CERTIFICATE OF CONFORMITY

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1. **FIRE PROTECTION EQUIPMENT**

2. **Certificate No:**   **FM23FPCA0005**

3. **Equipment:**   **Autro Safe Interactive Fire Detection System**
   (Type Reference and Name)

4. **Name of Listing Company:**   **Autronica Fire and Security AS**

5. **Address of Listing Company:**   **Bromstadveien 59, Trondheim, Norway**

6. The examination and test results are recorded in confidential report number:

   3048361 dated 13th April 2020

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

   FM 3010:2021

8. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

9. Approval Guide Listing Category:

   Local Protective Signaling, Fire
   Automatic Releases for Extinguishing Systems and Other Fire Protection Equipment

Certificate issued by:

J.E. Marquedant (signature)

_____

J.E. Marquedant
VP, Manager - Electrical Systems

12 October 2023
_____
Date

10. **Description of Equipment:**

Fire Alarm Control Panel BS-420, BS-420M, BS-420G, BS-420MG, BS-420G2
control and monitor - alarm and system features
SLC – 6 max., Class X, 512 devices per panel.
Supports - maximum 12 modules, six loops and a total of 512 devices.
2 Ethernet ports
2 USB host ports
1 RS-232, RS-422 or RS-485 serial port for communication with FM Approved third party equipment
1 AutroFieldBus (AFB) interface
1 AlCom+ interface
FailSafe relay output, optional NC or NO, 30V/1A
Power redundancy
Modules included in panel:
BSS-310A PSU module 24V/840mA
BSL-310 Communication module, RS-232.

Controller BC-420, BC-420G2, BC-440 BC-440G2, BS-1346, BS-1346G2
SLC – 6 max., Class X, 512 devices per panel.
Supports - maximum 12 modules.
2 Ethernet ports
2 USB host ports
1 RS-232, RS-422 or RS-485 serial port for communication with FM Approved third party equipment
1 AutroFieldBus (AFB) interface
1 AlCom+ interface
FailSafe relay output, optional NC or NO, 30V/1A
Power redundancy
Modules included in controller:
BSS-310A PSU module 24V/840mA
BSL-310 Communication module, RS-232.
Controller Board BSA-400A 24VDC.

Optional Modules:
BSD-310(N) / BSD-311 SLC driver Module, 1 AL Com, configurable for Class X or Class B signaling, max. 127 devices, output 24VDC, 100mA/200mA
BSB-310A, Output Module, Monitored, 4 outputs 24VDC 1A, 3A max.
BSJ-310 Output Module, 8 open collector output 24VDC 100mA
BSE-310, Input Module, 4 Monitored inputs for signaling normal, alarm, shorted or broken line.
BSE-320 Input Module, 8 Non monitored inputs for clean contact signal.
BSS-311 Dual Power monitoring module, 2 inputs 24VDC, 2 outputs monitored 24VDC

Operator Panel BS-430, BS-430G2
SLC – 6 max., Class X, 512 devices per panel.
Control and monitor - alarm and system features
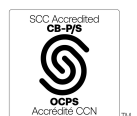2 Ethernet ports

To verify the availability of the Approved product, please refer to www.approvalguide.com

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FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
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2 USB host ports
1 serial port for the std. detection loop communication protocol
1 RS-232, RS-422 or RS-485 serial port for communication with FM Approved third party equipment
1 AutroFieldBus (AFB) interface
FailSafe relay output, optional NC or NO, 30V/1A

Repeater Panel BU-BV-420, BU-BV-420G2
Fire Brigade or Information Panel - Dipswitch selectable
Fire Brigade Panel - displays alarms, control of alarms and receipt added information for operation zone.
Information Panel provides information related to the defined operation zone(s) only.

Ethernet switches for inter panel communication [optional for rack mounting:

Switch Type	Description
FL SWITCH SFNT 4TX/FX	4 RJ45 ports, 1 fiber optic multi-mode port (SC)
FL SWITCH SFNT 8TX	8 RJ45 ports
FL SWITCH SFNT 7TX/FX	7 RJ45 ports, 1 fiber optic multi-mode port (SC)
FL SWITCH LM 5TX	5 RJ45 ports
FL SWITCH LM 4TX/FX	4 RJ45 ports,1 fiber optic multi-mode port (SC)
FL SWITCH LM 4TX/2FX	4 RJ45 ports,2 fiber optic multi-mode port (SC)
FL SWITCH LM 4TX/FX SM	4 RJ45 ports, 1 fiber optic single-mode port (SC)
FL SWITCH LM 4TX/2FX SM	4 RJ45 ports, 2 fiber optic single-mode port (SC)
FL SWITCH SFNB 8TX	8 RJ45 ports
FL SWITCH SFN 7TX/FX	7 RJ45 ports, 1 multimode port
FL SWITCH SFN 6TX/2FX	6 RJ45 ports, 2 multimode ports

Repeater Panel BU-110, BV-110, loop powered

Fire Brigade Panel BU-110 powered from detector loop, displays alarms, control of alarms and receipt added information for operation zone.
Information Panel BV-110 powered from detector loop provides information related to the defined operation zone(s) only.

Power Cabinet BP-405

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Supervised PSU 24V/5A,
6 outputs 24VDC, max 2A each (max. 5A total)
115VAC /230VAC input
1 fault relay output, 30V/1A, optional NC or NO.

Power Supply Unit BPS-410
24V/10A power supply
116-4550-012.2410 power supply 24V/10A
Power Board BSF-400:
AutroFieldBus interface
115VAC /230VAC input
6 outputs 24VDC (max. 2A each)
1 fault relay output, optional NC or NO, 30V/1A

I/O units:
BN-201 Input unit for fault monitoring
BN-221/01 Extinguishing control unit
Compatible Solenoids: Kidde-Fenwal 890181 Control Head
Kidde-Fenwal 486500 Control Head
BN-221/02 Monitored output unit, 7A relay
BN-300 Input unit with SelfVerify
BN-300M Input Unit with SelfVerify
BN-303 Single monitored input unit
BN-304 Single monitored Input/Output unit
BN-310 Single Relay Output unit
BNB-331 Conventional loop interface
BN-320 Interface unit with SelfVerify
BN-320/02 Door control unit
BN-320,04 Monitoring and control unit
BN-320/05 Sprinkler control unit
BN-342/EX POWER LOOP 4-20mA input unit
BN-500/EX Input Unit with SelfVerify Ex ia
BN-500/N Input Unit with SelfVerify Ex ic Zone 2
BNB-330/01 Conventional loop interface module
BNB-330/A Conventional loop interface

Loop units, Field equipment
Heat detectors AL Com addressable initiating BD-series devices rated 130°F (56°C) BD-series:
BD-200 interactive heat detector
BD-300 interactive heat detector with SelfVerify function
BD-500 interactive heat detector with SelfVerify function
BD-501 interactive heat detector with SelfVerify function, IP56
RTI classification when detector set to fixed is Quick with 6m x 6m spacing (20 x 20 ft)
RTI classification when detector set to rate compensated is V2Fast with 10m x 10m spacing (35 x 35 ft)

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Smoke detectors BH-series:
BH-200 interactive photoelectric smoke detector
BH-300, BH-500, BH-500/S, BH-500/N interactive photoelectric smoke detectors with SelfVerify function
Multisensor detectors BH-series:
BH-220 interactive smoke detector with thermistor heat detection
BH-320 interactive smoke detector with thermistor heat detection. With SelfVerify function.
BH-520 interactive smoke detector with thermistor heat detection. With SelfVerify function.

Detector Bases and accessories:
BWA-100 Detector base
BWP-100/20, BWP-100/25 Conduit box for detector base with cable glands 20/25m
BWP-143A Duct sampling unit, for use with smoke BH – series smoke detectors
BJ-358/100 Pipe Kit, sampling pipe

Manual Call points:
BF-300V2 Interactive MCP
BF-500V2/EX Interactive MCP Ex ia
BF-500V2/N Manual Call Point with SelfVerify Ex ic
BF-510WP-H Interactive MCP, IP52 [without cover], IP55 with cover]
BF-501 Manual Call Point with SelfVerify
BF-501/EX Interactive MCP, Ex ia, IP66
BF-501/N Manual Call Point with SelfVerify, Ex ic
BF-502 Manual Call Point with SelfVerify
BF-502/EX Interactive MCP, Ex ia, IP66
BF-502/N Manual Call Point with SelfVerify, Ex ic
BF-503 Manual Call Point with SelfVerify
BF-503/EX Interactive MCP, Ex ia, IP66
BF-503/N Manual Call Point with SelfVerify, Ex ic

Ancillary devices
BU-47 Remote alarm indicator, parallel indicator to detector alarm LED

Notification Appliances:
BBR-200 Addressable loop sounder
BBR-110 Addressable socket sounder

Powerloop equipment:
BSD-321 RS485 Protocol converter
BSD-340/1 Powerloop driver 30V/100W rack mount,
BSD-340/2 Powerloop driver 30V/100W DIN rail mount,
BN-342/1 PowerLoop 4-20 mA input unit rack mount,
BN-342/2 PowerLoop 4-20 mA input unit DIN rail
BN-342/EX PowerLoop 4-20mA input unit Ex eb

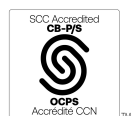The following devices have been FM Approvals tested for compatibility with Autrosafe 4 System.

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Addressable detectors can be optionally configured to drive a BU-47 remote addressable indicator. Optional addressable sounder/indicator BBQ-230/CL, connects and programmed to the SLC to operate in parallel with one or several (a group of) detectors. Neither indicator is intended for evacuation signaling.

BS-420 system firmware version 4.4.X [includes optional panels: BS-430 or BS-430G2 Operator Panel, BU-BV-420 or BU-BV-420G2 Repeater Panel, BU-110 Fire Brigade Loop Panel and BV-110 Information Loop Panel]

BX-4XX [X=alpha designation] controls are suitable for operation in ambient temperatures from 32° to 140°F (0° to 60°C); the BD series heat detectors operate from -4° to 125°F (-20° to 52°C); all other peripheral devices are rated at -4° to 158°F (-20° to 70°C).

See also: Automatic Releases for Extinguishing Systems and Other Fire Protection Equipment listing.

AutroSafe Integrated Fire and Gas Alarm Control System 4 consists of either a single control panel or networked configuration from a selection of five different panels. A single BS-420, BS-420M, BS-420MG, BS-420G, or BS-420G2 Fire Alarm Control using software designated 4.4.x requires a power supply, either a BP-405 Power Cabinet, or a BPS-405 or BPS-410. It can accommodate a maximum of 12 modules. Controls are limited to six loops and a total of 512 devices. Loops can contain initiating devices or notification appliances. System power from the BP-405 is a supervised 5.0 A at 24 Vdc from 115/230 Vac or a 24 Vdc from a two 18 Ah battery bank provided internally to the BP-405. Optional battery banks of up to 115 Ah are available for a multi-panel AutroSafe Fire Alarm Control System may include a BC-420, BC-420G2, BC-440, BC-440G2, BS-1346, BS-1346G2. Control panel using the same software and power as the BS-420 and optional panels: BS-430 or BS-430G2 Operator Panel, BU-BV-420 or BU-BV-420G2 Repeater Panel. BX-4XX controls are suitable for operation in ambient temperatures from 32° to 140°F (0° to 60°C); the BD series heat detectors operate from -4° to 125°F (-20° to 52°C); all other peripheral devices are rated at -4° to 158°F (-20° to 70°C). The BN-221/01 and BN-221/02 Interface units provide 6 A dc at 27 V dc to drive releasing devices. Kidde Fenwal solenoids 486500 and 890181 can be connected to BN-221/01. See also LOCAL PROTECTIVE SIGNALING listing.

11. **Test and Assessment Procedure and Conditions:**

This Certificate has been issued in accordance with FM Approvals Canadian Certification Requirements.

12. **Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

13. **Certificate History**

Details of the supplements to this certificate are described below:

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Date	Description
12 October 2023	Original Issue. Reference RR238087

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