

# HEART SMART TECHNOLOGY

## GMP Wireless Medicine, Inc.

GMP Companies, Inc. develops and commercializes innovative pharmaceutical, diagnostic and medical device technologies. Glaucoma implants, diagnostic and prognostic cancer markers, immunotherapeutics, and tissue engineering/neurocare are just a few of their specialties. GMP Wireless Medicine, Inc., a subsidiary of GMP Companies, is responsible for bringing to market the LifeSync® System, the first wireless electrocardiogram (ECG) system.



## Your Data Won't Get Tangled Up

GMP Wireless Medicine's LifeSync® System removes from the patient the lead wires and trunk cables commonly attached with electrocardiograms. This technology increases patient comfort and mobility, decreases the time spent by nurses on lead wire management and false alarms, eliminates lead wire interference in bedside diagnostic X-rays, and may reduce the risk of cross contamination from the reuse of improperly cleaned lead wires.

As GMP Wireless Medicine developed their LifeSync® System, they were looking for proven partners for their component requirements. Datakey Electronics had the quality and reliability they were looking for in the serial memory device category. Their requirements included:

- ✓ Rugged—needed to withstand the harsh hospital environments
- ✓ Reliable—necessary given the critical nature of their product use
- ✓ Easy To Use—required in a fast-paced, time-critical setting
- ✓ Space Saving—size limitations of GMP Wireless' product
- ✓ Low Voltage—must be compatible with their system requirements

## The Solution is Key (or in this case, a Token)



The Token for this application was a standard Datakey Electronics product that was customized with a low-voltage 8Kb memory chip. These custom Tokens are economical and are engineered specifically to meet the low-voltage requirements of the LifeSync® product. The memory is a non-volatile, serial SPI EEPROM memory and is perfect for any system requiring small, capacity, low voltage read / write memory.

## Fully-Engineered



While Datakey Electronics' many off-the-shelf solutions are readily available, their custom capabilities have proven successful time and time again. The answer to GMP's needs came in the form of a custom Receptacle. This miniaturized version of the standard SR4210PCB was developed specifically for GMP to accommodate the small size of their device. Smaller in size, but not in functionality, the SR4230PCB Receptacle leverages the proven design of the standard Receptacle. One such feature is the Last-on, First-off (LOFO) contact that may be used to protect the host bus by ensuring that Tokens have made secure contact with the access Receptacle before any signals are transmitted.



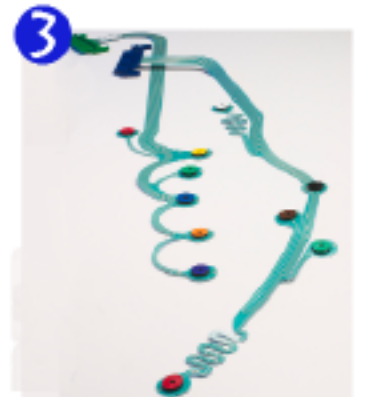
# **D**on't Take Chances With Your Heart

For the people in the hospital room, the engineering behind the product doesn't matter—it just has to work, and work well. The LifeSync® System does just that. In its everyday use, the LifeSync® System consists of a patient transceiver and a monitor transceiver that communicate essential information about the ECG status without the need for wires or cables between them. The Datakey Electronics Token is used to calibrate the wireless system so a monitor transceiver knows which patient transceiver to accept information from, regardless of how many are in use in the room. This is accomplished by a “round-trip”. The Token, which resides in the monitor transceiver, is taken to the desired patient transceiver and inserted. The patient transceiver then writes its serial number to the Datakey Electronics Token. The Token is then carried back to the monitor transceiver and inserted so that serial number can be uploaded and the two devices can be positively linked.

## **They Chose Datakey Electronics**

It is estimated that 65 million ECGs will be performed in the U.S. this year; and GMP Wireless Medicine's LifeSync® looks to be an integral part of that number. Their confidence in their product, and in their partners, will help them to get there. GMP chose Datakey Electronics because of their ability to successfully engineer a custom solution for their product with space and system limitations. Rugged reliability was also key for them given their time and case critical product, and the harsh hospital elements it would have to withstand.

With Datakey Electronics' 30 years of experience in rugged and reliable memory devices, GMP knew they could count on longevity and lifetime support for their product. This was essential to their application since re-design of products in the field would be very difficult and costly.



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