Fire Alarm Control panel BX-10

Conventional fire alarm control panel with 4 zones (loops)

Operators Handbook

Protecting life, environment and property...

AUTRONICA

Contents

1. Introduction

1.1 About this manual

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

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

1.2 The reader

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

1.3 Other reference material

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

Manual	Item no.
Installation Manual - BX-10 Fire Alarm Control Panel	P-BX-10/IE
Data sheet	P-BX10/CE

2. Operating the control panel

2.1 Operating levels

The BX-10 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		Ⓡ
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	Ⓒ (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.
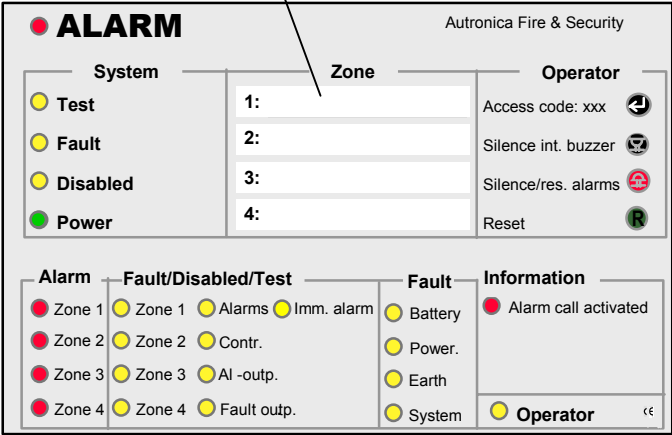
Operator code: 110 + ⏎.

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-10 Installation and Commissioning Handbook.

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

● ALARM		Autronica Fire & Security
System	**Zone**	**Operator**
○ Test	1:	Access code: xxx ⏎
○ Fault	2:	Silence int. buzzer
○ 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	
● Zone 4	○ Zone 4	○ Fault outp.		○ System	○ **Operator**

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.
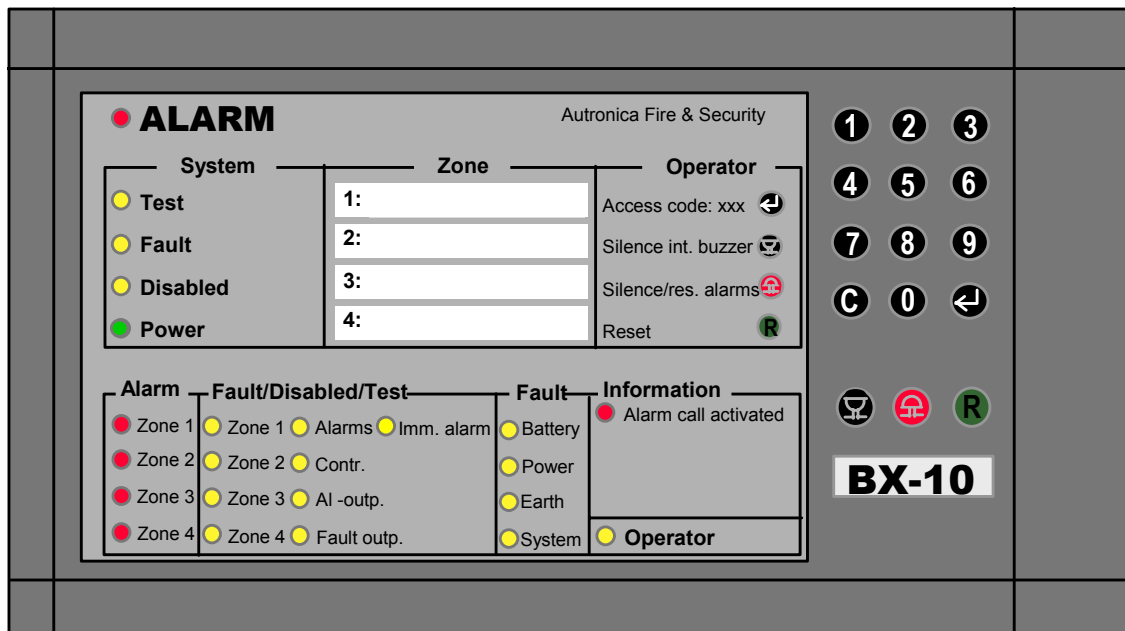
4. A fire alarm is activated!

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:
0.5 sec. ON – 0.5 sec. OFF
Continuous signal on BX-10M

Internal buzzer is activated.

All alarm units linked to the panel are activated (1 sec. ON , 1 sec. OFF)
*Continuous alarm signal for maritime version

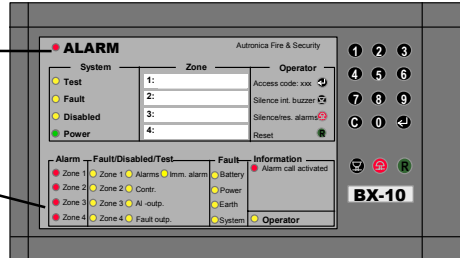| Step	Necessary action	Visual Warning Status	Audio Warning Status
1	**Follow local fire instructions step by step.**	The red FIRE indicator flashes. The zone indicator(s) at the bottom-left will flash red, indicating in which detector zone(s) the fire is registered (zones 1 to 4).	The integrated audio 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 take the necessary action.**		
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	**Silence alarm by pressing** 🔔	The red FIRE indicator and zone indicator(s) light up with steady light.	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.	
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 delayed warning

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 is operated in a zone.

The red FIRE indicator flashes.

Red flashing zone lights indicate which detector zone(s) are involved.

Audio/visual characteristics: 0.5 sec. ON – 0.5 sec. OFF

The yellow LED indicator for IMMEDIATE WARNING DISABLED comes on.

The integrated audio warning device is activated.

The yellow DISABLING indicator comes on when immediately warning is disabled.
*This does not applies on the maritime version (Appendix 10.2).

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 is activated.
	Note:	Five-minute alarm delay starts (two minute alarm delay applies to maritime version). Immediate alarms are disabled during the delay period. The yellow DISABLING indicator comes on, together with the yellow IMMEDIATE WARNING DISABLED indicator. 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.
	Note:	The yellow DISABLING indicator and IMMEDIATE WARNING DISABLED indicator will remain on.	
3	**Investigate the fire.**		

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. The yellow DISABLING indicator and the IMMEDIATE WARNING DISABLED indicator will continue on.	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	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

On or more faults occur. The panel indicates which type of error(s) has arisen.

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.
- External communication -modem/telephone line
- Battery
- Power supply – charger, mains connection
- Earth fault
- System fault
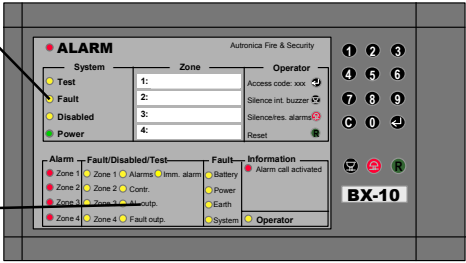
Audio/visual characteristics:
0.5 sec. ON – 1.5 sec. OFF

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:		When the error is rectified the system requires resetting.	
4	Go into operator mode: key in operator code +	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 characteristics (0.5 sec. ON/1.5 sec. OFF) will change to the characteristics for fire (0.5 sec. ON/0.5 sec. OFF). When the alarm is rest (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.

NB!
All disabling will be restored automatically after a 24-hour time lapse (12 hours for immediate alarm and 12 and 24 hours for all other disablement's).
* Disabled zones in the BX-10 system designed for agricultural use will be automatically restored after 4 hours.
* Disables zones in the BX-10M (Maritime version) will not be restored automatically.

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.
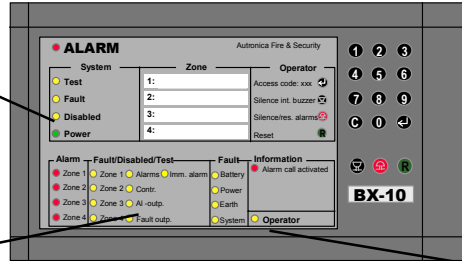
The yellow OPERATOR LEVEL indicator will come on.

Step	Necessary Action	Visual Warning Status	Audio Warning Status
1	**Key operator code +** ⏎	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)	
	Note:	With delayed alarm (D/N mode), the yellow common DISABLING indicator and yellow DISABLING IMMEDIATE WARNING indicator will come on.	
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:	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*.	
	Restoring functions:	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.	
	Automatic safety restoring	All disabling, except disabling of immediate warning, will be automatically restored after a 24-hour time lapse. Disabling of immediate warning will be restored after 12 hours. * Agricultural version is automatically restored after 4 hours (special requirement).	

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).

NB!
All disabling will be restored automatically after a 24-hour time lapse.
- Disabled zones in the BX-10 system designed for agricultural use and for use on ships will be automatically restored after 4 hours.
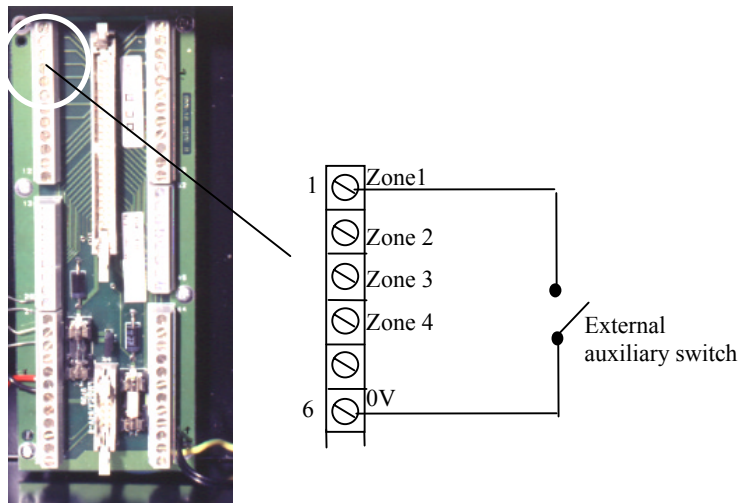
8. Activating the alarm delay function

8.1 Introduction

To avoid causing any unnecessary disturbance at particular times of the day it is possible to *disable* the *immediate alarm warning*. By disabling this function (i.e. when alarm delay is active), a period of 5 minutes will pass before the sounders start to ring. This facility enables the operator, for example, to activate an alarm delay during the day and deactivate the delay function during the night (the D/N function).

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 Cap. 8.2) by pressing key 9 + ⏎ in operator mode, or by using an auxiliary switch/timer (see Chap. 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.

NB!
The function will automatically be restored after a 12-hours time lapse, This safety function applies to both front panel or auxiliary switch disablement.
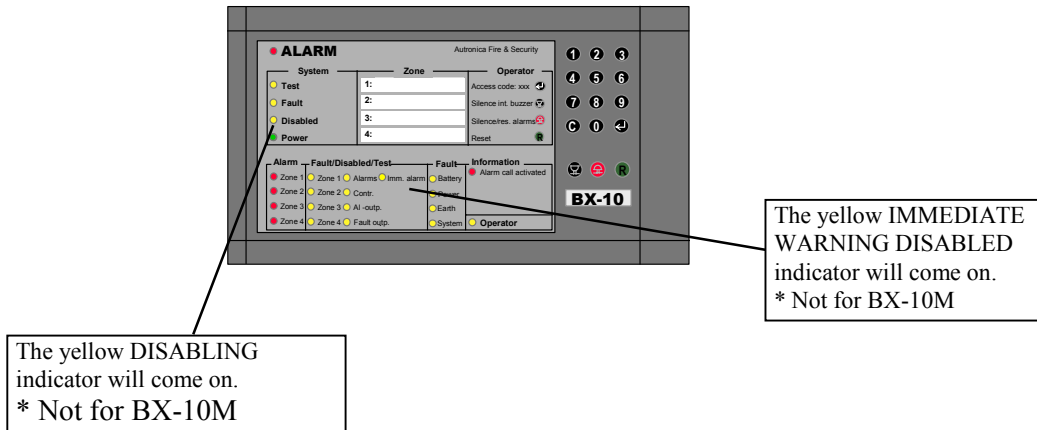
8.1.1 Maritime panel BX-10M

- 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.
- No automatic restoring of the delay function after 12 hours.

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.
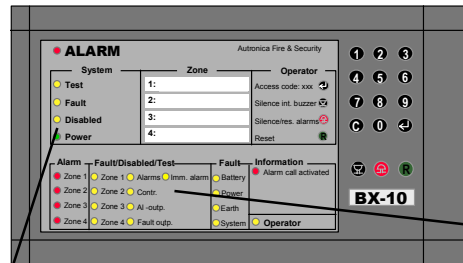

The yellow IMMEDIATE WARNING DISABLED indicator will come on.
* Not for BX-10M

The yellow DISABLING indicator will come on.
* Not for BX-10M

Step	Necessary Action	Visual Warning Status	Audio Warning Status
1	Key operator code + ↵	The yellow operator level indicator will come on.	
	Note:	The *default* alarm delay function (day/night function) is *key-code 9*, and includes the AK1, AK2 and BMA outputs. The default time delay is 5 minutes.	
2	Enter key code + ↵	The yellow DISABLING and IMMEDIATE WARNING DISABLED indicators will come on.	
	Note :	The 5-minute alarm delay on the alarm outputs(AK1 and AK2) and general alarm output (BMA) will be activated. The yellow DISABLING and IMMEDIATE WARNING DISABLED indicators will remain on until the function is deactivated by repeating the procedure, or by it being automatically restored to normal (after 12 hours) by the time-programmed safety restore function.	

Maritime version; see appendix 10.2.

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.

The yellow IMMEDIATE WARNING DISABLED indicator will come on.
* Not for BX-10M

The yellow DISABLING indicator will come on.
* Not for BX-10M

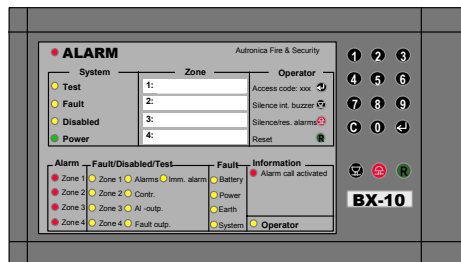| Step	Necessary Action	Visual Warning Status	Audio Warning Status
1	**Disable immediate warning by closing the auxiliary switch.**	The yellow DISABLING and IMMEDIATE WARNING DISABLED indicators will come on.	
2	**Restore immediate warning function by resetting auxiliary switch.**	Yellow DISABLING indicator and IMMEDIATE WARNING DISABLED indicator go out.	
	Note:	The alarm delay on the alarm outputs and general common alarm output (pre-programmed to 5 minutes) will be activated.	
		Function is automatically restored by the control panel after 12-hour time lapse even though auxiliary disabling switch is active.	
		New delay period is activated by cancelling and re-activating the auxiliary disabling switch.	

*Maritime version; see appendix 10.2.

9. Testing indicator lights and internal buzzer

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-10M

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	Yellow indicator is activated if a fault occurs. Activated if the control panel registers an operating voltage below 22.5V or above 30.0V • Flashing yellow light with fault– remains until control panel is reset.

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-10 Control Panel variants

BX-10 can now 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.
BX-10M2	Maritime special version
BX-10m/xx-24	Maritime, 24V DC powered
BX-10M2/xx-24	Maritime special version, 24V DC powered
BX-10/S1	Swedish version.
BX-10I/S1	Swedish version with fire and intruder detection
BX-10/NL	Dutch version

Language variants of standard versions are denoted by BX-10M/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 maritime version has the following variances from the standard version:
- 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.
- No automatically restoring of delayed alarm function after 12 hours.
- Sounder alarm output signal, 7 short and 1 long, by strapping between connection 5 and 6.

BX-10M2: Maritime special version (P1BX10-118-xx)
Same basic functions as the standard M-version, except for the following functions:
- 5 minutes delay of main power supply default
- Pulsating sounder outputs (1s ON, 1 s OFF)
- No activation of 7 short and 1 long signal by strapping 5 and 6

BX-10M/xx-24: Maritime version, 24 V DC powered (P1BX10-116-xx)
- 24 V DC powered panel (18-32 V DC)
- No room for battery inside cabinet
- Standard maritime functions like BX-10

BX-10M2: Maritime special version, 24 V DC powered (P1BX10-118-xx)
- Functions like BX-10M2
- 24 V DC powered (18-32 V DC)
- No room for battery inside cabinet

BX-10/S1: *Swedish version (P1BX10-114-xx)*
Same as the standard Norwegian version, but with the possibility for connection of an external key box for a standard fire key. This is made possible by the external key switch giving 0 volts on input 5 on the terminal board. The key function will work parallel with operator code 110.

BX-10I/S1: *Swedish version with fire and intruder detection (P1BX10-115-xx).*
Similar to the standard Norwegian BX10I version, but with the possibility for connection of an external key box.

BX-10/NL: Dutch version (P1BX10-117-xx)
This version has fixed alarm output signal on AK1 and AK2. Else like standard BX-10.

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-10*

Ref. No.: *P-BX10/FE - Rev.F, 030123*

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

Suggestions for improvements

Thank you! We will investigate your comments promptly.

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