

Groundwater Resources

Monitoring and Management Solutions



RSA Electronics Co.

Manufacturer of Intelligent Energy & Water Meter

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<input type="checkbox"/>	Serial Number	Modem Serial	Software Version	Model	Manufacturer Name	Registration Status	Last Status	Warning
<input type="checkbox"/>	20741316	30501004	207.7.2	RSA207	RSA	Registered	Active	*
<input type="checkbox"/>	20736540	30501000	207.7.2	RSA207	RSA	Registered	Active	*
<input type="checkbox"/>	20741273	30501006	207.5	RSA207	RSA	Registered	Active	*
<input type="checkbox"/>	20740527	30501005	207.7.2	RSA207	RSA	Registered	Active	*
<input type="checkbox"/>	20741300	30501009	207.5	RSA207	RSA	Registered	Active	*
<input type="checkbox"/>	20741301	30501011	207.7.2	RSA207	RSA	Registered	Active	*
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Limitation of water resources has always been a concern during recent decades. This apprehension has increasingly been deteriorating in the regions where people solely rely on groundwater resources.

Indiscriminate use of these priceless resources leads to some inevitable consequences such as decline in groundwater tables which is irreparable in short run. In the meantime, water pumping requires loads of energy; therefore, another issue is increasing energy demand for running electro-pumps of water wells. The later one results in peak hours of energy consumption, subsequently, the need for controlling it arises.

RSA Electronics was founded in 2002 with the aim of introducing economic solutions for challenges and issues in water and energy sections in form of controllable network of smart meters. As a result of adhesion to research as the cornerstone of its activities, the company has been continuously and persistently developing and broadening its scope of activities to include consultancy, engineering, production of meters as well as product deployment and its maintenance.

► Solution

There are only two methods to conserve groundwater resources as recharging the resources and restricting water withdrawals; clearly, groundwater pumping management is a major and practical solution for groundwater conservation. In addition, another important subject is managing water withdrawals from a single resource which is shared among a number of water wells in a vast plain. RSA Electronics'

solution is an effective management system on monitoring and management of groundwater resources. Information of water wells which are calculated and measured by Smart Energy and Water Meter (SEWM) may be transferred to control center via GPRS, GSM or any other telecommunication infrastructures. Then data collection, information processing and reporting happen in control center.



This solution for information management includes two main levels:

- **Monitoring which includes:**

- Making regular data/information gathering from water wells
- Showing water wells and metering devices' online status (via modem)
- Tracking changes in water wells and metering devices' status as well as tampers
- Billing for water or/and energy (electricity)

- **Controlling/Managing which consists of:**

- Planning and controlling water withdrawals from a defined Plain
- Planning and managing electro-pumps' demand share during peak-hours of energy consumption
- Issuing direct command for disconnecting electro-pump's electricity

The solution was approved and certified by Water and Energy Organization of Iran; accordingly, RSA Electronics signed contracts with all Iranian regional water and energy utility companies to manufacture, install and calibrate more than 40K meters all across the country which was followed by successful project implementation in every single province. Experts in water sections believe that it could be a revolution in the country's groundwater management.

► Phenomenon Product (SEWM)

The most essential component of the company's comprehensive solution is SEWM device which is a smart digital device, capable of measuring electricity and water. SEWM is a combination of three following devices:

- A Digital Water Meter which measures and stores the amount of water withdrawal, water flow and other parameters required by water utility companies. There is no other similar water meter with the same capabilities and features; however, for the purpose of evaluation, it is possible to compare its feature with digital water meters. This product designed specifically for water pumps doesn't have common problems that typical meters usually come up with, such as sensitivity and vulnerability against suspended particles, air bubbles, pipes' slope, existence of valve, bend and connections.

- A Credit & Control device which indicates water credit and validity of start and expiry date; it will react according to the client demand if well's owner exceeds allowed credit water or credit time is over. This reaction includes restoring consumed energy in separated tariff or can cut electro pumps power. The mentioned feature is quite unique and only achievable by combining energy and water meter in a single package. It is obvious that no similar device can provide these capabilities which enable water and energy utility companies for fining infringing farmers, savings in energy subsidies and controlling groundwater resources. Credit and other settings could be transferred to the Meter from control center via smart card, modem or Hand-Held-Unit (which is applicable by patrol-and-audit teams).



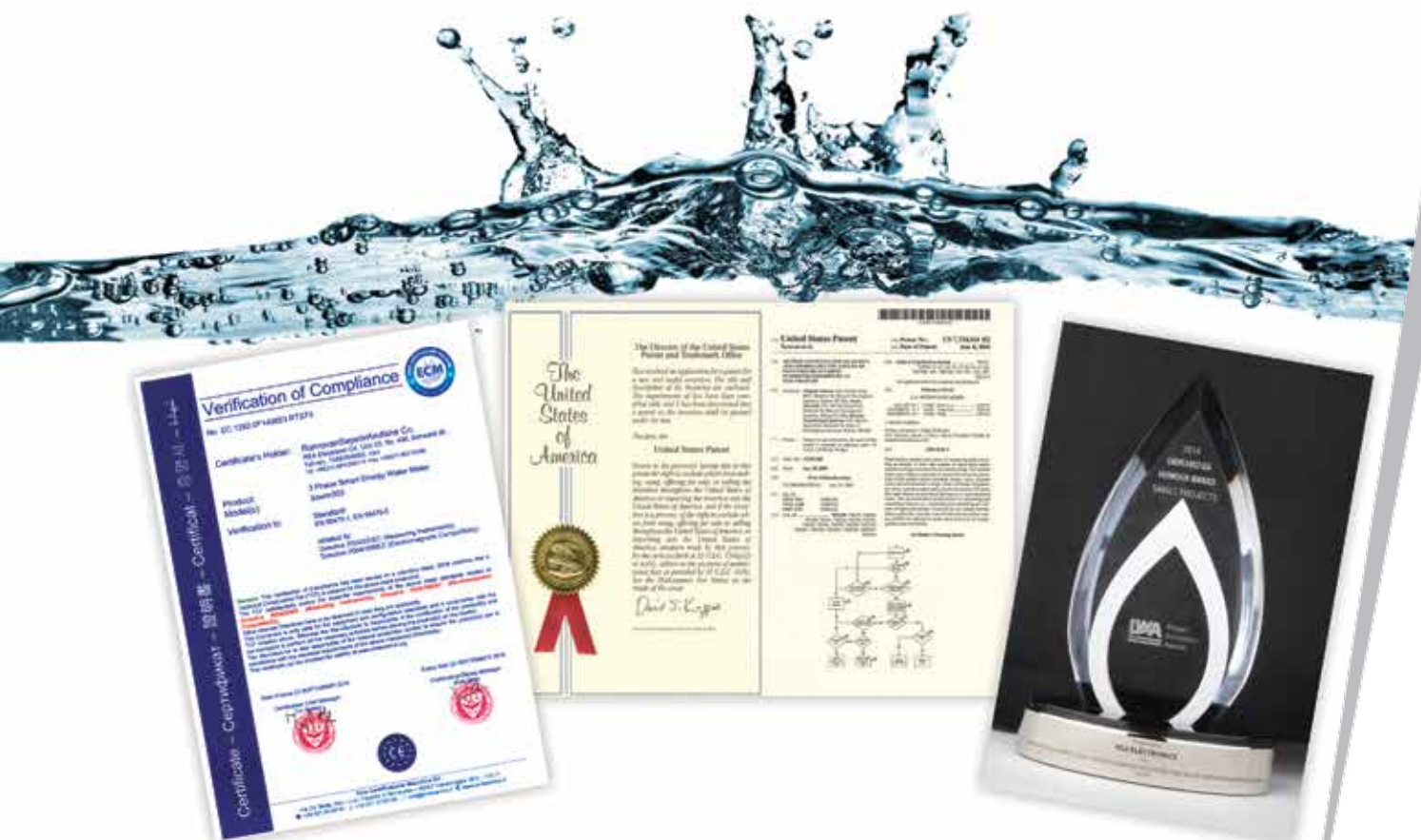
- A Digital Energy (Electricity) Meter which is an active and reactive multi tariff device that measures and stores consumed energy and other parameters required by the energy utility companies.

The meter which was patented in USA is completely capable to be a smart water meter. According to the above registered patent, Smart Energy and Water Meter (SEWM) calculates water flow by measuring instant electro-pump's absorbed power, based on pre-defined pump's flow-power curves.

► Certificates & Achievements

Thanks to the high quality of its products and services, RSA successfully obtained various awards and certificates. Some of the certificates are stated below:

Title	Product/Service
U.S Patent	Method and Device for Measuring and Controlling the Amount of Flow/Volume of Liquid Pumped/ Transferred by an Electro-Pump
Iran Patent	Intelligent Energy & Water Meter
Iran Patent	Smart Water Meter for Measuring and Controlling the amount of withdrawal from Water Wells
CE - Verification of Compliance	3Phase Smart Energy & Water Meter (SEWM303)
ISO 9001:2008	Manufacture & Supply of Electronic Parts & Equipment
IEC 62052-11	Manufacture & Supply of Digital Energy Meters
IEC 62053-21.23	Manufacture & Supply of Digital Energy Meters
International Water Association (IWA) Award Project Innovation Award for West Asia & Europe	Honor Awards for the Small Projects Category of the 2014 IWA Europe & West Asia Regional Project Innovation Awards.
Khwarizmi International Award (KIA)	Intelligent Energy & Water Metering Solution
TAVANIR Certified Manufacturer & Supplier	Intelligent Energy & Water Metering Solution
TAVANIR Certified Manufacturer & Supplier	Smart Energy & Water Metering Solution



►► Membership in High-Ranked Organizations

The company's success comes from offering quality products according to the customers' requirements and trying to attain its goals through close and solid collaboration with reputable international organizations in water and energy sections; some of them are listed below:

[Member of IWA (International Water Association)]

[Member of ACWUA (Arab Countries Water Utilities Association)]

[Listed as one of The Iranian Premier Knowledge-Based Companies]

[Member of Iran Energy Conservation Organization]

[Member of Tehran University Science and Technology Park]

[Member of Iranian Electrical Industry Syndicate]

[The secretary of technical committee of the Electrical Metering Equipment and IEC in Iran]

[Member of "Iran Chamber of Commerce, Industries, Mines and Agriculture"]

►► Research & Development

Based on its organizational mission, RSA has dedicated a significant portion of its capacity for developing its R&D team. Taking advantages of the collaboration of graduates from top universities, the R&D team has offered innovative designs in the fields of smart metering equipment as well as water and energy management solutions. As a result, RSA Electronics has represented itself as an innovative, creative and knowledge-based solution provider in water and energy industries.





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