ICS 13.220.20
CCS C 81

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 47438.4-2026

Special requirements for fire alarm and evacuation in hazardous chemicals workplaces - Part 4: Portable alarm information display devices

危险化学品作业场所火灾报警与避难逃生特殊要求 第4部分：便携式报警信息显示装置

Issued on: April 30, 2026 **Implemented on: May 1, 2027**

Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC

Table of Contents

5.1 General Requirements

5.1.1 The surface of the display device should be free from corrosion, coating peeling, and blistering, and free from obvious scratches, cracks, burrs, or other mechanical damage. Fastening parts should also be free from defects. There is no looseness.

5.1.2 The weight of the display device should not exceed 1 kg. The display device should be equipped with accessories such as a lanyard or wrist strap for easy carrying. These accessories should be consistent with the specifications of the device. The components should be able to withstand a tensile force of not less than 20N.

5.1.3 The display device shall be powered by a built-in battery and shall not have the function of powering other devices. It shall use a disposable replaceable battery. The display device should have a battery mounting structure that prevents reverse polarity connection.

5.1.4 When the display device uses indicator lights to show its working status and alarm information, the indicator light should be green during normal operation and green during fault alarms. Information and communication fault indicator lights should be yellow, while fire alarm, combustible gas alarm, and emergency evacuation information indicator lights should be red.

5.1.5 When display devices use display components to indicate their operating status and alarm information, they should use text, symbols, or a combination thereof to represent various types of information. Display it.

5.1.6 In an environment with an illuminance of 100 lx to 500 lx, the status of indicator lights and the information displayed on the display device should be at a 22.5° angle directly in front of them. It is clearly visible from 1 meter away within the field of view.

5.1.7 The display device shall have an audible component and shall emit an audible alert signal upon receiving an alarm message. This shall be in accordance with the ambient sound pressure level (A-weighted). Under conditions greater than 50dB, the peak sound pressure level (A-weighted) of the sound signal from the display device at a distance of 1m directly in front of it should not be less than 60dB, and Not exceeding 105dB. The display device should simultaneously emit a vibration alert when issuing an audible signal. The display device should have a manual mute function. When performing manual silencing, the vibration alert should also stop.

5.1.8 The display device shall have manual self-test or power-on self-test functions to check

the functionality of its indicator lights, display devices, and sound devices. examine.

5.1.9 The display device shall have an internal timer or automatically adjust the clock via a wireless communication network. The daily timing error of the internal timer shall be... The operation of the internal timer should not be affected by the operating status of the display device, and should not exceed 6 seconds.

5.1.10 The maximum communication distance between the display device and the terminal equipment should not be less than 1000m, and the maximum communication distance with the relay equipment should not be less than... 200m.

5.1.11 When the display device has a positioning function, the positioning error of a continuous positioning display device used only outdoors should not exceed 10m. For continuous positioning display devices used indoors, the positioning error should not exceed 5m; for anchor-point positioning display devices used only outdoors... The positioning error of the device should not exceed 50m, and the positioning error of the anchor point positioning type display device suitable for indoor use should not exceed 20m.

5.1.12 When the display device has a patrol function, the maximum effective distance between the display device and the patrol point for completing the check-in function interaction should not exceed [a certain value]. 5m.

5.1.13 The display device shall have the complete packaging as it was when it left the factory, and the packaging shall include a quality inspection certificate and a Chinese instruction manual. The instruction manual should meet the relevant requirements of GB/T 9969, and should include the following.

a) Function descriptions and usage instructions for indicator lights, display devices, and buttons; meanings of various display information;

5.2.1 Wireless Communication Function

5.2.1.1 The display device shall maintain a direct or indirect communication connection with the fire alarm and evacuation terminal equipment via wireless communication. Receives alarm information related to on-site alarm triggering devices, such as fire alarms, combustible gas alarms, and fault alarms, as well as alarms issued by terminal devices. Emergency evacuation information and reset signals.

Note. On-site alarm triggering devices include various fire detectors, combustible gas detectors, manual alarm buttons, etc.

5.2.1.2 The display device shall have a communication status indication function. When the display device cannot maintain communication with the terminal device, the display device shall be able to... The system should issue audible and visual alerts within 100 seconds to indicate the fault type. The audible signal should be manually muted, and the audible and visual alerts should automatically resume operation after communication is restored.

Dynamic elimination.

5.2.1.3 The terminal device should be able to display or query information and communication status of connected display devices. When communication cannot be maintained, the terminal device... It should be able to issue an audible alert signal within 100 seconds, indicating a communication failure message for the corresponding display device.

5.2.2 Information Prompt Function

5.2.2.1 When an alarm is triggered by a field alarm triggering device connected to the terminal device, the display device should be able to send an alarm signal from the terminal device. Within the next 30 seconds, if an alarm message or emergency evacuation message is received from the terminal device, an alarm sound and light prompt signal will be issued.

5.2.2.2 When the terminal device has multi-level alarm or early warning functions, the terminal device should send a warning signal to the display device under any alarm level condition. Alarm information.

5.2.2.3 Display devices with display components shall display corresponding alarm information through their display components. The information shall include at least the local alarm information. The trigger device's part number or location information. When multiple alarm messages are received simultaneously, the first alarm message or emergency evacuation message should be prioritized. The display shows that other alarm information can be manually checked in chronological order.

5.2.2.4 When the display device issues alarm audible or visual alerts, it should not be affected by other information such as fault alarms. The alarm audible signal should be able to... Manual silencing is required; the audible signal should restart upon receiving another alarm message. The alarm light signal and displayed alarm information should remain active. Until a reset signal is received from the terminal device.

5.2.2.5 When the field alarm triggering device connected to the terminal device malfunctions, the display device should be able to send a fault signal from the terminal device. Within the next 100 seconds, it receives fault alarm information from the terminal device and issues fault sound and light prompts.

5.2.2.6 Display devices with display components shall display corresponding fault alarm information, and the information shall at least include the information of the on-site alarm triggering device. Part number or location information. This is when the display device is emitting an audible or visual alarm signal, or when it has received multiple fault alarm messages that cannot be simultaneously detected. When the fault alarm information is displayed, any fault alarm information that is not displayed should be manually checked in chronological order.