Fire Alarm Control panel
BX-10M1

Conventional fire alarm control panel with 4 zones (loops)

Operator's Handbook

AUTRONICA

Protecting life, environment and property...

Table of Contents

1. Introduction

1.1 About this manual

The purpose of this manual is to provide all the information necessary to operate the BX-10M1 fire alarm control panel.

- BX-10M1 can be supplied with variants of the system program adapted to particular markets and special functions (appendix 8).

1.2 The Product

The BX-10M1 Fire Alarm Control Panel is a conventional panel with 4 zones. The panel is supplied as:
- BX-10M1 fire alarm control panel with 4 zones (loops), including power supply and battery.
- BX-10M1 can operate from 110VAC and 230VAC mains.

In an alarm situation, detectors and manual call-points connected to a conventional detection loop are detected by means of increasing current consumption. Hence, it is not possible on the control panel to identify the detectors and manual call-points that are in alarm status. The points (detector and manual call-points) in alarm are found by checking all points connected to the zone in alarm and observing the points that have active alarm LEDs (the LEDs are lit).

Manual call points and detectors can be connected to the same loop cable (the same zone). Manual call-points in alarm are handled differently compared to detectors in alarm. The standard manual call-point BF-20 always gives instant alarm when operated (glass broken). This means that manual call-points are **not** disabled when the zone is disabled, and alarm outputs are not affected by the standard 2-minute delay if a manual call-point is operated (glass broken).

If the installation requires a standard 2-minute delayed alarm output when a manual call-point is operated, a resistor 120 ohm/0,5W must be connected in series with the alarm switch in the manual call-point. (Internal connection: Chapter 3.8).

Note that the manual call-point still is active (will give alarm) if the zone is disabled.

A second alarm in a zone where the first alarm already has been acknowledged, will not activate alarm LEDs and the internal buzzer. If the internal buzzer only is muted after the first alarm, the second alarm will activate it once more.

1.3   The reader

The manual is designed for use by those designated responsible for operating the system.

1.4   Other reference material

In addition to this manual, the BX-10M1 control panel is covered by the following documents:

Manual	Item no.
Installation Manual - BX-10M1 Fire Alarm Control Panel	P-BX-10M1/IE
Data sheet	P-BX10M1/CE

2. Operating the control panel

2.1   Operating levels

The BX-10M1 fire alarm control panel has 2 *operating levels.* Level 1 is the lowest level of access and does not require a password*.*

The following functions are accessible within the respective operating level:

Level	Accessible functions
1	*No* password protection. Normal mode. • resetting of internal audio warning device (with alarms and faults). • testing of indicator lamps/internal audio warning device.
2	Operator code is required. Yellow OPERATOR LEVEL light comes on indicating that the system is in operator mode. • cancelling/reactivating of the alarm outputs • resetting of the control panel from alarm or error status • disabling of functions (zones 1-4, alarm outputs, control outputs) • disabling of immediate warning (D/N function)

The *operator code* for operating level 2 shall include a minimum of 3 digits.
For relevant operator codes, see sub-section. 2.4.3.

IMPORTANT:
All operator code entries are confirmed by pressing this key - ⏎

2.2   Operator mode/service mode operations

Keying the operator code + ⏎ enables the operator to access the system in operator mode The system will remain in this mode for a predetermined time (time (the default is 5 minutes after the last key-stroke), after which it will automatically return to normal mode unless the operator or service code is entered one more time.
Operator code: 110 + ⏎

2.3   Keypad

The keypad comprises 15 keys and is back-lit when the control panel records an event, or when one of the keys is pressed.

The back-lighting will switch off automatically about 5 minutes after the last keystroke is made.

Any fault in the keypad connection (e.g. a sticking key) will cause the internal audio warning device to emit a rapid intermittent sound.

2.4   Keypad functions

2.4.1 Summary of the keypad configurations

Keypad functions		
Function	**Keypad configuration**	
	In normal status: (no code required)	**In operator mode: Operator code +**
Cancel internal audio warning device	🍷	
Cancel/activate alarm		🔔
Reset		R
Disabling zone 1		1 +
Disabling zone 2		2 +
Disabling zone 3		3 +
Disabling zone 4		4 +
Disabling alarm circuits (AK1 and AK2) FAD's		5 +
Disabling control outputs		6 +
Disabling alarm output (BMA) FARE		7 +
Disabling fault output (BMF) FWRE		8 +
Disabling immediate alarm (D/N function) *		9 +
Disabling of intruder alarm (not implemented)		10 +
Lamp test / audio warning device test	30 +	
ENTER (accept)	⏎ (always accessible)	
Resetting the keypad	C (always accessible)	

* Maritime version has a 2 minutes delay.

2.4.2 Resetting the keypad using the C-key

The C-key is used to reset the keypad, i.e. all keystrokes subsequent to the last use of the ⏎ key will be cancelled.

IMPORTANT:
If you are unable to access operator or service mode, the problem may be that the control panel "remembers" a previous keystroke. In such instances, reset the keypad (press C) and then enter the code+ ⏎

Operator code
The operator code will vary from country to country. The operator code must always be confirmed with ⏎ The yellow OPERATOR LEVEL light will come on when the control panel is in operator mode. As long as the indicator lamp is on there is no need to enter the operator code for each new function.

The operator code is activated 5 minutes after the last keystroke, or is cancelled manually by entering the code anew.
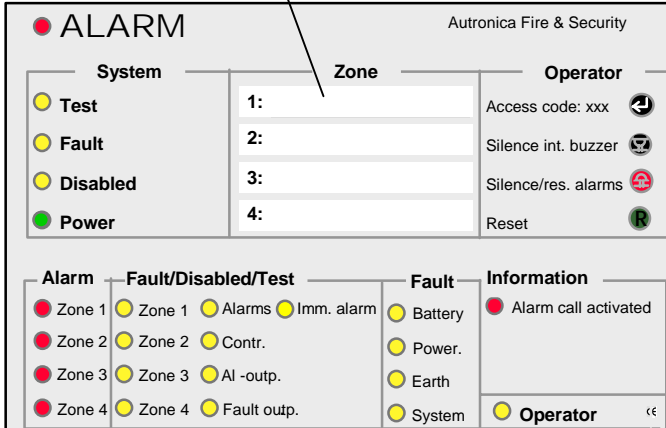
Operator code: 110 + ⏎ .

2.5 The front panel label

Behind the Plexiglas door cover is a label with four fields for noting the areas of cover of the respective zones (zones 1-4). If this information requires changing, the Plexiglas cover can be removed and the new information can be noted in black print on transparent tape.

Refer to the BX-10M1 Installation and Commissioning Handbook.

Fields for noting the areas of cover for the respective zones.

3. LED indicators

3.1 Summary

The panel front comprises 24 *LED indicators*. The individual characteristics and response modes for these are given in subsequent chapters concerning the various events/functions.

In addition, a detailed description of the indicator functions is provided in the *Appendix* at the back of this manual.

The instant an alarm signal is activated, the LED indicators for FIRE and FAULT will flash in time with the intermittent internal audio warning.
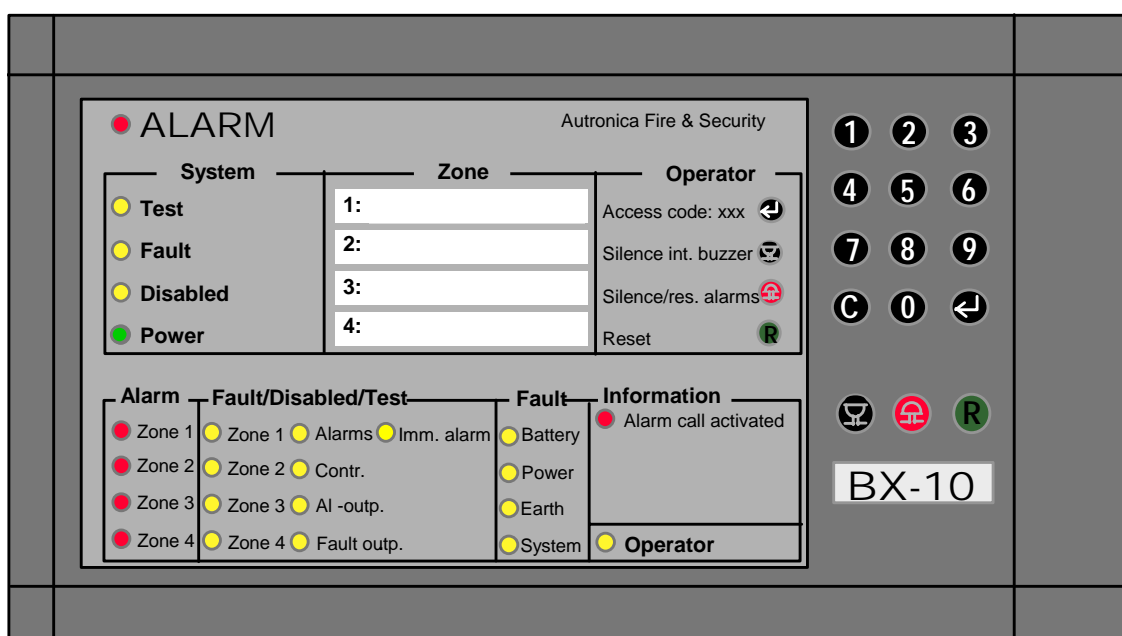
3.2 Fire alarm from detectors on a conventional detector loop

The fire alarm panel cannot display if more than one detector on the same loop is in alarm condition. This means, if the panel gives alarm on one loop, the alarm can be activated from more then one detector. The person in charge for the investigation of the fire, has to check all detectors on the loop (zone), to verify the fire situation.

4. A fire alarm is activated (immediate action)

One or more detectors/manual call-points send an alarm signal from a detector zone.

The red FIRE indicator light flashes.

Red flashing zone lights indicate the activated detector zone(s).

Audio/visual characteristics:
Visual: 0.5 sec. ON – 0.5 sec. OFF
Audio: Continuous signal on BX-10M1

Internal buzzer is activated.

```
● ALARM                    Autronica Fire & Security    ❶ ❷ ❸
    ┌─System─┐  ┌─Zone─┐      ┌─Operator─┐             ❹ ❺ ❻
    ○ Test       1:            Access code: xxx ⏎       ❼ ❽ ❾
    ○ Fault      2:            Silence int. buzzer 🔕    ⓒ ⓪ ⏎
    ○ Disabled   3:            Silence/res. alarms 🔔
    ● Power      4:            Reset           🅡
  ┌Alarm┐┌─Fault/Disabled/Test─┐┌Fault┐┌Information┐    🔕 🔔 Ⓡ
  ● Zone 1 ○ Zone 1 ○ Alarms ○ Imm. alarm  ○ Battery  ● Alarm call activated
  ● Zone 2 ○ Zone 2 ○ Contr.              ○ Power
  ● Zone 3 ○ Zone 3 ○ AI -outp.           ○ Earth      BX-10
  ● Zone 4 ○ Zone 4 ○ Fault outp.         ○ System  ○ Operator
```

All alarm units linked to the panel are delayed 2 minutes.
*Continuous alarm signal

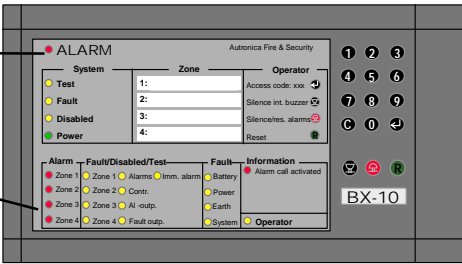| Step	Necessary action	Visual Warning Status	Audio Warning Status
1	**Follow local fire instructions step by step.**	The red FIRE indicator flashes. The zone indicator(s) at the bottom-left will flash red, indicating in which detector zone(s) the fire is registered (zones 1 to 4).	The integrated audio warning device and the sounders are activated (control outputs are activated).
2	**Cancel internal buzzer by pressing** 🔕	The red FIRE indicator and zone indicator(s) continue to flash.	The internal audio device is switched off. Alarms and control outputs remain active.
3	**Investigate the site of the fire and all detectors on the alarming loop to check if there are more than one area in fire, and take the necessary actions.**		
4	**Go into operator mode: key in operator code +** ⏎	The yellow operator level indicator will come on.	
	Note:	If the system goes out of operator mode after 5 minutes, you must re-enter the operator code + ⏎	
5	**Accept the alarm by pressing** 🔔	The red FIRE indicator and zone indicator(s) light up with steady light.	The running delay of the sounder alarm outputs is deactivated. Control outputs remain active.
	Note:	If necessary, the sounders can be re-activated by once again operating 🔔 . When the fire is extinguished and all necessary repair work is implemented (smoke is exhausted, new glass replaced in the manual call-points, etc.), the system should be returned to normal operating mode.	

Step	Necessary action	Visual Warning Status	Audio Warning Status
6	**Reset the system by pressing** Ⓡ	The red FIRE indicator and zone indicator(s) go out.	
	Note:	If a detector zone remains in alarm status after resetting the system, the alarm will be activated again. In such an instance the above steps must be repeated.	

5. Fire alarm with 2 minutes delayed warning

The BX-10M1has according to SOLAS requirements 2 minutes delay of sounder outputs.

One or more detectors/manual call-points send an alarm signal from a detection zone in a situation where *alarm delay* is activated (immediate warning disabled, see Chap. 8).

NOTE: If an alarm is activated from *two or more* detection zones simultaneously, the alarm outputs and alarm transference will be activated immediately, i.e. the alarm delay will be cancelled. The same activation will appear if a manual call point without an extra resistor is operated in a zone. Refer to chapter 1.1.

The red FIRE indicator flashes.

Red flashing zone lights indicate which detector zone(s) are involved.
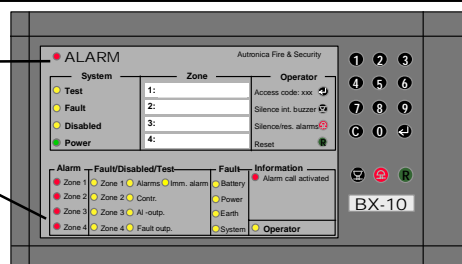
Visual characteristics:
0.5 sec. ON – 0.5 sec. OFF
Continuous audio signal.

All alarms linked to the panel are delayed 2 minutes.
Continuous alarm signal for maritime version.

Step	Necessary Action	Visual Warning Status	Audio Warning Status
1	**Follow local fire instructions step by step.**	The red FIRE indicator flashes. One of the red zone indicators at the bottom-left will flash to indicate in which detection zone the fire is detected (zone 1, 2, 3 or 4).	The integrated audio warning device with continous signal is activated.
	Note:	Two-minute alarm delay starts (two minute alarm delay applies to maritime regulation). Immediate alarms are disabled during the delay period. If an alarm is given from two or more detectors or detection zones simultaneously, the alarm outputs will be activated immediately, i.e. the alarm delay will be interrupted.	
2	**Silence internal buzzer by pressing** 🔽	The red FIRE indicator and zone indicator will continue to flash.	The internal buzzer is switched off.
3	**Accept the alarm by pressing** ⚓	The flashing red indicators change to a steady light. The running delay time is deactivated.	Alarm outputs are blocked for automatic activation.
	Note:	If necessary, the sounders can be reactivated by once again operating ⚓	
4	**Investigate the fire site of fire and all detectors on the alarming loop to check if there are more than one area in fire.**		

(Continued on next page…..)

4	**The next step in the procedure will depend on whether or not there really is a fire.** **Step 4a should be followed if there _isn't_ a fire, step 4b if there _is_ a fire.**

4a	**If there is _not_ a fire;** **go into operator mode: key in operator code +** ⏎	The yellow operator level indicator will come on.
5a	**Reset the system by operating** Ⓡ	The red FIRE indicator and zone indicator will go out.

| 4b	**If there really _is_ a real fire, implement the necessary measures. Activate the fire alarm and alert the fire department by activating the nearest manual call-point.**	The red FIRE indicator and zone indicator will continue to flash.	All sounders will be switched on. General alarm output will be activated.
	Note:	When the fire is extinguished and all necessary repair work is complete (the smoke is exhausted, new glass replaced in the manual call-points, etc.), the system may be returned to normal operating mode again.	
5b	**If the Operator Mode is switched off, re-enter the Operator Mode again.** **Go into operator mode: key in operator code +** ⏎	The yellow operator level indicator will come on.	
	Note:	If the system goes out of operator mode after 5minutes, you must re-enter the operator code + ⏎	
6b	**Silence alarm by pressing** 🔔	The red FIRE indicator and the zone indicator(s) will come on with a steady light.	All sounders will be switched off. General alarm output remains activated.
	Note:	If necessary, the sounders may be re-activated by pressing 🔔 again.	
7b	**Reset the system by pressing** Ⓡ	The red FIRE indicator and zone indicator(s) will go out.	
	Note:	If a detector zone remains in alarm status after resetting the system, the alarm will be activated again. In such an instance the above steps must be repeated.	

6. A fault arises

The common yellow FAULT indicator flashes in the event of a fault.

One or more of the yellow flashing fault indicators in the FAULT/DISABLING/TEST field will indicate which type(s) of fault has arisen. The fault could be in:
- Loop cable (detector zone) – break, high current consumption or short-circuit
- Sounder output – break or short-circuit
- Blown fuse for alarm/error output.
- Battery
- Power supply – charger, mains connection
- Earth fault
- System fault
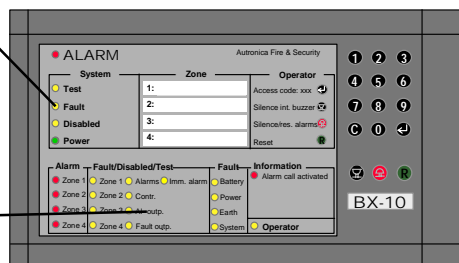
Audio/visual characteristics:
0.5 sec. ON – 1.5 sec. OFF

The integrated audio warning device is activated.

Step	Necessary Action	Visual Warning Status	Audio Warning Status
1	**Check the error indicators on the panel and determine which fault is reported.**	The yellow common FAULT indicator will flash in the event of an error/fault. One or more of the yellow flashing error indicators will indicate which type of fault has arisen.	The internal buzzer will be activated.
2	**Silence internal buzzer by pressing** 🔇	The yellow common FAULT indicator and the yellow FAULT indicator below will continue to flash.	The internal buzzer will switch off.
3	**Call the system administrator or engineer and implement all necessary repair work.**		
Note:		A fault warning from the central unit is not possible to accept. Flashing failure indication continue to flash until the fault is repaired and the "reset" button is pressed.	
4	**Go into operator mode: key in operator code (110) +** ⏎	The yellow operator level indicator will come on.	
5	**Reset the system by pressing** Ⓡ	The yellow common FAULT indicator and the yellow fault indicator below will go out.	
Note:		If an error continues after resetting the system, the panel will indicate an error again. In such an instance the above steps must be repeated.	

Note: If an alarm arises when the system is in fault status, the visual and audio signal will change to the characteristics for fire alarm. When the alarm is reset (RESET ALARM), the visual characteristics for fault status will resume and the buzzer will switch off.

7. Disabling/restoring

7.1 Introduction

All *disabling/restoring* (of zones, alarm outputs, control outputs and alarm transmissions) can be implemented from the control panel using the keys 1-8 followed by ⏎ when the panel is in operator mode, see Chap. 7.2.

Each of the four detector zones can also be disabled via auxiliary disabling switches.

IMPORTANT: When a *zone* (detector loop) is disabled the detectors will be disabled while manual call-points will continue to be active.

If a zone is disabled using an external switch, it will not be possible to restore the zone from the front panel.

7.2 Disabling/restoring from the front panel

The operator can *disable* one or more zones (detector loops 1-4), alarm outputs, control outputs, and/or general alarm and error outputs.
***Restoration* is implemented manually following the same procedure.**

The common yellow DISABLING indicator will come on.
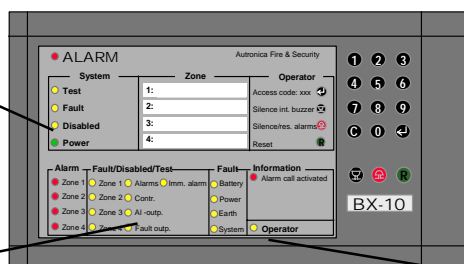
One (or more) of the yellow indicators in the FAULT/DISABLING/TEST field will come on indicating the type of disabling.

The yellow OPERATOR LEVEL indicator will come on.

Step	Necessary Action	Visual Warning Status	Audio Warning Status
1	**Key operator code (110) +** ⏎	The yellow OPERATOR LEVEL indicator will come on.	
	Note:	In operator mode, the keys numbered 1-8 represent the following disabling operations: Key 1: disabling of zone 1 Key 2: disabling of zone 2 Key 3: disabling of zone 3 Key 4: disabling of zone 4 Key 5: disabling of alarm outputs (AK1, AK2) Key 6: disabling of control outputs (zone outputs 1-4, AUX 1 and 2, fire doors) Key 7: disabling of alarm outputs (BMA) FARE Key 8: disabling of fault output (BMF) FWRE Key 9: disabling of immediate warning (delayed alarm)	
2	**Press the respective key (1-8) +** ⏎	The yellow common DISABLING indicator will come on. One (or more) of the yellow indicators in the FAULT/DISABLING/TEST field will come on indicating the type of disabling.	
	Note: **Restoring functions:**	The yellow common DISABLING indicator and indicator for the respective function will go out as soon as the function is cancelled, i.e. when the function is *manually restored*. Functions are *restored* manually by implementing the same procedure for the function concerned. E.g. zone 1 is restored by keying 1 + ⏎. In this example the yellow LED indicator for ZONE 1 will go out.	

Note!
The panel also provides the disabling function 10 and 11, but they are not used for any functions. If the code for 10 or 11 is operated by a mistake, the common disable LED will light up. If this occurs, the operator has to make a disable /enable for both code 10 and 11 to see if the common disable LED is switched off.

7.3 Disabling/restoring of zones from auxiliary switches

Each of the four detector zones can also be disabled via auxiliary disabling switches. An auxiliary disabling switch is connected between terminals 1 and 6 (zone 1), 2 and 6 (zone 2), 3 and 6 (zone 3) and 4 and 6 (zone 4).
The zone is disabled as long as the contact is closed.

IMPORTANT: When a *zone* (detector loop) is disabled the detectors will also be disabled, while manual call-points will continue to function.

If a zone is disabled by using auxiliary switches, the operator will not be able to restore the zone from the front panel.

With each disabling (either from the front panel or from an auxiliary switch), the output for auxiliary warning of a disabled zone (output 47 - AUX 1) is activated (e.g. may be used to switch on an auxiliary indicator lamp).
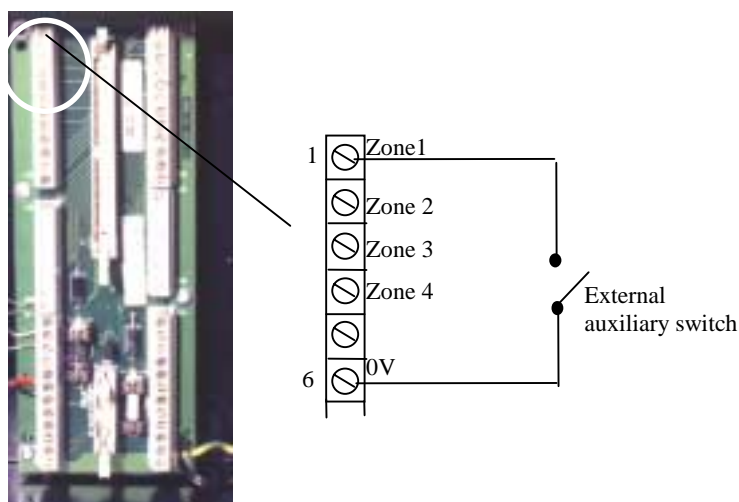
8. Activating the alarm delay function

8.1 Introduction

The sounder alarm outputs on the maritime version BX-10M1 will always have a 2-minute delay.

IMPORTANT: An alarm from a *manual call-point,* or alarms from *two or more* detectors in the same zone or in two zones, will give immediate warning on the alarm outputs even though the immediate warning function is disabled.

The immediate warning function is disabled either direct from the front panel (see Chapter 8.2) by pressing key 9 + in operator mode, or by using an auxiliary switch/timer (see Chapter 8.3).

If the alarm delay function is activated from an auxiliary switch, it can not be deactivated again from the control panel, *i.e. the switch has priority over the key-code.*

In an alarm situation, an alarm delay can be overridden manually by operating the nearest manual call-point in one of the zones.

8.1.1 Maritime panel BX-10M1

- The alarm outputs for maritime versions have a 2-minute delay, and will not be restored automatically.
- No front indication when immediate alarm signal is disabled.
- Continuous alarm signal on sounder outputs (AK).
- Continuous signal on panel buzzer.
- Common alarm output (BMA) is not delayed.

8.2   Activating from the front panel

Disabling/restoring of the immediate warning (or alarm delay) function can be implemented from the front panel using *an operator code* when it is necessary to activate/deactivate the alarm delay at special times.
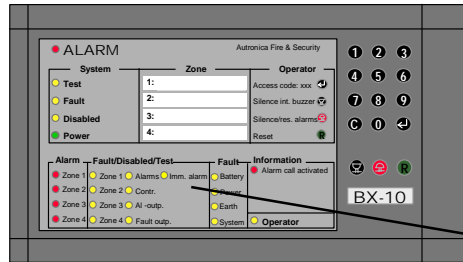
IMPORTANT: If the alarm delay is activated from an external switch, it is not possible to *deactivate* the delay from the control panel.

The yellow IMMEDIATE WARNING DISABLED indicator will not come on. (BX-10M1).

Step	Necessary Action	Visual Warning Status	Audio Warning Status
1	**Key operator code (110) +** ⏎	The yellow operator level indicator will come on.	
	Note:	The *default* alarm delay function is *key-code 9*, and includes the AK1 and AK2 outputs. The default time delay is 2 minutes.	
2	**Enter key code +** ⏎		
	Note :	The 2-minute alarm delay on the alarm outputs(AK1 and AK2) and general alarm output (BMA) will be activated.	

Activating from an auxiliary switch

An auxiliary switch for activating/deactivating the alarm delay function can be connected to *terminals 60 and 64* in the control panel. The alarm delay is activated when the switch is closed. This is a standard connection on the BX-10M1 panel.

No indication of delayed alarm outputs.

Step	Necessary Action	Visual Warning Status	Audio Warning Status
1	**Disable immediate warning by closing the auxiliary switch.**		
2	**Restore immediate warning function by resetting auxiliary switch.**		
Note:		The alarm delay on the alarm outputs and general common alarm output (pre-programmed to 2 minutes) will be activated. New delay period is activated by cancelling and re-activating the auxiliary disabling switch.	

9. Testing indicator lights and internal buzzer

Testing of the internal audio warning device and LED indicators can be activated to check that the buzzer and lights are functioning. Testing does not require an operator code.

All LED indicators will flash 0.5 seconds ON and 1.5 seconds OFF.

The internal audio warning device will sound. Audio characteristic: 0.5 sec. ON and 1.5 sec. OFF.

Step	Necessary Action	Visual Warning Status	Audio Warning Status
1	**Operate key 30 + ⏎**	All the LED indicators on the panel will flash 0.5 sec. ON and 1.5 sec. OFF.	The buzzer will issue an intermittent sound: 0.5 sec. ON and 1.5 sec. OFF.
2	**Monitor all the lamps and the sound from the buzzer while testing is under way.**	All the LED indicators switch off automatically after 5 minutes.	The audio warning device automatically switches off after 5 minutes.
	Note:	The test may be cancelled manually before 5 minutes have elapsed by pressing 30 + ⏎ . If an LED fails to light up, or the audio device is inaudible, contact the system administrator (or the technician responsible) immediately.	

10. Appendix

10.1 Summary of indicators

10.1.1 Main indicators

🔴 FIRE	Red indicator activated when the panel receives an alarm signal from a zone. • Flashing red light on alarm. • Constant red light when SILENCE ALARM is activated. • Flashing red light with a new alarm (0.5 sec. ON, 0.5 sec. OFF).
🟡 Test	Yellow indicator activated during the testing of control panel functions. • Constant yellow light during testing. (Test function not implemented).
🟡 Fault	Yellow error indicator activated by errors/faults in the system. • Flashing yellow light denotes error/fault and will remain until the control panel is reset (0.5 sec. ON, 1.5 sec. OFF). • If a fault remains after resetting the panel, the error indicator will be activated again.
🟡 Disabling	Yellow indicator comes on when a function is disabled. • Remains lit as long as the function is disabled. • Constant light when the panel is in delayed alarm mode (D/N function). *
🟢 On	Green indicator which comes on when a 230 V AC operating voltage or 24V batteries are connected up to the control panel.

* Not for maritime version BX-10M1M

10.1.2 Alarm – detector zones

Alarm	
🔴 zone 1 🔴 zone 2 🔴 zone 3 🔴 zone 4	Red indicator comes on when the control panel receives an alarm signal from the respective detector zone. • Flashing red light on alarm (0.5 sec. ON, 0.5 sec. OFF). • Constant red light with operation of the SILENCE ALARM button. • Flashing red light with new alarm. • Light goes out when the control panel is reset.

10.1.3 Fault/disabling/testing - zones 1 - 4

Fault/Disabling/Test	Yellow indicators with 3 functions: fault in zone, disabling of zone, and testing of zone (characteristics as per common indicator in sub-section 10.1.1).		
	Fault status	*Disabling status*	*Test mode*
🟡 Zone 1 🟡 Zone 2 🟡 Zone 3 🟡 Zone 4	Activated by break, short circuit or high surge in the loop. • Flashing yellow light with fault- remains active until control panel is reset. • Goes out when control panel is reset.	Disabling indication has priority over fault or test. • Constant yellow light as long as the zone is disabled.	• Not implemented

10.1.4 Fault/disabling/testing - alarm outputs

Fault/Disabling/Test	Yellow indicator with 3 functions: fault, disabling or testing of alarm outputs.		
	Error status	*Disabling status*	*Test mode*
	Activated by break or short-circuit in alarm outputs (AK1 and AK2) FAD's. • Flashing yellow light with fault – remains active until the control panel is reset.	Disabling indication has priority over error or test. • Constant yellow light as long as alarm output is disabled.	• Not implemented

10.1.5 Error/disabling/testing - general alarm output (BMA)

Fault/Disabling/Test	Yellow indicator with 3 functions: fault, disabling or testing of alarm transfer.		
	Error status	*Disabling status*	*Test mode*
	Monitoring of errors/faults in general alarm outputs. • Activated by break or short circuit in BMA or fuse F3. • Flashing yellow light – remains active until the control panel is reset.	Disabling function is activated in operator mode by pressing key 7. • Constant yellow light as long as the outputs are disabled.	• Not implemented

10.1.6 Error/disabling/testing - general fault output (BMF)

Fault/Disabling/Test	Yellow indicator with 3 functions: fault, disabling or testing of alarm transfer.		
	Error status	*Disabling status*	*Test mode*
	Monitoring of errors/faults in general fault outputs. • Activated by break or short circuit in BMF. • Flashing yellow light – remains active until the control panel is reset.	Disabling function is activated in operator mode by pressing key 8. • Constant yellow light as long as the outputs are disabled.	• Not implemented

10.1.7 Immediate warning disabled

Fault/Disabling/Test ◯ Immediate warning disabled	Yellow indicator is activated when the panel is configured for delayed alarm on the alarm outputs (AK) and common alarm output (BMA) (appendix 10.2). • Constant yellow light is activated by configuration of a delayed alarm via operator code and key-code, or via an auxiliary switch.

10.1.8 Fault in battery or battery fuse (F9)

Fault ◯ Battery	• Not in use for BX-10M1.

10.1.9 Fault on power supply/charger or fuse (F8)

Fault 🟡 Pow.Sup	Yellow indicator is activated if a fault occurs in the mains/charger unit (no mains voltage or charging voltage). Charging voltage below 24.5V or above 30.0V. • Flashing yellow light with error – remains until control panel is reset or fault rectified.

10.1.10 Earth fault on the control panel

Fault 🟡 Earth	Yellow indicator is activated if an earth current is detected in the control panel, detector loops, sounder circuits and external input/output signals. • Flashing yellow light with error – remains until control panel is reset.

10.1.11 System fault/controlled shut down of control panel

Fault 🟡 System	If the power to the control panel falls to 18V or below, the control panel will go into a controlled shut down status (system fault). • The combined fault indicator/indicator for system fault comes on, and the internal buzzer will generate a constant sound. This status will continue until the control panel is completely devoid of power. The disabled panel may be reset using one of the following two methods after normal power is restored. a) Press the button marked "RESTART" located on the lower left side of the rear of the main board. b) The power is switched off and switched on again.

10.1.12 Alarm sender activated

Information 🔴 Alarm sender activated	Red indicator activated by feedback-signal from alarm sender. • Constant red light when the communication is established, and goes out when the signal from alarm transmitter is cancelled.

10.1.13 Operator level/Service level

The indicator has two different functions: it indicates that the control panel is either in operator mode or service mode (service mode is not implemented as yet).

🟡 **Operator level**	Yellow indicator is activated when the panel is in operator mode, i.e. when the operator has entered the operator level (password) followed by [ENTER]. • Constant yellow light remains as long as the control panel is in operator mode (5 minutes after the last key-stroke).

Password (confidential information)

Operator level:	**110 +** ⏎
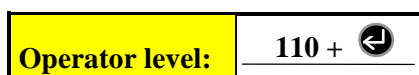
10.2 BX-10M Control Panel variants

BX-10M can be supplied with variants of the system program adapted to particular markets and special functions, e.g. the agricultural industry, maritime installations, and control panels to which intruder detectors can be connected.

Special program versions for specific countries are also available. If the program features for the individual country do not vary in relation to the Norwegian version, then only the front panel notation (language) is different.

The following versions are available:

BX-10	Standard version, Norwegian.
BX-10L	Agricultural version, Norwegian.
BX-10I	Fire and intruder version, Norwegian.
BX-10LI	Agricultural version with fire and intruder detection, Norwegian.
BX-10M	Maritime version. 230VAC, small cabinet.
BX-10M1	Maritime version. Approved according to EN60945. 110 - 230VAC. Double-sized cabinet.

Language variants of standard versions are denoted by BX-10/xx, where xx is the language code.

Brief explanation of what is unique about the different control panel variants.

BX-10:   *Standard Norwegian version (program P1BX10-110-xx)*
This version has an automatic safety coupling for disabled functions after 12 and 24 hours. This means that:
- disabled detector zones (loops) are automatically restored after 24 hours (oversight safety coupling). This automatic coupling overrides any disabling via an external trip switch with a closed contact.
- disabling of immediate detection (D/N function) is automatically restored after 12 hours.

BX-10L: *Agricultural version (P1BX10-112-xx)*
This version has a 4-hour automatic safety coupling feature for disabled loops. Otherwise it is identical to the standard version.

BX-10I: *Fire and intruder detection (P1BX10-113-xx).*
This version does <u>not</u> have automatic safety coupling for loop 4. This enables intruder detectors on loop 4 to be disabled with the possibility for manual disabling/restoring via an external code switch on input 4.

BX-10LI: *Agricultural version with fire and intruder detection (P1BX10-113-xx).*
Combination of functions for BX-10L and BX-10I versions.

BX-10M: Maritime version (P1BX10-116-xx).
This version is approved in accordance with the maritime regulations, SOLAS. The version features the following:
- Only for 230VAC.
- Small cabinet.
- Internal buzzer and alarm sounders (AK1 and AK2) are activated with a fixed signal on alarm.
- The delay for the alarm outputs is 2 minutes. The BMA output has no delay.
- A stropping between terminator 60 and 64 activates the standard 2 minutes delay of alarm outputs.
- No LED indication on front panel for delayed alarm outputs.
- Sounder alarm output signal, 7 short and 1 long, by strapping between connection 5 and 6.

BX-10M1: Maritime version (P1BX10-116-xx).
This version is approved in accordance with the maritime regulations, SOLAS and EN60945. The version features the following:
- Powered from 110-230VAC mains.
- Double-sized cabinet.
- Internal buzzer and alarm sounders (AK1 and AK2) are activated with a fixed signal on alarm.
- The delay for the alarm outputs is 2 minutes. The BMA output has no delay.
- A stropping between terminator 60 and 64 activates the standard 2 minutes delay of alarm outputs.
- No LED indication on front panel for delayed alarm outputs.
- Sounder alarm output signal, 7 short and 1 long, by strapping between connection 5 and 6.

11. Reader's Comments

Please help us to improve the quality of our documentation by returning your comments on this manual:

Title: *Operators Handbook, BX-10M1*

Ref. No.: *P-BX10M1/FE Rev. A, 050128*

Your information on any inaccuracies or omissions (with page reference):

Please turn the page

Suggestions for improvements

Thank you! We will investigate your comments promptly.

Would you like a written reply?　❑ Yes　❑ No

Name:　　--

Title:　　--

Company:　--

Address:　--

　　　　　--

　　　　　--

Telephone:　--

Fax:　　--

Date:　　--

Please send this form to:　　Autronica Fire and Security AS

　　　　　　　　　　　　　N-7483 Trondheim

　　　　　　　　　　　　　Norway

　　　　　　　　　　　　　Tel: + 47 73 58 25 00
　　　　　　　　　　　　　Fax: + 47 73 58 25 01

Autronica Fire and Security AS is an international company, based in Trondheim, Norway and has a world-wide sales and service network. For more than 40 years Autronica's monitoring systems have been saving lives and preventing catastrophes on land and at sea. Autronica Fire and Security's most important business area is fire detection & security. Autronica Fire and Security stands for preservation of environment, life and property.

Quality Assurance

Stringent control throughout Autronica Fire and Security assures the excellence of our products and services. Our quality system conforms to the Quality System Standard NS-EN ISO 9001, and is valid for the following product and service ranges: marketing, sales, design, development, manufacturing, installation and servicing of:

- fire alarm and security systems
- petrochemical, oil and gas instrumentation systems for monitoring and control

In the interest of product improvement, Autronica Fire and Security reserves the right to alter specifications according to current rules and regulations.

Autronica Fire and Security AS
   Fire and Security, Trondheim, Norway. Phone: + 47 73 58 25 00, fax: + 47 73 58 25 01.
   Oil & Gas, Stavanger, Norway. Phone: + 47 51 84 09 00, fax: + 47 51 84 09 99.
   Autronica Industrial Ltd., Watford, United Kingdom. Phone: 1923 23 37 68, fax: 1923 22 55 77.
Visit Autronica Fire and Security's Web site: www.autronicafire.com