

MARITIME STD. SOLUTIONS BS-420M (CABINETS AND MOUNTING PLATES)

AutoSafe Interactive Fire Detection System Product Datasheet

Features

- 32 maritime panel variants (see matrix on next page)
- BS-420M control panel features
- User-friendly display and operator controls
- Backlit operational buttons
- Text display suitable for full darkness operation
- SelfVerify function for automatic testing of detectors
- Automatic addressing of detectors
- Conforms to applicable EU directives and regulations
- Approved according to CEN Standards EN 54-2, EN 54-4¹ and EN 54-13, FM regulations (Factory Mutual) and maritime regulations (IMO/SOLAS and USCG)
- Type approved by DNV, BV, LR, ABS and CCS

Description / Application

The maritime standard solutions BS-420M consist of a total of 32 variants, including main panel versions for mounting in a Rittal cabinet and back plate solutions for mounting in alternative cabinets and consoles. The variants cover both 115 V AC and 230 V AC voltage. They are equipped with different power supplies and various number of loop driver modules and input/output modules. The panel variants are described in detail in the “Panel Variant Matrix” on next page.

The different communication ports are described in the technical specification in this datasheet.

The BS-420M control panel has full operation capabilities. All alarm handling and system features can be controlled and monitored from the panel. It is menu operated on a 16-line display, with 40 characters per line. The panel communicates with other system units on the Ethernet-based local area network, AutoNet.



For further details, see “Maritime Standard System Description”, Doc-1005183.

Indicators on BS-420M

- 16 x 40-character alphanumeric display
- Fire, More Events, Fire Brig. Signaled, Fault, Function Disabled, Testing, System Fault, Power, Function Delayed, Alarms Fault, Fire Brig. Fault, Alarms Disabled, Fire Brig. Disabled, Detector Inhibit, Extinguishing Activated, Extinguishing Isolated, Local Mode, Dual Safety Stdbby, MultiS SmokeDis.
- Internal buzzer

Operator Controls on BS-420M

- More Events, Mute Panel, Silence Alarms, Reset System, Menu, Close Window
- Keyboard with alphanumeric characters and scroll function
- Separate buttons for menu operation
- Backlit buttons and text

¹ C2 and P2 solution not according to EN54-4 standard.

Panel Variant Matrix

Model	Description	
116-BS-420M	AutroSafe 4 panel Maritime approvals	
	Cabinet	Description
	C1	Standard Rittal cabinet, with BPS-410 power supply (Required for EN54-4)
	P1	Mounted on backplate, with BPS-410 power supply, without battery shelf (Required for EN54-4)
	C2	Standard Rittal cabinet, with Phoenix power supply; 5 A (part no. 116-4660-018.0008) or 10 A (part no. 116-4660-018.0009)
	P2	Mounted on backplate, with Phoenix power supply; 5 A (part no. 116-4660-018.0008) or 10 A (part no. 116-4660-018.0009) without battery shelf
	Loops	Description
	L04	4x 116-BSD-310
	L06	6x 116-BSD-310
	L09	9x 116-BSD-310
	L12	12x 116-BSD-310
	Output	Description
	O3	2x 116-BSJ-310 + 1x 116-BSB-310A
	Input	Description
	IN1	1x 116-BSE-320
	Voltage	
	115	115 V AC
	230	230 V AC

Examples showing how to find the part number for two different variants.

Model	Cabinet	Loops	Output	Input	Voltage	Part number	Description
116-BS-420M	C1	L04	O3	IN1	230	116-BS-420M-C1L04O3IN1230	AS4 MAR CAB 4LOOPS BPS 230V
116-BS-420M	P1	L04	O3	IN1	115	116-BS-420M-P1L04O3IN1115	AS4 MAR PLATE 4LOOPS BPS 115V

Panel Variants Overview

No#	Model	Cabinet	Loops	Output	Input	Voltage	Part number	Description	Weight (approx.)
1	116-BS-420M	C1	L04	O3	IN1	230	116-BS-420M-C1L04O3IN1230	AS4 MAR CAB 4LOOPS BPS 230V	42,8kg
2	116-BS-420M	C1	L04	O3	IN1	115	116-BS-420M-C1L04O3IN1115	AS4 MAR CAB 4LOOPS BPS 115V	42,8kg
3	116-BS-420M	C1	L06	O3	IN1	230	116-BS-420M-C1L06O3IN1230	AS4 MAR CAB 6LOOPS BPS 230V	43kg
4	116-BS-420M	C1	L06	O3	IN1	115	116-BS-420M-C1L06O3IN1115	AS4 MAR CAB 6LOOPS BPS 115V	43kg
5	116-BS-420M	C1	L09	O3	IN1	230	116-BS-420M-C1L09O3IN1230	AS4 MAR CAB 9LOOPS BPS 230V	45,7kg
6	116-BS-420M	C1	L09	O3	IN1	115	116-BS-420M-C1L09O3IN1115	AS4 MAR CAB 9LOOPS BPS 115V	45,7kg
7	116-BS-420M	C1	L12	O3	IN1	230	116-BS-420M-C1L12O3IN1230	AS4 MAR CAB 12LOOPS BPS 230V	46kg
8	116-BS-420M	C1	L12	O3	IN1	115	116-BS-420M-C1L12O3IN1115	AS4 MAR CAB 12LOOPS BPS 115V	46kg
9	116-BS-420M	C2	L04	O3	IN1	230	116-BS-420M-C2L04O3IN1230	AS4 MAR CAB 4LOOPS PSU 230V	41,5kg
10	116-BS-420M	C2	L04	O3	IN1	115	116-BS-420M-C2L04O3IN1115	AS4 MAR CAB 4LOOPS PSU 115V	41,5kg
11	116-BS-420M	C2	L06	O3	IN1	230	116-BS-420M-C2L06O3IN1230	AS4 MAR CAB 6LOOPS PSU 230V	41,7kg
12	116-BS-420M	C2	L06	O3	IN1	115	116-BS-420M-C2L06O3IN1115	AS4 MAR CAB 6LOOPS PSU 115V	41,7kg
13	116-BS-420M	C2	L09	O3	IN1	230	116-BS-420M-C2L09O3IN1230	AS4 MAR CAB 9LOOPS PSU 230V	44,4kg
14	116-BS-420M	C2	L09	O3	IN1	115	116-BS-420M-C2L09O3IN1115	AS4 MAR CAB 9LOOPS PSU 115V	44,4kg
15	116-BS-420M	C2	L12	O3	IN1	230	116-BS-420M-C2L12O3IN1230	AS4 MAR CAB 12LOOPS PSU 230V	44,7kg
16	116-BS-420M	C2	L12	O3	IN1	115	116-BS-420M-C2L12O3IN1115	AS4 MAR CAB 12LOOPS PSU 115V	44,7kg
17	116-BS-420M	P1	L04	O3	IN1	230	116-BS-420M-P1L04O3IN1230	AS4 MAR PLATE 4LOOPS BPS 230V	12,8kg
18	116-BS-420M	P1	L04	O3	IN1	115	116-BS-420M-P1L04O3IN1115	AS4 MAR PLATE 4LOOPS BPS 115V	12,8kg
19	116-BS-420M	P1	L06	O3	IN1	230	116-BS-420M-P1L06O3IN1230	AS4 MAR PLATE 6LOOPS BPS 230V	13kg
20	116-BS-420M	P1	L06	O3	IN1	115	116-BS-420M-P1L06O3IN1115	AS4 MAR PLATE 6LOOPS BPS 115V	13kg
21	116-BS-420M	P1	L09	O3	IN1	230	116-BS-420M-P1L09O3IN1230	AS4 MAR PLATE 9LOOPS BPS 230V	15,7kg
22	116-BS-420M	P1	L09	O3	IN1	115	116-BS-420M-P1L09O3IN1115	AS4 MAR PLATE 9LOOPS BPS 115V	15,7kg
23	116-BS-420M	P1	L12	O3	IN1	230	116-BS-420M-P1L12O3IN1230	AS4 MAR PLATE 12LOOPS BPS 230V	16kg
24	116-BS-420M	P1	L12	O3	IN1	115	116-BS-420M-P1L12O3IN1115	AS4 MAR PLATE 12LOOPS BPS 115V	16kg
25	116-BS-420M	P2	L04	O3	IN1	230	116-BS-420M-P2L04O3IN1230	AS4 MAR PLATE 4LOOPS PSU 230V	11,5kg
26	116-BS-420M	P2	L04	O3	IN1	115	116-BS-420M-P2L04O3IN1115	AS4 MAR PLATE 4LOOPS PSU 115V	11,5kg
27	116-BS-420M	P2	L06	O3	IN1	230	116-BS-420M-P2L06O3IN1230	AS4 MAR PLATE 6LOOPS PSU 230V	11,7kg
28	116-BS-420M	P2	L06	O3	IN1	115	116-BS-420M-P2L06O3IN1115	AS4 MAR PLATE 6LOOPS PSU 115V	11,7kg
29	116-BS-420M	P2	L09	O3	IN1	230	116-BS-420M-P2L09O3IN1230	AS4 MAR PLATE 9LOOPS PSU 230V	14,4kg
30	116-BS-420M	P2	L09	O3	IN1	115	116-BS-420M-P2L09O3IN1115	AS4 MAR PLATE 9LOOPS PSU 115V	14,4kg
31	116-BS-420M	P2	L12	O3	IN1	230	116-BS-420M-P2L12O3IN1230	AS4 MAR PLATE 12LOOPS PSU 230V	14,7kg
32	116-BS-420M	P2	L12	O3	IN1	115	116-BS-420M-P2L12O3IN1115	AS4 MAR PLATE 12LOOPS PSU 115V	14,7kg

Cabinet Description

Control Cabinet Wall Mounted

The system is installed in a Rittal cabinet. The cabinet is designed for wall mounting and is delivered with a multi flange cable inlet and a door stopper. The fire detection operating panel is flush mounted in the front door (see drawing below).

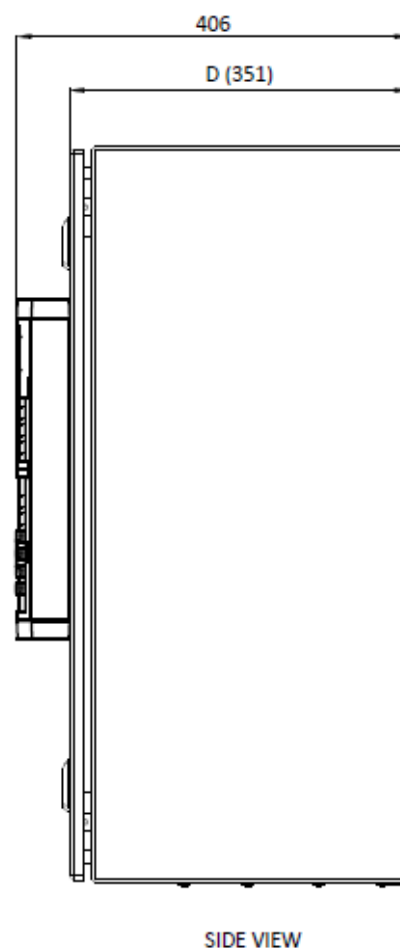
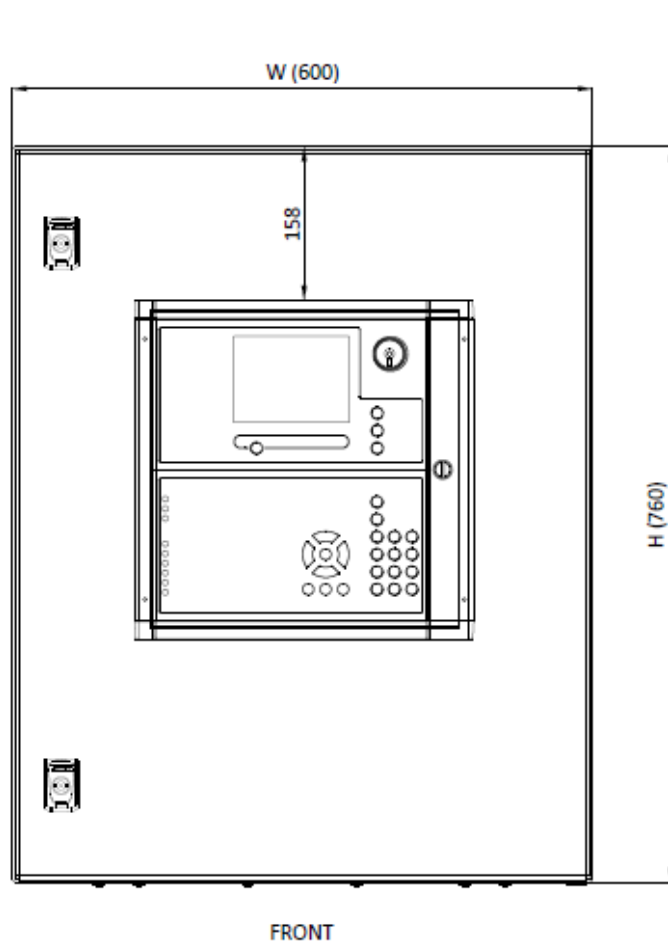


Cabinet Dimensions

Width: 600 mm

Height: 760 mm

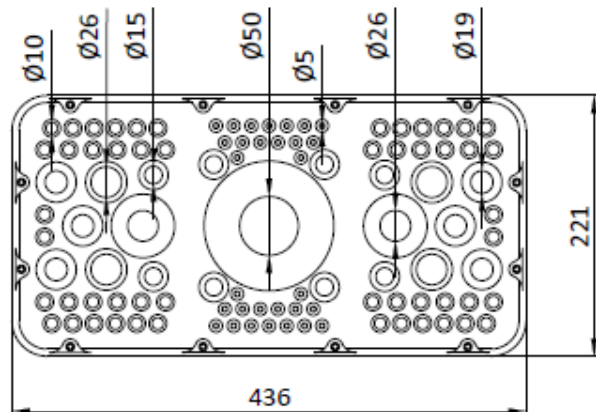
Depth: 406 mm with panel



Cable Gland

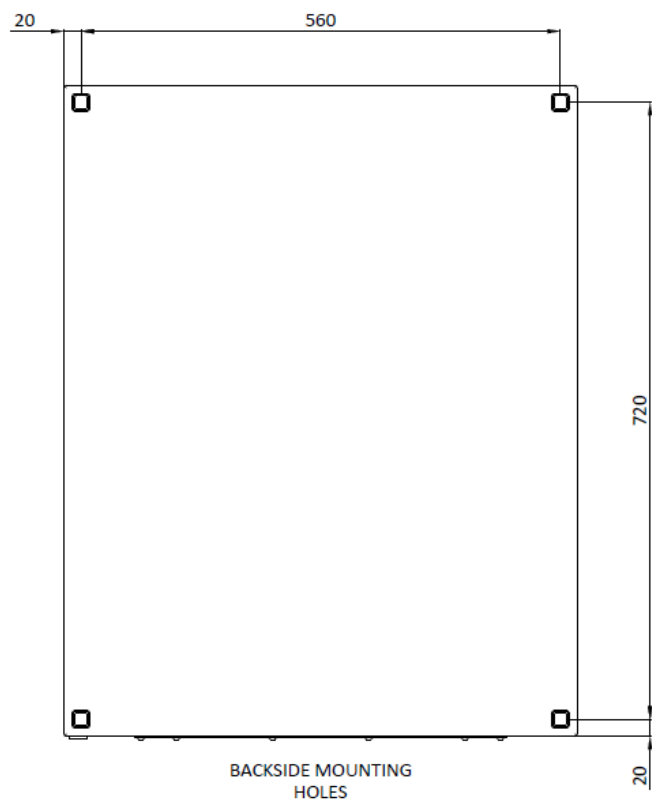
The cable entry is from the bottom of the cabinet and the cable gland has the following possible cable entry:

- Number x $\varnothing$ mm: 30 x 5-11
- Number x $\varnothing$ mm: 52 x 10-15
- Number x $\varnothing$ mm: 8 x 15-21
- Number x $\varnothing$ mm: 6 x 19-34
- Number x $\varnothing$ mm: 4 x 26-35
- Number x $\varnothing$ mm: 2 x 26-54
- Number x $\varnothing$ mm: 1 x 50-110



Cabinet Mounting Drawing

The mounting distance for the enclosure is 560mm horizontally and 720mm vertically. The diameter of the fixing hole is 9mm.



Mounting Plate Description

For installation in an alternative cabinet or console, the system can be delivered on a mounting plate without the Rittal cabinet.

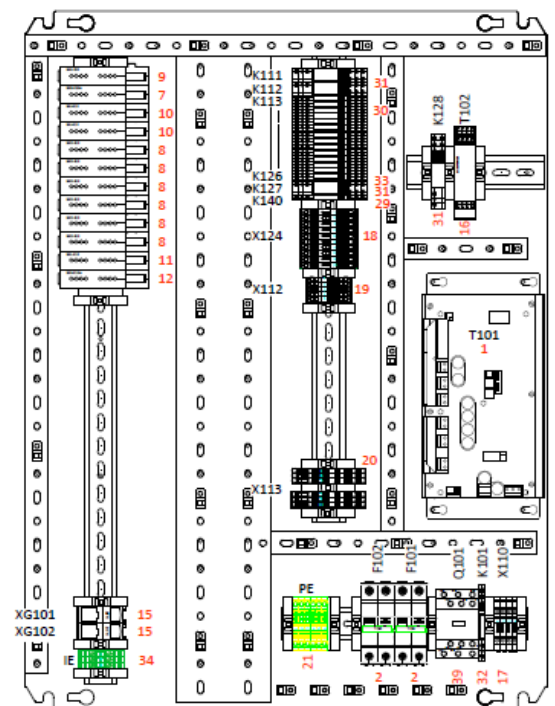
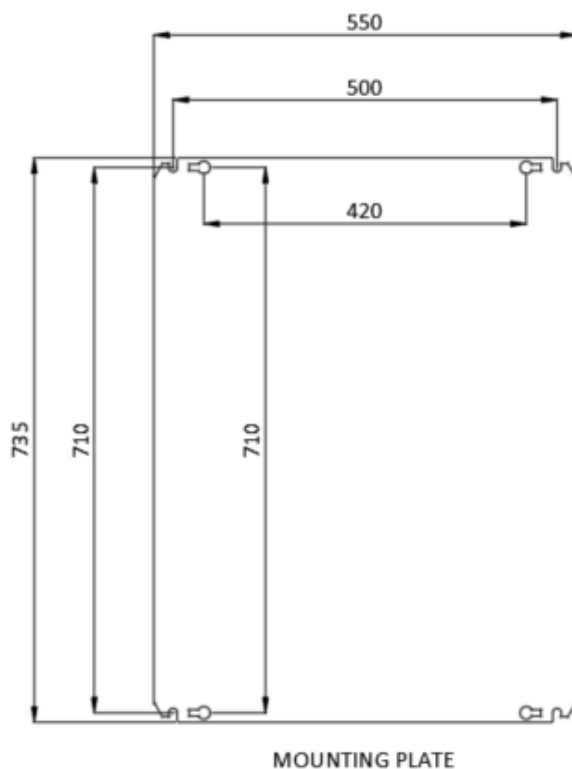
The BS-420 control panel is connected via a 2 meters flat cable to the I/O units fitted on the mounting plate. Note that this flat cable **cannot** be extended. In case of longer distance, a BS-430 panel must be used and connected to the main control panel via Autronet Ethernet bus.

Mounting plate Dimensions

Width: 550 mm

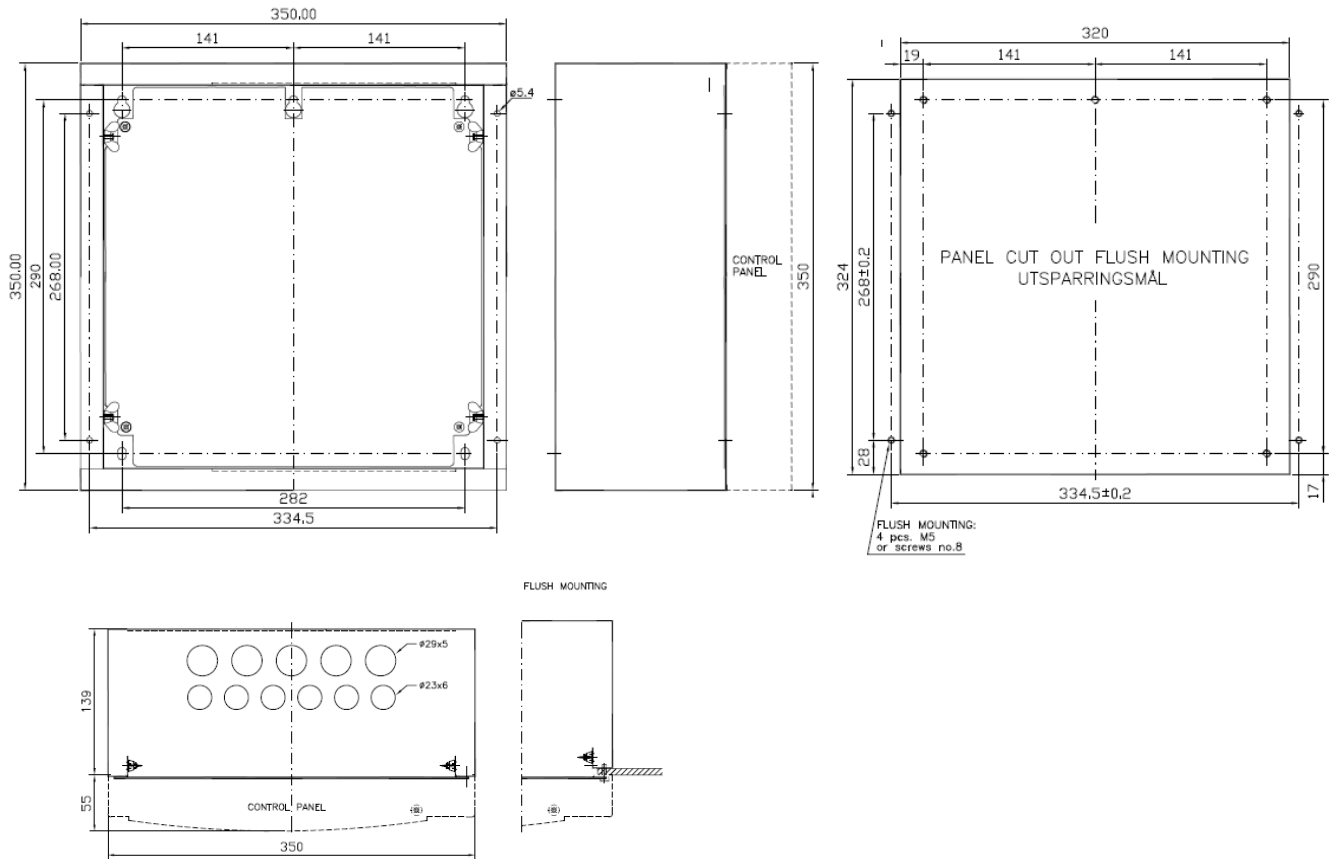
Height: 735 mm

Depth: 150 mm

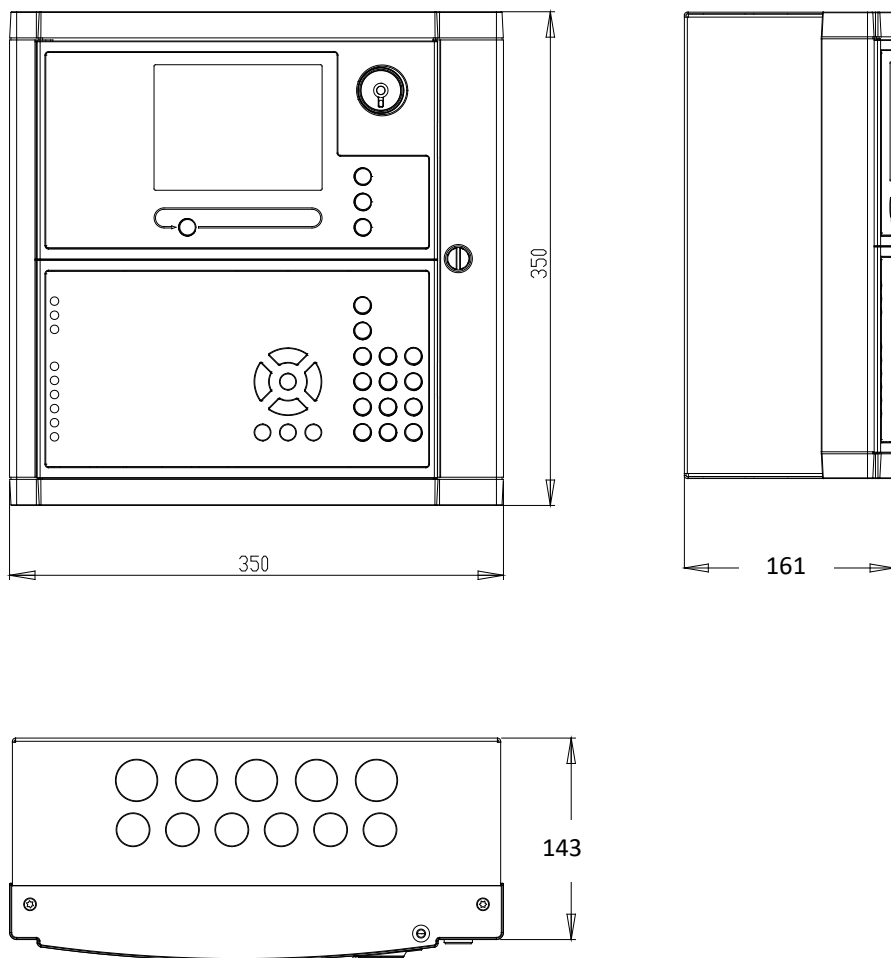


Cut-out Dimensions BS-420M (mm)

The illustration below shows the cabinet's cut out dimensions for flush mounting. The dimensions include space for the cover frame.



Dimensions BS-420M panel (mm)



Technical specifications	
Dimensions (mm) mounting plate (WxHxD)	550 x 735 x 150
Dimensions (mm) cabinet (WxHxD)	600 x 760 x 406
Dimensions (mm) BS-420M control panel (WxHxD)	350 x 350 x 161
Weight (kg)	BS-420M control panel: 46 kg For information on weight for all other variants, refer to rightmost column in "Panel Variants Overview" on page 3.
Cut-Out Dimensions (mm) BS-420M control panel	See dimension drawing on page 7.
Mounting	Surface or flush mounting
Materials mounting plate	Steel
Materials cabinet	Steel cabinet
Materials BS-420M control panel	Steel cabinet, ABS/PC moulded front
Protection class BS-420M control panel	IEC-529 / IP32
Protection class BS-420M control panel mounted inside cabinet	The Ingress protection category (IP) according to ICE 60 529 is IP66 (with proper cable entry).
Operating Temperature	-15°C to +70°C
Storage Temperature	-40°C to +70°C
Humidity non-condensing	Maximum 95% RH
Power sources	115VAC or 230VAC
Power supply	Nom. 27,2 VDC (18-32 VDC)
Current consumption	156 mA/27,2 VDC (idle) Max. 340 mA/27,2 VDC (lamp test)
Detector connection	By use of BSD-310
Inputs	By use of BSE-320
Outputs	By use of BSB-310 and BSJ-310
Communication	AutroNet (Ethernet-based local area network)
Communication Ports	• 2 Ethernet ports • 2 USB host ports (max. 100mA) • 1 serial port for the std. detection loop communication protocol • 1 RS-232, RS-422 or RS-485 serial port for communication with third party equipment (AutroCom /ESPA4.4.4/MODBUS/VDR) • 1 AutroFieldBus (AFB) interface² • 1 RS-485 serial port for communication with the front panel s • Panel Operational State Output
Ethernet Cable	CAT 5 or better. Shielded cable required in maritime installations. Max. 95m between Ethernet nodes
Approvals	www.autronicafire.com

² Not for C2 and P2 solutions