

Areas of industries

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FULL
SCREEN:
CTR+L

LUK FULL
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CRYBERG



Intelligent Irrigation Systems

The SRC two-wire system

For Crysberg's subsidiary company, S-Rain Control (SRC), Crysberg has developed a unique two-wire based electronics system for the control of irrigation for professional use. In the two-wire system a decoder is connected between the two-wire and the electric solenoid on the valves, sprinkles or pumps.

Each decoder in the system has an individual address, which means you can activate and deactivate individually every single valve, sprinkler or pump. The cable path can reach up to 10 km and this can supply up to 500 decoders. So compared to the traditional irrigation system you achieve a significant reduction in both materials and working hours. If there is later on a need for renovation, extension or expansion, a spliced section of the two-wire is simply connected to the existing two-wire, and the extra decoders plugged on. Initially, the primary market was golf courses.

Later on the system was perfected to be used in various irrigation applications, including parks, sports complexes, shopping centers, major residential complexes, cemeteries, wineries, etc. Crysberg is the world's leading supplier of electronics two-wire control systems for irrigation. Crysberg's irrigation solution is based on a unique technology, where the control unit through two wires both transmits energy and signaling. A technology, in which Crysberg has been granted a world-patent. The products are marketed through our partners in the U.S., Rain Bird and Tucor Inc.





Intelligent Irrigation Systems

A traditional Irrigation system

A traditional control system consists of a controller from, which a cable is pulled out to each valve with separate wires. When a golf course for example has 500 "water sprinklers" it means that you actually have to bury up to 200 km of cables in the field. By retrofit/ renovations or additions it is often required to make expensive excavations back to the controller for the added cables.



Remote Control

Crysborg manufactures a variety of controllers for irrigation. They can be operated remotely, via modem, radio, GSM modem, GPRS from a PC or can be operated directly by the user from a keyboard/display on the front-plate. Via sensors there are different possibilities to read the measurement data. It may be the measurement of water, moisture in the soil, pressure in water pipes, air-temperature, wind speed and direction.

The measurements are used to adjust the irrigation and they are logged in the controller and can trigger activities in accordance with the customer setup: Send an e-mail or a SMS if an alarm condition occurs etc. The Controller can also be connected to a weather station that calculates evaporation, so that water is optimized for local climatic conditions.





Intelligent Irrigation Systems

Wireless Internet control and monitoring of the irrigation

The engineers of Crysberg were given on an exciting task, since one of our partners in the U.S. had a need for wireless communication with professional irrigation systems without modifying the firmware, which were already in the controller. The task for the development engineers was to quickly develop an inexpensive solution, which could communicate data wirelessly from the controller to the user via the Internet.



TUCOR TECHNOLOGY

In accordance with the requirement from the U.S. to use a technology that allows real time communication, GPRS was chosen as the solution to the problem. Because of the security constraints in the GPRS system a server for the control of the access to the irrigation controller also had to be developed.

The server is now in Denmark at Crysberg's residence. The engineers chose an intelligent Wavecom (now SIERRA WIRELESS) Modem for which they developed firmware and a small PCB with an on-board power supply. Eventually an English manual was made for the U.S. partner. He was then able to setup the firmware in the module. GPRS was at that time a relatively unknown technology in the U.S., so it was also a great advantage that Crysberg were the first suppliers with a GPRS cellular communication system for the irrigation industry.

The GPRS solution is designed and produced so that it among other applications can be used with Crysberg's globally patented two-wire irrigation technology. A solution that wireless, having an IP address for the remotely placed controller, the users remotely through an Internet web-application can control and monitor the irrigation of golf courses, parks, football fields, cemeteries and other grasslands.

The GPRS solution may in fact be used to replace ordinary serial communications, where there is a desire for systems to interface easily together.





Control, measurement and monitoring

Medical Electronics

Crysberg has in the recent years focused on becoming a relevant supplier of development and manufacturing services for the medical industry in Northern Europe. Heavy investment has been made within the company to be able to fulfill the demands used in this industry: ISO9001, ISO13485, IPC610, CE and recently QCe. Our present reference-list contains some of the most promising startups within the Danish medical equipment community.



Marine Electronics

At Crysberg we have extensive experience and expertise in delivering electronics solutions for the marine applications. Among others we have assisted in the creation of solutions for lubricating oil-systems for diesel cylinders, electronics for the management of marine diesel engines and equipment for the measurement of the level of fire-extinguisher in cylinders.



Alarm and Security

At Crysberg we have extensive experience and expertise in delivering electronics solutions for alarm and safety systems. Crysberg have among other things made solutions for a low power guide-light, a PC alarm, surveillance of ventilation systems, electronics for secure and efficient trading in hand held sales terminals. Read more on Crysberg's web-site under customer references. [LINK](#)





Control, measurement and monitoring

Industrial Control

At Crysberg we have extensive experience and expertise in delivering electronics solutions for industrial control. Among others we have created solutions for electronic energy meters, motion sensors, integrated intelligent networks, particle systems, preamplifiers for microphones, troubleshooting and measurement instruments and electronics for the control of electrostatic smoke cleaning filters.

Read more on Crysberg's web-site under customer references. [LINK](#)



Telecommunication and GPRS

Crysberg has its own GPRS solution for industrial companies, who demand customized wireless communications. The solution includes a GPRS module, a Database Server and a WEB application, where the user can access the GPRS module and the electronics interfaced to the module and hereby remotely read data and adjust parameters in the remote installation.

Crysberg's GPRS solution is aimed primarily at industrial applications to companies with special requirements for customized solutions, high quality, close dialogue with development engineers and a desire for small or medium batches.



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About Crysberg A/S

Crysberg is a Danish engineering company that was founded in 1986. The basic idea is solving complex challenges in industrial electronics. Our customers base include a broad range of industries, which demand small or medium production runs of customized electronics solutions, where close dialogue and high quality are important parameters.

We develop and manufacture industrial electronics solutions to the financial sector, alarm & security, marine electronics, industrial control and medical device industry. In these industries there are requirements for traceability and high requirements for document management, and documentation of approved component manufacturers etc.

Compliance of these demands are important prerequisites to qualify as an approved electronics supplier. A well consolidated company that specializes in the developing and production of advanced industrial electronics solutions. The company employs 40 people and had a turnover in 2009 of 53 million DKK.

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