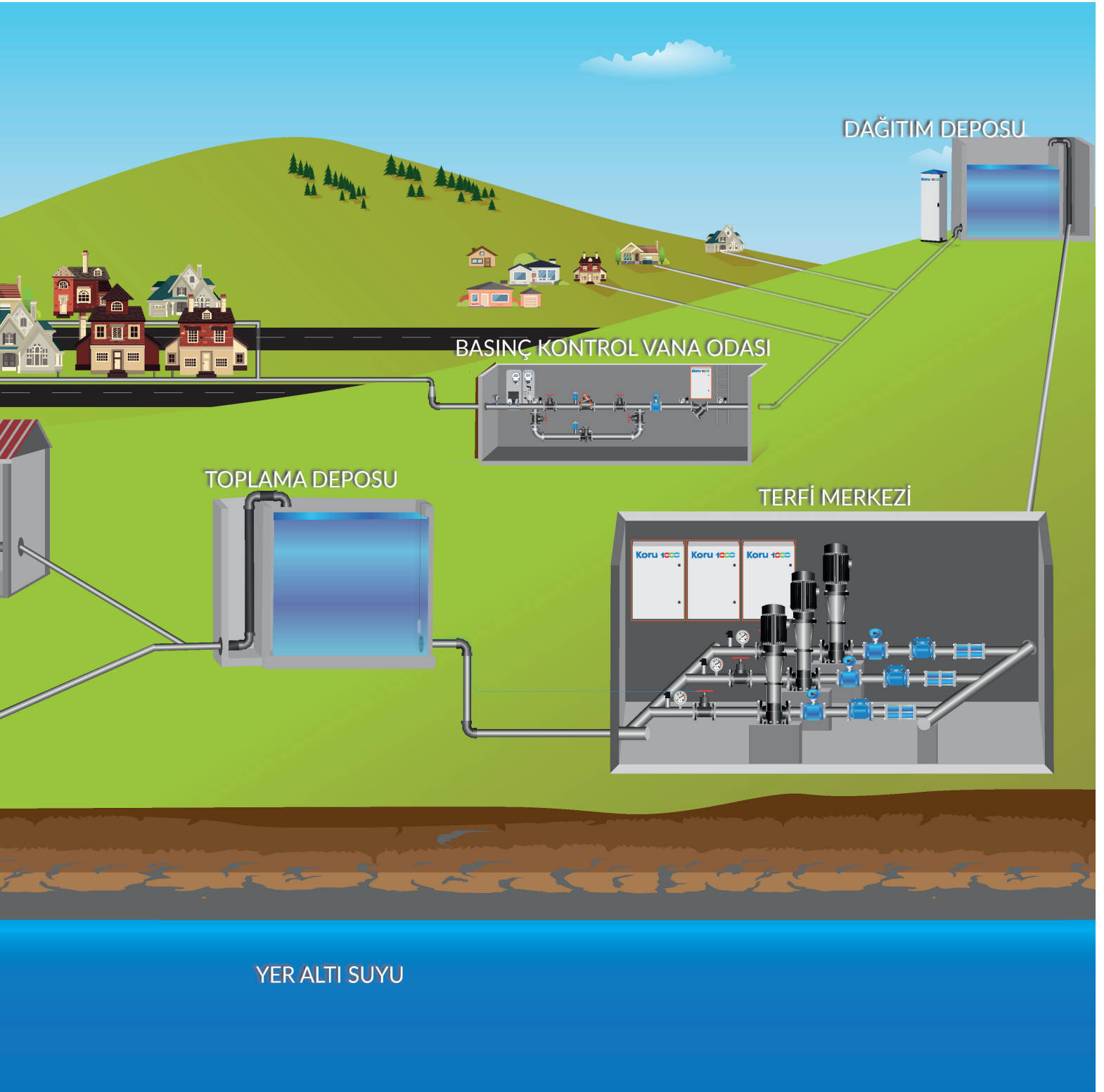




MODEL IMPLEMENTATION-2

Implementation Type	Drinking water	
Number of the water management devices	7	
Stations	<ul style="list-style-type: none"> • 2 Water wells • 1 Supply station (Has 3 pumps) • 1 Distribution panel • 1 Pressure control valve room 	
Starter Solution	Standard Solution	Professional Solution
<ul style="list-style-type: none"> • Wells: <ul style="list-style-type: none"> o CP100-GM (Quantity: 2) o M100 or M200 (Quantity: 2) • Supply Station: <ul style="list-style-type: none"> o CP120-GM (Quantity: 1) o CP110-GM (Quantity: 2) o M100 or M200 (Quantity: 3) • Reservoir: <ul style="list-style-type: none"> o CS100-GM or CS101-GM (Quantity: 1) • Pressure Control: <ul style="list-style-type: none"> o CS130-GM (Quantity: 1) 	<ul style="list-style-type: none"> • Wells: <ul style="list-style-type: none"> o CP120-GM (Quantity: 2) o M300-DF (Quantity: 2) • Supply Station: <ul style="list-style-type: none"> o CP120-GM (Quantity: 3) o M300-DF (Quantity: 3) • Reservoir: <ul style="list-style-type: none"> o CS120-GM or CS121-GM (Quantity: 1) • Pressure Control: <ul style="list-style-type: none"> o CS130-GM (Quantity: 1) 	<ul style="list-style-type: none"> • Wells: <ul style="list-style-type: none"> o CP130-GM (Quantity: 2) o M300-DF (Quantity: 2) • Supply Station: <ul style="list-style-type: none"> o CP130-GM (Quantity: 1) o CP120-GM (Quantity: 2) o M300-DF (Quantity: 3) • Reservoir: <ul style="list-style-type: none"> o CS140-GM or CS141-GM (Quantity: 1) • Pressure Control: <ul style="list-style-type: none"> o CS150-GM (Quantity: 1)
<p>Yetenekler:</p> <ul style="list-style-type: none"> • The ability to control the submersible pump of the well remotely and from the panel. • The ability to operate according to the water level in the water reservoir. • The ability to operate automatically according to the entered time periods • Can integrate with the existing power panel of the well • Reading sensor values such as waterflow, pressure or water level from the well (Supports 1 sensor) • Easy use with the HMI screen on the panel of the first pump. • For the first pump of the supply center, the ability to control an On/Off valve with an actuator. • The flowmeter or the pressure sensor in the collector can be read for all the pumps that are in the supply station. • If there is a driver that is present in the system the system can establish energy efficiency and the pumps can be controlled adaptively according to waterflow, water level, pressure or power. • Can integrate with the existing power panel of the supply station • Reading sensor values for waterflow or water level in the reservoir (Supports 1 sensor) • Can operate with grid power or solar power in water reservoirs • In the pressure control room, values from 4 different sensors can be read (Waterflow or pressure) and controlling the pressure room. • Able to control 2 on/off actuators. 	<p>Yetenekler:</p> <ul style="list-style-type: none"> • Easy control in the wells with the colored HMI screen on the panel • Can perform 4 different temperature measurements in the well • Can control a valve with On/Off actuator • Can perform energy efficiency in wells • Can control 1 proportional valve in the well • If there is a driver present in the system, values from 4 different sensors (Waterflow, water level, pressure, power) can be read and the pump can be controlled according to these values adaptively • Easy use with the HMI screen on the panel of the first pump. • Values from 4 different sensors (Waterflow, water level, pressure, power) can be read in the supply stations, and also 4 different temperature sensors can be used. • Can control a valve with On/Off actuator • If there is a driver that is present in the system the system can establish energy efficiency and the pumps can be controlled adaptively according to waterflow, water level, pressure or power. • Reading sensor values for waterflow, water level, pressure, PH, remaining chlorine level, PH, turbidity (supports 4 sensors) • Can perform liquid chlorine dosing in water reservoirs • Can control valves with proportional actuators in water reservoirs (supports 2 actuators) • Can perform 2 different temperature measurements in the water reservoir 	<p>Yetenekler:</p> <ul style="list-style-type: none"> • Can perform liquid chlorine dosing in the well • General purpose Input/output assignments in the well • Can perform liquid chlorine dosing in the first pump of the supply station • Can control a proportional valve in the first pump of the supply station • In water reservoirs, values from different sensors such as waterflow, water level, pressure, remaining chlorine, PH, turbidity can be read (supports up to 8 sensors) • In the pressure control room, values from 8 different sensors can be read (waterflow, water level, pressure, remaining chlorine, PH, turbidity etc.) • Can perform 2 different temperature measurements in pressure control room • Can control valves with proportional actuators in pressure control room (supports 4 actuators)






































PRODUCT COMPARISON TABLES


































COMPARE THE PRODUCTS

CP SERIES WELL AND SUPPLY STATION PUMP CONTROL DEVICES

	CP100-GM	CP110-GM	CP120-GM	CP130-GM	CP140-GM
PLC Controller	✓	✓	✓	✓	✓
Energy Analyzer	X	✓	✓	✓	✓
Number of analog inputs and outputs	1/1	5/3	5/3	5/3	9/5
Number of digital inputs and outputs	9/6	9/6	9/6	17/14	17/14
Number of temperature inputs	X	X	4	4	4
Power supply	24 VDC 60W SMPS	24 VDC 60W SMPS	24 VDC 120W SMPS	24 VDC 120W SMPS	24 VDC 120W SMPS
Uninterruptible Power Supply	AC UPS	DC UPS	DC UPS	DC UPS	DC UPS
GSM Communications	✓	✓	✓	✓	✓
LED and Button	✓	✓	X	X	X
HMI Screen	X	X	7" TFT TOUCHSCREEN	7" TFT TOUCHSCREEN	7" TFT TOUCHSCREEN
Abilities		    	      	       	       










COMPARE THE PRODUCTS

CS SERIES WATER RESERVOIR, CONTROL AND OBSERVATION DEVICES

	CS100-GM	CS101-GM	CS110-GM	CS111-GM	CS120-GM	CS121-GM	CS130-GM	CS140-GM	CS141-GM	CS150-GM
PLC Controller	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Number of analog inputs and outputs	1/1	1/1	5/3	5/3	5/3	5/3	5/3	9/5	9/5	9/5
Number of digital inputs and outputs	9/6	9/6	9/6	9/6	9/6	9/6	17/14	9/6	9/6	17/14
Number of temperature inputs	X	X	X	X	2	2	X	X	X	2
Power supply	24 VDC 60W SMPS	X	24 VDC 60W SMPS	X	24 VDC 60W SMPS	X	24 VDC 120W SMPS	24 VDC 120W SMPS	X	24 VDC 120W SMPS
Uninterruptible Power Supply	AC UPS	X	DC UPS	X	DC UPS	X	DC UPS	DC UPS	X	DC UPS
GSM Communications	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Solar Power Regulator	X	20A	X	20A	X	20A	X	X	20A	X
Abilities			  	  	   	   	    	  	  	     

COMPARE THE PRODUCTS

CC SERIES WASTEWATER CONTROL DEVICES

	CC100-GM	CC110-GM	CC120-GM
PLC Controller	✓	✓	✓
Energy Analyzer	X	✓	✓
Number of analog inputs and outputs	1/1	1/1	5/3
Number of digital inputs and outputs	9/6	17/14	25/22
Number of temperature inputs	X	4	4
Power supply	24 VDC 60W SMPS	24 VDC 60W SMPS	24 VDC 120W SMPS
Uninterruptible Power Supply	AC UPS	DC UPS	DC UPS
GSM Communications	✓	✓	✓
HMI Screen	X	7' TFT TOUCHSCREEN	7' TFT TOUCHSCREEN
Abilities		  	    

M SERIES POWER PANELS

	M100	M200	M300-DF
Contacteur	✓	X	X
Soft Starter	X	✓	X
Frequency Convertor	X	X	✓
Abilities	