

BAYLAN

RF-LoRa-Smart Card

AGRICULTURAL IRRIGATION SOLUTIONS



Remote
VALVE ON-OFF

Credit Loading
with Smart Card

“Solar LoRaWAN® Gateway
Powering LoRaWAN®
Connectivity with Sunlight”

LoRa™

“All Together, From the
Past to the Future”



SERVICE
WARRANTY

Türkiye
Discover
the potential

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Agricultural Irrigation Solutions

We have managed to manufacture our water meters keeping in mind that the world's water resources decrease gradually and water as the most valuable resource needs to be precisely measured. Our water meters produced with our quality and brand have spread worldwide to five continents covering 90 countries and the demand rises constantly.

Also we would like to underline that we are proud of being one of the top 1000 industrial organizations of our country.

Ultrasonic water meters that are better and run smoothly, are designed instead of conventional water meters. These meters can be used for industrial and commercial applications.

IRRIGATION HYDRANTS

USAGE DISTANCE

3-5m: Single or Dual Output Goose Neck
5-10m: Single or Dual Output Orifice Plate
10-40m :Single or Dual Output With Flow Limiter
40m and above: Single or Dual Output With Flow Limiter+Pressure Regulator

STRONG BODY

Baylan irrigation hydrants are manufactured from GG40 cast iron. This way the meter bodies are sturdy and durable.

THERMOPLASTIC PAINT

Baylan irrigation hydrants are painted with thermoplastic paint. With this painting, which is harmless to human health, the resistance of the meter against water (UV, corrosion) has been increased.



FLOW LIMITER

Baylan irrigation hydrants have a flow limiter. With this feature, the flow can be limited to a certain amount.

PRESSURE REGULATOR

Baylan irrigation hydrants have a pressure regulator on them. Thanks to this feature, the pressure can be limited to a certain amount.

REMOTE CONTROL

LORA AND LORAWAN

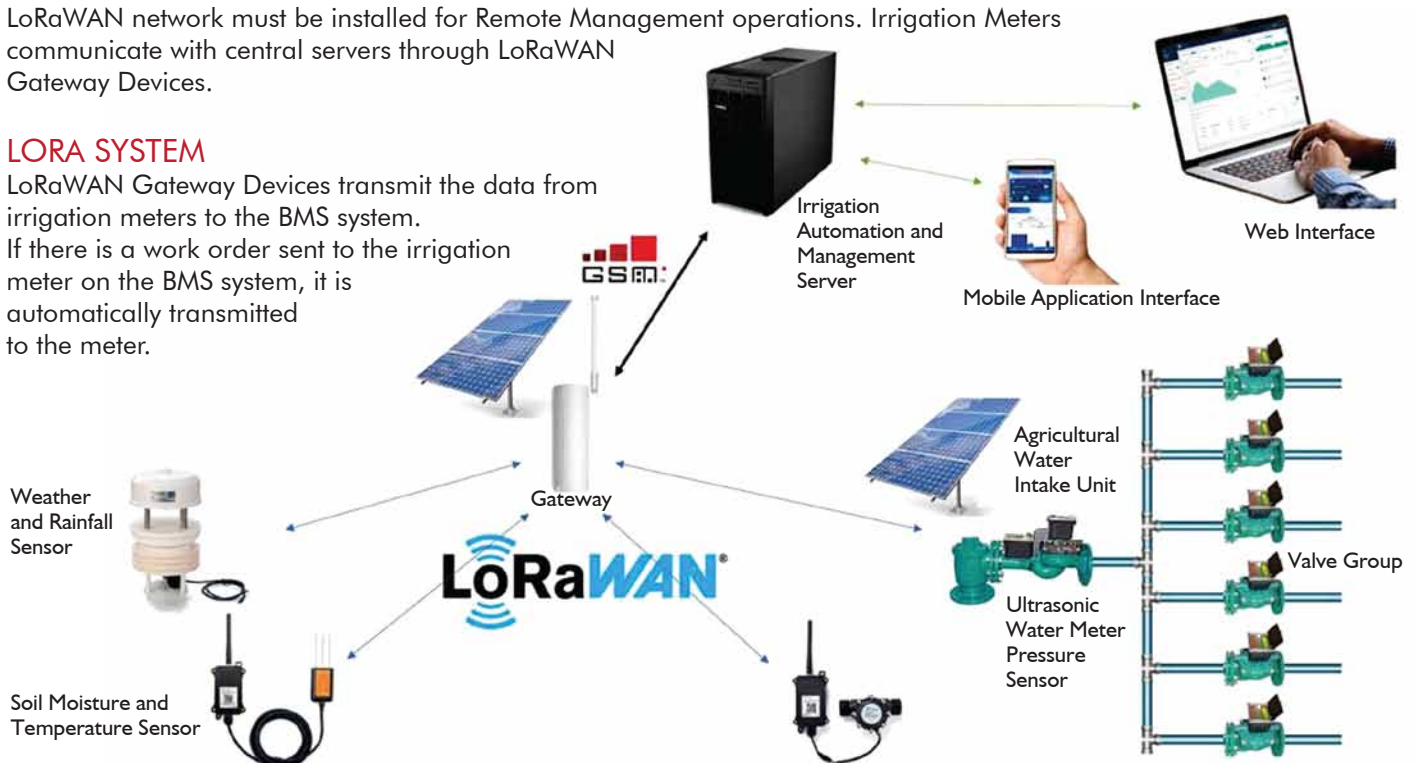
Baylan irrigation meters have an internal LoRa communication system on them. It has the feature of remote management with LoRa.

LoRaWAN network must be installed for Remote Management operations. Irrigation Meters communicate with central servers through LoRaWAN Gateway Devices.

LORA SYSTEM

LoRaWAN Gateway Devices transmit the data from irrigation meters to the BMS system.

If there is a work order sent to the irrigation meter on the BMS system, it is automatically transmitted to the meter.



Innovative Smart Solutions

BAYLAN Meter Management Application (BMS) has been created by Baylan R&D engineers.

With the application, all consumers can load water from Irrigation Branch Centers. In addition, it provides the opportunity to manage hydrants through this system, which provides remote management.



IRRIGATION PLANS

PLAN-1



CENTRAL SYSTEM
CREDIT MANAGEMENT

PLAN-2



IRRIGATION BY
PLANT TYPE

PLAN-3



SCHEDULED
IRRIGATION

PLAN-4



OFFLINE USE

CENTRAL SYSTEM CREDIT MANAGEMENT

ONLINE CREDIT INFORMATION

The credit information of the consumers is kept on the server. It is deducted from the balance on the server according to the consumption information coming from the meters where the consumers irrigates..

MULTI USE

Thanks to this feature, the subscriber can irrigate more than one BSH at the same time with a single card. The water consumption of all BSH's is monitored and managed by the central system..

COMFORTABLE

Thanks to this advanced solution, the consumers can irrigate more than one field with a single account. They can buy credits online. It can use negative balance in emergency situations such as credit run out. If the consumer has used a negative balance before, he cannot irrigate without paying this debt..



- Consumer balance is kept on the server.
- There is the possibility of charging credits online.
- Supports the use of multiple irrigation meters.
- The irrigation meters to be used by the consumers can be determined in advance and their water usage can be limited.
- Consumer cards can be disabled remotely.
- It provides the opportunity to submit declarations remotely.



By Plant Type Irrigation Method

CREATING A PLANT PATTERN

Irrigation amounts are calculated according to the plant type and recorded in the system. Thus, the irrigation need of the consumer is determined in advance and unnecessary water use is prevented.

LIMITATION BY PLANT TYPE

Since the irrigation amounts are determined in advance according to the crop type of the consumers, the use of excess water is prevented.

WATER SAVING

Conscious water consumption is aimed with irrigation patterns. In this way, unnecessary water use is prevented and wasted water resources are prevented.



- Water usage amounts are determined according to the plant type.
- According to the declarations of the consumers, the average amount of water is calculated automatically.
- Irrigation Patterns can be created.
- Depending on the product type, the amount of irrigation can be limited.
- It directs the correct irrigation according to the product type.
- Preventing wild irrigation saves water.

CONSUMER-TIME IRRIGATION MANAGEMENT

CONSUMER-TIME IRRIGATION MANAGEMENT SCHEDULED IRRIGATION

The times when subscribers will use irrigation meters can be determined within the planning.

RIGHT TO USE DEBT

When the consumers' online balances are exhausted, the administration may allow the use of debt.

TERMINATION OF USE

The consumer's water usage can be completely terminated by sending a remote work order.



- Consumer water usage times are taught to the irrigation meter with a remote work order.
- The consumers is not allowed to irrigate outside the scheduled time.
- With the planned irrigation system, it is ensured that all consumers use irrigation meters equally.
- Since the irrigation times of the consumers are determined, confusion and confusion are prevented.
- Irrigation lines are kept under control by ensuring efficient use of irrigation meters.

- With planned irrigation, any pressure problem in the irrigation line is prevented.



Offline Irrigation Method

USING CARDS

An offline work plan has been defined so that the meters can be used during the period until the system commissioning and the LoRaWAN infrastructure is prepared.

SUSTAINABILITY

Thus, without waiting for the LoRaWAN communication network to be established, a structure was created that allows consumers to use water when necessary.

OFFLINE USE

With this feature, consumers will be able to continue

their irrigation without any problems and possible problems will be prevented.



- Consumers Balance is kept on the card.
- It is possible to install in irrigation areas without a remote connection system.
- The remote connection system provides the opportunity to load credits in case of temporary failures.
- Irrigation meters to be used by consumers can be predetermined and limited.
- Water usage is provided with subscriber cards.
- All downloads and meter information are transferred to the system with the consumer card.

Full Automation (Optional)

- It is possible to add up to 6 secondary valves on the meter.
- Consumers can automatically open/close the meter valve via mobile phone.
- Work orders can be assigned instantly to continuously active meters.



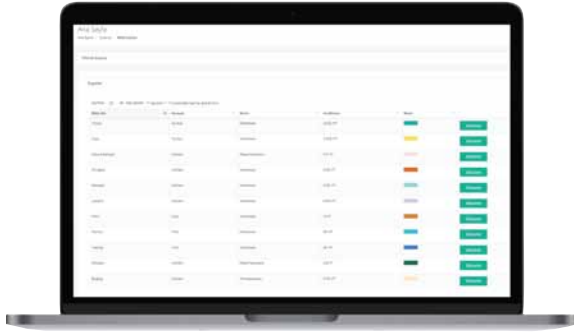
Creating Consumer's Profile

According to the consumer declarations, the system is registered.

Current status of consumers can be viewed on the system.

Within the entered information, the fields of the consumers are automatically located on the map.

Field or parcel information of registered consumers can be displayed on the map.



All data can be accessed, from the cultivated product to water usage reports.

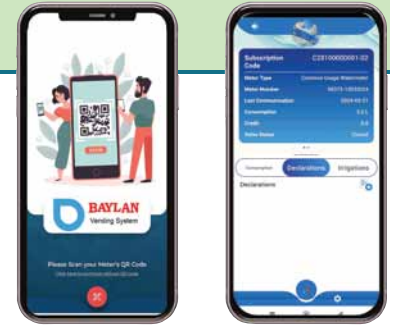
By creating plant patterns, irrigation amount can be calculated according to consumers declarations.

Plant patterns can be displayed on the map by coloring them differently.

BAYLAN CONSUMER MANAGEMENT APP

With the Baylan Android Application, subscribers can submit declarations from their mobile phones.

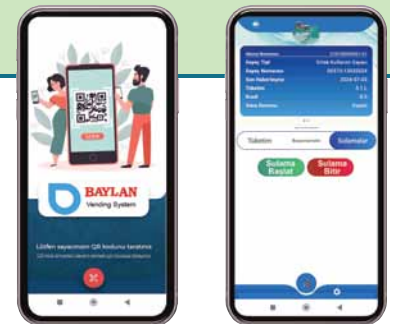
Declarations can be processed upon operator approval. Users can have the opportunity for water usage before reaching the administrative loading point.



REMOTE VALVE OPEN/CLOSE

With the Baylan Android Application, consumers can remotely open / close valves according to their statement from their mobile phones.

They can check their irrigation information regularly.



Solar LoRaWAN® Gateway



If there is no mains electricity supply at the point where the LoRaWAN Gateway will be installed, the LoRaWAN Gateway is designed to work with solar energy.

The energy need is met by assembling the Panel, Battery, Solar Charge Controller and Field Cabinet required for the solar energy application.

