

PRODUCTS 2018

Fire and gas safety by Autronica Fire and Security

Division Maritime





Autronica Fire and Security AS
Division Maritime
Bromstadveien 59
NO-7047 Trondheim
Norway

Sales
+47 90 90 55 00
sales.maritime@autronicafire.no

Service assistance
+47 915 09753
service.maritime@autronicafire.no

Original spare parts
+47 90 90 55 00
spares.maritime@autronicafire.no

CONTENTS

AutoSafe fire detection system	4
Panels	6
Panel kits	7
Loop panels	8
Printer	8
Modules	9
Communication	11
Service tools	12
Customer configuration	12
OPC server	12
AutoSafe maritime gas detection system	14
Panel	15
Maritime gas detectors	15
4-20 mA interface modules	16
Accessories	16
Autoprime fire detection system	18
Panels	19
Panel kits	20
Printer	20
Modules	20
Service and configuration tool	20
Fire detection system accessories	21
Power supply units	21
Batteries	21
Switches	22
Cabinets and racks	24
Mounting accessories for cabinets/racks	24
Relays	24
Miscellaneous	25
PLC equipment	26
Loop units	28
Input and output units	29
Detectors	31
Manual call points / release stations	32
Alarm units	34
Accessories for loop units	40
Flame detection	42
Flame detectors	43
Accessories	44
Test/measuring equipment	44
AutoMaster presentation system	46
Software licences	48
Software modules	48
Interface modules	49
Software hardcopies	49
Engineering/Configuration	49
Hardware	50
Omicron systems	52
Level alarm system – OAS 5.5	53
Vapour alarm system – OVS 2.1	57
Point gas detection system – OGS 2.1	58
Gas sampling systems – OGS 3.1 / OGS 3.11	60
Standard accessories for Omicron product range	64
Fire suppression systems	68
Novec 1230 Fluid	69
Cylinders and accessories	70
Nozzles	70
Release cabinets	71
Miscellaneous	71
Drencher systems	72
FlexiFOG – local protection	73
FlexiFOG – total flooding	74
FlexiFOG – accommodation	75
Low-pressure water mist systems and Safe Return to Port	76
Control cabinets and accessories	77
Operating panels and accessories	77
Nozzles and accessories	77
Valves and accessories	78
Strainers	79
Orifice	79
Pumps and accessories	79
Tanks, pressure vessels and accessories	80
Foam equipment	80
Miscellaneous	81
Kidde wet chemical system	82
Dry chemical powder system	83
CO ₂ system	84



AutroSafe fire detection system

- for large and complex vessels

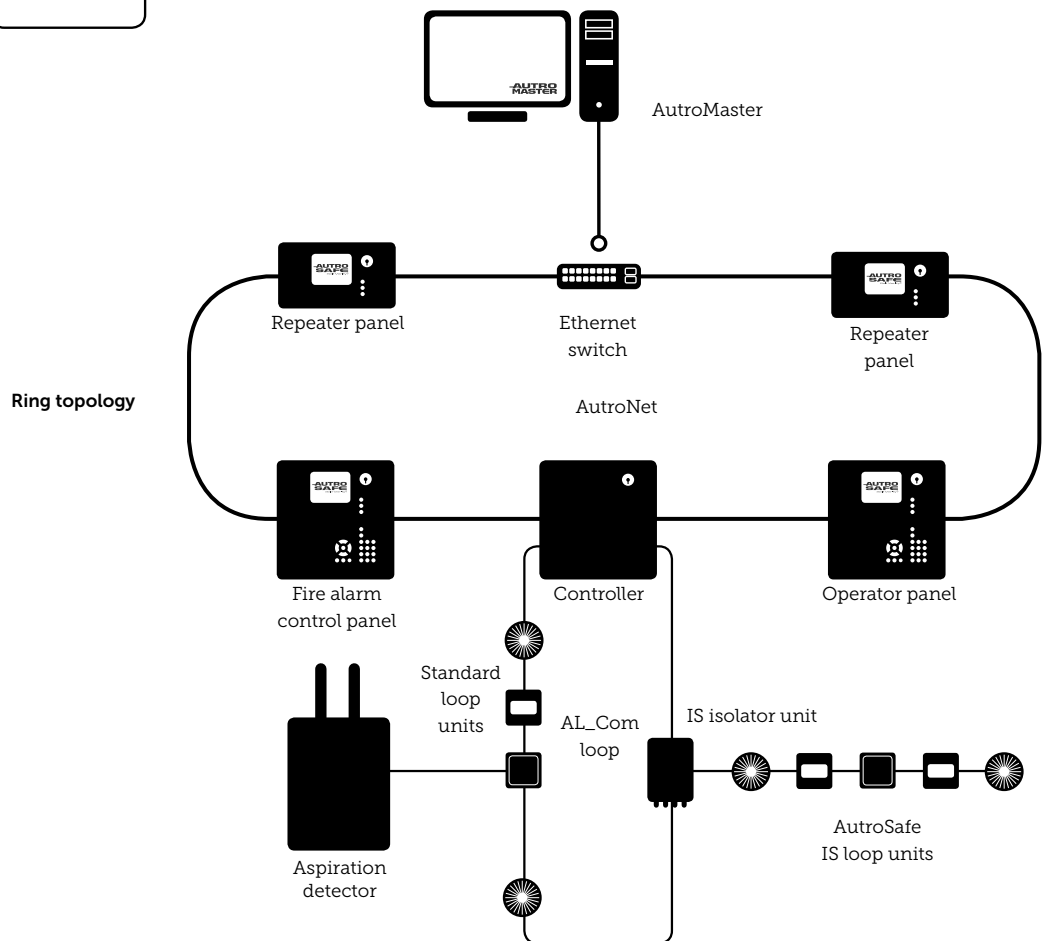
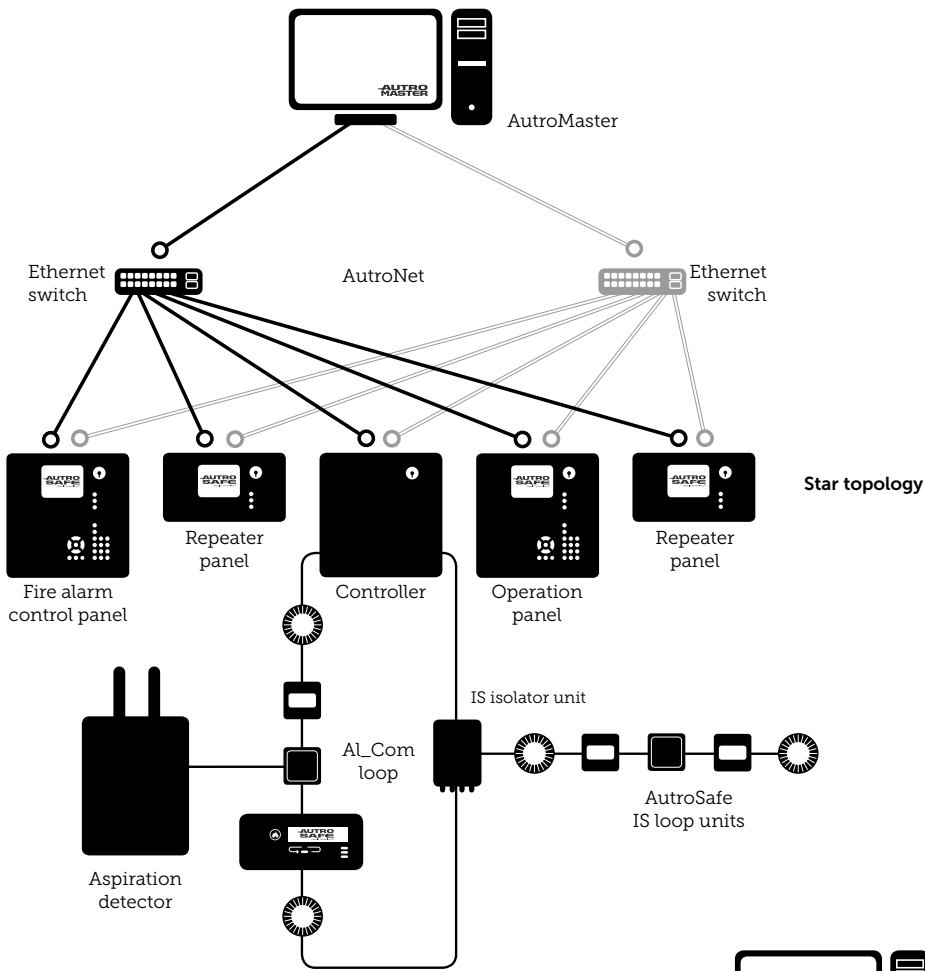


AutroSafe is our high-end fire detection system for large and complex vessels. Since the launch in 1999, it has proven its unique stability and reliability in more than 15 000 installations worldwide, from hotels to cruise ships to drilling platforms.

AutroSafe 4 provides advanced functionality for a wide range of applications. The system is designed to meet all requirements in the high-end segment of the onshore, maritime and offshore market, and is certified according to Marine Equipment Directive (MED), European

directives (CPD) requiring EN 54 compliance, and Factory Mutual (FM) approval according to NFPA 72.

Reliable communication is paramount to your safety. That's why we're adding AutroNet to the AutroSafe system, an innovative network solution safeguarding communication between panels. AutroNet ensures a redundant and high-speed network expanding the reach of the AutroSafe system even further. The system can be set up either in a star or ring network, depending on your needs.



Panels

The AutoSafe 4 family consists of five different panel types. These are:

- **Fire alarm control panel, BS-420.** BS-420 is the main panel in the AutoSafe family. It can be used as a stand-alone panel as well as part of a network system. All operations, alarm management, indications and other functions within an operation zone are controlled and handled by the panel. The panel is equipped with a display, light indicators, a numeric keypad, a navigation wheel and special function buttons (e.g. Silence Alarms). Loop driver, input and output modules can be connected. An integrated AutoFieldBus interface makes it possible to connect AutoFieldBus equipment to the panel. All AutoSafe systems must include at least one BS-420 panel.
- **Operator panel, BS-430.** As for the BS-420 panel, all operations, alarm management, indications and other functions within an operation zone are controlled and handled by the BS-430 panel. The panel is equipped with a display, light indicators, a numeric keypad, a navigation wheel and special function buttons (eg. Silence Alarms). No loop driver, input or output modules can be connected to this panel.
- **Controller, BC-420.** The BC-420 serves as a connection unit for loop driver modules as well as input and output modules. It is equipped with two light indicators for System Fault and Power. The panel has neither display nor operator buttons. An integrated AutoFieldBus interface makes it possible to connect AutoFieldBus equipment to the panel.
- **Controller rack unit, BC-440.** Serves as a connection unit for the detection loop, alarm sounders, controls and inputs. It is a variant of the BC-420 prepared for rack installations. Together with the I/O modules the unit will have the full functionality of the BC-420. Equipped with 2 Ethernet ports, one AutoFieldBus port and one serial port.
- **Repeater panel, BU-BV-420.** Physical dip-switches on the panel control the BU-BV-420 panel function. As an alarm operation panel it can operate alarms within one or more operation zones. As an information panel no operation of alarms are available. The information panel provides information from one or more operation zones.
- **Power Cabinet BP-405.** Includes a 5A power pack (BPS-405) which provides six 24 VDC / 2 A outputs. The input voltage is 115/230 VAC and the total maximum power available is 24 VDC / 5 A. An integrated AutoFieldBus interface makes it possible for the power pack to communicate (send fault messages) with the BS-420 or BC-420 panel. Space for two 12 V / 18 Ah batteries (not included)



Panel kits

For engineering purposes, we have established kits to be equipped according to specifications.



An AL_Com+ stack can contain up to six loop driver modules (BSD-3xx). By using AutoFieldBus, an additional AL_Com+ stack (with up to six additional loop driver modules) can be added to the system.

NOTE! The AutoSafe panels are certified with the AL_Com+ modules mounted inside the panel cabinet.

Image	Part number	Description	Including	Options
	116-KIT-BS-420M	Maritime fire alarm control panel kit	Panel front BSV-420M Cabinet UEA-400 Power supply module BSS-310A Communication module BSL-310 Text foils E-2879	Loop driver module BSD-310 Loop driver module H.P. BSD-311 BS-100 loop driver module BSD-330 Output module BSB-310A Output module BSJ-310 Input module BSE-310 Input module BSE-320 Dual power monitoring module BSS-311
	116-KIT-BC-420	Controller kit	Panel front BCV-420 Cabinet UEA-400 Power supply module BSS-310A Communication module BSL-310 Text foils E-2880	Loop driver module BSD-310 Loop driver module H.P. BSD-311 BS-100 loop driver module BSD-330 Output module BSB-310A Output module BSJ-310 Input module BSE-310 Input module BSE-320
	116-BC-440	Controller rack unit	–	–
	116-KIT-BS-430	Operator panel kit	Panel front BSV-420 Cabinet UE-1488 Text foils E-2879	–
	116-KIT-BU-BV-420	Repeater panel kit	Panel front BUV-420 Cabinet UE-1489 Text foils E-2880	–
	116-BP-405	Power cabinet	–	–

Loop panels

We have now included loop-powered panels in our portfolio, providing our customers a number of advantages: Quicker installation, reduced cabling and cost, and lowered system complexity. A detection loop can accommodate up to eight loop panels.

Image	Part number	Description	Dimensions H x W x D (mm)	Current consumption	Notes
	116-KIT-BU-110	Fire brigade loop panel kit	310 x 154 x 45	<1 mA (idle) 6 mA (max)	Enables silencing the panel's internal buzzer, silencing alarms, and resetting the system. Alarms only are shown in the display.
	116-KIT-BV-110	Information loop panel kit	310 x 154 x 45	<1 mA (idle) 6 mA (max)	Indication device only. Provides information related to the defined operation zone(s).

Printer

Image	Part number	Description
	116-BUP-400	Printer unit for AutoSafe 4, including 1 roll of printer paper.
-	116-1712-012.0001	Printer paper 57 x 46 x 13 mm / 25 m

Modules

In addition to loop driver modules BSD-310, BSD-310N and BSD-311, as well as the obligatory power supply module BSS-310A and communication module BSL-310, AutoSafe features input and output modules for different applications (monitored alarm loops, servicing relays and LEDs, control inputs, etc.).

The modules have the same format, mount onto the panels' DIN mounting rail and plug into one another.

Important note on module capacity.

Each fire alarm control panel/controller contains a power supply module BSS-310A and a communication module BSL-310.

The BS-420 and BC-420 panels have space for up to 12 modules totally inside the cabinet.

An AL_Com+ stack can contain up to six loop driver modules (BSD-3xx)

By using AutoFieldBus, an additional AL_Com+ stack (with up to six additional loop driver modules) can be added to the system.

NOTE! The AutoSafe panels are certified with the AL_Com+ modules mounted inside the panel cabinet.



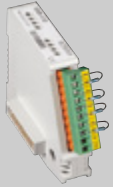




Image	Part number	Description	Monitored inputs	Monitored outputs	Total inputs	Total outputs	Monitors short circuits	Ensures loop communication	For use in EX zone 2 only	Amplified power output	Max. per panel	Notes
	116-BSB-310A	Output module		•	0	4	•					Requires external 24V
	116-BSD-310	Loop driver module			-	-	•	•			6/12	Max. 127 loop units
	116-BSD-310/N	Loop driver module			-	-	•	•	•		6/12	Max. 127 loop units
	116-BSD-311	Loop driver module H.P.			-	-	•	•		•	6/12	

Image	Part number	Description	Monitored inputs	Monitored outputs	Total inputs	Total outputs	Monitors short circuits	Ensures loop communication	For use in EX zone 2 only	Amplified power output	Max. per panel	Notes
	116-BSD-330	BS-100 loop driver			-	-	•	•			8	
	116-BSE-310	Input module	•		4	0						
	116-BSE-320	Input module			8	0						Galvanically insulated inputs
	116-BSJ-310	Output module			0	8						Open transistor outputs
	116-BSS-310A	Power supply module									3	
	116-BSS-311	Dual power monitoring module									2	

Communication

Image	Part number	Description
	116-BSD-321/1	<p>AutoFieldBus protocol converter Interface between AutoFieldBus and AL_Com+. Enables communication between all AL_Com+ modules in an AL_Com+ stack connected to AutoFieldBus. The module enables AutoSafe Dual Safety configuration, with both ordinary AL_Corn communication and AutoFieldBus.</p>
	116-BSL-310	<p>AutoSafe communication module, serves as an interface for the common internal communication line between all the different I/O modules. Part of the fire alarm control panel.</p>
	116-BSL-321	<p>Multi-mode fibre optic converter Amplifier for AUTROLON/AutoFieldBus networks, which acts as a fibre-optic modem. The converter ensures reliable communication for distances of up to 3000 m. Uses multi-mode (62.5/125 µm or 50/125 µm) fibre-optic cable. Ingress Protection level: IP20</p>
	116-BSL-322	<p>Single mode fibre optic converter Amplifier for AUTROLON/AutoFieldBus networks, which acts as a fibre-optic modem. The converter ensures reliable communication for distances of up to 15000 m. Uses single-mode (9/125 µm) fibre-optic cable. Ingress Protection level: IP20</p>
	116-BSL-325	<p>AUTROLON/AutoFieldBus communication amplifier Amplifier for communication signals on networks. The amplifier ensures reliable communication in systems where there is great distance between the system panels, and in applications where there are many panels. The amplifier increases maximum cable length from 1000 m to 2800 m. Ingress Protection level: IP20</p>
	116-BSL-337	<p>AutoSafe BU-70 interface module Enables the connection of BU-70/BU-100/BU-101 to AutoSafe. This is a simple, cost effective way to upgrade BS-100 systems to AutoSafe. The RS232/20 mA current loop converter BSL-12/2 must be used to convert RS232 to 20 mA current loop communication. Ingress Protection level: IP20</p>

Service tools

Part number	Description
116-WAS-2000	AS2000, loop diagnostic tool in casing, including PC cable
116-XJA-027	Connection cable for AS2000; for connection between computer and fire alarm panel
116-XGE-1/10-110	Ribbon cable for connection of BSF-310/BSA-400 to BSL-310. 110 cm. Order only.
116-XGE-1/10-200	Ribbon cable for connection of BSF-310/BSA-400 to BSL-310. 200 cm.
116-XL-073	Conversion cable from AutoSafe 3 to AutoSafe 4

Customer configuration

Part number	Description
116-PROG-AUTROSAFE	Customer specific software for AutoSafe
116-TXT-AUTROSAFE	Customer text/controls

OPC server

With the AutoSafe OPC server several fire detection systems and other control systems can communicate. The solution improves the compatibility between the AutoSafe and surveillance systems from other manufacturers.

Part number	Description
116-AS-OPC-SERVER/CD1	AutoSafe OPC server CD V1.2 incl. access code for access level 1. Includes read access to all status information for detectors, output and alarm devices. This level of license will also make it possible to send (write) Silence, Reset and SetTime commands to the AutoSafe system. Within this level you can also Disable/Enable detectors.
116-AS-OPC-SERVER/CD2	AutoSafe OPC server CD V1.2 incl. access code for access level 2. Includes all functionality in level 1, plus the possibility to Activate/Deactivate and Enable/Disable outputs and alarm devices via OPC write commands.
116-AS-OPC-SERVER/CD3	AutoSafe OPC server CD V1.2 incl. access code for access level 3. Includes all functionality in level 1 and 2. This level also provides additional information for points, for example AMEAS, Temp, Smoke, Alarm limits and Engineering values.



AUTRONICA
United Technologies



AutroSafe maritime gas detection system

- a new era in maritime gas detection

Autronica is a long-standing player in the maritime market; our reputation as a developer and supplier of reliable systems designed to withstand the rigours of the maritime environment is forged from our dedication to developing the best solutions for this market.


Our task was demanding, yet simple: Take the best fire and gas (F&G) safety system around and make it the best Gas system ever. The AutroSafe 4 Maritime Gas system is developed using the same proven-in-use design and technology as the AutroSafe 4 Integrated Fire & Gas system. All existing functionality has stood up to the toughest tests worldwide for more than 10 years. AutroSafe 4 Maritime Gas supports a wide range of third-party gas detection devices, allowing flexibility and accuracy.

Addressability ensures that correct information is routed to where it is needed, indicating which detection unit has given the alarm. Built-in


fault monitoring ensures that if a detection unit fails, it is automatically identified and can be replaced with a minimum of effort.

BS-420MG is a maritime gas alarm control panel with full operation capabilities. All gas alarm handling and system features can be controlled and monitored from the panel. Note that the panel cannot be used for detection of fires. The panel communicates with other system units on the Ethernet-based local area network, AutroNet. The maximum number of system units supported by AutroNet depends on the type of system. In a standard system the maximum number is 64. The panel can accommodate up to a maximum of 12 I/O modules. All modules are easily plugged onto each other on a standard mounting rail inside the unit.




Panel

Image	Part number	Description	Including	Options
	116-KIT-BS-420MG	Maritime gas alarm control panel kit	Panel front BSV-420M Cabinet UEA-400 Power supply module BSS-310A Communication module BSL-310 Text foils E-2879	Output module BSB-310A Output module BSJ-310 Input module BSE-310 Input module BSE-320 Dual power monitoring module BSS-311

Maritime gas detectors

Image	Part number	Description	Stainless steel housing	With hydrophobic filter/ weather baffle	Addressable for maritime gas panel	4-20 mA	Cable entries	Notes
	116-010195-056	AutoPoint Maritime Gas detector	•	•	•		2xM25	
	116-010195-057	AutoPoint Maritime Gas detector	•		•		2xM25	
	116-010195-058	AutoPoint Maritime Gas detector	•	•		•	2xM25	
	116-010195-059	AutoPoint Maritime Gas detector	•			•	2xM25	

4-20 mA interface modules

Image	Part number	Description
	116-BN-342/1	<p>PowerLoop 4-20 mA input unit, rack mounted</p> <p>A general-purpose PowerLoop interface designed for third-party detectors connected to the AutoSafe IFG system. The unit has a 4-20 mA input galvanically isolated from the PowerLoop. 19" 3U rack version, bare PCB with 19" rack front panel, no DC/DC. Ingress Protection level: IP20</p>
	116-BN-342/2	<p>PowerLoop 4-20 mA input unit, DIN rail mounted</p> <p>A general-purpose PowerLoop interface designed for third party detectors connected to the AutoSafe IFG system. The unit has a 4-20 mA input galvanically isolated from the PowerLoop. DIN rail version, bare PCB in an open DIN rail box, no DC/DC. Ingress Protection level: IP20</p>
	116-BN-342/EX	<p>PowerLoop 4-20 mA input unit, field mounted</p> <p>A general-purpose PowerLoop interface designed for third party detectors connected to the AutoSafe IFG system. The unit has a 24 VDC/400 mA supply output providing power to the connected detectors, plus a 4-20 mA input galvanically isolated from the PowerLoop. EEX me version including 9,5 W 24 VDC/DC for external detector power supply. Cable entry, PowerLoop: 2 x M25. Cable entry, 4-20 mA input: 1 x M25 Ingress Protection level: IP66</p>

Accessories

Part number	Description
116-007355-001	<p>Duct mount assembly for AutoPoint Maritime Gas detectors. One duct air inlet tube and one return tube.</p> <p>Pipe length to be specified: 1ft/305mm (116-000214-281), 3ft/915mm (116-000214-282), 6ft/1830mm (116-000214-283) or 10ft/3050mm (116-000214-284)</p>
116-007525-003	Direct duct mount kit for AutoPoint Maritime Gas detectors
116-US-843	Rain and sun shield for AutoPoint Maritime Gas detectors





Autoprime fire detection system

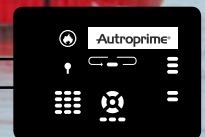
- fire detection system for smaller vessels

For small-to-medium sized vessels, Autoprime® brings simplicity, quality and extensive functionality in one integrated system, providing safety and economy in a complete package.

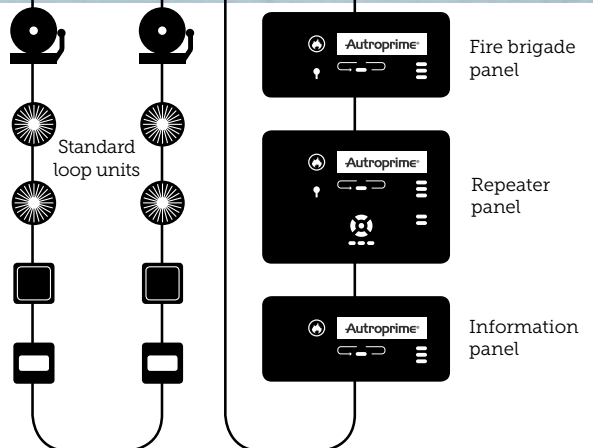
Simplicity is the key feature for this system. Through the entire process, from installation and commissioning, via use, to service, Autoprime is designed with a focus on simplicity. Through our SelfVerify technology, the system ensures the daily maintenance routines by itself.

daycare centres, museums, small hotels, office buildings, etc. The system is approved according to international standards, providing the efficient and reliable detection our customers have come to expect.

Autoprime® is the ideal choice for protecting life and property in the merchant ships' market. It's an easy, reliable and flexible fire detection system, providing high-tech at a low-cost alternative. The system with its four loops, finally brings a truly integrated concept to fire safety with its possibility to provide interface to the FlexiFOG® water mist system, or to a third party system.



Fire alarm control panel



Panels

The Autoprime system allows for a combination of maximum 8 panels and mimic drivers on a redundant panel bus. Ingress Protection level all panels: IP32.


Image	Part number	Description	Dimensions L x W x D (mm)	Notes
	116-71211548	Fire alarm control panel BS-200M	420 x 346 x 140	Full fire detection system with 4 loop drivers each controlling 127 devices. The operator panel may be mounted remotely with redundant connections both for signal and power. With space for batteries.
	116-71211549	Fire alarm control panel BS-200M	420 x 346 x 140	Full fire detection system with 4 loop drivers each controlling 127 devices. The operator panel may be mounted remotely with redundant connections both for signal and power. An extra termination block is included for simplified panel bus and RS232/-244/-485 connection. With 230 VAC main and emergency power inputs.
	116-71211550	Fire alarm control panel BS-200M	420 x 346 x 140	Full fire detection system with 4 loop drivers each controlling 127 devices. The operator panel may be mounted remotely with redundant connections both for signal and power. An extra termination block is included for simplified panel bus and RS232/-244/-485 connection. With 110 VAC main and emergency power inputs.
	116-BS-211	Repeater panel	310 x 220 x 45	Helps users manage alarms and other events. Panel bus included
	116-BU-210	Fire brigade panel	310 x 154 x 45	Showing alarms only. The user may mute the internal buzzer, silence sounders/bells and reset the system. Panel bus included.
	116-BV-210	Information panel	310 x 154 x 45	Provides all information, but does not allow handling of events. Panel bus included.
	116-BC-250	Controller unit	441 x 217 x 63	In combination with Operator Panel BS-210 (an integrated part of Fire Alarm Control Panel BS-200M) it can serve as a stand-alone panel. All alarm handling and system features are configured, controlled and monitored from the BS-210.
	116-71211551	Mimic driver BUR-200M	181 x 125 x 40	For additional indication of alarms. Panel bus included. With termination blocks. 8 in/16 out

Panel kits

Prefabricated products for console and cabinet mounting. The units are delivered with a standardized configuration for maritime installations.

Part number	Description	Dimensions L x W x D (mm)
116-AP-MAR-CAB	Autoprime in cabinet, without Mimic driver	600 x 760 x 350
116-AP-MAR-CAB-BUR	Autoprime in cabinet, with Mimic driver	600 x 760 x 350
116-AP-MAR-PLATE	Autoprime on mounting plate, without Mimic driver	310 x 154 x 45
116-AP-MAR-PLATE-BUR	Autoprime on mounting plate, with Mimic driver	549 x 730 x 127,5
116-KIT-BS-250	Autoprime controller unit BC-250 with operator panel	420 x 346 x 140

Printer

Image	Part number	Description
	116-BUP-200	Printer unit for Autoprime
–	116-1712-012.0001	Printer paper 57 x 46 x 13 mm / 25 m

Modules

Part number	Description
116-BSD-200A/PACK	Autoprime loop extension pack, 2 loops
116-BSA-200A	Autoprime main circuit board

Service and configuration tool

Part number	Description
116-AUTROCLIENT	AutroClient, latest version

In order to project our fire detection system to any application, we provide a wide range of accessories such as cabinets, racks, mounting equipment, batteries etc.

Power supply units

Part number	Description	Output voltage
116-BPS-405/BOXED	Power supply unit for AutoSafe 4	24 VDC / 5 A
116-BPS-410/BOXED	Power supply unit for AutoSafe 4	24 VDC / 10 A
116-BPS-410/115/BOXED	Power supply unit for AutoSafe 4, 115 VAC	24 VDC / 10 A,
116-4550-004.0001	Power supply for Autoprime SC-150 27ME	24 VDC / 5 A, 110/230 VAC
116-4550-012.2410	Power supply with fault output for all systems	24 VDC / 10 A, 110/230 VAC
116-4660-055.0001	DC/DC converter	24 VDC / 6,3 A
116-8147-015.5120	Transformer	110-130 VAC / 220 VAC, 200 VA
116-8147-038.5130	Transformer	110-130 VAC / 220 VAC, 300 VA

Batteries

Autronica Fire and Security AS offers accumulator batteries for every Autronica fire detection system. Generally, 24 VDC backup is used, requiring two batteries per panel. All batteries are sealed and can be placed in cabinets.

Part number	Description	Voltage	Weight	Dimensions L x W x H (mm)
116-4160-001.	FIAMM FG20721	12V / 7.2 Ah	2,4 kg	79 x 56 x 106
116-4160-002.	FIAMM FG21803	12V / 18 Ah	5,9 kg	181 x 76 x 167
116-4160-003.	FIAMM FG22703	12V / 27 Ah	8,7 kg	166 x 175 x 125
116-4160-004.	FIAMM FG24204	12V / 42 Ah	13,8 kg	196 x 163 x 174
116-4160-005.	FIAMM FG20201	12V / 2.0 Ah	0,9 kg	178 x 34 x 65
116-4160-005.0001	FIAMM FG21202	12V / 12 Ah	4,0 kg	151 x 98 x 99
116-4160-005.0003	FIAMM FG20341	12 V / 3 Ah	1,41 kg	134 x 67 x 60
116-4160-005.0005	FIAMM FG20451	12V / 4,5 Ah	1,6 kg	90 x 70 x 106
116-4160-006.	FIAMM FG27004	12V / 70 Ah	22,0 kg	350 x 166 x 174
116-4160-006.0001	Sonnenschein A512/115	12V / 115 Ah	40,0 kg	286 x 269 x 230
116-4160-006.0003	Sonnenschein A512/85	12V / 80 Ah	31,0 kg	330 x 171 x 236
116-4160-006.0004	Sonnenschein A115/200	12V /200 Ah	70,0 kg	518 x 274 x 242

Switches

A network solution (AutoNet) with more than two panels demands the use of switches. Only Phoenix Ethernet switches are approved and supported by Autronica Fire and Security AS. The type and number of switches depends on the installation/network construction (no. of panels and distance between panels and switches)

Image	Part number	Description*	Current consumption (max.) @ 24 VDC	RJ45 ports	Fibre optic ports**	Operating temperature
	116-5151-030.2127	FL switch SFNT 5TX	120 mA	5	–	-40 - 75°C
	116-5151-030.2128	FL switch SFNT 4TX/FX	160 mA	4	1 MM (SC)	-40 - 75°C
	116-5151-030.2129	FL switch SFNT 8TX	153 mA	8	–	-40 - 75°C
	116-5151-030.2130	FL switch SFNT 7TX/FX	175 mA	7	1 MM (SC)	-40 - 70°C
	116-5151-030.2131	FL switch LM 5TX	150 mA	5	–	-40 - 70°C
	116-5151-030.2132	FL switch LM 4TX/FX	380 mA	4	1 MM (SC)	-40 - 70°C

* SFNT = Standard Function, Narrow housing, high Temperature range
 LM = Lean Managed
 SFNB = Standard Function, Narrow housing, Basic entry level
 SFN = Standard Function, Narrow housing

** MM = Multi Mode
 SM = Single Mode
 SC = Square Connector
 (Set and Click, Stab and Click, Standard Connector)

Image	Part number	Description*	Current consumption (max.) @ 24 VDC	RJ45 ports	Fibre optic ports**	Operating temperature
	116-5151-030.2133	FL switch LM 4TX/2FX	400 mA	4	2 MM (SC)	-40 - 70°C
	116-5151-030.2134	FL switch LM 4TX/FX SM	380 mA	4	1 SM (SC)	-40 - 70°C
	116-5151-030.2135	FL switch LM 4TX/2FX SM	400 mA	4	2 SM (SC)	-40 - 70°C
	116-5151-030.2142	FL switch SFNB 4TX/FX SM 20	185 mA	4	1 SM (SC)	0 - 60°C

* SFNT = Standard Function, Narrow housing, high Temperature range
 LM = Lean Managed
 SFNB = Standard Function, Narrow housing, Basic entry level
 SFN = Standard Function, Narrow housing

** MM = Multi Mode
 SM = Single Mode
 SC = Square Connector
 (Set and Click, Stab and Click, Standard Connector)

Cabinets and racks

Part number	Description	System	W x H x D (mm)	Capacity
116-BV-311	Cabinet for evacuation and emergency documents	AutoSafe	402 x 347 x 75	
116-UEA-323/1	Cabinet for flush mounting BS-410/-420/BC-420	AutoSafe	Flush mounting: 320 x 320 x 140	
116-UE-1710	Battery shelf	19" rack	398 x 190 x 174	2 x 12 V / 36 Ah or 1 x 12 V / 65 Ah battery
116-US-820/1	Document holder with logo	All		

Mounting accessories for cabinets/racks

Part number	Description
116-UB-383	19" subrack 160 mm, Europe for BC-440
116-UE-474	Mounting plate with cutouts
116-UE-1662	Spacer between 2 rack mounted AutoSafe BS/BC-320 panels. Distance between panels = 80 mm
116-UW-1454	Mounting kit for BS-420/-430 and BC-420 front panels in 19" cabinet/rack, for use with UEA-323/1
116-UW-1482	Mounting kit for BU-BV-420 cabinet in 19" cabinet/rack. Front panel
116-UW-1459/1	Mounting plate for flush mounting BS-420/-430 and BC-420 panel fronts in 19" rack
116-UW-1516/1	Dummy plate 19" for BC-440, 3U x 12HP
116-UW-1518	Mounting plate for mounting AutoSafe 4 front panel on double BS-100 cabinet
116-6175-100.0010	Ferrite clamps
116-6745-012.	Standard fire key for panel door (plastic)

Rittal cabinets available on request.

Relays

Part number	Description
116-7624-030.0001	Relay PLC RSC 24DC/21, single change-over contact
116-7624-030.0002	Relay PLC RSC 24DC/21-21, double change-over contact
116-7624-030.1001	Relay PLC RSC 230UC/21, single change-over contact
116-7633-060.	Relay with adjustable time delay 50 ms –10 h, 12–24 V
116-7461-008.0001	Relay base Z-348 for timers
116-BSX-310	Relay kit for FARE and FWRE

Miscellaneous

Image	Part number	Description
	116-6731-017.0002	Door magnet armature. Type AG w/adjustable socket. For use with part no: 116-6731-017.0005
	116-6731-017.0005	Door holding magnet. GPT, holdpower 650 N, 1 W, 40 mA. Manual release push button. DNV approved. For use with part no: 116-6731-017.0002
	116-6731-017.0010	Robust magnetic door release w/counter plate, 50 kg, 490 N
	116-UV-028-T	Release button for magnet with impulse switch
	116-BF-9	General alarm push button
	116-4860-010.9001	General alarm push button, bulkhead mounting, IP66

PLC equipment

Part number	Description
PCD2	
116-KDX-30/2C100	Expansion module (8 I/O modules)
116-KDD-30/2F520	Communication module RS232 and RS422/-485
Modules for PCD1 and PCD2	
116-KDB-30/2A250	A250 8 outputs relay 48 VAC / 2 A
116-KDB-30/2A400	I/O module, 8 outputs
116-KDB-30/2E110	I/O module
116-5151-025.E165	E165 16 inputs 24 VDC
116-KDU-30/7F110	F110 communication module RS422/-485
PCD3	
116-5151-025.M544	M5440 PLC for 4 modules
116-5151-025.M554	M5540 PLC for 4 modules
116-5151-025.T760	T760 remote unit for 4 I/O modules
116-5151-025.C100	C100 expansion unit for 4 I/O modules
116-5151-025.K106	K106 extension cable 0.7 m
116-5151-025.K010	K010 extension plug PCD3-PCD3
Modules PCD3	
116-5151-025.A400	A400 8 outputs 24 VDC/0.5 A
116-5151-025.A465	A465 16 outputs 24 VDC/0.5 A
116-5151-025.E110	E110 8 inputs 24 VDC 8 ms
116-5151-026.E165	E165 16 inputs 24 VDC
116-5151-025.E610	E610 8 inputs isolated 24 VDC 8 ms
116-5151-025.0001	I/O plug spring coupl. 10-P
Miscellaneous	
116-KD-30/7T100	Repeater RS485 with galvanic isolation



AUTRONICA

United Technologies

Loop units

- a wide range covering your basic needs



We provide a wide range of loop units for our fire detection systems. Our detectors, manual call points, I/O units, control units and alarm units are developed and approved according to European directives (CPD) requiring EN 54 compliance and other appropriate worldwide regulations.

The loop units are available both with and without SelfVerify function. SelfVerify solves all issues of manual maintenance, leaving time consuming and costly physical testing redundant. With AutoSafe SelfVerify®, the system checks all detectors, interfaces, connections and cables – from detector chamber to alarm output – every single day.

Not only does the system test whether a detector is capable of provoking an alarm, it even verifies the sensitivity of every detector with a calibrated signal. The SelfVerify system ensures that each detector always responds to the correct alarm level. In the event of irregularities, the display on the operating panel will accurately pinpoint the source of any problem.

SelfVerify ensures that you have the safest and most reliable fire safety system available – a system ensuring optimal detection.


Input and output units

We offer a wide range of interactive input and output units for many different applications. The system features Exn-, Exia- and Exd approved input and output units for high risk applications.

All input and output units feature automatic addressing and short-circuit protection.

Image	Part number	Description	Configurable input	Monitored input	Monitored output	Inputs/outputs	Requires external PSU	SelfVerify	For use in EX areas	Ingress Protection level*	Notes
	116-BN-180	AutroKeeper				2/2		•		IP30	Use two units to access one loop from two loop controllers. DIN rail mounting in cabinet. For AutoSafe only
	116-BN-201	Monitoring unit	•	•		1/0				IP54 IP67	
	116-BN-303	Single monitored input unit	•	•		1/0		•		IP54 IP67	Function selectable via dip switch
	116-BN-304	Input/output unit	•	•		1/1		•		IP54 IP67	Function selectable via dip switch
	116-BN-305	Dual monitored input/output unit	•	•		2/2		•		IP54 IP67	Function selectable via dip switch

*: When two degrees of protection is given, the lowest is relevant when using the included glands. To achieve the highest, special IP67 glands must be ordered (see page 43)

Image	Part number	Description	Configurable input	Monitored input	Monitored output	Inputs/outputs	Requires external PSU	SelfVerify	For use in EX areas	Ingress Protection level*	Notes
	116-BN-307	Monitored fire alarm device control unit			•	0/1	•	•		IP54 IP67	
	116-BN-320	Interface unit	•	•		2/1		•		IP54 IP67	For AutoFlame detectors
	116-BNB-330A	Loop adapter unit for conventional loops					•			IP20	Replacement unit for BNB-330 in existing AutoSafe 3 systems
	116-BNB-331	Loop adapter unit for conventional loops		•		1/1	•	•		IP20	AutoSafe ver. 4.4.1 → Autoprime ver. 2.0 →
	116-BN-500/EX	Input unit	•	•		1/0		•	•	IP54 IP67	For interfacing external units, clean contacts, alarm relays, etc. Zones 0, 1 & 2
	116-BN-500/N	Input unit	•	•		1/0		•	•	IP54 IP67	For interfacing external units, clean contacts, alarm relays, etc. Zone 2

*: When two degrees of protection is given, the lowest is relevant when using the included glands. To achieve the highest, special IP67 glands must be ordered (see page 43)

Detectors

We offer a wide range of interactive detectors for many different applications, with or without SelfVerify. The following series are available:

- 200 series, standard interactive addressable detectors.
- 300 series with SelfVerify, interactive addressable detectors.
- 500 series with SelfVerify, interactive addressable detectors for use in demanding environments.

The system also offers Exn- and Exia approved versions of detectors designed for use in high risk applications. S series smoke detectors are specially designed for applications where high sensitivity is required.






Image	Part number	Heat	Smoke	Multisensor	Including base	SelfVerify	Environmentally protected	For use in EX areas	For use in EX zone 2 only	High sensitivity	Sealed unit	Wet/dry areas	Ingress Protection level	Notes
	116-BD-200M	•			•		•				•	W	IP56	For steam saunas/cold stores (-30 °C)
	116-BD-501	•			•	•	•				•	W	IP56	
	116-BD-501/EX	•			•	•	•	•			•	W	IP56	
	116-BD-501/N	•			•	•	•		•		•	W	IP56	
	116-BDH-200	•										D	IP44D	
	116-BDH-300	•				•						D	IP44D	
	116-BDH-500/EX	•				•	•	•					IP44D	
	116-BDH-500/EXE	•				•		•					IP44D	RIME approved/NK
	116-BDH-500/N	•				•			•				IP44D	
	116-BHH-200		•										IP44D	
	116-BHH-300		•			•							IP44D	
	116-BHH-500/EX		•			•	•	•					IP44D	
	116-BHH-500/EXE		•			•	•	•					IP44D	RIME approved/NK
	116-BHH-500/N		•			•	•		•				IP44D	
	116-BHH-500/S/Ex		•			•	•	•		•			IP44D	
	116-BHH-500/S/N		•			•	•		•	•			IP44D	
	116-BHH-220			•									IP44D	
	116-BHH-320			•		•							IP44D	
	116-BHH-520/EX			•		•	•	•					IP44D	
	116-BHH-520/EXE			•		•	•	•					IP44D	RIME approved NK
	116-BHH-520/N			•		•	•		•				IP44D	

Manual call points / release stations




We offer a wide range of interactive manual call points for different applications, every unit features SelfVerify. Two main series are available:

- 300 series with SelfVerify, interactive addressable manual call points.
- 500 series with SelfVerify, interactive addressable manual call points for use in demanding environments.

The system features Exn- and Exia approved versions for high risk applications.

Image	Part number	Description	For use in EX areas	For use in EX zone 2 only	Watertight / outdoor model	Extreme environments	LED indicator	Metal connection box	Glass NOT included	Ingress Protection level	Notes
	116-BF-300V2	Manual call point					•			IP42D w/o cover IP44D w cover	
	116-BF-510WP-H	Manual call point			•	•	•			IP52 w/o cover IP55 w cover	
	116-BF-510WP-HM	Manual call point			•	•	•			IP52 w/o cover IP55 w cover	Cable glands pre mounted, robust mounting plate.
	116-BF-500V2/EX	Manual call point	•							IP44D*	
	116-BF-500V2/N	Manual call point		•					•	IP66	

*: Ingress Protection level, inner housing.

Image	Part number	Description	For use in EX areas	For use in EX zone 2 only	Watertight / outdoor model	Extreme environments	LED indicator	Metal connection box	Glass NOT included	Ingress Protection level	Notes
	116-BF-501	Manual call point			•	•				IP66	
	116-BF-501/EX	Manual call point	•		•	•				IP66	
	116-BF-501/N	Manual call point		•	•	•				IP66	
	116-BF-502	Manual call point			•	•				IP66	
	116-BF-502/EX	Manual call point	•		•	•				IP66	
	116-BF-502/N	Manual call point		•	•	•				IP66	
	116-BFG-3/XX	Glass for call point, available in several languages. Replace XX with country code. No ending = No text GB = English GB/AR = English and Arabic N/GB = Norwegian and English SU = Russian									

Alarm units

We offer a wide range of alarm units for connection to detection loops or dedicated alarm outputs.







Image	Part number	Description	Alarm output mounting	Loop mounting	Electronic	Signal presets	Configurable	Watertight	Sound	Light	Sound output (dBA/1 m)	Light output (Candela/Joule)	Ingress Protection level	Notes
	116-BBL-100	Alarm indicator		•						•	-	2 c	IP32C	
	116-BBL-100/IP	Alarm indicator		•				•		•	-	2 c	IP65	
	116-BBR-7M	Alarm bell 6"	•						•		93	-	IP55	
	116-BBR-24	Alarm bell 6"	•						•		91	-	IP42	
	116-BBR-130	Base sounder		•	•		•		•		90	-	IP32C	Combined detector base and addressable sounder.
	116-BBR-230	Sounder		•			•		•		100	-	IP32C	

Image	Part number	Description	Alarm output mounting	Loop mounting	Electronic	Signal presets	Configurable	Watertight	Sound	Light	Sound output (dBA/1 m)	Light output (Candela/Joule)	Ingress Protection level	Notes
	116-BBR-230/IP	Sounder		•			•	•	•		100	–	IP65	
	116-BBQ-130	Base sounder w/ alarm indicator		•			•		•	•	90	2 c	IP21C	Combined detector base and addressable sounder/ alarm indicator.
	116-BBQ-230	Sounder/ alarm indicator		•			•		•	•	100	2 c	IP32C	
	116-BBQ-230/IP	Sounder/ alarm indicator		•			•	•	•	•	100	2 c	IP65	
	116-BU-47	Alarm indicator	•							•	–		IP30	With LED
	116-4340-003.4001	Signal light BLG-LED	•		•	•	•	•		•	–	–	IP67	









Image	Part number	Description	Alarm output mounting	Loop mounting	Electronic	Signal presets	Configurable	Watertight	Sound	Light	Sound output (dBA/1 m)	Light output (Candela/Joule)	Ingress Protection level	Notes
	116-4340-006.0201	Xenon beacon	•		•					•	-		IP55	
	116-4340-006.0924	Solex beacon, shallow base	•		•			•		•	-	2,5 c	IP54	
	116-4340-006.0925	Solex beacon, deep base	•		•			•		•	-	2,5 c	IP54	
	116-4340-006.0926	Solex beacon, shallow base	•		•			•		•	-	2,5 c	IP54	
	116-4340-007.0001	Solista LX beacon, wall mounted, deep base	•		•	•		•		•	-	W-2.4-7.5	IP65	Red flash
	116-4340-007.0002	Solista LX beacon, ceiling mounted, shallow base	•		•	•	•			•	-	C-3-7.5	IP33C	Red flash

Image	Part number	Description	Alarm output mounting	Loop mounting	Electronic	Signal presets	Configurable	Watertight	Sound	Light	Sound output (dBA/1 m)	Light output (Candela/Joule)	Ingress Protection level	Notes
	116-4340-007.0007	Solista LX wall, shallow base	•		•	•	•			•	-	C-3-7.5	IP33C	Red flash
	116-4340-007.0008	Symphony G1 LX, wall	•		•	•	•			•	100	W-2.4-7.5	IP21C	Red flash
	116-4340-007.0009	Symphony G1 LX, wall	•		•	•	•			•	100	W-2.4-7.5	IP21C	Red flash
	116-7770-009.0002	Roshni LP, shallow base	•		•	•		•			102	-	IP54	
	116-7770-009.0004	Roshni LP, shallow base	•		•	•		•			102	-	IP54	
	116-4340-007.0005	Symphoni LX WP conventional base beacon, wall mounted	•		•	•	•	•		•	-	W-2.4-7.5	IP66	Red flash
	116-7770-009.0040	Symphoni IP66							•		100	-	IP66	For use with 116-4340-007.0005

Image	Part number	Description	Alarm output mounting	Loop mounting	Electronic	Signal presets	Configurable	Watertight	Sound	Light	Sound output (dBA/1 m)	Light output (Candela/Joule)	Ingress Protection level	Notes
	116-7770-009.0005	Roshni, deep base	•		•	•		•	•		102	–	IP65	
	116-7780-004.0001	Flashni, shallow base	•			•		•		•	101	0,7 j	IP54	
	116-7780-004.0002	Flashni, deep base	•			•		•	•	•	101	0,7 j	IP65	
	116-7780-005.2301	Sounder and beacon AL112	•		•	•			•	•	112	5 j	IP55	
	116-7780-005.2401	Sounder and beacon AL121	•		•	•			•	•	121	5 j	IP55	
	116-7770-009.0200	Sounder CC-VTG-32EM-DB-R	•		•		•	•	•		99	–	IP65	

Image	Part number	Description	Alarm output mounting	Loop mounting	Electronic	Signal presets	Configurable	Watertight	Sound	Light	Sound output (dBA/1 m)	Light output (Candela/Joule)	Ingress Protection level	Notes
	116-7780-004.0200	Sounder/beacon CC-VTB-32EM- DB-RB/RL	•		•		•	•	•	•	99	-	IP65	
	116-7780-006.	Air typhoon	•					•	•		141	-	IP65	0.6-1.0 Mpa
	116-7780-006.0002	Air typhoon	•					•	•		141	-	IP65	2.5-3.0 Mpa

Accessories for loop units

Image	Part number	Description
	116-BWA-100	Detector base for AuroSafe detectors
	116-BWB-110	Base adapter for analogue addressable detectors mounted on interactive loops
	116-BWP-100/20	Drip proof conduit box with M20 glands
	116-BWP-100/20/PG16	Drip proof conduit box with M20 glands (PG16)
	116-BWP-100/25	Drip proof conduit box with holes for M25 glands
–	116-WBJ-140	Mounting/demounting tool for AuroSafe detectors mounted on base BWA-100
–	116-WBW-100	Bypass unit for BWA-100
–	116-WBW-101	Mounting plate for false ceilings
	116-BZ-500	Galvanic barrier for Exia approved detectors. If power to the unit is supplied from the panel, a 24 V DC/DC converter, e.g. 116-4660-055.0001 (page 21) must be used to regulate the power.
	116-UL-050	Robust bracket for manual call points
–	116-CXBZ	Bezel for manual call point BF-300V2.
–	116-4860-011.0100	Lift flap for manual call points BF-300V2, BF-510WP-H, BF-500V2
–	116-4860-011.9901	Test key for manual call point 116-BF-300V2 (10 pack).





Flame detection

- keeping a close watch



Autronica's flame detectors are solutions for applications in which risk to personnel is high and where fire might result in a large loss of equipment. Beyond critical life-safety concerns, our products have proven to minimize total cost of ownership while minimizing false alarms.

Our maritime applications include engine rooms, mooring decks and other technical areas where there is risk of flames.

Bottom line – Autronica offers flame-detection technologies with wide area coverage, high false-alarm immunity, reduced response times, and the appropriate global approvals. And to improve ease of use, all X-Series flame detectors have HART-protocol options.

Flame detectors





The AutoFlame IR Flame Detector BG-201 and BG-21 is a point flame detector for detection of fires involving combustion of carbonaceous materials. It has a high IP rating making it suitable for the harshest environments.

The dual IR flame detector is used in various applications in which risk to personnel is high and where fire might result in a large loss of equipment. Beyond critical life-safety concerns, the advanced signal processing and DYFI+ intelligence ensure that the detector has a high immunity to any nuisance alarm source and makes this detector the obvious choice for demanding applications.

All AutoFlame X detectors have 4 x M25 cable entries. Swivel mount, glands and blind plugs are not included.

All AutoFlame X detectors have an ambient temperature range of -55 °C to + 60 °C for T6 and -55 °C to + 75 °C for T5.

For interfacing AutoFlame X detectors to AutoSafe, use 116-BN-304.

Image	Part number	Description	Housing	Ingress Protection level	Notes
	116-BG-201	AutoFlame Dual IR interactive	PCB	IP66/67	
	116-BG-201MRK	AutoFlame Dual IR interactive	PCB	IP66/67	Maritime replacement kit for 601F-M, including detector and mounting plate
	116-BG-21	AutoFlame Dual IR conventional	PCB	IP66/67	
	116-5861-011.4310	AutoFlame X33AF multispectrum IR	SS	IP66	Available with HART protocol on request (X3301S4M23W1) Combination unit with camera available
	116-5861-011.4320	AutoFlame X33AF multispectrum IR	Alu	IP66	Available with HART protocol on request (X3301S4M23W1) Combination unit with camera available
	116-5861-011.4340	AutoFlame X33AF multispectrum IR	SS	IP66	For areas with high temperatures
	116-5861-011.4360	AutoFlame X33AF multispectrum IR	Alu	IP66	For areas with high temperatures
	116-5861-011.4341	AutoFlame X33AF multispectrum IR	SS	IP66	Built-in BNB-300
	116-5861-011.4361	AutoFlame X33AF multispectrum IR	Alu	IP66	Built-in BNB-300
	116-5861-011.3980	AutoFlame X98 single IR	SS	IP66	
	116-5861-011.3981	AutoFlame X98 single IR	Alu	IP66	
	116-5861-010.2010	601FEX-M IR	FR110	IP20	Ambient temperature range: -20 °C – +70 °C

Accessories

Part number	Description
116-UL-046	Mounting bracket for BG-21 and BG-201
116-6571-071.2500	Cable gland M25, polyamid, Eexe, Ingress Protection level: IP67
116-6332-032.1925	Blind plug M25, polyamid, Eexe, Ingress Protection level: IP67
116-6571-016.2520	Cable gland adapter M20/M25
116-6530-030.0020	Blind plug M20, brass, nickel plated. Exd/Exe, Ingress Protection level: IP66/68
116-6530-030.0025	Blind plug M25, brass, nickel plated. Exd/Exe, Ingress Protection level: IP66/68
116-001680-001	K1003A1006 Window cleaner for flame detectors (6 pcs.)
116-5861-011.9050	Q9033B Swivel mount for AutoFlame detectors, stainless steel
116-5861-011.9051	Q9033A Swivel mount for AutoFlame detectors, aluminium
116-007338-010	Q2033A10R 10 degree field-of-view limiter
116-007338-020	Q2033A20R 20 degree field-of-view limiter
116-007338-030	Q2033A30R 30 degree field-of-view limiter/Weather shield (maintains standard field of view)
116-007240-001	Q1116A air shield assembly
116-009199-001	Q1198A dual air shield/flange mount assembly
116-5861-010.2013	Ex detector base for 601FEX-M
116-5861-010.2014	Deckhead mounting kit for series 601

Test/measuring equipment

Image	Part number	Description
	116-006439-004	W8067S1003 Test lamp IR/UVIR
	116-102740-002	Test magnet for AutoFlame X33AF
	116-WBJ-5/01	Test gas dispenser for smoke detectors, excluding pole
	116-WBJ-5/02	Telescopic pole, 1,26 m – 4,5 m. 1,8 kg

Image	Part number	Description
	116-WBJ-5/03	Expansion pole, 1,13 m. 0,5 kg
	116-WBJ-5/07	Test gas for smoke detectors, 150 ml
-	116-WBJ-5/05	Telescopic pole 2-S, 1.26-2.5 m
	116-WBJ-6/01	Heat detector test kit, including 2 x batteries and charger
	116-WBJ-10	Testifire smoke and heat detector tester kit containing: <ul style="list-style-type: none"> • 1 detector tester • 1 battery charger Solo 727 • 1 smoke capsule • 2 battery batons Solo 770
	116-WBJ-10/01	Testifire smoke/heat head unit
	116-WBJ-10/02	Smoke capsule for WBJ-10 (6 pack)
	116-WBJ-10/03	Solo 760 battery baton
	116-WBJ-10/04	Solo 725 universal fast battery charger
	116-WBJ-10/08	Solo 770 battery baton 3000 mAh. Charged with Solo 727 battery charger.
	116-WBJ-10/09	Solo 727 battery charger for Solo 770
-	116-3400-004.	Smoke pump (type: Bee Keeper)

AutroMaster presentation system

- a fully integrated safety and emergency management system

AutroMaster ISEMS is an Integrated Safety and Emergency Management System combining the strengths of a powerful fire detection system with control and monitoring functions dedicated to make sure you are in control in case of an emergency.

The AutroMaster provides an intuitive control and monitoring interface built to save valuable time when every second counts. Status information is displayed in real-time with easy-to-understand graphical representation. Navigation is fast and instinctual and the powerful zoom functions allow you to monitor all areas in great detail. AutroMaster displays values for gas density, smoke and heat in dynamic colours, making it easy to perform the necessary actions during emergencies.

Control and monitoring of third party systems can easily be performed via serial protocols or network interfaces. They provide connection to basically

any source – network time servers, telephone systems for text messaging, public address systems for automated voice messaging, emergency lights, access control systems, CCTV, automation systems and so on.

The AutroMaster keeps track of all events in the system and has a built-in report generator. This provides a cost-effective system log for maintenance and documentation purposes.

In high-risk environments around the world, a seemingly innocuous fire can quickly escalate into an emergency of large proportions. When disaster strikes and you only have seconds to make the proper decisions, the right safety and emergency management system is an invaluable asset. The AutroMaster includes a Decision Support System (DSS) that will help you make the right decisions at the right time.

AutoMaster editions

AutoMaster ISEMS is the complete AutoMaster edition, including all functionality. In addition, we offer a market specific edition with the modules most relevant for the maritime market

Modules/functions	AutoMaster - maritime edition	AutoMaster - ISEMS
Basic functionality		
Fire management basic functions	•	•
MultiSensor control	•	•
Report generator	•	•
Control and monitoring of emergency lights/LLL	•	•
Extended functionality		
AutroSafe IFG unit support	NA	•
Touch screen support	•	•
Decision support system/incident manager		•
Electronic plotting table		•
Training/simulation module		•
Event record and replay module		•
Video module (live video support CCTV)		•
Remote connect function		•
Message Centre module		•
Interfaces		
Hernis CCTV interface		•
System-S interface		•
NMEA interface		•
VDR output	•	•
MODBUS interface	•	•
ESPA 4.4.4 interface	•	•

Software licences

Part number	Description
116-PROG-AUTROMASTER-MAR	AutoMaster Maritime Edition – For the maritime market the AutoMaster Maritime Edition is specially designed to meet the IMO/SOLAS requirements and regulatory demands.
116-PROG-AUTROMASTERISEMS	AutoMaster ISEMS – Provides the full range of functionality – every possible add-on module is included in this package, making it the perfect choice for demanding applications and professional customers.
116-PROG-AM-UPGRADE	Upgrade of AutoMaster to most recent version – Existing AutoMaster customers can upgrade their license to the most recent version of AutoMaster. Requires change of AutoMaster configuration data.

Software modules

Part number	Description
116-PROG-AM-MOD-DSS	Decision Support System (DSS) – An interactive incident management system for AutoMaster. The DSS gives operators access to customer-specified checklists. The checklists are organized as checkpoints with one or more action items that can be used to manage operations, and these can be marked off as actions are completed.
116-PROG-AM-MOD-EPTABLE	Electronic fire control plotting table – gives you a dynamic plotting table to keep track of actors events during an emergency or drill. All EPT activity is logged in the Decision Support System and is available for later reviews.
116-PROG-AM-MOD-TSIM	Training/Simulation module – A tool to simulate pre-configured events. During a simulation it is possible to pause, stop/end, and continue the simulation. Running the simulation tool is similar to running a live event, alarms and faults are acknowledgeable and resettable. Every event is logged, and after a simulation (or a stop), a full log can be created and it is possible to replay the simulation using the Event record/replay module.
116-PROG-AM-MOD-EVENT	Event Record/Replay module – Offers a screenshot-based replay of incidents on AutoMaster and can be configured to start recording manually or on pre-configured events as pre-warning, alarm or simulation. Recordings are available for replay, and under replay the operator can start, stop, pause, fast-forward and fast backwards. It is possible to export stored events.
116-PROG-AM-MOD-VIDEO	Video interface module – Includes display of live video in AutoMaster from IP based video cameras.
116-PROG-AM-MOD-REMOTE	Remote Connect function – The Remote Connect Module enables a remote connection to AutoMaster from any location using a server/client technology.
116-PROG-AM-MOD-MC	Message Centre module – In the Message Centre the user can send text messages to telephone systems and other AutoMaster PCs. The user can also send pre-recorded voice messages to PA systems. Requires ESPA 4.4.4. interface.

Interface modules

Part number	Description
116-PROG-AM-MOD-HERNIS	Hernis CCTV interface – Interface enables use of AutoMaster together with video cameras and servers from Hernis.
116-PROG-AM-MOD-NMEA	NMEA interface – A protocol used for interface in between maritime electronic equipment, and AutoMaster has built-in support for this in the NMEA interface module. Interface towards GPS is the most common application.
116-PROG-AM-MOD-VDROUTPUT	VDR output – Used in maritime applications for giving output to the Voyage Data Recorder. Configuration of which data and status messages to send to the VDR is done by project engineering.
116-PROG-AM-MOD-MODBUS	MODBUS interface – With the MODBUS interface AutoMaster can be connected to almost any kind of electronic equipment for monitoring and control.
116-PROG-AM-MOD-ESPA444	ESPA 4.4.4 interface – Offers a serial protocol intended for the interconnection of paging equipment with telephone exchanges or computer systems. The protocol used is message-based and is built upon the ISO1745 transport specification. Required if Message Centre module is used.

Software hardcopies

Part number	Description
116-AUTROMASTER-MAR-CD	AutoMaster MAR back-up CD without license
116-AUTROMASTERISEMS-CD	AutoMaster ISEMS back-up CD without license

Engineering/Configuration

Part number	Description
116-AM-CONFIG	General configuration work on setup of AutoMaster
116-AM-CHANGE	Change of AutoMaster configuration
116-PROSJAMB	Conversion of drawings into AutoMaster format
116-PROSJAMD	Adding of detectors to drawings
116-PROSJAMDF	Adding of color fill for analog values

Hardware

Part number	Description
116-AUTROMASTER-PC-12M	PC, maritime standard. Model subject to change without prior notice.
116-AUTROMASTER-RACKPC	19" rack mount PC
116-5151-017.0020	PC12M rack mounting kit
116-5151-017.0021	PC12M horizontal mounting kit
116-5151-017.0022	PC12M vertical mounting kit
116-5151-020.0210	Industrial PC w/SSD
116-5151-020.1951	19" standard LCD monitor
116-5151-200.1027	20" console mounted monitor, DuraMON
116-5151-020.2405	24" widescreen LCD monitor
116-5151-019.1027	DuraMON WS bracket standard
116-5760-050.2003	Laser printer, colour, network and USB
116-5151-200.0023	20" monitor, console mounted, JH20T17 MMD
116-5151-017.0004	Keyboard/mouse Nordic character set
116-5151-017.0002	Keyboard - UK/English character set
116-5151-020.0400	Mouse - USB - 3 buttons
116-5151-020.0732	Network card TG-3468 10/100/1000
116-5151-020.2027	Exsys 4-port serial EX-41094
116-5151-020.2029	Moxa 4-port serial PCIE



AUTRONICA
United Technologies



Omicron systems

- solutions you can trust

Every day, thousands of vessels navigate the world's oceans, containing valuable and often high-risk products. We are dedicated to the crew onboard, always doing our best to ensure that they have the safest working conditions possible.

Each application is unique in design or task, and it is our mission to provide each one with an optimal safety system. Autronica's Omicron product range is designed to meet the most demanding requirements within the maritime industry. For more than 25 years we have designed high level/overflow alarm systems, gas detection systems and vapour alarm systems to meet and exceed the individual demands of each vessel. The entire value chain from project engineering via production to after sales and administration is bundled in our Special Detection Competence Center in

Norway, ensuring fast, efficient and high quality project realization. Based on the experience of approximately 200 projects per year and our thorough application know-how our team of dedicated and highly specialized employees will always find the ideal solution for your needs.

Since 1989 we have developed and optimized a range of high end systems that require minimal maintenance, are extremely robust and reliable as well as easy to operate. Our service-friendly systems fulfill all regulatory and class societies' regulations and enable economically viable operations. Omicron systems can be used onboard high complexity vessels like LNG, LPG, FPSO, FSRU or similar, as well as on more standardized crude oil or chemical tankers.

Level alarm system – OAS 5.5

Independent high level and overfill monitoring system

Our high level / overfill alarm system is the classical product in the Omicron range. Ever since the first system was delivered in 1989 we have continuously improved and optimized the system to the robust, market leading design of today. The OAS 5 is designed to monitor all pumpable liquid cargo types as an independent alarm system as required by IMO's "International Code for Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk" (IBC Code) as well as classification societies rules for chemical, oil product and gas carriers.

Each system is specified in line with the individual customer's needs and contains a monitoring cabinet and a sensing element, optimized for the various cargo types and able to withstand the most demanding maritime conditions.

Features:

- Preconfigured 1 to 3 alarm level thresholds
- Suitable for all pumpable liquid cargo types
- Resistant to tank cleaning machines
- Application specific sensor types, e.g. LNG / LPG
- Same alarm point for different cargo densities
- Alarm hold function, avoiding repeating alarms from same sensor
- Fail safe, fully encapsulated design
- Intrinsically safe connections to sensors
- Mechanically and electrically separated high level and overfill alarms
- No active electronic components in the open deck area
- Alarm panel in electronic cabinet or remote
- Connectable to external alarm / control system



- Manual sensor / system test functionality
- Continuous system verification
- At sea mode, adjusting for ship movements (Optional)
- Remote control with control transfer (Optional)

Part number	Name	Description
116-KIT-K1001	Level alarm system OAS 5.5/A	Control cabinet for single level sensor system with intrinsically safe alarm module and integrated alarm panel. Cabinet to be operated in indoor safe area.
116-KIT-K1025	Level alarm system OAS 5.5/B	Control cabinet for single level sensor system with intrinsically safe alarm module and use with remote alarm panel. Cabinet to be operated in indoor safe area.
116-KIT-K1050	Level alarm system OAS 5.5/C	Control cabinet for dual/triple level sensor system with fully independent intrinsically safe alarm modules and integrated alarm panel. Cabinet to be operated in indoor safe area.
116-KIT-K1075	Level alarm system OAS 5.5/D	Control cabinet for dual/triple level sensor system with fully independent intrinsically safe alarm modules and use with remote alarm panel. Cabinet to be operated in indoor safe area.

OAS 5.5 classification

Part number	Name	Description
116-Classification	Classification by class society	

OAS 5.5 sensor elements

Part number	Name	Description
116-KIT-K1501	Level sensor single HL 8903	Standard single level sensor with intrinsically safe electrical circuit
116-KIT-K1510	Level sensor dual HHL 8903	Standard dual level sensor with fully independent, intrinsically safe electrical circuits
116-KIT-K1520	Level sensor single HL 8903 LPG	Single level sensor for LPG with intrinsically safe electrical circuit
116-KIT-K1530	Level sensor dual HHL 8903 LPG	Dual level sensor for LPG with fully independent, intrinsically safe electrical circuits
116-KIT-K1535	Level sensor triple HHL 8903 LPG	Triple level sensor for LPG with fully independent, intrinsically safe electrical circuits
116-KIT-K1540	Level sensor single HL8903A LNG	Single level sensor for LNG with intrinsically safe electrical circuit
116-KIT-K1550	Level sensor dual HHL 8903A LNG	Dual level sensor for LNG with fully independent, intrinsically safe electrical circuits
116-KIT-K1560	Level sensor triple HHL 8903A LNG	Triple level sensor for LNG with fully independent, intrinsically safe electrical circuits

OAS 5.5 system options

Part number	Name	Description
116-M1630	Modbus OAS 5	
116-M1636	At sea mode A/C	At sea mode module for use with control cabinets with integrated alarm panels. Blocking of high level and 45s delay of overfill alarm
116-M1637	At sea mode B/D	At sea mode module for use with control cabinets operated with remote alarm panels. Blocking of high level and 45s delay of overfill alarm
116-M1635	At sea mode separate	Standalone at sea mode. Blocking of high level and 45s delay of overfill alarm
116-M1638	Override function A/C	Override function to block alarms e.g. during maintenance for use with cabinets with integrated alarm panels
116-M1639	Override function B/D	Override function to block alarms e.g. during maintenance for use with cabinets with remote alarm panels
116-M1641	Test function B/D	Alarm and indicator test functionality for cabinets with remote alarm panels
116-M1643	Indication function B/D	Alarm indication interface to third party equipment for use with control cabinets with remote alarm panels
116-M1644	Relay output common 2 pole	
116-M1645	Relay output common 1 pole	
116-M1646	Relay output individual 2 pole	
116-M1647	Relay output individual 1 pole	
116-11292	Omicron flange JIS5K100/DN80	DN80 JIS5K100 SS flange including sensor pole junction box with M25 thread

Part number	Name	Description
116-14281	Blind flange ANSI 3"/150LBS RF SS	ANSI 3"/150LBS excluding sensor pole junction box
116-14216	Blind flange ANSI 3"/300LBS RF SS	ANSI 3"/300LBS excluding sensor pole junction box
116-14270	Blind flange DN100/PN25 RF SS	DN100/PN25 excluding sensor pole junction box
116-14213	Blind flange ANSI 4"/150LBS RF SS	ANSI 4"/150LBS excluding sensor pole junction box
116-14214	Blind flange ANSI 4"/300LBS RF SS	ANSI 4"/300LBS excluding sensor pole junction box
116-14277	Blind flange JIS 10K100A SS	JIS10K100A SS flange, excluding sensor pole junction box
116-M1138	Sensor pole junction box with 1" thread	
116-M1139	Sensor pole junction box with 3/4" thread	
116-M1140	Sensor pole junction box with M25" thread	

OAS 5.5 accessories

Part number	Name	Description
116-33060	Tank overfill alarm sign	
116-33070	Tank high level alarm sign	
116-M1110	Flexible hose 3/4"- JIS5K40 SS	500 mm flexible adaptor hose with JIS5K40 SS flange, 3/4" NPT threads, Cable gland M25 brass to connect OAS wiring up to 14mm to deck flange
116-M1111	Flexible hose 3/4"- JIS5K40 ST	500 mm flexible adaptor hose with JIS5K40 ST flange, 3/4" NPT threads, Cable gland M25 brass to connect OAS wiring to deck flange
116-M1112	Flexible hose 1"- JIS5K40 SS, 600 mm	600 mm flexible adaptor hose with JIS5K40 SS flange, 1" NPT threads, Cable gland M32 brass to connect OAS wiring to deck flange
116-M1116	Flexible hose 3/4"- JIS5K50 ST	500 mm flexible adaptor hose with JIS5K50 ST flange, 3/4" NPT threads, Cable gland M25 brass to connect OAS wiring to deck flange
116-M1117	Flexible hose 1"- JIS5K50, 600 mm	600 mm flexible adaptor hose with JIS5K50 SS flange, 1" NPT threads, Cable gland M32 brass to connect OAS wiring to deck flange

OAS 5.5 spare part kits

Part number	Name
116-M6101	Spare part set OAS 5.5 standard
116-M6102	Spare part set OAS 5.5 3 years
116-M6104	Spare part set OAS 5.5 5 years
116-M6150	Spare HL sensor standard
116-M6152	Spare HL sensor standard, 5 years
116-M6153	Spare HL sensor High temp
116-M6156	Spare HL sensor LPG
116-M6159	Spare HL+DT sensor LPG
116-M6161	Spare HL+DT sensor LPG, 5 years
116-M6162	Spare HL sensor LNG
116-M6164	Spare HL sensor LNG, 5 years

Vapour alarm system – OVS 2.1

For vapour return lines on tankers

Today's OVS 2.1 comes factory assembled, calibrated and tested according to agreed customer specifications, ready to be installed and commissioned without special tools required. The intuitive and well-structured operation panel ensures ease of use and limited training requirements.

The system consists of a detector cabinet mounted on deck with Ex ia approved oxygen and pressure sensors, flow fail indicator, manifold selector, test and purge facility as well as an electronic cabinet mounted in the cargo control room containing the alarm panel, with individual alarm displays and status LEDs. Different models are available to cover all configurations of manifolds and vapour lines.

The system is designed to meet IMO's "International Code for Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk" (IBC Code) requirements as well as all classification society rules.

Features

- Factory assembled , calibrated and tested according to agreed customer specification
- Compatible with all types of manifolds and vapour lines
- Intuitive operation
- Customer adjustable oxygen, low and high pressure alarm levels
- Four configurable alarm settings for each sensor
- Multiple pressure sensors / vapour sample lines
- Continuous flow and system watch dog
- No special tools required for installation and commissioning
- Alarm panel separate from electrical control cabinet (optional)
- Remote alarm unit to display alarms on a second location e.g. ship's bridge (optional)
- RS 485/422 Modbus RTU serial line communication (optional)



Part number	Name	Description
116-KIT-K4001	Vapour alarm system OVS 2.1 OP/A AL	Alarm cabinet with integrated alarm panel including intrinsically safe EX barriers for communication with the detector cabinet. Cabinet to be operated in indoor safe area.
116-KIT-K4010	Vapour alarm system OVS 2.1 OP/B AL	Alarm cabinet with remote alarm panel including intrinsically safe EX barriers for communication with the detector cabinet. Cabinet and alarm panel to be operated in indoor safe area.
116-KIT-K4020	Vapour alarm system OVS 2.1 OP/ DET	Ex approved detector cabinet for oxygen and pressure monitoring

OVS 2.1 classification

Part number	Name	Description
116-Classification	Classification by class society	

Point gas detection system – OGS 2.1

For cargo rooms, AC inlets, crankcases and other applications

Our point gas detection system OGS 2.1 is the ideal solution for environments that require continuous monitoring for hazardous gases.

Typical higher risk areas that require fixed point gas detection are e.g. pump rooms and engine rooms. The system can be equipped with an infinite number of sensors and supports various detection methods such as e.g. electrochemical, catalytical and infrared technology.

The OGS 2.1 system operates on the same platform as our gas sampling family OGS 3, making it easy combinable and the ideal extension to the OGS sampling systems whenever both solutions need to be pooled to one economically sound system. The platform flexibility enables us to meet the individual customer's needs.

The OGS 2.1 meets the requirement set out by IMO and the different classification societies.

Features

- Individual readings and alarm LEDs for each individual sensor
- Up to 4 adjustable independent alarm set points
- Detection of Oxygen, Hydrocarbons and toxic gases
- Infrared, catalytical and electrochemical sensors
- Continuous system verification
- Intuitive operation
- Remote alarm unit to display alarms on a second location e.g. ship's bridge (optional)
- Integrated temperature alarm for cargo pump bearings (optional)
- Cargo pump emergency shutdown (option)
- RS 485/422 Modbus RTU serial line communication (option)
- Separated alarm and detector cabinet (optional)



Part number	Name	Description
116-KIT-K2001	Gas alarm system OGS 2.1	Control cabinet with integrated alarm panel for a fixed gas detection system with a set number of sensors. Cabinet to be operated in indoor safe area. Standard Autronica project documentation included. Number of sensors must be specified when ordering.

OGS 2.1 classification

Part number	Name	Description
116-Classification	Classification by class society	

OGS 2.1 Gas sensors & accessories

Part number	Name	Description
116-010195-058	AutoPoint Maritime Gas detector	IR Sensor 0 - 100% LEL, 2 x M25 cable entries
116-009480-004	GT3000 transmitter	Electrochemical, stainless steel housing, Eex d certified
116-009471-032	GT3000 sensor module H2S 0-50 ppm	
116-009471-010	GT3000 sensor module CO 0-100 ppm	
116-009471-008	GT3000 sensor module H2 0-1000 ppm	
116-009471-009	GT3000 sensor module O2 0-25% vol	
116-75777	GT3000 junction box	
116-14382	Cable gland M20 for GT3000 junction box	
116-M2050	Modbus OGS 2.1	

Other sensors on request. Customor specific configuration and documentation on request

OGS 2.1 spare part kits

Part number	Name
116-M6170	OGS 2.1 standard spare part kit
116-M6171	OGS 2.1 3 years spare part kit

Gas sampling systems – OGS 3.1 / OGS 3.11

For total solutions in gas sampling

The OGS 3 family is our 4th generation gas sampling system, relied on by major operators around the world. Built to withstand the harshest conditions the Omicron Gas Sampling Systems are the ideal solution for gas detection in areas where normal installation of gas sensors is impossible.

Our OGS 3 family consists of two different gas sampling systems; The OGS 3.11 is the ideal gas sampling system for all typical marine applications. Based on our more than 20 years of experience we have optimized the system to meet the demanding maritime conditions and to become the all-round solution for monitoring the air content in e.g. water ballast tanks, pump rooms or void spaces in the cargo area.

The OGS 3.1 is our top of the range gas sampling system and typically used for larger installations. The system contains a monitoring cabinet and a detector cabinet which increases its scalability. It enables us to design the ideal solution for the individual operational challenges on e.g. FPSOs or FLNGs.

Both systems meet the requirement set out by IMO and the different classification societies.

Intuitive and efficient

Within standard operation the OGS system runs a fully automated sampling sequence from the various defined sampling points. The cycle time is minimized by using 2 independent vacuum pumps; one main pump that continuously draws air from all sample points and one smaller pump taking samples from the actual point according to the sample sequence. This ensures fresh samples and a quick response in case gas is detected. The system continuously self verifies all pneumatic components to ensure proper operation at all times. All alarms, gas as well as potential malfunctions, are shown on the standardized Omicron operator panel in plain text, making the operation extremely intuitive and limiting training requirements, especially for combined systems.

Scalability

The wide range of optional features in conjunction with the overall system flexibility allow Omicron Gas Sampling Systems to cover a brought range of applications, ranging from a system with only a few sample points to a tailor made OGS 3.1 system with a centralized monitoring cabinet and several detector cabinets, making it the ideal solution for large and demanding applications.

Both systems – OGS 3.1 and OGS 3.11 – utilize the common Omicron product line platform, so that they can be easily combined with the Omicron fixed gas detection system OGS 2.1 creating an overall cost effective gas detection solution for an entire vessel.

Features

Standard

- Infrared hydrocarbon sensor(s) with range 0 - 100% LEL
- Low and high gas alarms
- Flame arrestor and shut off valves for each sampling tube
- Automatic and sequential purging of each sampling tube
- Two vacuum pumps for reliable detection (main and sample)
- Non-return valves to avoid liquid entering into the system
- Continuous system verification
- Adjustable purge and sample time on every sampling point
- Semi-automatic test functionality for span and zero calibration
- Manual disconnecting of sampling points that are not in use.

Optional

- Multiple gas analysis. Up to 3 different gas sensors simultaneously
- Dilute functionality for detection of non IR detectable combustible gases (e.g. NH₃)
- Repeater display units with control transfer (max. 5)
- Remote alarm units with alarm LEDs and sounder (e.g. for bridge)
- Bulkhead penetrations
- RS 485/422 Modbus RTU serial line communication
- Up to 32 freely configurable aux. relay outputs
- Dual purge supply (i.e. nitrogen and instrument air)
- Standby pump with manual switch over
- Special design materials for extreme gases (OGS 3.1 only)



OGS 3.11

Part number	Name	Description
116-KIT-K3501	Gas sampling system OGS 3.11	Gas sampling system existing of a combined alarm & control cabinet, including 1 AutoPoint Maritime Gas 0-100% LEL IR detector configured for a set number of sample points. Cabinet is shielded by flame arrestors and to be operated in indoor safe area. Standard Autronica project documentation included. Number sampling points must be specified when ordering.

Customer specific configuration and documentation and/or other sensor types on request

OGS 3.1

Part number	Name	Description
116-KIT-K3001	OGS 3.1 Alarm & control cabinet	IP66 Control cabinet with integrated alarm panel for a set number of sample points. Cabinet to be operated in safe area. Standard Autronica project documentation included. Number sampling points must be specified when ordering.
116-KIT-K3010	OGS 3.1 Detector cabinet	IP66 detector cabinet for safe arera incl. 1 AutoPoint HC200 0-100% LEL IR sensor, flame arrestors and manifolds for a set number of sample points. Cabinet to be operated in safe area. Standard Autronica project documentation included. Number sampling points must be specified when ordering.

Customer specific configuration and documentation and/or other sensor types on request

OGS 3.1/3.11 classification

Part number	Name	Description
116-Classification	Classification by class society	

OGS 3.1/3.11 sensors and system options

Part number	Name	Description
116-009480-004	GT3000 transmitter	
116-009471-032	GT3000 sensor module H2S 0-50PPM	
116-009471-009	GT3000 sensor module O2 0-25%VOL	
116-M3252	GT3000 flow cap	
116-M3035	Modbus OGS 3	
116-M3050	Flamescreen OFS1/10 mm OD	Flamescreen for exhaust air

Part number	Name	Description
116-M3051	Flamescreen OFS1/12 mm OD	Flamescreen for exhaust air
116-M3078	Shut-off valve 1 x 6 mm OD wo/HEX	
116-M3079	SShut-off valve 1 x 6 mm OD w/HEX	
116-M3080	Shut-off valve 2 x 8 mm OD	
116-M3081	Shut-off valve 1 x 8 mm OD	
116-M3082	Shut-off valve 2 x 10 mm OD	
116-M3083	Shut-off valve 1 x 10 mm OD	
116-M3084	Shut-off valve 2 x 12 mm OD	
116-M3085	Shut-off valve 1 x 12 mm OD	
116-M3140	Filter regulator 12 mm OD-12 mm TX	
116-M3141	Filter regulator 10 mm OD-12 mm TX	
116-M3142	Filter regulator 8 mm OD-12 mm TX	
116-M3060	Bulkhead pen 150/32/ 2 x 8 mm OD	
116-M3061	Bulkhead pen 150/32/ 1 x 8 mm OD	
116-M3062	Bulkhead pen 150/32/ 2 x 10 mm OD	
116-M3063	Bulkhead pen 150/32/ 1 x 10 mm OD	
116-M3064	Bulkhead pen 150/32/2 x 12 mm OD	
116-M3065	Bulkhead pen 150/32/1 x 12 mm OD	
116-M3066	Bulkhead pen 150/22/2 x 8 mm OD	
116-M3067	Bulkhead pen 150/22/ 1 x 8 mm OD	
116-M3068	Bulkhead pen 150/22/2 x 10 mm OD	
116-M3069	Bulkhead pen 150/22/1 x 10 mm OD	
116-M3070	Bulkhead pen 150/22/2 x 12 mm OD	
116-M3071	Bulkhead pen 150/22/1 x 12 mm OD	
116-M3122	Non-return valve 8 mm OD stainless steel	
116-M3123	Non-return valve 10 mm OD stainless steel	
116-M3105	Inline filter 90 micron/8 mm OD	
116-M3106	Inline filter 90 micron/10 mm OD	
116-M3110	Endline filter 8 mm OD	
116-M3111	Endline filter 10 mm OD	
116-75321	Water trap	

OGS 3.1/3.11 spare part kits

Part number	Name
116-M6180	OGS3.1 standard spare part kit
116-M6181	OGS3.1 3 years spare part kit
116-M6182	OGS3.1 5 year spare part kit
116-M6183	OGS3.1 standard spare part kit for LPG
116-M6184	OGS3.1 3 years spare part kit for LPG
116-M6185	OGS3.1 5 years spare part kit for LPG
116-M6190	OGS3.11 standard spare part kit
116-M6191	OGS3.11 3 years spare part kit
116-M6192	OGS3.11 5 year spare part kit
116-M6193	OGS3.11 standard spare part kit for LPG

Standard accessories for Omicron product range

Bridge remote units

Part number	Name	Description
116-M6051	Bridge remote unit box mounted	Remote alarm panel for use with OAS 5.5, OVS 2.1, and OGS systems
116-M6050	Bridge remote unit flush mounted	Remote alarm panel for use with OAS 5.5, OVS 2.1, and OGS systems

Alarm lights and horns

Part number	Name	EX approval	Alarm sound frequency	Alarm colour	Sound output	Ingress Protection level	Voltage
116-M6018	Ex d Xenon alarm light BEXBG05	II 2G Ex d IIC T4	–	Red	–	IP66/67	24 V DC
116-M6019	Ex d Xenon alarm light BEXBG05	II 2G Ex d IIC T4	–	Amber	–	IP66/67	24 V DC
116-M6020	Ex d Xenon alarm light BEXBG05	II 2G Ex d IIC T4	–	Blue	–	IP66/67	24 V DC
116-M6021	Ex d Xenon alarm light BEXBG05	II 2G Ex d IIC T4	–	Red	–	IP66/67	230 V AC
116-M6022	Ex d Xenon alarm light BEXBG05	II 2G Ex d IIC T4	–	Amber	–	IP66/67	230 V AC
116-M6023	Ex d Xenon alarm light BEXBG05	II 2G Ex d IIC T4	–	Blue	–	IP66/67	230 V AC
116-M6030	Alarm horn KT75 M20	–	Air driven 400 Hz	–	136 dB(A)	IP65	24 V DC
116-M6031	Alarm horn KT75 M20	–	Air driven 800 Hz	–	136 dB(A)	IP65	24 V DC
116-M6034	Alarm horn A121 WR M20	–	Electrical 1000 Hz	–	126 dB(A)	IP66	24 V DC
116-M6035	Alarm horn A105 WR M20	–	Electrical 1000 Hz	–	112 dB(A)	IP66	24 V DC
116-M6036	Alarm horn A105 WR M20	–	Electrical 1000 Hz	–	112 dB(A)	IP66	230 V AC
116-M6037	Alarm horn MA121 WR M20	–	Electrical 1000 Hz	–	126 dB(A)	IP66/67	24 V DC
116-M6038	EX d Alarm horn	II 2G Ex d IIC T4	–	–	117 bB(A)	IP66/67	24 V DC
116-M6039	EX d Alarm horn	II 2G Ex d IIC T4	–	–	117 bB(A)	IP66/67	230 V AC
116-M6040	EX d Combination Alarm	II 2G Ex d IIB T4	–	Red	117 bB(A)	IP66/67	24 V DC
116-M6041	EX d Combination Alarm	II 2G Ex d IIB T4	–	Amber	117 bB(A)	IP66/67	24V DC
116-M6042	EX d Combination Alarm	II 2G Ex d IIB T4	–	Red	117 bB(A)	IP66/67	230V AC

Test gas

Part number	Name	Description
116-93019	Hose 6mm PA	
116-93626	Quickc male 6mm open/open brass	

Part number	Name	Description
116-94008	Reduction valve	AGA Pressure reducer for test gas w/flowmeter (0-800 ml/min)
116-81029	Methane 50% LEL air 1l/12bar	
116-81028	Propane 50% LEL air 1l/12bar	
116-96630	N-Butane 50% LEL air 1l/12bar	
116-81031	H2S 25 ppm N2 1l/12bar	
116-96635	Nitrogen 1l/12bar	
116-81024	Test gas. N-Butane 50% L.E.L. in air 10L	
116-94009	Flow regulator for AGA 5L 10/l fixicontrol cylinder	

Calibration devices

TEMPERATURE CALIBRATOR – OTE-T700

The temperature calibrator is intended for testing of temperature sensors, indicators, switches and safety equipment. The heating medium is hot air. This makes it clean to use and it has quick temperature change response. Temperature range is about 10 degrees above ambient to + 700° C with digital readout of the measured temperature.

Technical specifications:

- Measuring range: ~30 - 700° C
- Heating medium: Air
- Display: 15 mm 3,5 Digit LCD.
- Dimensions: 410 x 140 x 160 mm.
- Weight: 4 kg
- Power: 120 V - 50/60 Hz - 2700 W, 230 V - 50/60 Hz - 2300 W
- Accuracy up to 100 °C: +/- 1 °C, 101-400 °C: +/- 1 % FS, 401-700 °C: +/- 2 % FS



PRESSURE CALIBRATOR – OTE-P202 AND OTE-P300

The pressure calibrator is intended for testing of pressure sensors, indicators, switches and safety equipment. The pressure medium is oil. It has fine adjustment of the pressure, and an overpressure relief valve. The digital readout can be selected to Bar or PSI. Pressure range is 0 - 200 bar / 0 - 300 bar. The unit can also be delivered in Eex version.

Technical specifications:

- Measuring range: 0-200 Bar / 0-1999 PSI // 0-300 Bar 0-4350 PSI
- Pressure medium: Oil
- Display: 15 mm 3,5 Digit LCD.
- Dimensions: 310 x 115 x 135 mm.
- Weight: 5 kg
- Hose length: 1,5 m with quick connector and 40 mm test cock
- Power: 1 pc. 9V battery
- Accuracy 0-10 Bar: +/- 0.2 Bar
- 11-200 Bar: +/- 0.25 % F.s.
- 11-300 Bar: +/- 0.25 % F.s.



Part number	Name
116-M5020	Temperature calibrator OTE-T700/230V
116-M5030	Pressure calibrator OTE-P202
116-M5040	Pressure calibrator OTE-P300
116-M5050	Pressure calibrator OTE-P300ex. Eex ia IIC T6 approved





Fire suppression systems

– real-world safety solutions

Integration of fire-safety equipment ensures that the correct response is made automatically; the integration of fire detection and suppression is a logical step. It can be difficult to get equipment made by two different suppliers to work together in a satisfactory way, and costs and installation time increase accordingly. That is why Autronica offers the total safety solution for maritime applications.

Autronica's fire suppression systems provide reliable, low-maintenance performance that distracts attention away from every-day activities as far as possible. They are hard-wearing enough to face the challenges of environments characterized by pollutants, corrosive chemicals and constant activity, as well as being sensitive enough to respond correctly in an emergency situation.

Novec 1230 Fluid

Novec™ 1230 Engineered Fire Suppression System is the new generation in gaseous fire suppression technology. Designed to protect human life and high value assets from fire, it meets the marine industry's concerns for safety, performance and the environment.

Novec 1230 fluid is a fluorinated ketone that is stored as a liquid and discharged as a gas. It distributes uniformly throughout the hazard zone, and suppresses fire by a combination of heat absorption and chemical interference with the flame.

Environment

With a zero ozone depletion potential (ODP), a global warming potential (GWP) of just one, and an atmospheric lifetime (ALT) of only 5 days, Novec 1230 fluid has no measurable impact on climate change. At the end of the lifetime of the system, the fluid can be readily recovered and recycled.

Clean

Novec 1230 fluid discharges as a colourless, electrically non-conductive and noncorrosive gas that does not damage sensitive equipment. There is no post-discharge residue, no costly clean-up operations are required, and down-time is kept to a minimum.

Cost-effective

By using its tried and trusted range of 25 bar equipment, Autronica can offer a cost-effective Novec 1230 fire suppression system.

Efficient

Small and large-scale tests have proven that Novec 1230 fluid puts fires out quickly, before they can do any serious damage. It does this by reaching extinguishing concentrations in ten seconds or less. It is effective on a wide range of Class A, B and electrical fires.

Safety

The US EPA Significant New Alternatives Program (SNAP) classifies Novec 1230 fluid as acceptable for use as a total flooding agent in occupied spaces. A low design concentration of 4 to 6% in combination with a high No Observable Adverse Effect Level (NOAEL) of 10% means it provides a safety margin of up to 100%. This is by far the largest safety margin of any clean agent currently available. In addition, there is no risk of human asphyxiation with Novec 1230 fluid since it does not act by oxygen depletion in the hazard zone.

System design

The Autronica Engineered Fire Suppression System comprises Novec 1230 fluid stored in cylinders connected to distribution pipework and specially designed discharge nozzles.

Novec 1230 fluid is stored as a liquid in nitrogen-pressurised steel cylinders. This ensures minimal storage space and weight requirements compared to all other viable gaseous agents. It also enables refills to be transported in unpressurised cylinders without the restrictions on gaseous alternatives.

The range of cylinders, valves and related components has been specially selected for use with Novec 1230 fluid and has been subjected to stringent testing procedures. Flexibility, quality and reliability make the Novec 1230 range the world's finest in fire safety.

Engineered systems are designed using FM Global and UL verified software and guidelines, and offer optimum designs for the defined risks with reduced pipe sizes, unbalanced flows and common room and void protection possible.

Applications

Novec 1230 systems are ideally suited to the protection of machinery spaces, cargo pump rooms, control and switchboard rooms in a wide range of vessel types.



Cylinders and accessories

Part number	Name	Description
116-1-45-200040-001	16 l cylinder	Including 1.5" valve assembly, mounting hardware, pressure operated control head and standard supervisory pressure switch. Cable operated control head and ATEX pressure switch available on request.
116-1-45-200070-001	28 l cylinder	Including 1.5" valve assembly, mounting hardware, pressure operated control head and standard supervisory pressure switch. Cable operated control head and ATEX pressure switch available on request.
116-1-45-200125-001	51 l cylinder	Including 1.5" valve assembly, mounting hardware, pressure operated control head and standard supervisory pressure switch. Cable operated control head and ATEX pressure switch available on request.
116-1-45-200200-001	81 l cylinder	Including 2" valve assembly, mounting hardware, pressure operated control head and standard supervisory pressure switch. Cable operated control head and ATEX pressure switch available on request.
116-1-45-200350-001	142 l cylinder	Including 2" valve assembly, mounting hardware, pressure operated control head and standard supervisory pressure switch. Cable operated control head and ATEX pressure switch available on request.
116-1-486488	Container bracket for 28 l cylinder.	Also available for 16 l cylinder.
116-1-878757	Cylinder recharge adapter for cylinder size 5 to 51 l	
116-1-878758	Cylinder recharge adapter for cylinder size 81 to 142 l	

Nozzles

Part number	Name	Description
116-1-45-294713	Nozzle 1/2" BSP 180°	Brass. Available with different drill sizes.
116-1-45-294714	Nozzle 3/4" BSP 180°	Brass. Available with different drill sizes.
116-1-45-294715	Nozzle 1" BSP 180°	Brass. Available with different drill sizes.
116-1-45-294716	Nozzle 1 1/4" BSP 180°	Brass. Available with different drill sizes.
116-1-45-294717	Nozzle 1 1/2" BSP 180°	Brass. Available with different drill sizes.
116-1-45-294718	Nozzle 2" BSP 180°	Brass. Available with different drill sizes.
116-1-45-294723	Nozzle 1/2" BSP 360°	Brass. Available with different drill sizes.
116-1-45-294724	Nozzle 3/4" BSP 360°	Brass. Available with different drill sizes.
116-1-45-294725	Nozzle 1" BSP 360°	Brass. Available with different drill sizes.
116-1-45-294726	Nozzle 1 1/4" BSP 360°	Brass. Available with different drill sizes.
116-1-45-294727	Nozzle 1 1/2" BSP 360°	Brass. Available with different drill sizes.
116-1-45-294728	Nozzle 2" BSP 360°	Brass. Available with different drill sizes.

Release cabinets

Part number	Name	Description
116-814470	Valve release cabinet	Steel. Available in stainless steel.
116-814610	Pneumatic release cabinet	With time delay and by-pass. Steel. Available in stainless steel.
116-814640	Pneumatic supply cabinet	With time delay and by-pass. Steel. Available in stainless steel.
116-814011	Wire release cabinet	With 2 corner pulleys

Miscellaneous

Part number	Name	Description
116-162045	Flexible hose SS 1 1/2" X 610 mm PN60	
116-162055	Flexible hose SS 2" X 787 mm PN55	
116-243047	Key holder with hammer and chain	
116-198405	Shuttle valve with OD 6 mm tube.	

Drencher systems

Autronica drencher systems are reliable, simple and effective fire suppression systems offering significant advantages:

- Quick fire suppression
- Sea water can be used, even with water mist nozzles
- Prevent fires from spreading over a large area by means of water curtains
- Cool down protected equipment
- Simple and reliable operation
- High flexibility in design and installation

Autronica drencher systems are used to protect different areas onboard, both inside and outside. For instance:

- Cargo tank decks as chemical oil/tankers
- LFL and seismic vessels
- Car-decks (open or closed)
- Helidecks and helicopter landing areas
- Bow and stern loading areas
- LNG and other fuel tanks

Depending on the application, low expansion foam in different mixing concentration can be added to the water. All the foams concentrates are approved by all the major classifications societies and fulfill IMO requirements.

Autronica can deliver a broad range of discharging devices to meet the requirements set by applicable regulations and to satisfy the needs of each specific vessel. In particular for car decks, we can offer a water mist nozzle approved with use of sea water: this is a unique product providing huge benefits to our customers.

- Highly reduced water consumption (around 1/3 compared to traditional water spray nozzles)
- Smaller drainage pumps
- No need for dedicated water pumps
- No need for fresh water tank

Other discharging devices include: Jet/fog nozzles, manual and remote operated monitors, water spray nozzles, branch-pipes and pop-up nozzles.

All foam discharging devices have been tested according to the relevant regulations and fulfill IMO requirements.



FlexiFOG – local protection

Low-pressure water mist system

Local protection in accordance with IMO MSC/Circ. 913

Low-pressure water mist fire-fighting system provided for local fire suppression in areas, as specified in SOLAS II-2/10.5.6 for category A machinery space, such as top of main engine, top of auxiliary engines, boiler fronts, incinerators and fuel oil separators.

The system may be released locally by use of manual release button within the protected space and from manned station or automatic by fire detectors for ships with unattended machinery space.

The central operating panel should always be located in the manned station



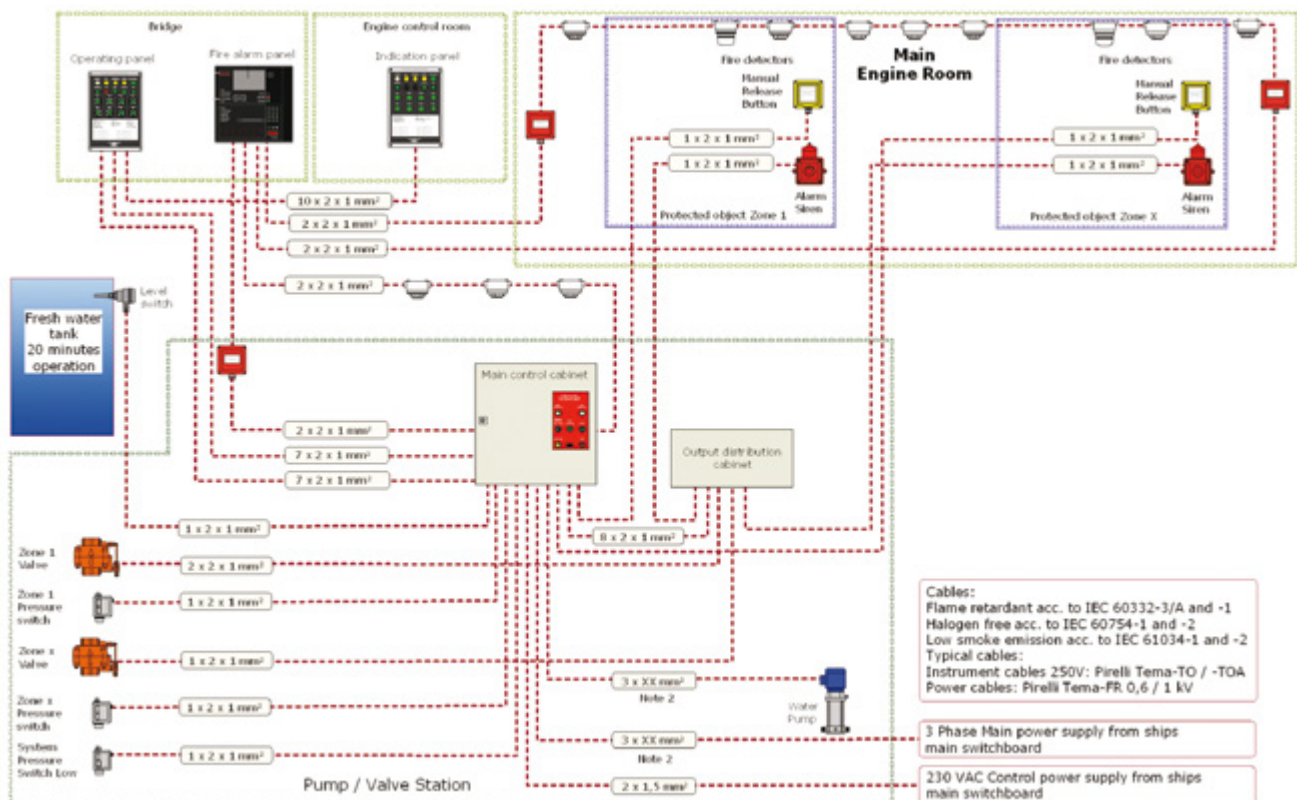
Control systems

- Option 1
With integrated AutoSafe I/O for interconnection with the ship's AutoSafe fire detection system. The advantage is saving cables as one of the AutoSafe loops are routed through the local protection control panel.
- Option 2
For integration with any type of ships fire detection system. Voltage free outputs from the ships fire detection system is required.
- Option 3
Touch screen operated system with integrated fire detector loops for conventional fire detectors. Automatic activation based on any two detectors on the loop covering one object.

Advantages

- Tested in accordance with IMO MSC/circ. 913
- Low water consumption, 1,1 – 1,6 l/min./m²
- Low power consumption, 1,5 – 5,5 kW
- Height 0,5 – 8 meters, operating pressure, 4 bar
- Height 8 – 14,5 meters, operating pressure, 9 bar
- Small pipe size, 3/4"
- Low weight piping, PN10 and PN16
- Type approved by all major classification societies
- Holding wheel mark certificate, Module B and D

Low pressure water mist local protection integrated with AutoSafe interactive fire detection system – Typical layout



FlexiFOG – accommodation

Low-pressure water mist system

For Accommodation and Public Spaces in accordance with IMO MSC Res. 265(84)

The Autronica low-pressure water mist fire suppression system is provided for accommodation areas as specified in the FSS Code chapter 8, section 1 and 2.

The control system consists of a single CPU or two CPUs where Safe Return to Port is required. Accommodation system zone monitoring is either hardwired to the CPU or connected to the Ethernet ring via IE/As-I link modules.

Operation / Indication are by minimum two touch screens connected to the Ethernet.

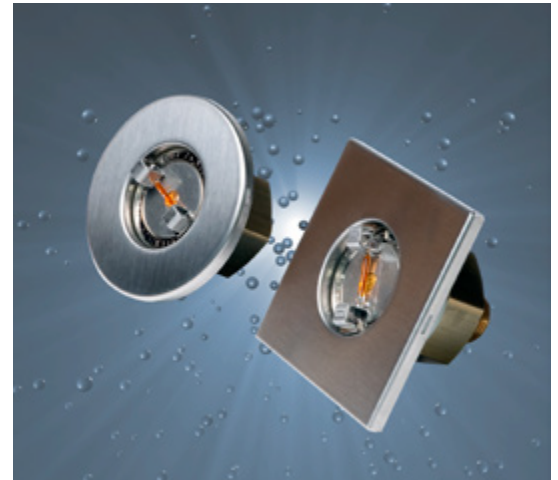
The micro nozzles have integrated heat sensitive elements with ultra fast response character at a nominal release temperature of 57°C. The system can be delivered together with FlexiFOG total flooding and local protection without the need of having a double set of pumps or control panels.

Application

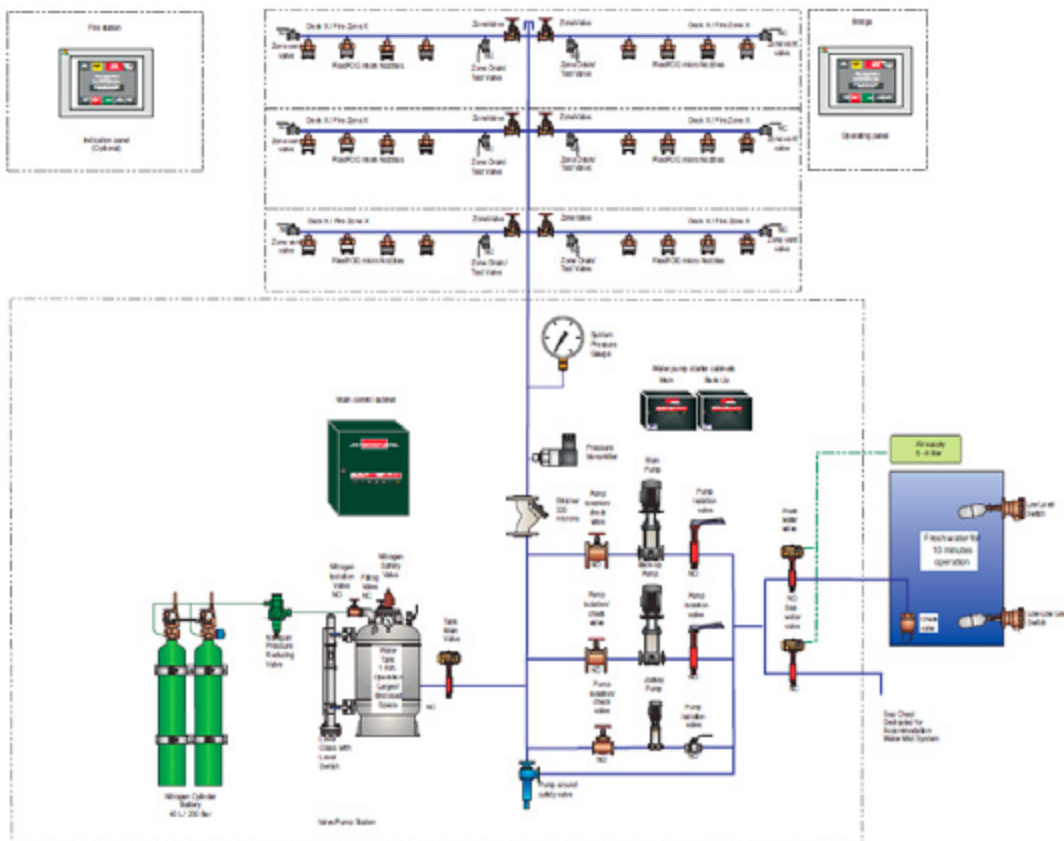
Low-pressure water mist system for protection of accommodation area as specified in IMO MSC Resolution 265(84) and SOLAS II-2/12,

Advantages:

- Tested in accordance with IMO MSC Res. 265(84)
- Less power consumption, 15 – 30 kW
- Less pressure, 10 bar
- Less weight piping, PN16
- Smaller dimensions
- Less water flow, 2 l/min/m2
- Type approved by all major classification societies including MED certificate module B and D.
- Flush mounting
- Customer specified colours



Typical layout according to IMO MSC Res. 265(84)



Low-pressure water mist systems and Safe Return to Port

Safe Return to Port

The Safe Return to Port amendment to the IMO SOLAS regulations was made effective from 1 July 2010. The goal is that a vessel remains functional even in the case of fire or flooding in one compartment and is able to return safely to port without the need to abandon ship.



The regulations are mandatory for passenger ships having a length of 120 metres or more or having three or more main vertical zones. These vessels have to be able to return to port after a casualty case, not exceeding a defined flooding or fire casualty threshold, and provide all persons on board basic services in so-called 'safe areas'. For fire casualty cases exceeding the casualty threshold but not exceeding one main vertical fire zone, systems for supporting orderly evacuation have to be available for 3 hours.

The low-pressure water mist solution

The control system consists of two CPUs, each with its own program. Machinery space systems are hardwired with redundant zone valves. Manual release buttons have inputs to both CPUs.

Accommodation system zone monitoring is connected to the Ethernet ring via IE/As-I link modules.

Operation / Indication are carried out by minimum two touch screens connected to the Ethernet ring. In normal operation, the main CPU is controlled. Change-over to the back-up CPU is carried out automatically or manually from either of the touch screens.

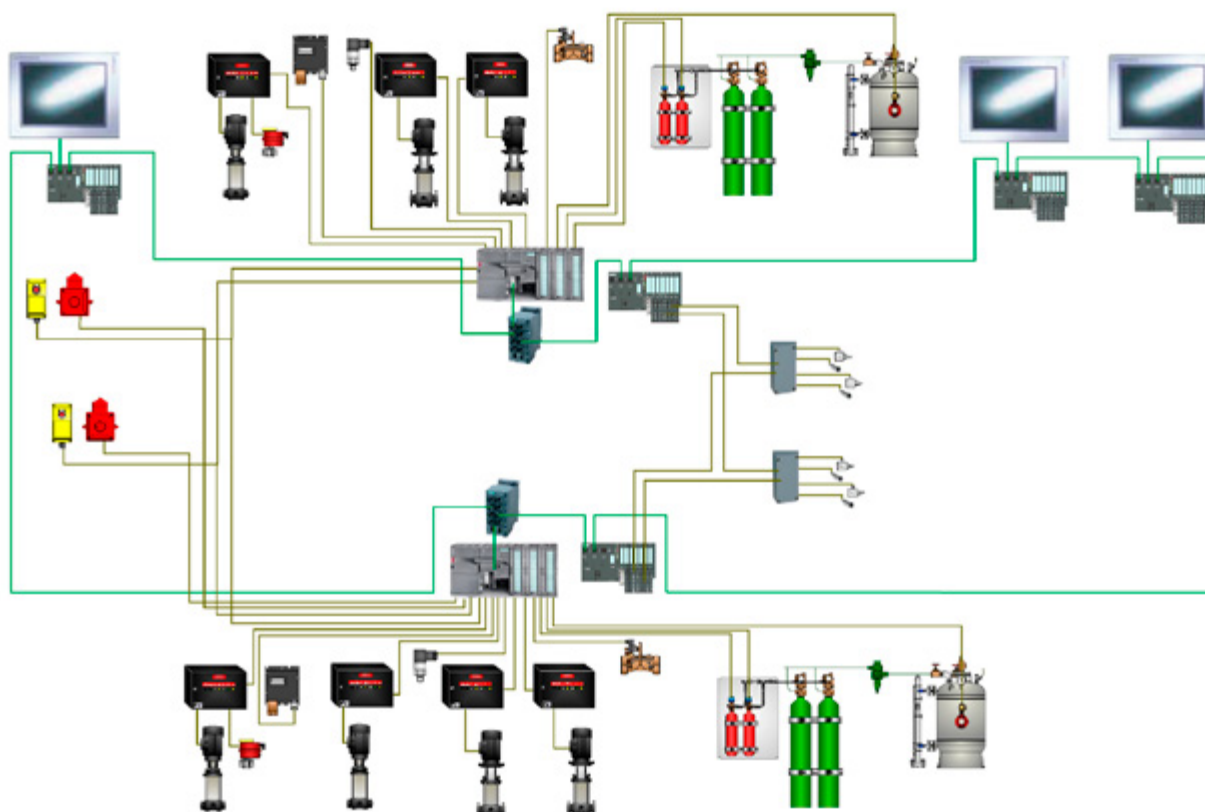
Each of the pump packages has a 100% capacity and is connected to its own dedicated sea chest. The pump package is common for both accommodation and machinery space systems, i.e. it is not necessary to have separate pumps for each of the applications. The pump units is located in the foremost and aftmost main vertical zone.

Zone valves for machinery space protection have 100% redundancy and should be located at the pump station. Zone valves for accommodation are normally located outside the protected fire zone within a dedicated A0 enclosure, i.e. duplicate zone valves are not required. If located outside A0 enclosure, the zone valves has to be duplicated..

Application

Low-pressure water mist system for protection of accommodation area, machinery space cat. A and pump rooms, and local protection, machinery space cat. A. If local protection is separate, i.e. not a part of the total flooding system, SRTP requirements is not required.

Typical layout according to IMO SOLAS Safe Return to Port



Control cabinets and accessories

Part number	Name	Description
116-901110.KIT	Control panel suppression system	Control panel for FlexiFOG water mist fire suppression system. Options and accessories on request.

Operating panels and accessories

Part number	Name	Description
116-901040	Operating panel, 12" multicolour touch screen	Flush mounting
116-901041	Operating panel, 12" multicolour touch screen	Surface mounting
116-901037	Operating panel, 7" multicolour touch screen	Surface mounting, for remote operation
116-901035	Operating panel, 7" multicolour touch screen	Flush mounting, for remote operation
116-138590	Operating panel, 10 zones	
116-138595	Indication panel, 10 zones	
116-142056	Backbox	For bulkhead mounting of operating and indication panels

Nozzles and accessories

Part number	Name	Description
116-900930	Nozzle, LO-Flow M5	M5 nozzle in naval brass for machinery space systems (total flooding and local protection)
116-900960	Nozzle K6	K6 nozzle in naval brass for machinery space systems (total flooding).
116-900960.SS	Nozzle K6 SS	K6 nozzle in stainless steel for machinery spaces systems (total flooding)
116-900950	Nozzle FlexiFOG B1	B1 nozzle in naval brass for bilge area in machinery spaces
116-900950.SS	Nozzle FlexiFOG B1 SS	B1 nozzle in stainless steel for bilge area in machinery spaces
116-900980	Nozzle RO-RO OH-OPX1	OH-OPX1 nozzle in naval brass for RO-RO and special category spaces
116-900980.SS	Nozzle RO-RO OH-OPX1	OH-OPX1 nozzle in stainless steel for RO-RO and special category spaces
116-900820.57	FlexiFOG micro nozzle	FlexiFOG micro nozzle. Naval brass, chrome plated. Available in different types for different areas (cabins / corridors / public spaces / storages) and activation temperatures (57°C / 93°C)
116-900700.57	FlexiFOG OH nozzle	FlexiFOG OH nozzle. Naval brass, chrome plated. Available in different types for different areas (cabins / corridors / public spaces / storages) and activation temperatures (57°C / 93°C)
116-700222	Drencher nozzle	Available with different K-factors: 22, 41, 47, 57, 62
116-177443	High velocity nozzle	Available with different K-factors: 23, 43, 80

Part number	Name	Description
116-177559	Medium velocity nozzle	Available with different K-factors: 16, 23, 40, 59
116-177499	Nozzle, Thermoshield K260	
116-174965	Nozzle JET/FOG MINI GN-5	Other sizes on request
116-900852	Rosette square	Rosette for FlexiFOG micro nozzle. Square shape. Stainless steel. Grit finishing. Price on request for different finishing (polished / painted) and materials (brass).
116-900862	Rosette circular	Rosette for FlexiFOG micro nozzle. Circular shape. Stainless steel. Grit finishing. Also available in different finishes (polished / painted) and materials (brass).
116-900870	Cover plate Ø 95	Cover plate to be used when replacing old type FlexiFOG accommodation nozzles with FlexiFOG micro. Stainless steel. Polished finishing.
116-900895	Hex pipe for installation of FlexiFOG micro nozzles	Tool for installation of FlexiFOG micro nozzles
116-162625	500 mm hose DN10	3/8" BSP / 15 mm tube end. Available also with 1000 mm lenght

Valves and accessories

Part number	Name	Description
116-100170	Valve ball DN20 BSPF	Other dimensions available on request (DN8-50)
116-100656	Valve ball DN15 wafer	For pressure vessel level indicator
116-110030	Valve butterfly manual operated DN 80 DIN PN 16	Other dimensions available on request (DN40-150)
116-110440	Valve butterfly, El/Pneumatic operated, DN 100	Supplied normally open or normally closed (NO / NC). Other dimensions available on request (DN40-150)
116-106140	Valve butterfly, motor operated 230 VAC, DN 100	Other dimensions available on request (DN50-150)
116-931120	Valve ball DN20 BSPF with cam lock quick coupling	Other dimensions available on request (DN25-50)
116-119633	Valve zone DRY remote control DN25 24VDC	Other dimensions available on request (DN20-50)
116-119730	Valve zone remote control DN80 FL 24VDC	Other dimensions available on request (DN50-150)
116-137032	Valve check DN32 DIN PN 16 w/hand wheel, threaded BSP	Other dimensions available on request (DN20-50)
116-137530	Valve, check DN80 DIN PN 16 w/hand wheel	Other dimensions available on request (DN25-100)
116-136425	Valve check DN25 BSP	Other dimensions available on request (DN32-50)
116-136442	Valve foot DN40 PN25 Bronze	Other dimensions available on request (DN32-50)
116-117730	Valve pressure reducing DN80	Other dimensions available on request (DN40-100)
116-115680	Valve, pump around DN80	Available with different set pressures. Other dimensions available on request (DN40-50)
116-105026	Valve Ball DN25 EL 230AC	Other dimensions available on request (DN32-50)
116-115025	Valve, Safety, DN25 BSP	Available with different set pressures. Other dimensions available on request (DN32-50)
116-104020	Valve, Hydrant DN 50 90°, PN 16	

Part number	Name	Description
116-901130	Valve control cabinet for motor operated valve	

Strainers

Part number	Name	Description
116-170140	Strainer DN40 BSPF 320 microns	Other dimensions available on request (DN25-50)
116-170540	Strainer "Y" DN100 FL 320 microns	Other dimensions available on request (DN50-100)
116-170340	Strainer "Y" DN100 FL 1000 microns	Other dimensions available on request

Orifice

Part number	Name	Description
116-196550	Orifice DN50 DIN PN16 AISI 316	Other dimensions available on request (DN25-150)

Pumps and accessories

Part number	Name	Description
116-175366	Water pump 380-415 AC/50Hz/18,50 kW	Other sizes available on request (1,50 - 37,00 kW)
116-175832	Water pump 380-480 AC/60HZ/4,00 kW	Other sizes available on request (1,50 - 37,00 kW)
116-175175	Water pump 690 AC/60HZ/30,00 kW	Other sizes available on request (1,50 - 37,00 kW)
116-176514	Foam pump 380-415 AC/50HZ/1.50 kW	Other sizes available on request (1,10 - 18,50 kW)
116-176012	Foam pump 380-480 AC/60HZ/2.20 kW	Other sizes available on request (1,10 - 18,50 kW)
116-176312	Foam pump 690 AC/60HZ/2.20 kW	Other sizes available on request (1,10 - 18,50 kW)
116-175932	Coupling for pump. 1 1/4" BSP	
116-175950	Coupling for pump. 2" BSP	
116-175994	Pump Self Suction Aspirator 700 NI/min. Air Driven	Also available with with capacity 300 and 500 NI/min
116-902400.KIT	Pump start cabinet DOL 220-690 VAC	50-60 Hz Main / Emergency supply. Options and accessories on request.
116-902430.KIT	Pump starter SOFT 230-440 VAC	50-60 Hz Main / Emergency supply. Options and accessories on request.
116-902440.KIT	Pump starter SOFT 690 VAC	50-60 Hz Main / Emergency supply. Options and accessories on request.
116-902460.KIT	Pump starter DOL M 220-690 VAC	50-60 Hz Main supply. Options and accessories on request.
116-902480.KIT	Power distribution cabinet	Options and accessories on request.
116-902490	Change over unit 25 A 230-690	

Tanks, pressure vessels and accessories

Part number	Name	Description
116-169500	Transparent Tank 500 l Ø 750 mm X 1290 mm	Other volumes on request (100 - 1000 l)
116-169660	Transparent tank 1600 l with steel frame	
116-166400	GRP Tank 4000 l Ø 1600 mm x 2280 mm	Other volumes on request (2500 - 5000 l)
116-168320	Pressure Vessel - Stainless Steel 210 litre Horizontal	Other volumes on request (340 - 590 l)
116-148550	Level indicator PN10 acrylic tube for GRP tank	
116-148610	Level indicator for pressure vessel c/c 500 mm	
116-148620	Level indicator for pressure vessel c/c 1000 mm	
116-903140	Cylinder N2 40L, EI/Pneumatic	
116-903040	Cylinder N2 40L, Pneumatic	
116-117025	Valve, Nitrogen pressure regulator, 1"	
116-933002	Manifold, Nitrogen, 1/2", for 2 Cylinders	

Foam equipment

Part number	Name	Description
116-500450	AFFF 1% foam liquid in 200 l drum.	
116-500452	AFFF 1% foam liquid in 25 l can.	
116-500470	Alcohol resistant foam liquid 3% in 200 l drum	
116-500472	Alcohol resistant foam liquid 3% in 25 l can	
116-504424	Foam proportioner DN100	Mixing percentage: 1% or 3%. Capacity: 1200-4000 l/min. Price on request, other dimensions available (DN40-150)
116-504508	Foam inductor 3" - variable flow	Mixing percentage 1%. Capacity 140-1400 l/min
116-506610	Foam cabinet with branch pipe	Foam cabinet including self aspirating portable branch pipe, 2 x 15 m hose, 25 l AFFF1% foam liquid.
116-173080	Foam monitor manual JET/FOG - DN80	Capacity up to 3700 l/min. Other capacities (6000 - 11 700 l/min) available on request.
116-173100	Foam monitor electric remote JET/FOG - DN100	
116-502394	Joy stick panel for control of foam monitors, portable	
116-502385	Foam monitor control cabinet	

Miscellaneous

Part number	Name	Description
116-138560	Manual release button, Local release.	
116-138567	Manual remote release station	Control Station Local Start/Stop, IP66, Stainless steel.
116-139603	Alarm, Audible/Visual 105 dB / 24 VDC	Other sounds levels (112 - 121 dB) on request
116-139602	Electronic alarm siren with flash light	
116-148355	Level Switch with float "Mobrey", horizontal installation	
116-234950	Optical smoke detector (conventional)	IMO approved. Including backbox and base
116-145160	Pressure gauge 0 - 25 bar. 63 mm	
116-145365	Pressure gauge 0 - 25 bar, 100 mm, 1/2" BSP	
116-146503	Transmitter, System pressure 0-25 Bar, 4-20 mA	
116-146507	Transmitter, System pressure 0-25 Bar, 0-10V	

Kidde wet chemical system

For DFF protection

The Kidde WHDR™ Wet Chemical System provides 24-hour protection and superior integrated detection capabilities for cooking appliances, as well as galley ventilation equipment.

The WHDR System provides total extinguishment and prevention of re-flash in protected galley areas. The WHDR System is UL Listed for operating in a temperature range of 0°F (-18°C) to 120°F (40°C) making it ideal for the extreme environments vessels face around the world. Kidde manufactures its products to the most stringent testing standards and is an ISO 9001 manufacturing facility. The Kidde WHDR System provides convenient on-board recharge capabilities to minimize business interruption in the event of a discharge. Individual agent containers are pre-measured and shipped in handy storage containers.

Features

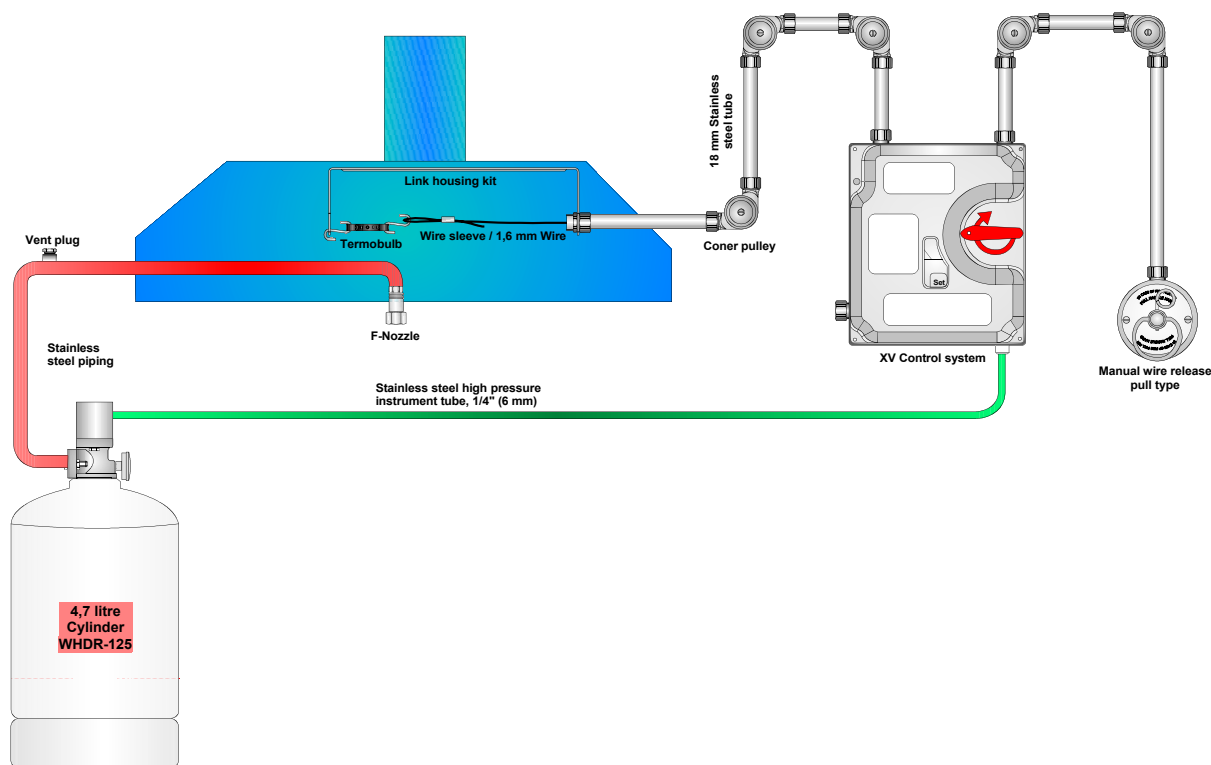
- Safe and reliable fire protection
- Ease of design and flexibility of installation
- Flexibility and reliability of important safety system

Technical specifications

- APC provides fastest flame knockdown and best securement
- Four cylinder sizes available

Listing & approvals

- American Bureau of Shipping
- Lloyd's Register of Shipping
- Det Norske Veritas
- ISO 15371
- Underwriters Laboratories, Inc. (UL300)
- Underwriters Laboratories of Canada (ULC/ORD - 1254C.6)
- US Public Health Service



Part number	Name	Description
116-188025	Complete Kidde wet chemical system	Complete wet chemical system for deep fat fryer protection. Cylinder with 5 l wet chemical agent, XV control system, 1 pc nozzle type F, heat detector included.

Dry chemical powder system

For bunkering stations

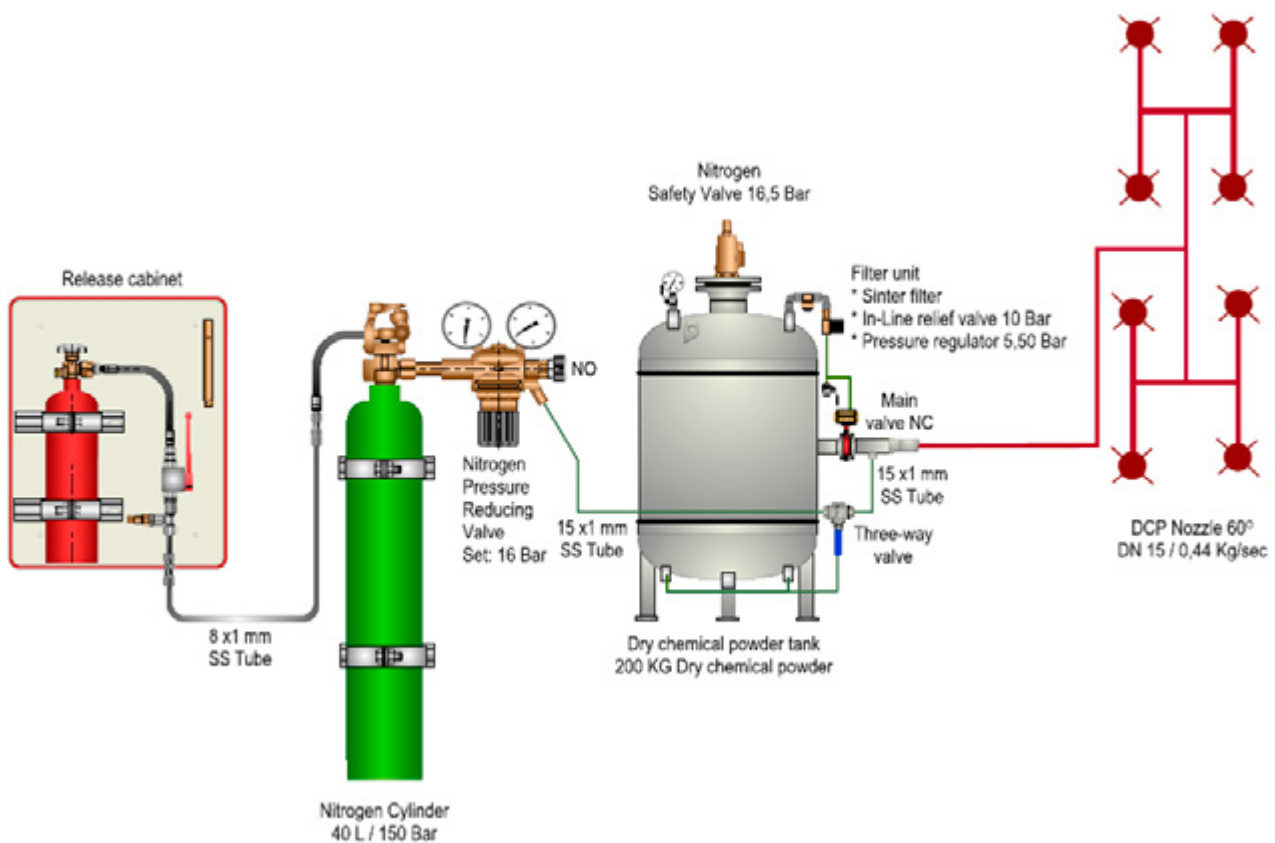
Autronica Dry Chemical Powder System is a fire extinguishing system especially designed for bunkering stations. The system is able to break the chemical reactions during the combustion process. This makes Autronica Dry Chemical Powder System highly effective by extinguishing the flames almost immediately.

The system is non-toxic and harmless to people and the environment.

The powder is composed by very small particles (potassium bicarbonate) with added particulate material supplemented by special treatment to provide resistance to packing, caking and the proper flow capabilities.

The powder is stored in a tank at atmospheric pressure. Upon activation, the system is pressurized by nitrogen through a pressure regulator in order to give the best control of the discharge and ensure a steady discharge rate through the whole discharge period. The powder is then discharged through a distribution system onto or into the protected item/area.

The system holds DNV type-approval, ensuring compliance with IMO MSC.285(86).



Part number	Name	Description
116-610259	Complete DCP system	Complete dry chemical powder system for bunkering station. 200 kg Furex-k extinguishing agent, 1pc. pressure tank with DnV approval, nitrogen pressurization system, 8 pcs. nozzles, hoses and instruction sign included.

CO₂ system

For galley duct protection

Autronica's CO₂ system is specifically designed for the protection of one or more galley ducts. The system is designed to quickly achieve the necessary CO₂ concentration to extinguish a fire inside a galley duct.

The CO₂ cylinder is manufactured according to European Standards and it is located inside a CO₂ cabinet, usually placed close to the protected object. A number of CO₂ nozzles are installed inside the galley duct to achieve an evenly distribution of the extinguishing gas. An audible alarm is installed inside the protected area warning the personnel to evacuate upon activation of the system.

CO₂ systems for galley duct protection are designed to be rapid and simple to operate.



Part number	Name	Description
116-301501	Complete CO ₂ galley duct system	Complete system with the CO ₂ cylinder installed into a GRP cabinet. The cabinet is fitted with 3 pcs. limit switches on the door for start of alarm siren, stop of ventilation fan and damper closing and CO ₂ cylinder, 9 l / 6 Kg CO ₂ , 1pc. nozzle, alarm, warning and instruction sign included.



Contact us

Sales

+ 47 90 90 55 00

✉ info@autronicafire.no

Service & support

+47 915 09753

✉ service.maritime@autronicafire.no

Original spare parts

+ 47 90 90 55 00

✉ spares.maritime@autronicafire.no

✉ omicron.spares@autronicafire.no

Our offices around the world

HEAD OFFICE TRONDHEIM, NORWAY

Autronica Fire and Security AS
Division Maritime
Bromstadveien 59
NO-7047 Trondheim
Norway
Phone: +47 90 90 55 00

TØNSBERG, NORWAY

Autronica Fire and Security AS
Stalsbergvn. 9
NO-3128 Nøtterøy
Norway
Phone: +47 33 38 25 00
E-mail: afs.omicron@autronicafire.no

KOREA

Autronica Fire and Security AS
#B 5F, Saesam B/D., 39, Sesil-ro,
Haeundae-gu, Busan
Rep. of Korea 612-842
Phone: +82 10 3064 0876
E-mail: samyul.han@autronicafire.no

OSLO, NORWAY

Autronica Fire and Security AS
Division Maritime
Nils Hansens vei 4
NO-0667 Oslo
Norway
Phone: +47 90 90 55 00

USA

Autronica Florida
3801 SW 47th Av. Suite 506
Ft.Lauderdale
Florida 33314
USA
Phone: +1 954 792 6772
Fax: +1 954 792 6191

CHINA

UTC Fire and Security China
15F Jiefang Building, No.300 Hankou Road
Shanghai
China
Phone: +86 21 63311235
Fax: +86 137 0168 8590

MALAYSIA

Autronica SE Asia, Australasia & Middle East
Level 20, Menara Standard Chartered
No. 30, Jalan Sultan Ismail
50250 Kuala Lumpur
Malaysia
Phone: +603-2117 5123
E-mail: matt.hine@autronicafire.no

For general sales conditions, go to www.autronicafire.com.





Autronica Fire and Security is a leading innovator, manufacturer and supplier of fire and gas safety worldwide.
Our products ensure safety in applications on land, sea and in the petrochemical, oil and gas sectors.

Owned by United Technologies Corporation (UTC), we employ more than 450 people handling the complete value chain, from idea, development and manufacturing to the marketing, sales and servicing of our products. We are an international company with worldwide offices and our HQ is located in Trondheim, Norway's technology hotspot.

Protecting life, environment, and property

www.autronicafire.com

Autronica Fire and Security AS
Division Maritime | Bromstadeveien 59, NO-7047 Trondheim, Norway
+47 90 90 55 00 | sales.maritime@autronicafire.no | www.autronicafire.com

Org.no.: NO 979 975 503 (MVA/VAT)