CorBELT event recorder

The classical long-term ECG is mostly not suitable for longer monitoring times than 24 hours. For this reason, the more seldom cardiac events can rarely be detected this way. The typical event recorder can find potentially risky states, but also doesn't allow for direct, "real-time" remote diagnosis.

Corscience has therefore developed an intelligent chest strap, which continuously measures and analyzes a 1-channel ECG, intermediately saves up to 10 pathological states for a short time, and when they occur, automatically transmits them in real-time. The device transmits a 2-minute ECG signal without the wearer having to take any special action: 1 minute before the event occurred and one minute following the event. Alternatively, the wearer or the physician can trigger a transmission himself. Currently, only rhythmological pathologies are detected (tachycardias and VF/VT, bradycardias, absolute arrhythmias, pauses).

The chest strap can be operated with a standard battery or with a rechargeable battery. It is biocompatible and has special electrode technology which doesn't require an unpleasant gel layer or disposable articles. For this reason, it can be worn over a longer period of time.

The measurements are transmitted to a transmission device by means of Bluetooth wireless data technology. The transmission of an event two minutes long has a data volume of about 50 kB. The system is self-contained. Pairing prevents the data from being incorrectly transmitted to another receiver.

Product advantages:

- Fully automatic detection of events
- Automatic ECG data transmission
- Can be worn long-term based on hard electrodes

BT3/6 and BT12 ECG devices

BT 3/6 and BT 12 are compact ECG devices, with 3, 6 or 12 mains-independent channels, which can be worn on the body. They have built-in electrode contact detection and heart rate calculation, the results of which are displayed on an integrated LCD display. The device is equipped with normal snap fasteners for electrodes. The housing is characterized by its compact design and easy operation. The measuring device can be fastened to clothing or a stretcher by means of an optional fastening clip. A pouch allows the BT3/6 and BT12 to be fastened to clothing.

The operating time of the systems is over 12 hours with two standard AA batteries. For the 3-channel version, or if a lower sampling rate is used, even longer operating times can be reached.

The data rate of a 12-channel ECG transmission is about 500 kB per minute for a sampling rate of 500 Hz.

BT12 event recorder

When furnished with the event software, the BT12 ECG device can be used as an event recorder. Events (tachycardias and VF/VT, bradycardias, absolute arrhythmias, pauses) are detected automatically, and ECG data is transmitted to the server with the transmission device without the wearer having to do anything.

The device transmits a 1-minute ECG signal, beginning with the occurring event. Alternatively, the wearer can trigger a transmission himself.

Product advantages:

- 12-channel event recorder with fully automatic process
- Transmission of live ECG data
- Small, handy, wireless

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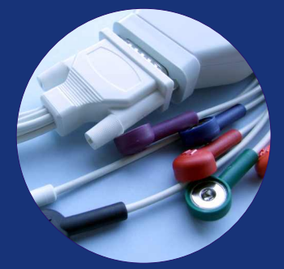
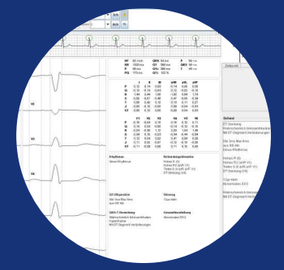
Telemedical ECG System

TE-SYS



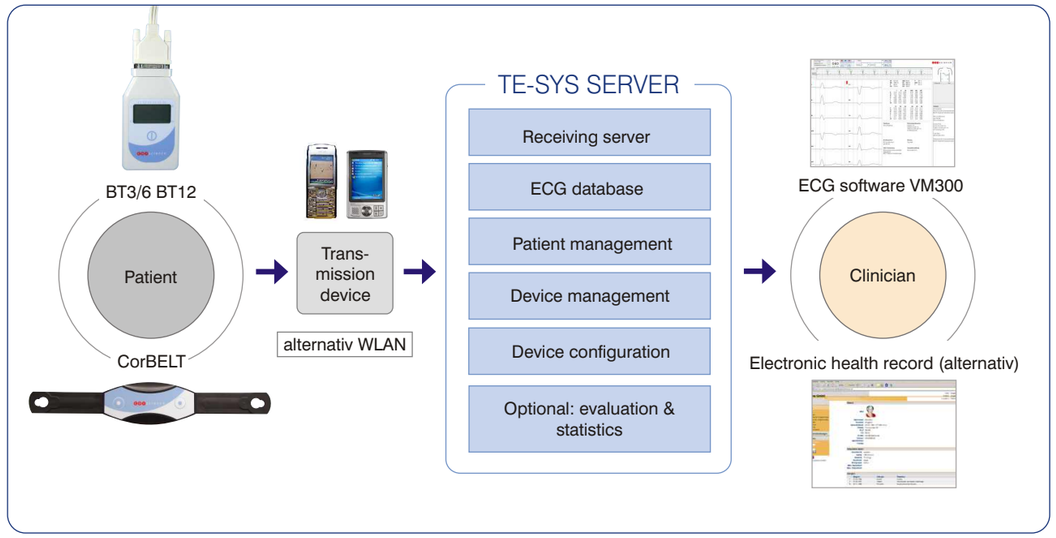


Telemedical ECG System

With the telemedical ECG system TE-SYS, the advantages of telemedical remote ECG transmission are combined with those of normal ECG software. The medical user works with the ECG software he uses for ECGs at rest, and can still diagnose the ECG recordings of remote patients. In addition to the use of 3/6- and 12-channel ECG devices, the patient can be specially monitored by using additional 1- and 12-channel event recorders.

The system consists of sensors and server software, which receives the ECG data and allows patients and devices to be managed. TE-SYS is an internal system, which is operated within the IT infrastructure. The upgrade to a webbased visualization is optional available.

The TE-SYS system at a glance



Receiving server:
Installation within the IT infrastructure. Serves to receive ECG data, which are transmitted via GPRS or WLAN. The server software is installed on the clinic server or can be operated as a separate computer.

ECG database:
Central storage of ECG data. The receiving server, the administration frontend and the finding software accesses this data memory. An interface to other programs can be developed.

Patient management:
Management of patients furnished with devices.

Device management:
Allocation of sensors to patients.

Device configuration:
Setting of threshold values to trigger events. Remote inquiry of ECG data.

Evaluation and statistics:
Automatic evaluation of the received ECG data according to the duration and frequency of several events.

ECG software:
Software for ECGs at rest with HES interpretation algorithm. Display, measurement and interpretation of ECG data.

Corscience, together with the company Avetana GmbH, has created a device which combines the ECG, event monitoring and telemetry. For an in-depth diagnosis of the ECG, exact data material and good graphical representation are absolutely necessary. In many cases, the graphical representation in the electronic patient files isn't sufficient. It would still be helpful to be able to diagnose the ECG of patients who are not physically present.

The ECG software VM300 allows ECG data to be handled in the usual way. Thanks to the remote transmission, it doesn't matter where the patient is currently located (with the exception of the transmission power of the transmitting device).

Medical applications:

- Monitoring of high-risk patients
- Post-operative monitoring after heart operations
- Diagnosis of cardiac arrhythmias
- Diagnosis prior to pacemaker implantations
- Obtaining a second opinion, e.g., in emergency rescue situations

Usable sensors:

- 3/6- and 12-channel device for ECG at rest
- 1-channel event recorder
- 12-channel event recorder

Wireless software is delivered with the sensors. This software allows ECG data to be transmitted and, for event recorders, allows detection and data transmission to run completely automatically.

Major product advantages:

- Combination of telemedicine and desktop ECG software
- Measurement and interpretation of remotely transmitted ECG data
- Automatic event transmission and manual remote inquiry of ECG data by physician

This is helpful in getting a specialized opinion quickly, or to record suddenly occurring events, and then subsequently to be able to render an expert opinion.

The applications, therefore, are for the emergency medicine area, the monitoring of high-risk patients, post-operative monitoring and the monitoring of patients with arrhythmia. The solution can also be used in the home care area.

The system is delivered with software for the ECG server, ECG software, including the HES analysis license (ECG interpretation) and 5 sensors. The user can combine the sensors from the ECG and event recorder himself. The evaluation software is an additional option.

About Corscience:
Corscience develops and produces medical products, with a focus on cardiovascular medicine. In addition to services for larger companies and the development and sale of their own OEM modules, they also develop their own products and sell them worldwide. With around 50 employees, Corscience is a growing, medium-sized company with headquarters in Erlangen, Germany.

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