

6 Environment Monitoring Subsystem of the BTS

About This Chapter

This topic describes the functional structure and hardware configuration of the environment monitoring subsystem of the BTS.

[6.1 Functional Structure of the Environment Monitoring Subsystem](#)

The environment monitoring subsystem of the BTS consists of the alarm port and the environment alarm chest (EAC) or environment monitoring unit (EMU).

[6.2 Hardware Configuration of the Environment Monitoring Subsystem](#)

This topic describes the hardware configuration of the environment monitoring subsystem. This topic focuses on the types and functions of the environment monitoring device, which is the major hardware of the environment monitoring subsystem.

6.1 Functional Structure of the Environment Monitoring Subsystem

The environment monitoring subsystem of the BTS consists of the alarm port and the environment alarm chest (EAC) or environment monitoring unit (EMU).

Generally, the equipment rooms of BTSs are sparsely distributed and not attended by maintenance engineers. Compared with the equipment rooms of exchanges, the equipment rooms of BTSs have fewer and simpler facilities, and the equipment runs in harsh environments. In addition, accidents such as water damage and fire may occur in the equipment rooms. The BTS has a powerful environment monitoring subsystem, which guarantees the normal running of the BTS and helps you deal with emergencies.

The environment monitoring port of the BTS is the EAC port located at the top of the cabinet.

6.2 Hardware Configuration of the Environment Monitoring Subsystem

This topic describes the hardware configuration of the environment monitoring subsystem. This topic focuses on the types and functions of the environment monitoring device, which is the major hardware of the environment monitoring subsystem.

Types of the Environment Monitoring Device

The environment monitoring device collects the external environment information. If the environment variables meet an alarm condition, an alarm is generated and sent to the BSC through the environment monitoring port of the BTS. The Emerson EAC-1, Emerson EAC-2, and Huawei EMU are available, as listed in [Table 6-1](#).

Table 6-1 Comparison between the Emerson EAC-1, Emerson EAC-2, and Huawei EMU

Type	Number of Extended Boolean Alarm Ports Supported	Supported BTS Type
EAC-1	10	GSM/CDMA
EAC-2	32	GSM/CDMA/WCDMA
EMU	32	GSM/CDMA/WCDMA

The environment monitoring device consists of the main body, temperature and humidity sensor, smoke sensor, infrared sensor, and door status sensor. The sensors are connected to the main body through cables.

[Figure 6-1](#) shows the EAC-1.

Figure 6-1 EAC-1



Figure 6-2 shows the EAC-2.

Figure 6-2 EAC-2



Figure 6-3 shows the EMU.

Figure 6-3 EMU



Functions of the Environment Monitoring Device

The environment monitoring device performs the following functions:

- Using external sensors to monitor the environment variables in real time, such as temperature, humidity, smoke, and unauthorized entry
- Reporting alarms about fire, smoke, temperature, humidity, water damage, and theft (two types of alarms about theft)

When an environment variable meets an alarm condition, the environment monitoring device sends alarm signals to the BTS through the alarm signal cable and provides drive ports for related protection devices, such as the fire extinguisher, humidifier, dehumidifier, and anti-theft device.

- Allowing you to deliver commands from the controlling center to the environment monitoring device to modify the values of the parameters and to start the protection devices