TXC7001/TXC7002

TXC7004/TXC7008

TXC7012

Conventional Fire Alarm Control Panel

Installation and Operation Manual

Product Safety

To prevent severe injury and loss of life or property, read the instruction carefully before installing the Control Panel to ensure proper and safe operation of the system.

European Union directive

2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points.

For more information please visit the website at www.recyclethis.info

Disclaimer

The information in this manual is furnished for informational use only and subject to the change without notice. While every effort has been made to ensure that the information contained in this user manual is accurate, reliable and up to date. The TANDA Technology cannot be held responsible for inaccuracies or error that may appear in this manual.

Table of Contents

1 Overview

TXC7001/TXC7002/TXC7004/TXC7008/TXC7012 conventional fire alarm control panel are designed according to EN54-2 standard, and can be connected with sounder strobe TXC7301, manual call point TXC7141, smoke detector TXC7101, heat detector TXC7111 and other equipment. This series is easy to install and debug, and easy to operate.

1.1 Flexible configuration of fire alarm output points

The control panel is equipped with 1 alarm output point, which can be configured as DC24V active output, NC, NO passive output through jumpers.

1.2 Convenient and practical Test mode

The control panel can be set to Test mode, which is convenient for on-site maintenance and debugging.

1.3 Equipped with modular switching power supply

The modular switching power supply selected by the control panel has high conversion efficiency, comes with main and backup power switching and accurate charge and discharge management functions, and also has functions such as input over-voltage protection, output short circuit protection, and backup power reverse connection protection.

1.4 Equipped with reliable lithium iron phosphate battery

The control panel uses a lithium iron phosphate battery as a backup power supply, which has the characteristics of light weight, high energy density, and high reliability.
The main configuration of TXC7001/TXC7002/TXC7004/TXC7008/TXC7012 conventional fire alarm control panel is shown in the following table:

Model	Zone Support	Alarm Output	Fault Output	Bell Output	Auxiliary Power Output
TXC7001	1	1	1	1	1
TXC7002	2	1	1	1	1
TXC7004	4	1	1	2	2
TXC7008	8	1	1	2	2
TXC7012	12	1	1	2	2

2 Control Panel Structure and Configuration Instructions

2.1 Appearance diagram

The control panel adopts a wall-mounted structure, and the appearance and structure diagram is shown in Figure 2-1. (unit mm)

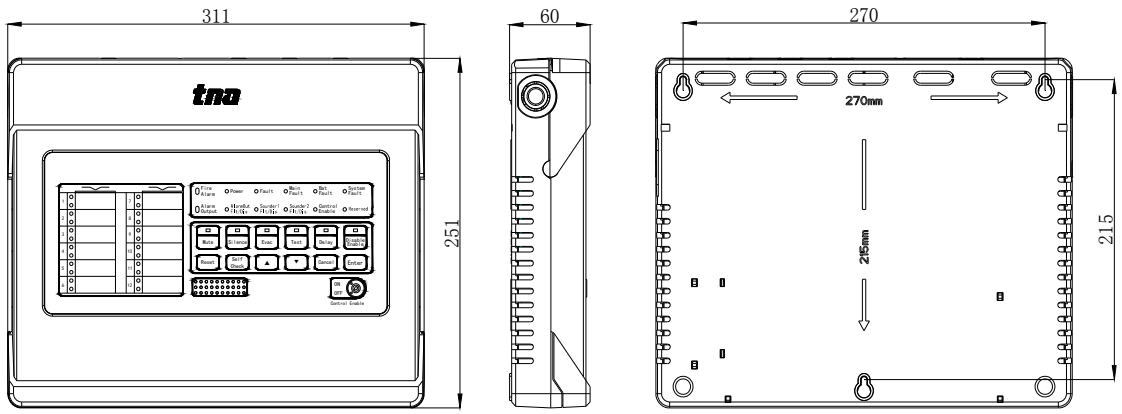


Figure 2-1 Schematic diagram of the appearance and structure of the control panel

2.2 The main technical parameters

The main technical parameters of the controller are shown in Table 2-1.

Table 2-1 Main Technical Parameters

Model	TXC7001/TXC7002/TXC7004/TXC7008/TXC7012
Main Power Supply	range 100V ~ 242V, 50Hz
Maximum operating current	2.2A
Backup power	12.8V, 4Ah
Single zone capacity	Each zone supports up to 30 front-end devices
Auxiliary power output	0.3A per output
Bell output	0.3A per output
Fault relay output	30V DC/2A
Weight	1.5kg
Dimensions	311mm×60mm×251mm (length×width×height)
Enclosure rating	IP30
Use environment	Temperature: 0℃～+40℃ relative humidity: ≤95%RH, non-condensing

2.3 Panel description

The schematic diagram of the main panel is shown in Figure 2-2.

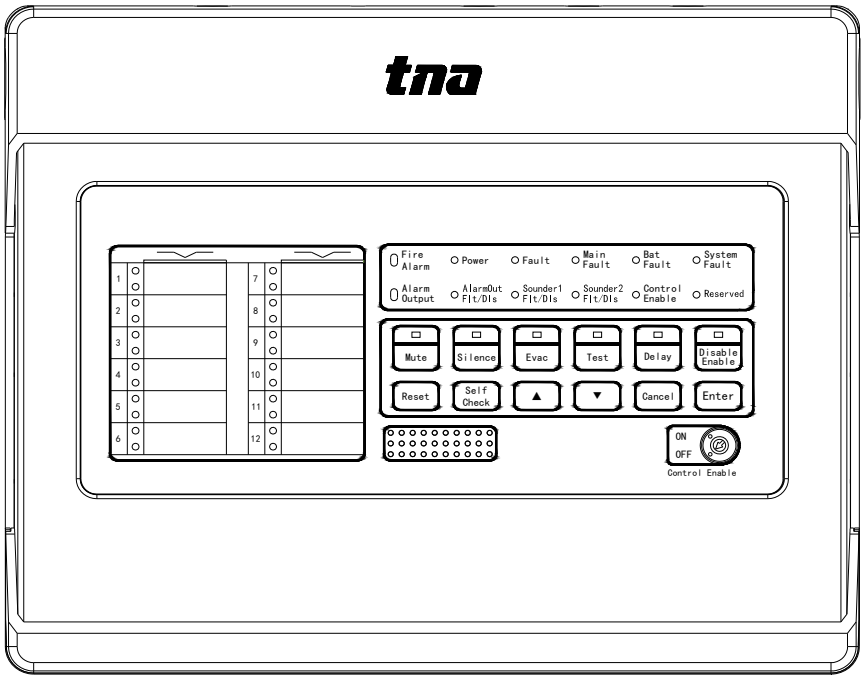


Figure 2-2 Schematic diagram of the main panel

- **Panel indicators and operating instructions**

LED:

- **Zones Fire LED:** Red. When the panel is in the fire alarm state or receives fire alarm information, the light is always on, and after the reset operation, the light goes out;
- **Zones Flt/Dis LED**: Yellow. When the zone is disabled the light is always on, when the zone is faulty, the light is flashing, and when there is no fault and disable operation, it is off;
- **Fire Alarm:** Red. When the panel is in the fire alarm state or receives fire alarm information, the light is always on, and after the reset operation, the light goes out;
- **Alarm Output:** Red. After the panel performs fire alarm output, the light is always on, and after the reset operation, the light is off;
- **Power:** Green. When the panel is in normal operation, this light is always on;
- **Fault:** Yellow. When the panel is in fault state, this light is flashing;
- **Main Fault:** Yellow. When the panel is in the state of main power failure, this light will flash;
- **Bat Fault:** Yellow. When the panel is in the standby power failure state, this light will flash;
- **System Fault:** Yellow. When the panel is in the system failure state, this light is flashing;
- **Alarm Out Flt/Dis:** Yellow. When the fire alarm output interface is faulty, the light is flashing, and when the fire alarm output port is disabled, the light is always on

- **Sounder1 Flt/Dis:** Yellow. When the bell output port 1 is faulty, the light is flashing, and when the bell output port 1 is disabled, the light is always on
- **Sounder2 Flt/Dis:** Yellow. When the alarm bell output port 2 fails, the light is flashing, and when the alarm bell output port 2 is disabled, the light is always on
- **Control Enable:** Green. When the control lock is enabled, the light is on, and when the control lock is disabled, the light is off

Keys & LEDS:

- **Mute:** Mute button, to eliminate the alarm sound of the control panel, when in Mute mode, the Mute light is on, yellow
- **Silence:** Stop the alarm bell or the light, when in Silence mode, the Silence light is on, yellow
- **EVAC:** Start the alarm bell or the light; when in EVAC mode, the EVAC light is on, red
- **Test：** In Test mode, the control panel receives fire alarm information, but the fire alarm output port does not act, and in Test mode, the Test light is on, yellow;
- **Delay:** Set the fire alarm output delay time of the panel. In Delay mode, the Delay light is on, yellow
- **Disable/Enable:** Disable/enable zones

Keys:

- **Reset:** Reset the panel to restore it to normal state;
- **Self Check:** Make the panel enter the self-test state
- ▲: Up selection key
- ▼: Down selection key
- **Cancel**: Cancel button
- **Enter:** Confirmation button

Lock

When the lock is in the OFF state, the control panel can only perform level 1 operation, and when the lock is in the ON state, the panel can perform level 2 operation.

Operation	Operating Level
Mute	Level 1
Silence	Level 2
Evac	Level 2
Test	Level 2
Delay	Level 2
Disable/Enable	Level 2
Reset	Level 2
Self Check	Level 2

3 Operation Instructions

3.1 Startup, self check and shutdown

3.1.1 Startup

Turn on the main power switch and backup power switch inside the panel in turn, and the system starts to load various configuration information required, perform power-on initialization, and enter the self-test state.

3.1.2 Self check

When the panel is self-checking, all the indicator lights are flashing, and the speaker emits a beep sound at the same time. After the self-checking is completed, the system enters the normal monitoring state.

3.1.3 Shutdown

Turn off the backup power switch and the main power switch inside the panel in turn, and the panel can be powered off and shut down.

Notice:

Since the control panel uses a lithium iron phosphate rechargeable battery pack, the battery itself will have a small self-discharge current, which requires regular charging and maintenance. If you do not use it for a long time, you need to charge the battery for 48 hours at least every 3 months.

In case of main power failure, when the control panel works until the automatic protection of the backup power supply, the available capacity of the battery is basically empty, and it is necessary to restore the main power supply as soon as possible and charge the battery for 48 hours.

3.2 Disable operation

The panel has the disable function, which can disable the alarm zone, Alarm Output, Sounder1, Sounder2, etc. The operation steps are as follows:

a. Turn the lock to ON state
b. Press and hold the Disable/Enable button for more than 3 seconds, the Disable/Enable light will flash, and the panel will enter the disable setting mode
c. Press ▲ or ▼ to select the zone or function that needs to be disabled. When the zone or function is in the mode to be set, the corresponding LED light will flash
d. Press the Enter key to confirm whether an operation needs to be performed. If any zone or function is blocked, the corresponding LED light and the Disable/Enable light are always on
e. Press Cancel key to exit the setting function

3.3 Test mode settings

In order to facilitate maintenance or testing on the project site, the control panel has a Test mode. When the panel is in the Test mode, it can receive fire alarm information and enter the fire alarm state, but Alarm Output, Sounder1, and Sounder2 have no output. The operation steps are as follows:

a. Turn the lock to ON state
b. Press the Test button for more than 3 seconds, the Test light is always on, and enter the Test mode
c. When exiting the Test mode, press and hold the Test button for more than 3 seconds, the Test light goes out, and exit the Test mode

3.4 Delay mode setting

In order to reduce the impact of false fire alarms, the control panel has a Delay mode. When the panel is in the Delay mode, Alarm Output, Sounder1, and Sounder2 will be output 30 seconds after it enters the fire alarm state, leaving enough time for the on-duty personnel to confirm the fire alarm. The operation steps are as follows:

a.Turn the lock to ON state
b.Press the Delay button for more than 3 seconds, the Delay light is always on, and enter the Delay mode
c.When exiting the Delay mode, press and hold the Delay button for more than 3 seconds, the Delay light goes out, and exits the Delay mode

4 Installation and Commissioning

4.1 Inspection

4.1.1 Unboxing inspection

4.1.1.1 Project configuration inspection

After receiving the control panel, check whether the content of the packing list is consistent with the project configuration. Check whether the outer packaging of the panel shows any signs of damage. If not, after opening the packing box, check the contents of the box one by one according to the contents of the packing list. The main inspection contents include: installation manual, terminal resistor, control panel's key, etc. After the verification is correct, carry out the necessary inspection on the appearance of the control panel, too check if there's any sign of inclination on the appearance, and whether there is obvious damage to the appearance. Open the panel with the key and check whether the fixing nuts of the circuit board are loose. If

any non-compliance is found, please contact our company.

4.1.1.2 Control panel internal configuration and wiring inspection

Refer to the introduction in Chapter 3 of this manual to check the internal configuration of the control panel, and at the same time check the connection between each component, and make necessary records for use in the following installation and commissioning. Please contact our technical service department if the fixing screws of the wiring are loose or fall off, the plug-in parts are loose, or the instructions do not conform to the instructions or the markings are unclear.

4.1.2 No-load start-up inspection

After the panel is shipped to the site, it should be checked first with no load **(make sure that the it is not connected to any external wiring before the start-up inspection).**

- Use the AC voltage range of the multi-meter to measure the input voltage of the AC 220V power line on site to ensure that the AC input voltage is between 100V and 242V. Connect the AC 220V power line, connect the backup battery line **(pay attention to the positive and negative polarity, and be careful not to short circuit).**
- Turn on the main power switch and the backup power switch in turn, and check the self-check process of the control panel: all the indicator lights should be on, and the speaker should be able to emit a self-check sound.
- After the self-check is completed, the control panel enters the monitoring state, and there should be beeps on the keyboard.
- If an abnormality is found in a certain step, it should be properly handled according to the "Common Troubleshooting" part of Chapter 6. If the problem persists, please contact us.
- After the no-load start-up inspection is completed, turn off the main power switch and the backup power switch.

4.2 Installation

4.2.1 Installation method

The control panel should be installed in a manned place and away from electromagnetic interference equipment. The wall-mounted installation structure is adopted, and the installation dimensions are shown in Figure 4-1. Fix it on a firm wall with 3 M6 expansion bolts, the horizontal spacing of the expansion bolts is 270mm, and the vertical spacing is 215mm.

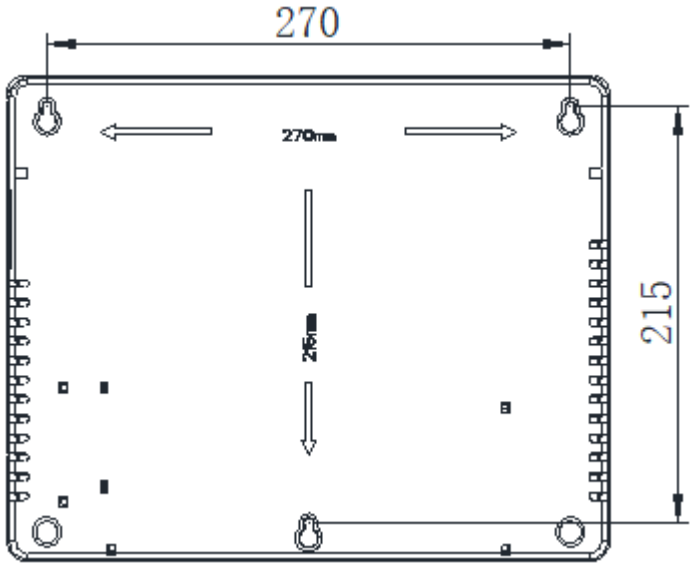


Figure 4-1

4.2.2 Wiring method

Open the wiring flip cover on the upper side of the panel to expose the wiring terminals. The schematic diagram of the external wiring terminals of the controller is shown in Figure 4-2.

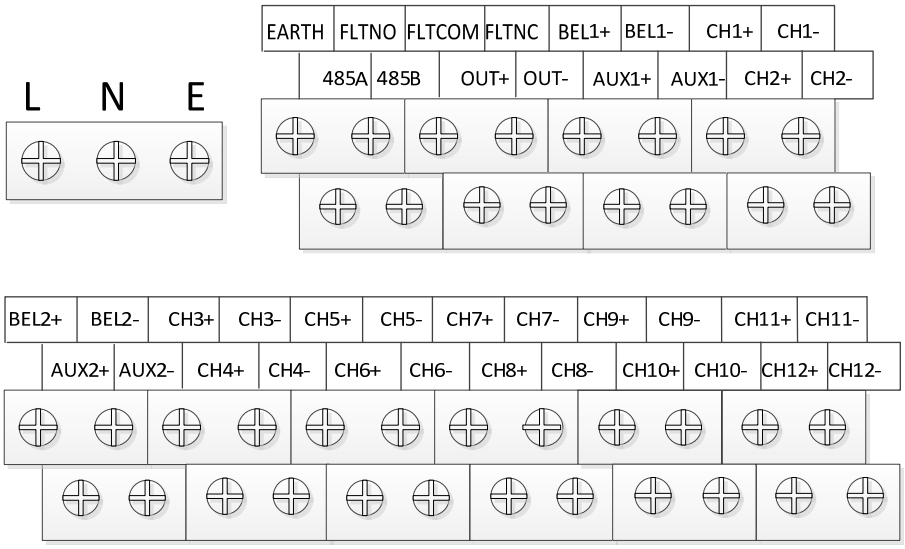


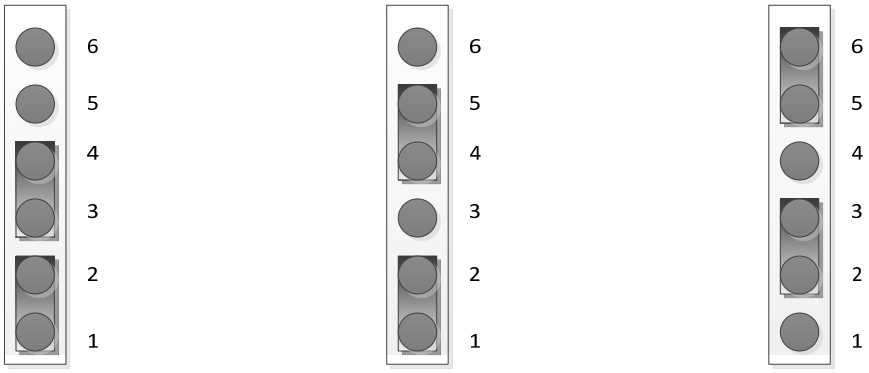
Figure 4-2 Schematic diagram of external wiring terminals

Among them:

- **L、N、E:** Main power input terminal
- **EARTH:** Protective earth terminal
- **FLTNO、FLTCOM、FLTNC:** Fault output terminal, which can support normally open and normally closed;

- **BEL1+、BEL1-、BEL2+、BEL2-:** Two-way sound and light alarm bell output terminal;
- **AUX1+、AUX1-、AUX2+、AUX2-**: Two auxiliary power outputs, each with a maximum current of 0.3A;
- **CH1+ /CH12+~CH1-/CH12-:** 1~12 zone input terminals;
- **485A、485B:** RS485 terminal is reserved;
- **OUT+、OUT-:** The fire alarm output terminal can be configured as DC24V, normally open, normally closed, etc. by setting the position of the P1 jumper cap. The specific corresponding relationship is shown in the table below.

Fire alarm output mode	P1 jumper position
NC	1&2，3&4
NO	1&2，4&5
DC24V active output	2&3，5&6



NC output mode　　NO output mode　　DC24V active output

4.2.3 Wiring requirements

- The alarm zone bus should adopt copper core refractory PVC insulated stranded connection flexible wire (NH-RVS) with a cross-sectional area greater than 1.0mm2.
- The output line of the direct control area should use copper core PVC insulated PVC sheathed control cables (NH-KVV) with a cross-sectional area larger than 1.0mm2.
- The alarm bus, the output line of the direct control area, the communication line, etc. cannot pass through the same protective tube with the high-voltage line; when the same wire slot must be used, the wire slot should be separated by the zone.
- Alarm bus and communication lines cannot be laid in the same multi-core cable.

4.3 Debugging

4.3.1 Preparations before debugging

After checking the control panel, if all the tests meet the requirements, connect the external node device and the panel correctly. After the wiring is completed, it can be started and

debugged after careful inspection. In case of abnormal situation, please refer to Chapter 6 "Troubleshooting and Troubleshooting" for preliminary judgment and solution.

4.3.2 Overall debugging

a. Connect all external device circuits to the control panel correctly , and turn on the power of the panel.

b. Zone enable and disable settings

According to the actual project requirements, perform zone enable and disable settings.

c. AC test

If the AC power supply is cut off, the main power failure should be reported, and the main power working light will go out.

d. Backup test

Connect the AC power supply, cut off the backup power, report the backup power failure, and the backup power working light goes out.

e. Press the self check button on the panel to perform light and sound checks.

f. Simulated fire test

Simulate the fire alarm test, that is, carry out the function test experiment of the alarm system by manually "adding smoke" or pressing the "alarm button", so as to observe and judge whether the system debugging and operation are successful or not.

Note: When simulating a fire alarm, if there is no need, the important linkage equipment, such as elevators, electrical switch cabinets, and gas generators, cannot participate in the linkage. If it is necessary, preventive measures must be taken in advance.

a. Fill in the "Debugging and Acceptance Record", and test run the alarm system.

After debugging, reset the whole machine and turn the lock to OFF state.

So far, the system debugging is basically over, entering the 120-hour trial operation period.

If there is any abnormality in the above functions, please refer to the solutions to common problems at the end of this commissioning manual

5 User Notice

5.1 Troubleshooting

Table 5-1 Common troubleshooting

No.	Faults	Reasons	Solutions
1	The power-on LED has no display or does not work normally	➢ The power supply is abnormal ➢ Bad wiring on the main board	➢ Check whether the power supply line is good ➢ Check whether the connection line of the main board is good
2	Backup power failure reported after startup	➢ Poor battery line connection ➢ The battery is empty or damaged	➢ Check if the battery terminals in good contact ➢ Battery replacement
3	The zone does not report failure or fire alarm	➢ The zone is blocked ➢ The address point device is damaged	➢ Check if the zone is disabled ➢ Replace the address point device
4	Fire alarm no output	➢ In Test mode ➢ P1 jumper setting error ➢ Damaged circuit board	➢ Check if in TEST mode ➢ Check whether the P1 jumper is set correctly ➢ Remove the circuit board and check whether the device is burnt out

5.2 Important notice

1.Relevant operators must be trained and pass the examination before they start working. It is forbidden for non-personnel to operate or press buttons and switches without authorization.

2.The control panel's key must be in charge of a professional person.

3.It is forbidden to disassemble or move the control panel with power on by yourself; operations such as wiring, plugging and unplugging various connectors must be performed under power-off conditions.

4.The backup power discharge operation should be carried out once a month, that is, the main power is cut off, and the main power is turned on after the backup power works independently for several hours.

5.The control panel uses a sealed lithium battery as backup power, and it is recommended to replace the battery every 3 years.

6.Wipe the control panel with a soft cloth that has been sprayed with neutral detergent or glass cleaner; do not use strong volatile cleaners, and do not spray the cleaner directly on the controller.

5.3 Precautions

1.The control panel should be transported and handled in the packaged state, and the loading and unloading process should be handled with care to prevent collision damage.
2.The control panel should be stored in a packaged state, and the storage environment should be kept ventilated and dry, and should not be stored in the open air.
3.The control panel can only be unpacked and installed after the project decoration is completed.
4.The operating environment of the panel should meet the requirements of sun protection, heat protection, moisture resistance and dust resistance.

6 Statement

This manual introduces the functions and usage methods of TXC7001/TXC7002/TXC7004/TXC7008 /TXC7012 in detail. We strive to make the product information the latest and most accurate, but we still cannot cover all specific applications or foresee all needs.
The control panel's appearance, specifications, functions, etc. may be changed or improved. For further information, please feel free to contact us.

In addition, please pay attention to the following matters:
1. When using this series of control panels, the capacity should not exceed the designed capacity.
2. After the project acceptance is completed, please do not add equipment without permission. If you need, please contact our technical staff. At the same time, the new equipment needs to be an independent system and cannot affect the normal operation of the existing system.
3. After the project acceptance is completed, please do not change the internal structure and external wiring of the equipment without permission. If you need to change, please contact our technical staff.
4. After the second decoration of the project site, the system where this series of control panels are located needs to be re-tested and accepted by professionals, and can only be put into use after passing the test.
5. When the accepted project is in use, if there is a fault alarm, please deal with it in time.
Tanda Development Pte. Ltd. is not responsible for any loss and injury caused by violation of the above item.