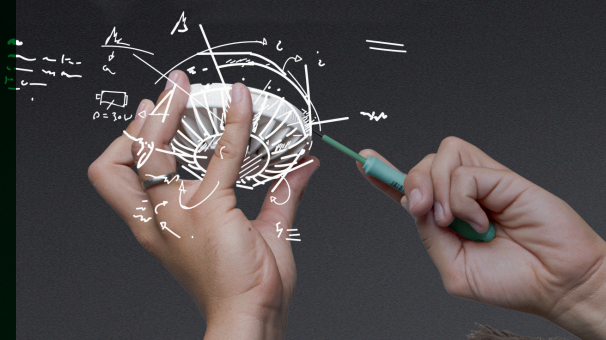




AUTRONICA®



ONSHORE

INSTALLER'S GUIDE

Autronica Fire and Security AS

INSTALLER'S GUIDE

On the following pages we have presented some basic elements and principles regarding the choice and installation of fire detection. Note that this is only a simple introduction, for more detailed information, be sure to read the manuals for each product, which can be found at **www.autronicafire.com**.

We recommend anyone who install our products attend installation courses arranged by Autronica, providing the level of knowledge needed to perform the vast majority installations for us. Additionally, you will be better prepared to communicate more effectively with our support personnel to ensure that the systems function optimally at all times.

SERVICE & SUPPORT

+47 915 09 753

08:00 – 16:00 CET

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INSTALLATION TIPS AND RULES

CHOOSING A DETECTOR

A detector is selected based on the goal of earliest and safest detection possible. When choosing a detector, the following criteria is important:

- v What is to be detected (smoke / heat / flame / gas)
- v Type of fire / fire development
- v Environment / surroundings
- v Location
- v Coverage area
- v Acceptable degree of nuisance alarms.

AUTROGUARD MULTICRITERIA PROTECTORS are the new generation allround detectors that utilize MultiAngle/MultiWavelength optical smoke sensing technology. The type of operation is configurable to Heat, Optical or Multisensor, covering several applications. AutoGuard provides three certified smoke sensitivity settings and six certified heat response categories. The protector can be delivered with an optional integrated sounder and visual alarm device (VAD).

STANDARD POINT DETECTORS (LEGACY DETECTORS)

Smoke detectors are standard in most areas. It has an optical chamber with a light source that is reflected towards a light sensitive receiver. In the event of smoke supply, light reflection will increase, and the detector will go into alarm.

Heat detectors are used in rooms where smoke detectors are unsuitable, for example, where smoke normally occurs. The heat detector reacts when the temperature sensor in the detector reaches a certain temperature. The detector can either react if the temperature reaches a certain level, or by rapid temperature rise over a given period.

MultiSensors are a combination of heat and smoke detectors, and can be used where there is danger of flaming fires, such as in kitchens. They can also be used as pure heat detectors by disconnecting the smoke part during periods when smoke will occur.

SPECIAL DETECTORS

Aspirating detectors are suitable in areas where early detection is required, and in particularly dusty, damp or clean rooms. In an aspiration system, air samples are taken from the monitored area via a pipeline to a centralized detection unit. The pipes are perforated with holes that make up the detection points.

Beam detectors are used in wide-open spaces instead of an array of smoke detectors. The detector protects a given area by sending signals (IR beam) between a transmitter and receiver, and detects the attenuation or changes in frequency by heat or smoke.

Flame detectors are particularly suited for use in connection with general protection of large open areas where fire is expected to spread very rapidly. They detect radiation from fires, by detection based on UV radiotherapy, IR radiation or a combination of the two. Autronica offers an optimal solution for facade protection using flame detection.

KEY POINTS IN NORWEGIAN NORMS

Local regulations will apply

Naturally, the rules concerning fire detection are many and elaborate. Here are some golden rules:

- √ Detectors should not be placed closer to a wall than 0.5 m.
- √ If circumstances permit it, detectors should be placed at least 1 meter away from air-conditioning inlets or ventilation.
- √ The closest manual call point should be no more than 30 metres walking distance away from any point in the protected area.
- √ Stairwells should always be equipped with detectors on the top floor. Additionally, there should be detectors on at least every third floor.

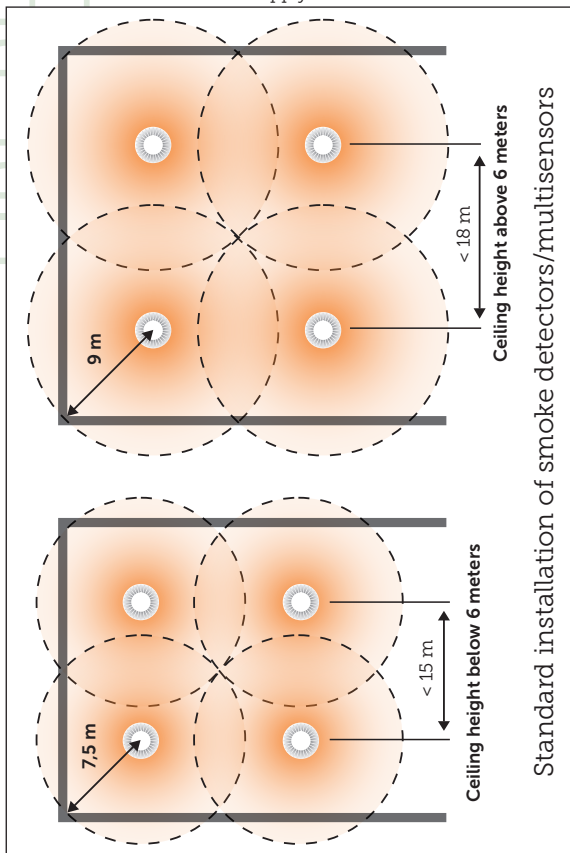
For details, see the Norwegian Standard NS 3960:2019 Fire alarm systems design, installation, operation and maintenance.



AUTROGUARD AND SMOKE DETECTORS/MULTISENSORS - NORWEGIAN NORMS

Ceiling height	Area of coverage	Monitoring distance
Under 6 meters	80 m ²	7,5 meters
6 – 12 meters	100 m ²	9 meters
Over 12 meters	See NS-3960:2013	

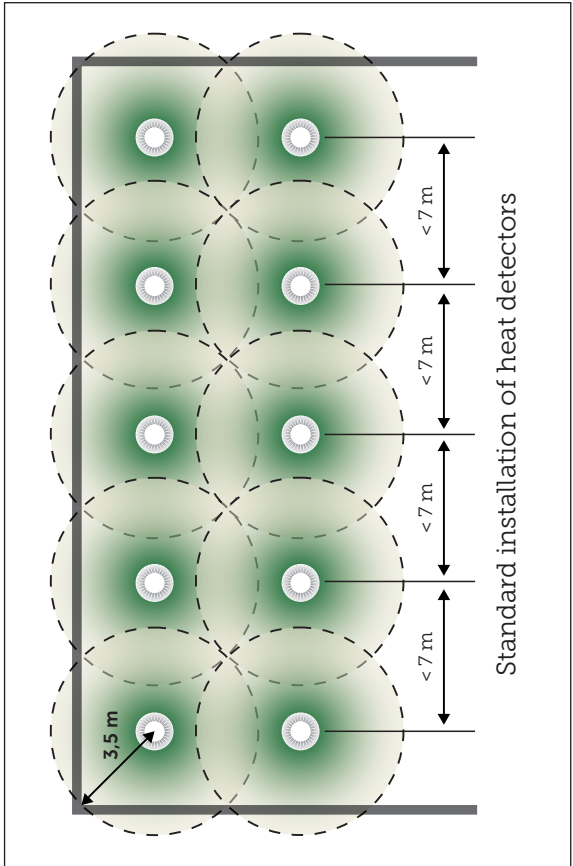
Both requirements of area of coverage and monitoring distance must be met. Local rules will apply.



AUTROGUARD AND HEAT DETECTORS - NORWEGIAN NORMS

Ceiling height	Area of coverage	Monitoring distance
Under 6 meters	20 m ²	3,5 meters
Over 6 meters	Not permitted	

Both requirements of area of coverage and monitoring distance must be met. Local rules will apply.



AS2000 LOOP DIAGNOSTIC TOOL

AS2000 is a PC-based installation and service tool, irreplaceable when installing or maintaining loops; it gives both detailed static and dynamic point information. The system downloads information from all units connected to the loop and presents the gathered information on-screen. Hence, you don't have to carry out the complex and often time-consuming task of registering every point and unit connected to loops. .

AS2000 has three main advantages;

- √ Loop data is collected quickly and efficiently
- √ Faults and errors are localized
- √ The collected data can form the basis for the fire alarm system's configuration. .

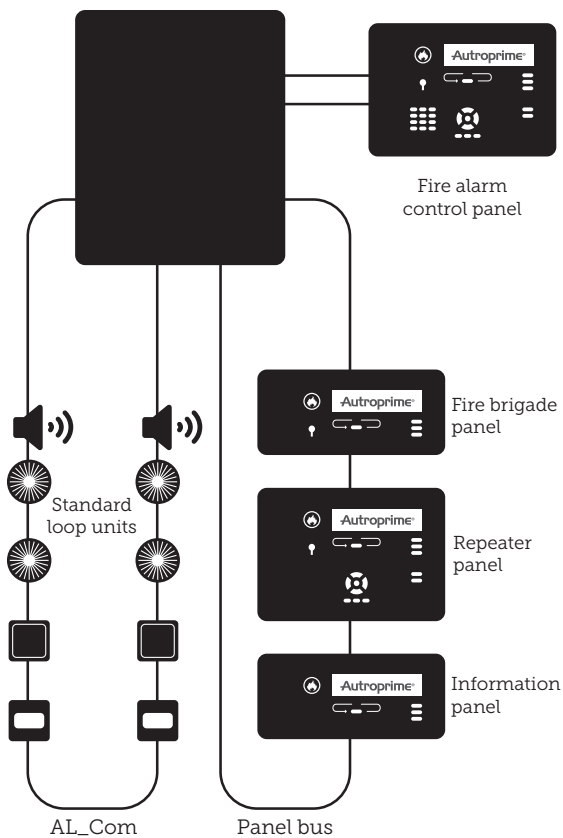
Connecting the system to a loop will automatically result in a graphical representation of the entire loop. This on-screen map is 100% true-to-life, presenting the actual installed loop. You can also retrieve lists containing loop information for documentation purposes..

Time and cost saving quality assurance – in a small case.

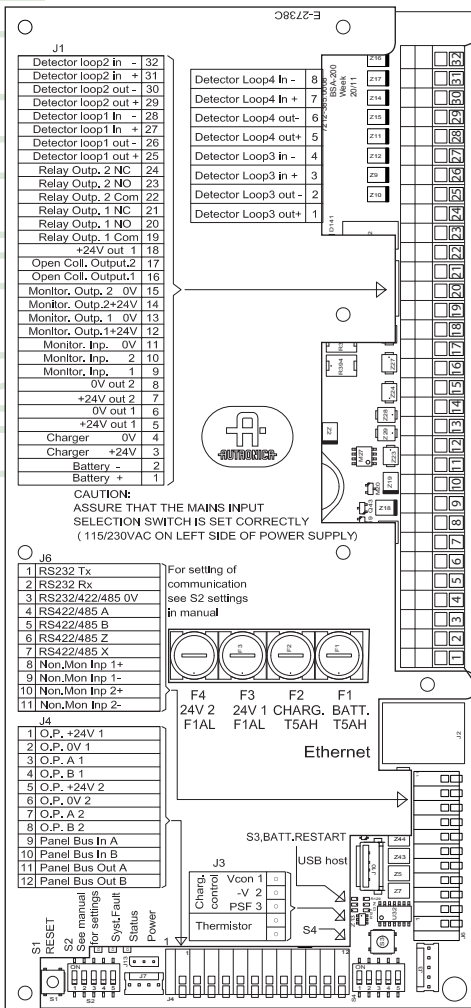
The tool comes in a handy WAS box, that you can easily bring with you on the job. Then all you have to do is connect the equipment to the loop in question and a PC with the AS2000 software, and you are good to go.

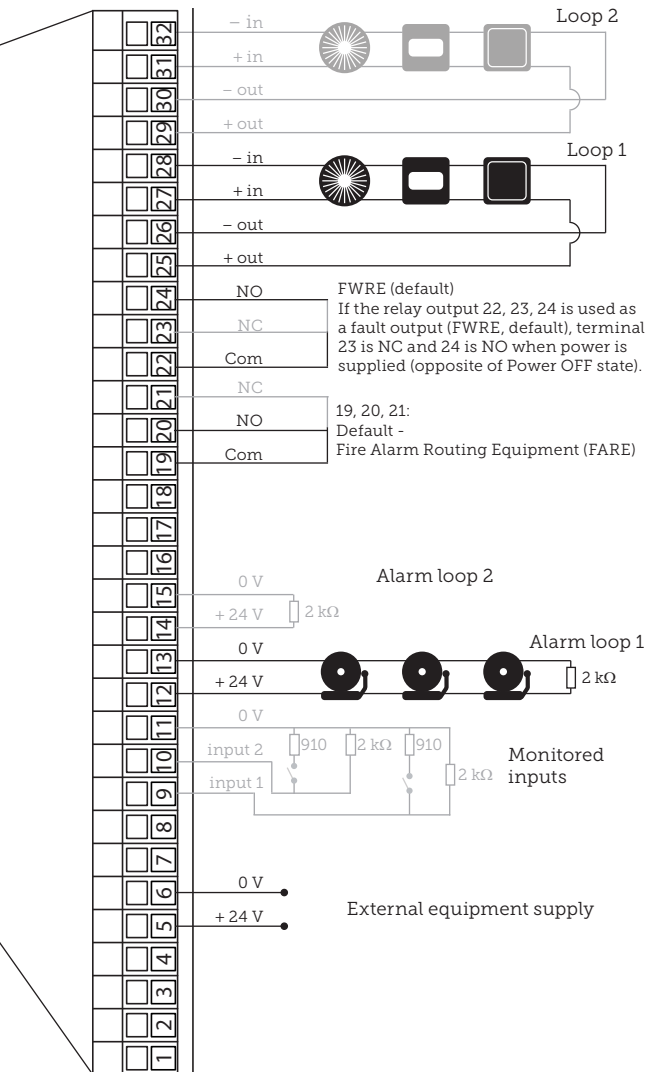
You can find more information about the procedure in the manual that comes with the box.





CONNECTION EXAMPLE AUTROPRIME





CONFIGURING AUTROPRIME

TRANSFERING A CONFIGURATION VIA A USB STICK

Configurations can be transferred to an Autroprime panel via a USB stick (applies to all software versions).

If the panel has software version 2.1.1 or later, configurations can be transferred only via a USB stick.

From the Service Menu, perform the following:

- Use the arrow down button to scroll downwards to Export and Import, then press Enter
- Press the arrow down button to select Select Configuration & Restart System, then press Enter twice

The following message will appear:

- "Restart the system by using one of the configurations available"

If several configurations are available, use the left/right arrow buttons to select the configuration in question.

- Press Enter twice
- To execute the command, press Enter once more

CHANGES ON LOOP AFTER CONFIG SAVE

If the work involves wiring, we recommend to always disconnect the loop.

REMOVE A UNIT AND INSERT THE SAME UNIT

For example, remove an optical smoke detector BH-300 from its base, and reinsert the same one into the base.

1. Remove the detector from its base
Observe two fault warnings: "Loop Cable Fault" and "Loop Unit not responding"
2. Acknowledge all faults. Buzzer off, indicator to steady
3. Insert the same detector. No change
4. Operate reset. Panel to quiescent condition

REMOVE A UNIT AND INSERT ANOTHER UNIT OF THE SAME TYPE

For example, remove an optical smoke detector BH-300 from its base and insert another optical smoke detector BH-300 into the same base

1. Remove the detector from its base
Observe two fault warnings: "Loop Cable Fault" and "Loop Unit not responding"
2. Insert another detector of same type in the base. Observe fault warning "Loop Unit has been replaced". Acknowledge the fault warning and the panel will enter normal operation.

REMOVE A UNIT AND INSERT ANOTHER UNIT OF DIFFERENT TYPE

For example, remove an optical smoke detector BH-300 from its base and insert a heat detector BD-300.

1. Remove the detector from its base. Observe two fault warnings: "Loop Cable Fault" and "Loop Unit not responding"
2. Insert a detector of a different type in the base. Observe fault warning: "Loop unit has been replaced"
3. In service menu, select System Settings/Save Configuration, then Restart System. After restart of system observe quiescent condition on panel

ADD A NEW UNIT TO THE DETECTION LOOP

For example, an optical smoke detector BH-300 is added to the detection loop.

1. Enter service mode and disable the detection loop in question
2. Mount a new base on the detection loop
3. Insert the new detector in its base
4. Enable the detection loop. Observe fault messages: "Topology has Changed" and "Configuration Mismatch"
5. From the menu check the loop topology. Observe that the topology is in accordance with the new detector added
6. Add the appropriate properties to the new unit (Service Menu/Unit Configuration/Points).
7. In service menu, select System Settings/Save Configuration-Restart System. Accept restart of system. After restart of system observe quiescent condition on panel.

REMOVE A LOOP UNIT FROM THE DETECTION LOOP

For example, an existing heat detector BD-300 is removed from the detection loop.

1. Enter service mode and disable the detection loop in question.
2. Remove the detector from its base and repair the cable break.
3. Enable the detection loop.
Observe fault messages: "Topology has Changed", "Loop Cable Fault" and "Loop Unit is Not Responding"
4. From the menu check the loop topology.
Observe that the topology is in accordance with the new detector added. An "X" sign is indicated at the position of the removed unit
5. In service menu, select System Settings/Save Configuration. Accept to view list of units to be removed.
The removed unit is presented in the list
6. Mark the unit by pressing the Select button and then the Function button. Press the Enter button to start the command "Remove Unit From Configuration", and finally accept the command. Complete parameters to save the configuration.
7. In service menu, select System Restart System.
Accept restart of system.
After restart of system observe quiescent condition on panel.

FIRE DETECTION

AUTROSAFE 4



AutoSafe is a distributed, interactive fire detection system developed for medium-to-large applications such as airports, power plants, industry, shopping centres, office buildings and hospitals. Redundant solutions bring a new dimension to the design of fire detection system, heightening the safety level even further.

AutoSafe supports a wide range of Autronica and third party detection units, for maximum flexibility and accuracy.

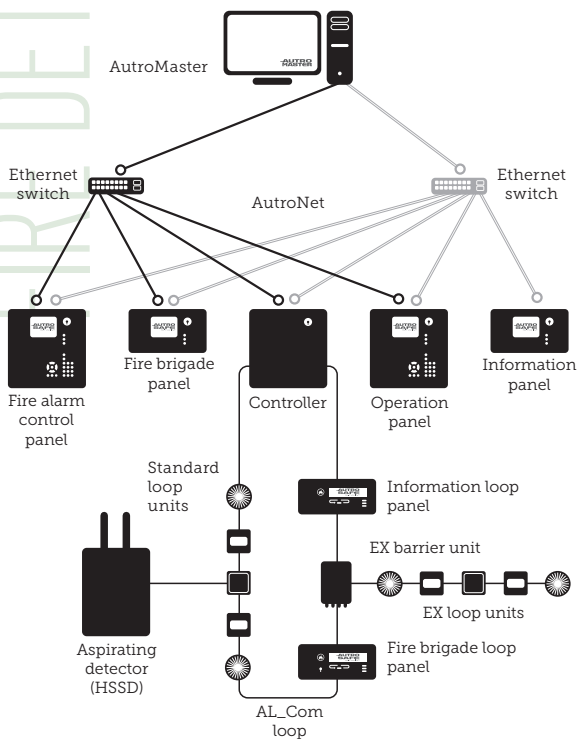
AutoSafe are configured using a computer tool.

MAXIMUM CAPACITY

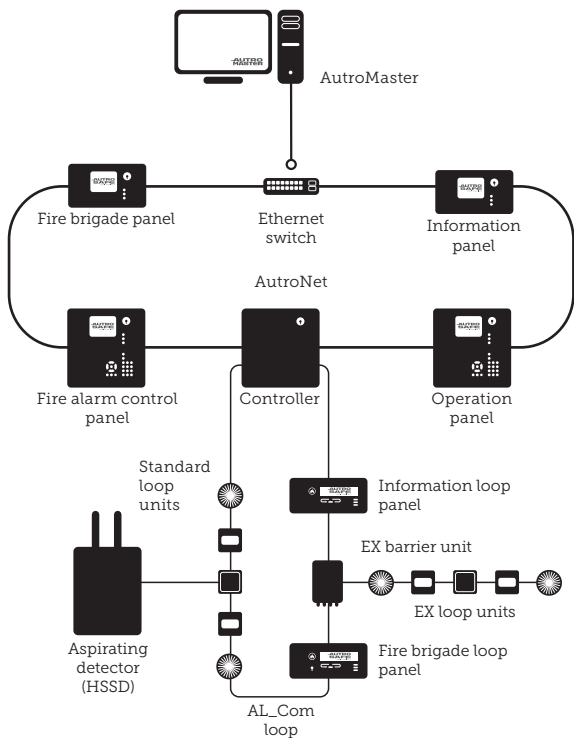
Panels per system:	64
Detection loops per panel:	6
Loop units per loop:	127
Loop units per PowerLoop:	15
Units per AutoFieldBus:	31
Alarm units per loop:	40*
Loop units per panel, ref. EN 54:	512
Ethernet ports:	2
RS232/RS422/RS485:	1
AutoFieldBus interface:	1
USB port:	1

* Depending on cable choice, see page 56

AUTROSAFE – CONFIGURATION EXAMPLE ETHERNET STAR TOPOLOGY



AUTROSAFE – CONFIGURATION EXAMPLE ETHERNET RING TOPOLOGY



Ring topology possible from SW version 4.5.0

AUTROSAFE LOOP PANELS

FIRE BRIGADE LOOP PANEL BU-110



From the fire brigade loop panel BU-110 you can disable/enable sounders/bells and reset the system.

INFORMATION LOOP PANEL BV-110



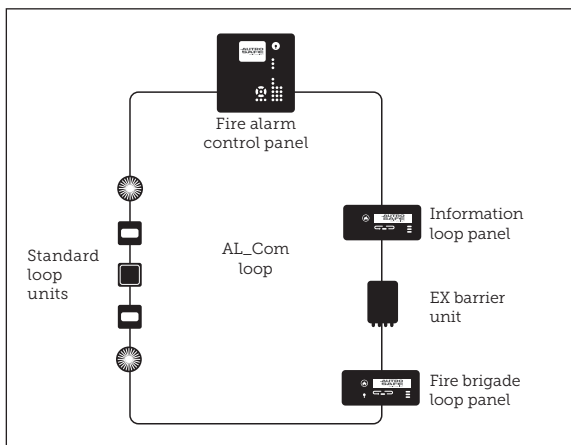
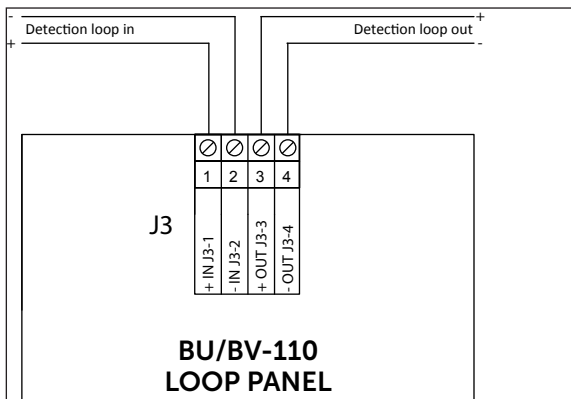
Information loop panel BV-110 functions as an indicator panel only. It provides information regarding the defined operation zone(s).

Each panel uses < 1 mA in normal condition, and only 6 mA in alarm condition.

The panels are self addressing, but can be configured (using the config tool) to show either detection zones only (DZs), or both detection zones and point information in an alarm situation.

Max. 8 panels can be connected to a detection loop.

CONNECTION TO DETECTION LOOP



CONNECTING MODULES AUTROSAFE

POWER SUPPLY MODULE BSS-310A

Screw terminal no.	Signal
1	+24 V input
2	+24 V input
3	0 V input
4	0 V input
5	Chassis (GND)
6	Chassis (GND)
7	Not in use
8	Not in use
9	Not in use
10	Not in use

REDUNDANT POWER SUPPLY MODULE BSS-311

Screw terminal no.	Signal
1	+24 V input (source 1)
2	+24 V input (source 2)
3	0 V input-1 (source 1)
4	0 V input-2 (source 2)
5	Chassis (GND)
6	Fault output (24V=Normal, 0V=power supply fault)
7	+24 V output
8	+24 V output
9	0 V output
10	0 V output

LOOP DRIVER MODULE AUTROSAFE - BSD-310/-311

Screw terminal no.	Signal
1	+24 V output
2	0 V output
3	Screen
4	+24 V input
5	0 V input
6	Screen
7	F/S +
8	F/S -
9	Chassis
10	Chassis

LOOP DRIVER MODULE BS-100 - BSD-330

Screw terminal no.	Signal
1	+24 V output
2	+24 V input
3	0 V output
4	0 V input
5	Output control (100 mA)
6	GND

CONV. LOOP INTERFACE UNIT - BNB-331

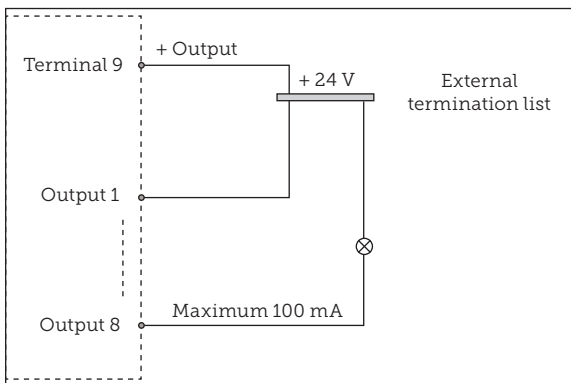
Screw terminal no.	Signal
1	Alarm out 1
2	Alarm out 2
3	Fault out 1
4	Fault out 2
5	Conventional loop +
6	Conventional loop -
7	PSU fault in
8	PSU fault 0 V
9	Al_Com loop in +
10	Al_Com loop in -
11	Al_Com loop out +
12	Al_Com loop out -
13	24 V A
14	0 V A
15	24 V B
16	0 V B

MONITORED OUTPUT MODULE - BSB-310A

Screw terminal no.	Signal
1	Output 1 - 0 V
2	Output 1 + (+24 V)
3	Output 2 - 0 V
4	Output 2 + (+24 V)
5	Output 3 - 0 V
6	Output 3 + (+24 V)
7	Output 4 - 0 V (FWRE)
8	Output 4 + (+24 V) (FWRE)
9	Operating voltage 24 V
10	Operating voltage 0 V

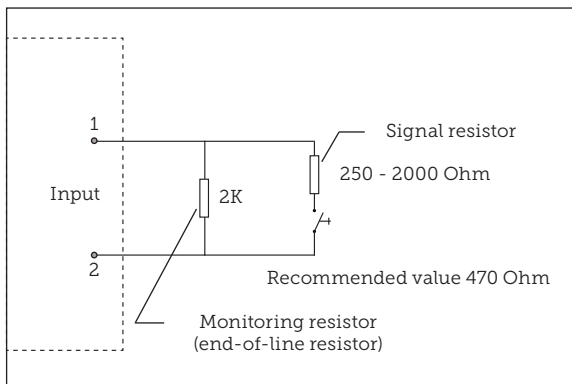
OUTPUT MODULE - BSJ-310

Screw terminal no.	Signal
1	Output 1 -
2	Output 2 -
3	Output 3 -
4	Output 4 -
5	Output 5 -
6	Output 6 -
7	Output 7 -
8	Output 8 -
9	24 V output
10	Chassis/GND



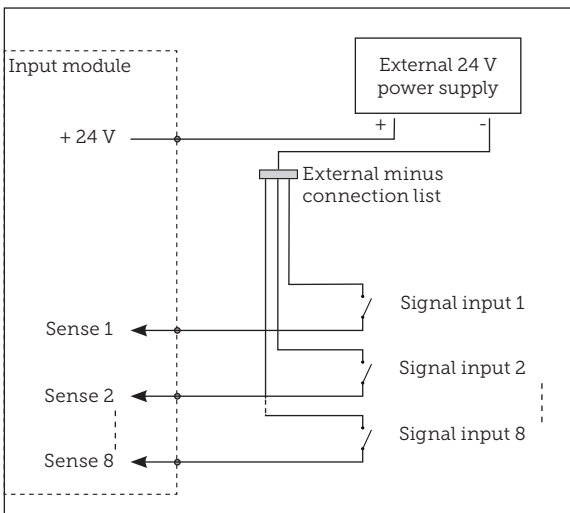
MONITORED INPUT MODULE - BSE-310

Screw terminal no.	Signal
1	Input 1 +
2	Input 1 -
3	Input 2 +
4	Input 2 -
5	Input 3 +
6	Input 3 -
7	Input 4 +
8	Input 4 -
9	Not in use
10	Not in use

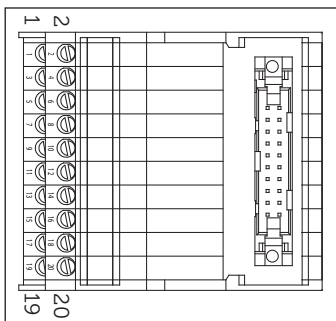


INPUT MODULE - BSE-320

Screw terminal no.	Signal
1	Input 1
2	Input 2
3	Input 3
4	Input 4
5	Input 5
6	Input 6
7	Input 7
8	Input 8
9	Not in use
10	In +24 V (common)



CONNECTING POWER IN AUTROSAFE 4

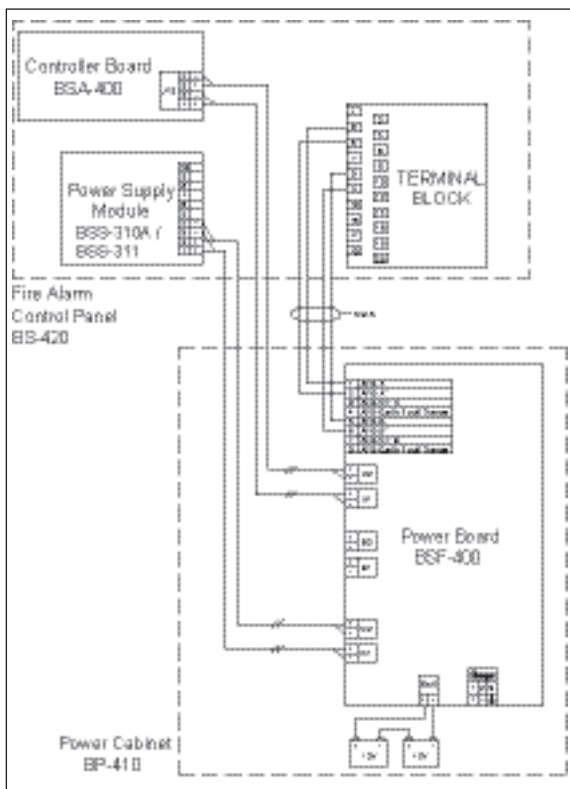


Screw terminal no.	Signal	Screw terminal no.	Signal
20		19	
18		17	
16	RSxxx - GND	15	
14	RS232 - RX	13	AFB CT A
12	RS232 - TX	11	AFB A2
10	RS422 Z-	9	AFB A1
8	RS422 X+	7	AFB CT B
6	RS422/485 B-	5	AFB B2
4	RS422/485 A+	3	AFB B1
2		1	

Connecting AutoFieldBus:

Ascending numbering on comm.module connected to ascending numbering on power.

Komm.modul	AutoFieldBus	BPS-410
3	B1 → A1	1
5	B2 → A2	2
9	A1 → B1	5
11	A2 → B2	6



As an alternative to the BPS-410 Power Unit, the power cabinet STX Range (three variants) can be used. All power units are all approved according to EN-54.

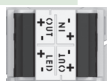
For detailed information on Power Supply BPS-410, see datasheet on the Autronica product web <http://product.autronicafire.com/products/>.

Power Cabinet STX is available in three different versions, including either a 2A, 5A or 10A power supply. To ensure proper mounting and installation, see datasheets and separate manual on the Autronica product web.

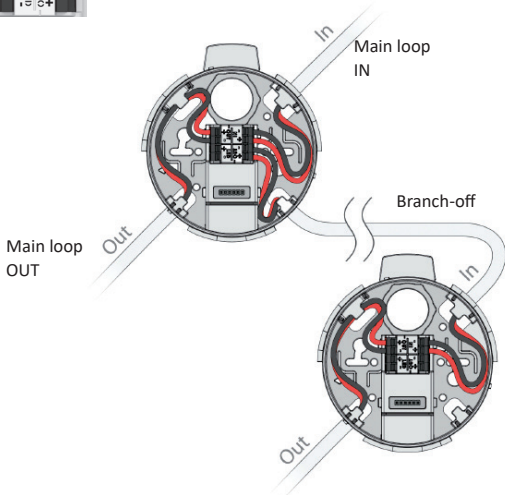
CONNECTING LOOP UNITS

CONNECTING THE AUTROGUARD PROTECTOR BASE TO AUTROSAFE 4/AUTROPRIME

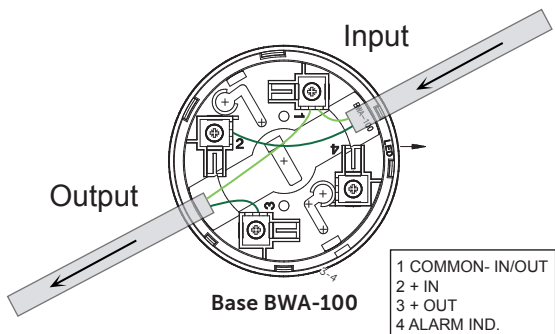
IN +	Loop + input	
IN -	Loop - input	
OUT +	Loop + output (Main/Branch)	Note that either of the outputs on the connector can be used for the main loop or a branch-off.
OUT -	Loop - output (Main/Branch)	
OUT +	Loop + output (Main/Branch)	
OUT -	Loop - output (Main/Branch)	
LED +	Remote LED + output	LED connection to external LED indicator as Fire Protection Equipment (FPE). Maximum 5 mA.
LED -	Remote LED - output	



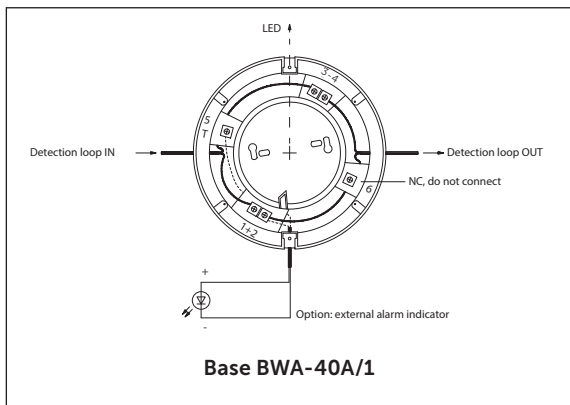
Note that the colors of the wires in the illustration below are used as a reference only and may differ. Make sure to connect + and - correctly.



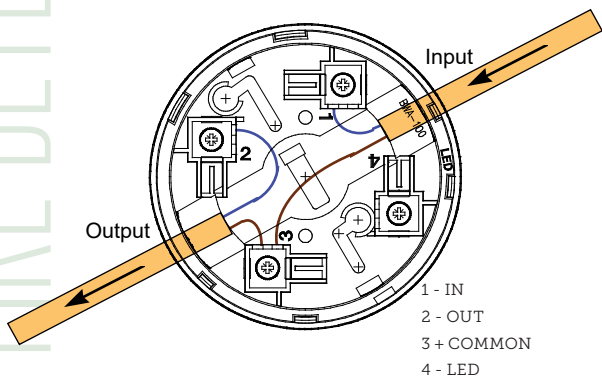
CONNECTING DETECTORS TO CONVENTIONAL SYSTEMS



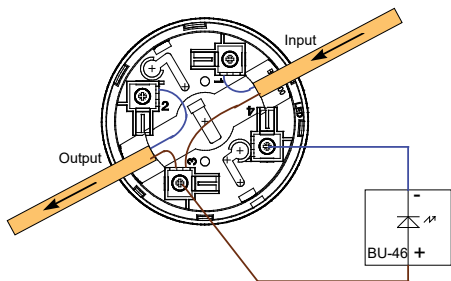
CONNECTING DETECTORS TO BS-60/BS-100



CONNECTING STANDARD DETECTORS TO AUTROSAFE 4/AUTROPRIME



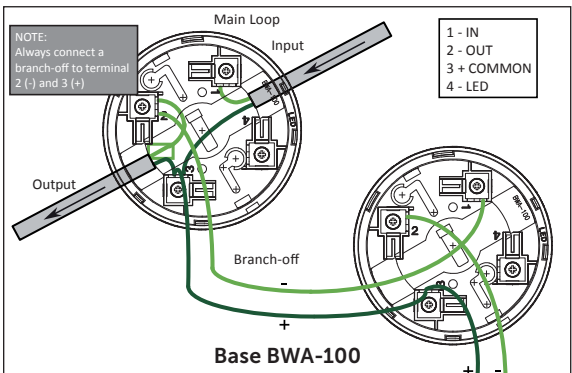
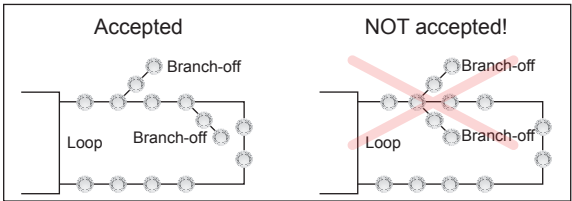
LED CONNECTION ON DETECTOR



CONNECTING BRANCH-OFFS

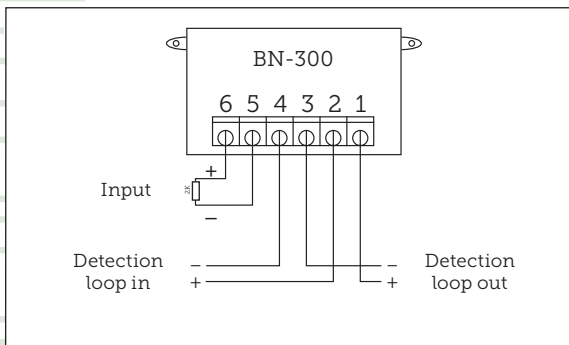
If necessary, a branch-off can be connected to a detection loop if the existing cable layout requires this, but this is not recommended, as the safety will be reduced.

To ensure a correct addressing of the detectors on a branch-off when configuring the system, there can not be more than one branch-off per detector. For safety reasons, the number of detectors on each branch-off must be kept to a minimum, as the detectors on a branch-off will not operate in case of a break or shortcircuit on the branch-off. The absolute maximum number of detectors on a branch-off (or an open loop) is 32.

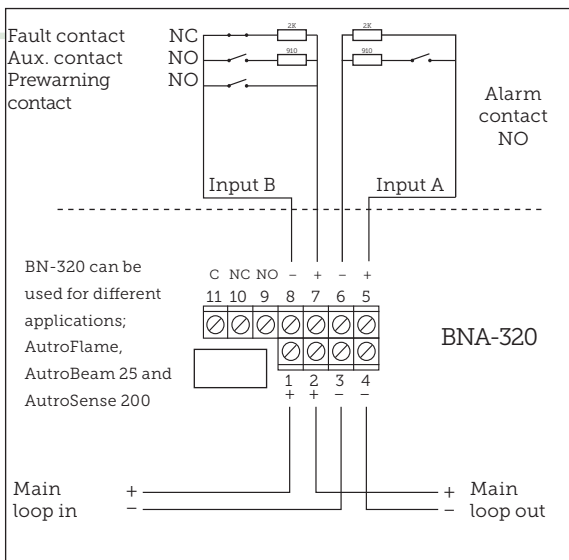


CONNECTING IN/OUTPUT UNITS (I/O)

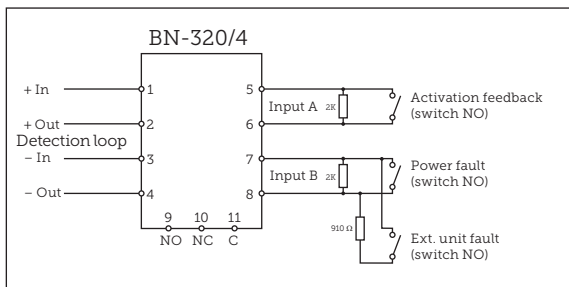
INPUT UNIT BN-300



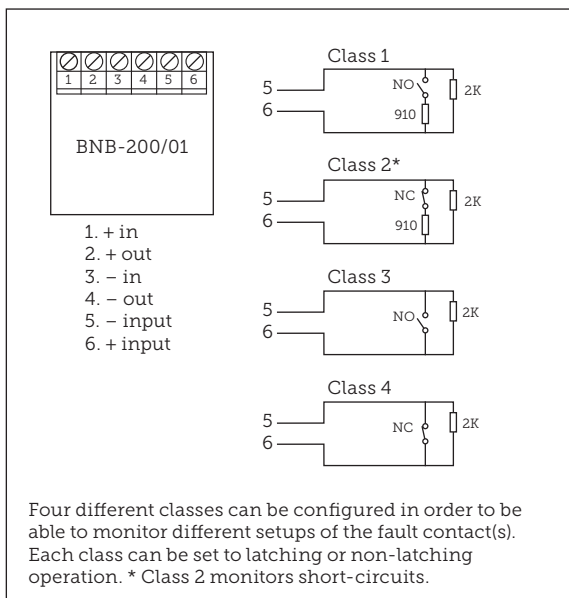
BN-320 (CIRCUIT BOARD BNA-320)



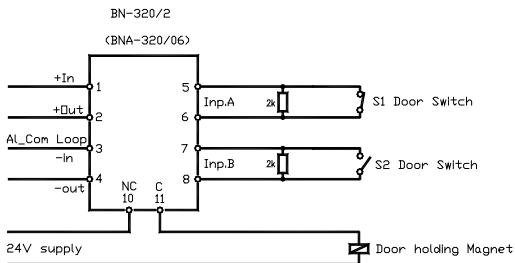
MONITORING AND CONTROL UNIT BN-320/4 (BNB-200/01)



MONITORING INPUT UNIT BN-201 (BNB-200/01)

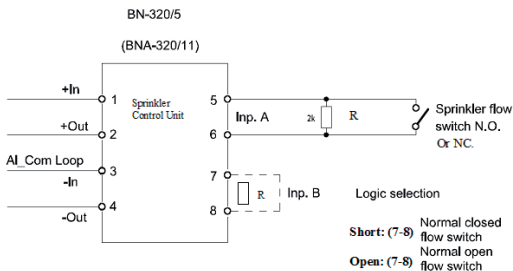


DOOR CONTROL UNIT BN-320/2



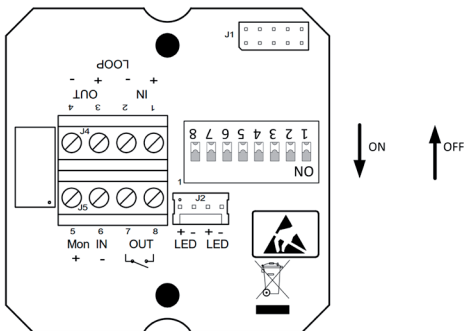
Switch S1	Closed	Open	Open	Closed
Switch S2	Open	Open	Closed	Closed
Status	Door open	Door in transition	Door closed	Illegal (fault)

SPRINKLER CONTROL UNIT BN-320/5



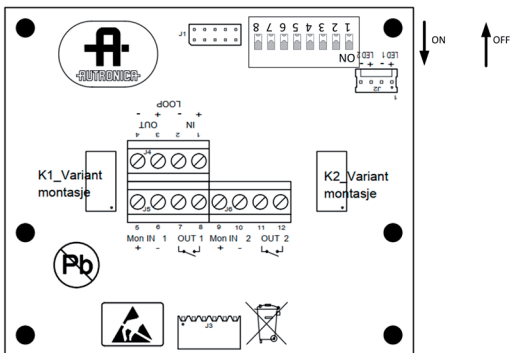
IN/OUTPUT UNITS BN-303/-304/-305

For connection and control of external units to Autronica's interactive fire detection systems. These units are multifunctioning units, where function is decided by switch settings.



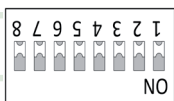
Single monitored input unit **BN-303**

Single monitored in/output unit **BN-304**



Dual monitored in/output unit **BN-305**

BN-303/-304/-305 INPUT CONFIGURATION



Note that the switch is shown as it appears on the drw. on previous page.

The four different behaviours can be configured by DIP switch 5 and 6.

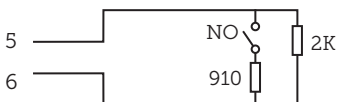
DIP switch 7 is used to set the output to NC/NO (ON = NC).
DIP switch 8 determines the output condition if the unit loses its power.

Input configuration A

Input A

S1.5 - OFF

S1.6 - OFF

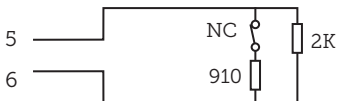


Input configuration B

Input B

S1.5 - OFF

S1.6 - ON

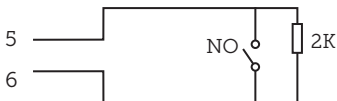


Input configuration C

Input C

S1.5 - ON

S1.6 - OFF

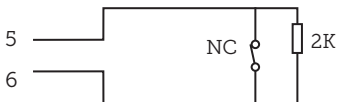


Input configuration D

Input D

S1.5 - ON

S1.6 - ON



BN-303/-304/-305 FUNCTION CONFIGURATION

FUNC.	S1.1	S1.2	S1.3	S1.4	303	304	305
A	OFF	OFF	OFF	OFF	Y	Y	Y
B	ON	OFF	OFF	OFF	Y	Y	Y
C	OFF	ON	OFF	OFF	Y	Y	Y
D	ON	ON	OFF	OFF	Y	Y	Y
E	OFF	OFF	ON	OFF	Y	Y	Y
F	ON	OFF	ON	OFF	Y	Y	Y
G	OFF	ON	ON	OFF		Y	Y
H	ON	ON	ON	OFF		Y	Y
I	OFF	OFF	OFF	ON		Y	Y
J	ON	OFF	OFF	ON		Y	Y
K	OFF	ON	OFF	ON		Y	Y
L	ON	ON	OFF	ON			Y
M	OFF	OFF	ON	ON			Y
N	ON	OFF	ON	ON			Y
O	OFF	ON	ON	ON			
P	ON	ON	ON	ON			

FUNC.	S1.5	S1.6	Description	FUNC.	S1.7
I.C. A	OFF	OFF	NO - 910Ω	Relay = NO	OFF
I.C. B	OFF	ON	NC - 910Ω		
I.C. C	ON	OFF	NO - 0Ω	Relay = NC	ON
I.C. D	ON	ON	NC - 0Ω		

FUNC. (behavior of relay if power is turned off)	S1.8
Relay remains in current state	OFF
Relay switches to initial state as chosen by DIP 1.7	ON

BN-303/-304/-305 FUNCTION DESCRIPTION**A Alarm input (304: + relay feedback)**

(Outputs follow inputs one-to one)

- ∨ Manual call points
- ∨ Flame, heat, and beam detectors with relay contacts
- ∨ Sprinkler contacts, etc.

B Pre Alarm input (304: + relay feedback)

- ∨ Manual input for pre alarm
- ∨ Pre alarm input from a detector with relay output
- ∨ Sprinkler contacts, etc.

C Fault input (304: + relay feedback)

(When technical alarms are required)

- ∨ Monitoring of associated equipment for faults
- ∨ Monitoring of detectors with relay contacts

D Uncommitted input

Autoprime: technical alarm)

(304: + output follows input)

- ∨ Monitoring of water level detection systems
- ∨ Monitoring of smoke control damper systems
- ∨ Monitoring of extinguishing systems

E Pre Alarm and Alarm input

(304: + relay feedback)

(Delay is possible)

- ∨ Sprinkler contacts

F Fault, Pre Alarm and Alarm input

- ∨ Detectors with two-level output (Pre Alarm and Alarm)

G Alarm input with relay output for reset

- ∨ Flame, heat or beam detectors with relay contacts

H Alarm input with independent relay output

Input application includes:

- ∨ Fire Alarm push buttons
- ∨ Flame, heat or beam detectors with relay contacts
- ∨ Sprinkler contacts, etc.

Output can be used for:

- ∨ Door release
- ∨ Sprinkler control/functions
- ∨ Control of fire dampers
- ∨ FPE/FAD without bell patterns

I Uncommitted input with independent relay output

(General Alarm Push Button, control outputs, alarm zones)

Input application includes:

- ✓ Monitoring of water level detection systems
- ✓ Monitoring of smoke control damper systems
- ✓ Monitoring of extinguishing systems

Output can be used for:

- ✓ Door release
- ✓ Sprinkler control/functions
- ✓ Control of fire dampers
- ✓ PE/FAD without bell patterns

J Relay output (input not in use)

- ✓ Door release
- ✓ Sprinkler control/functions
- ✓ Control of fire dampers
- ✓ FPE/FAD without bell patterns

K Relay output with active feedback, input

- ✓ Door control and monitoring
- ✓ Fire damper control and monitoring
- ✓ Low location lights control and monitoring
- ✓ Other equipment

L Relay output with active feedback, both

- ✓ Door control and monitoring
- ✓ Fire damper control and monitoring
- ✓ Other equipment

M Relay output with active feedback and external fault input

- ✓ Door control and monitoring
- ✓ Fire damper control and monitoring
- ✓ Low location lights control and monitoring
- ✓ Other equipment

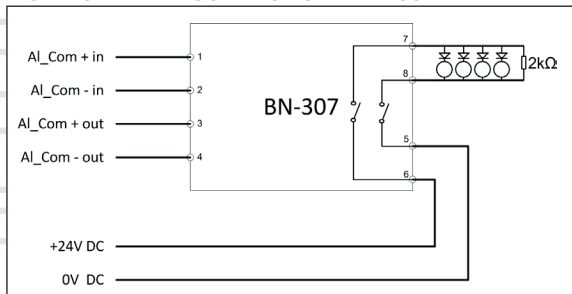
N Pre Alarm and Alarm input with relay feedback

- ✓ Pre Alarm and Alarm input from a detector with relay outputs

O Not in use

P Not in use

MONITORED FAD CONTROL UNIT BN-307

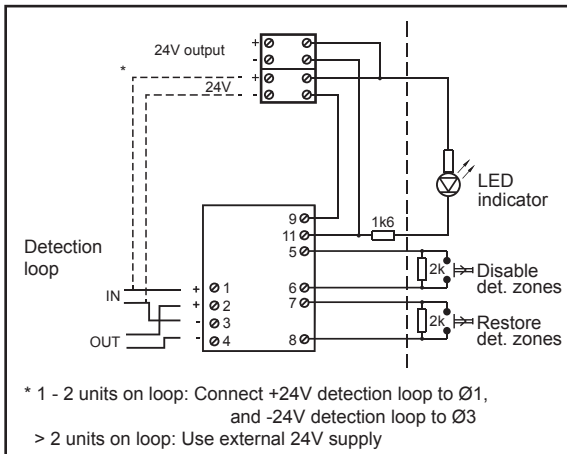


Terminals	Function
1	AL_Com In (+)
2	AL_Com In (-)
3	AL_Com Out (+)
4	AL_Com Out (-)
5	24V power input (+)
6	0V power input (-)
7	FAD output (+)
8	FAD output (-)

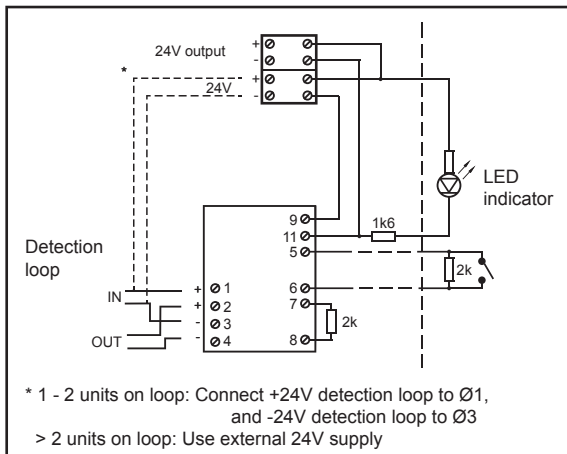
LED Connectors	
J2.1	LED1 + (LED Activate)
J2.2	LED1 - (LED Activate)
J2.3	LED2 + (LED Fault)
J2.4	LED2 - (LED Fault)

CONNECTING CONTROL UNITS

DISABLE INPUT UNIT WITH PUSHBUTTONS BW-200

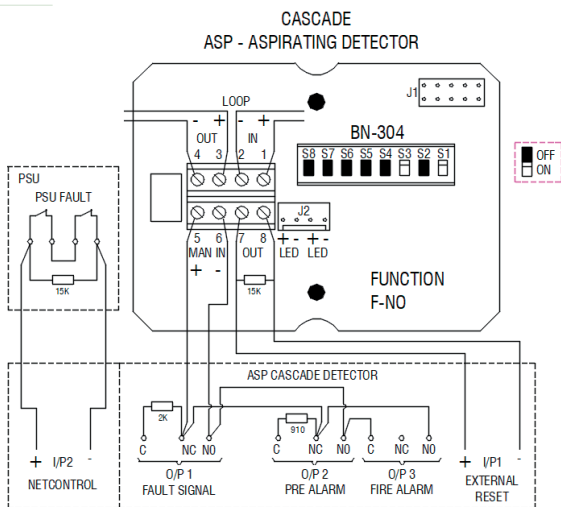


DISABLE INPUT UNIT BW-201



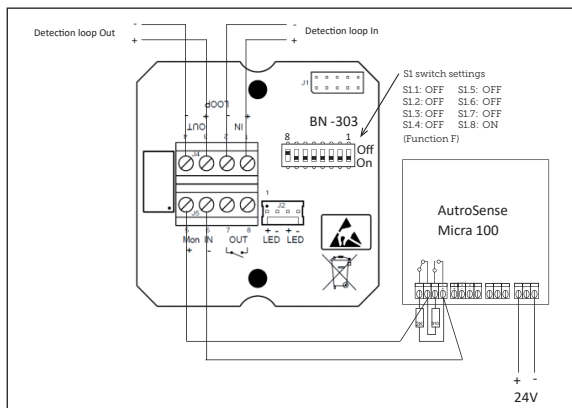
CONNECTING SPECIAL DETECTORS

AUTROSENSE CASCADE

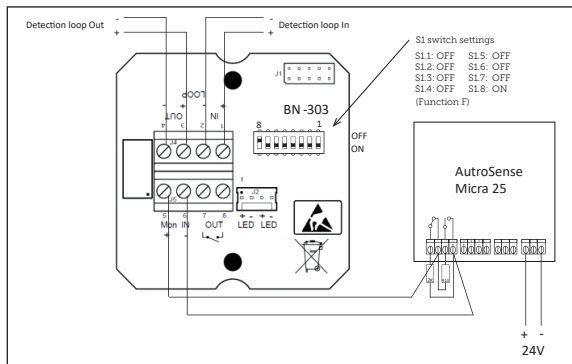


DWG. 81-000-069

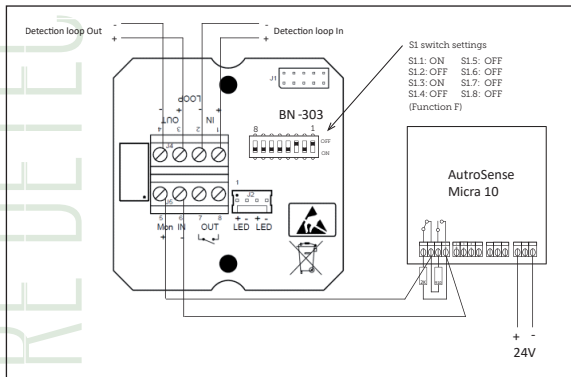
AUTROSENSE MICRA 100 ASPIRATING DETECTOR (HSSD)



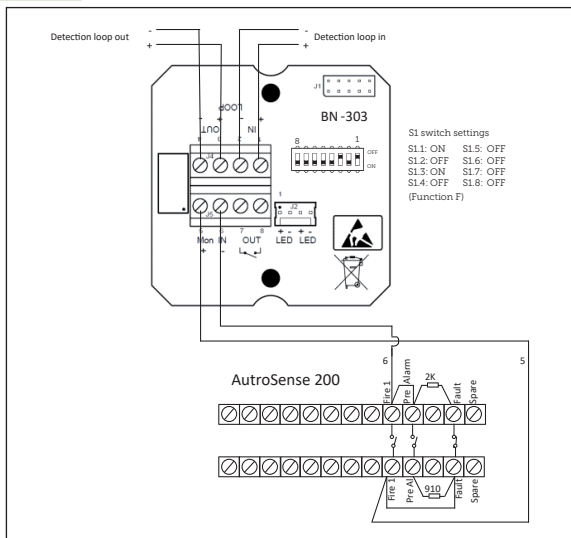
AUTROSENSE MICRA 25 ASPIRATING DETECTOR (HSSD)



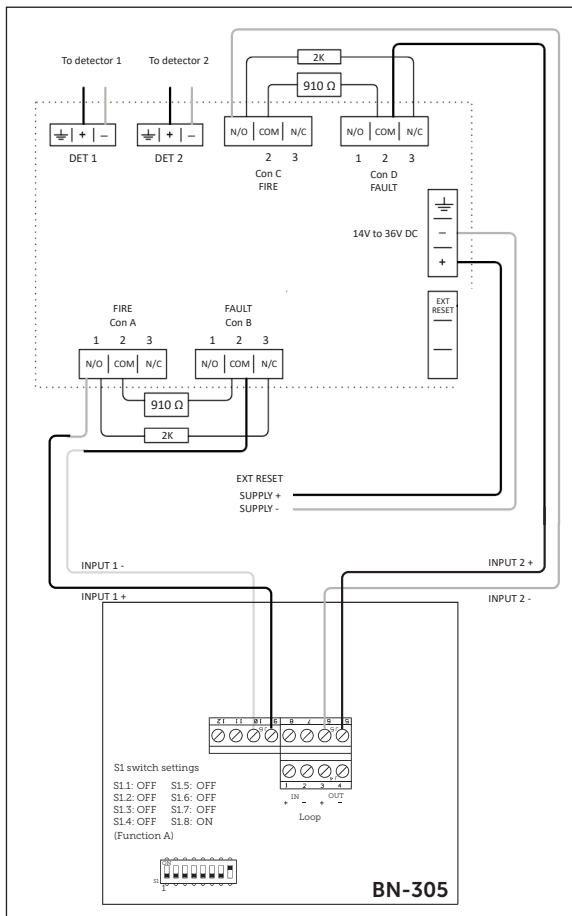
AUTROSENSE MICRA 10 ASPIRATING DETECTOR (HSSD)



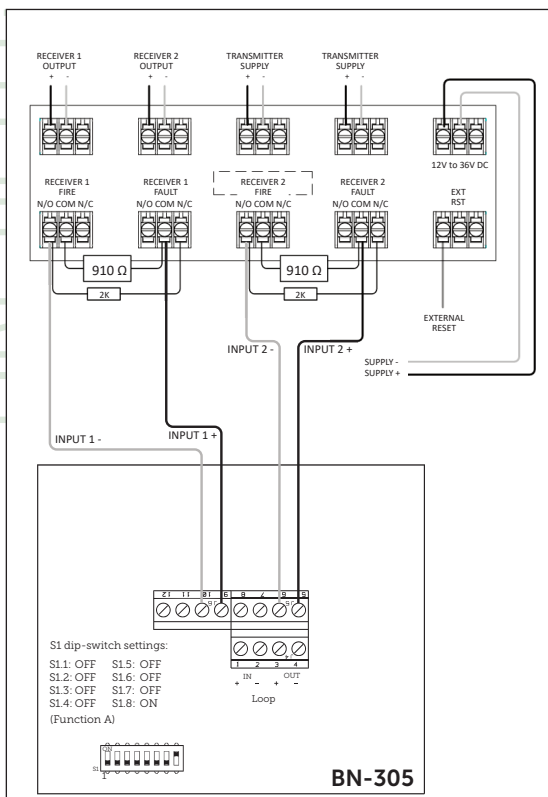
AUTROSENSE 200 ASPIRATING DETECTOR (HSSD)



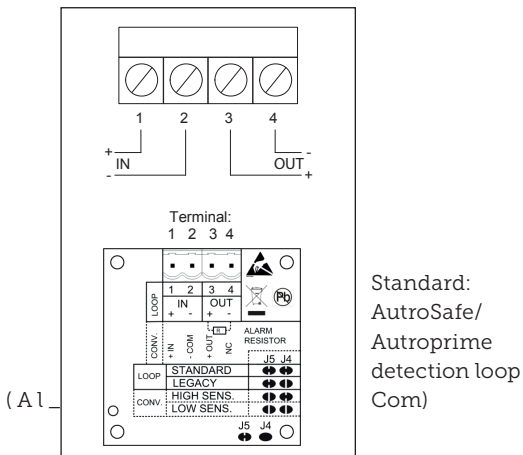
FIRERAY 5000 OPTICAL BEAM SMOKE DETECTOR



FIRERAY 3000 OPTICAL BEAM SMOKE DETECTOR



AUTROFLAME BG-201 IR FLAME DETECTOR



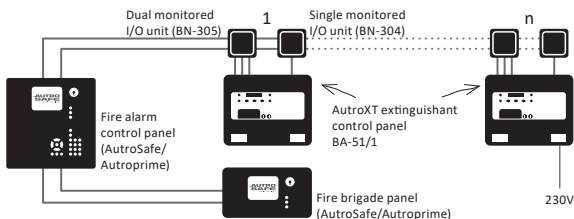
EXTINGUISHANT CONTROL PANEL

AUTROXT BA-51/1

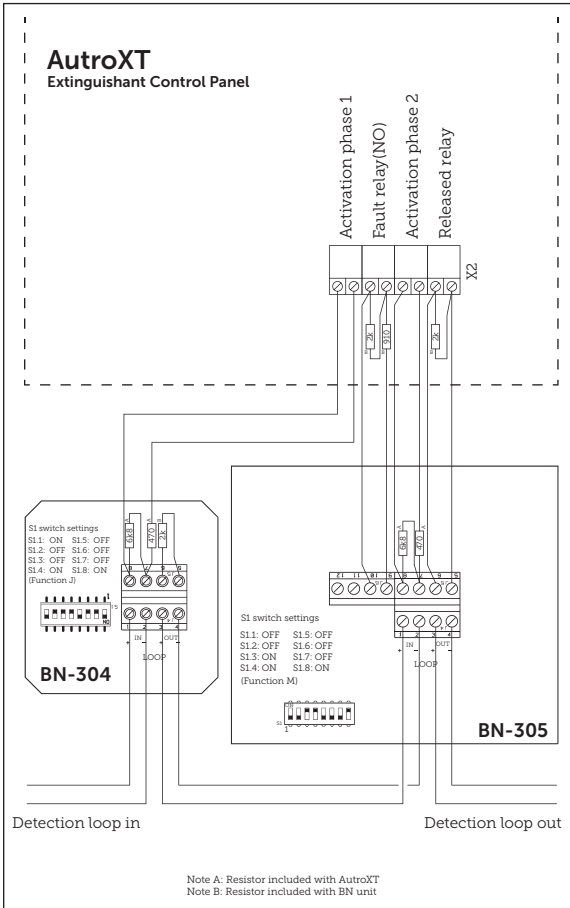
AutoXT Extinguishant Control Panel BA-51/1 is a standard-compliant panel that – when used together with Autronica’s interactive fire detection systems AutoSafe 4 or Autoprime – enables automatic extinguishant release in critical areas where a fire would be catastrophic, like power plants, computer rooms, switchboard rooms or engine rooms.



The extinguishant control panel has two fully monitored inputs for connection to fire detection control equipment or addressable control modules to provide an EN 12094-1 compliant extinguishant control system. Each panel covers one zone.



CONNECTING AUTROXT BA-51/1



CHOOSING CABLE

Both loop cables and other communication cables must be chosen carefully. For loop cables – with arming of the loop in mind – it is vital to consider both type, length and cross-section.

For instance, a cable with a too narrow cross-section will result in too high inductance to supply all loop units with a voltage high enough. The wrong cable choice can cause the installation to malfunction according to intention, with the additional cost this may induce.

Instructions for choice of loop driver and settings, and cable

- ✓ Each detector, manual call point and I/O unit is given the weighting: **1**
- ✓ Each sounder on the loop is given the weighting: **15**
- ✓ Each beacon on the loop is given the weighting: **15**
- ✓ Each combined sounder/beacon on the loop is given the weighting: **25**
- ✓ When projecting loops, the weightings for all loop units are summarised.

Choice of loop driver for AutoSafe or loop setting on Autoprime is performed according to this table:

Total weighing	Autoprime	AutoSafe 4
1-300	100 mA*	BSD-310
301-450	150 mA	BSD-311
451-600	200 mA	BSD-311
601-750	250 mA	Not permitted

*factory setting

Max cable length at different cable cross-sections and weighing: (twin wire measured from output back to input)

CABLE LENGTH AUTROSAFE LOOPS

Cable cross-section	Weighing 1-300	Weighing 301-450	Weighing 451-600
Max cable resistance	50 Ω	20 Ω	20 Ω
0,5 mm ²	1100 m	660 m	430 m
1 mm ²	1470 m	880 m	580 m
1,5mm ²	2200 m	1320 m	870 m
2 mm ²	2940 m	1760 m	1160 m
2,5 mm ²	3670 m	2200 m	1450 m

CABLE LENGTH AUTROPRIME LOOPS

Cable cross-section	Weighing 1-300: 100 mA	Weighing 301-450: 150 mA	Weighing 451-600: 200 mA	Weighing 601-750: 250 mA
Max cable resistance	105 Ω	58 Ω	35 Ω	21 Ω
0,5 mm ²	1500 m	829 m	500 m	300 m
0,75 mm ² *	2250 m	1243 m	750 m	450 m
1,0 mm ²	3000 m	1657 m	1000 m	600 m
1,5 mm ²	4500 m	2486 m	1500 m	900 m
2,5 mm ²	7500 m	4143 m	2500 m	1500 m

* Minstekravet iht. NS3960

CABLE LENGTH AUTRONET (TCP/IP)

Cable type/category	Maximum cable length
CAT 5 or 6, shielded or unshielded.	100 meters*
Single-mode or multi-mode optic fibre	Maximum fibre length is determined by the transmission budget calculated from specifications of fiber cable, equipment, loss by fibre cable joints and connectors.






* Can be extended by using Ethernet/VDSL extender

CABLE LENGTH AUTROSAFE INTERNAL CABLING

Cable type/category	Maximum cable length
Multifunction Serial Port Connection between BSA-400 and main terminal block L1	
Ribbon cable XGE-1/20-40 (standard is 40 cm)	1,2 meters
AL_Com+ connection between BSA-400 and BSL-310	
Ribbon cable XGE-1/10-50 (standard is 50 cm) Ferrit clamp part no. 116-6175-100.0010 must be applied. 1 ferrit clamp on standard BS-420/BC-420. 2 ferrit clamps, one inserted at each end of the cable if the front and cabinet is separated .	3 meters

ALARM UNITS

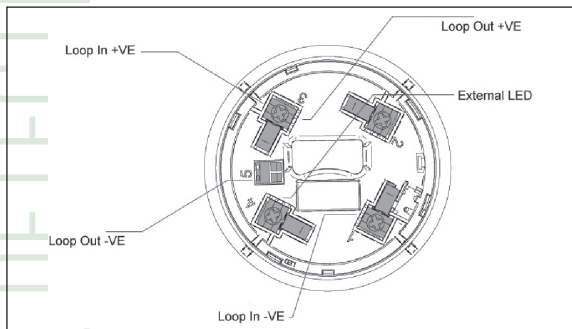
ADDRESSABLE ALARM UNITS

Name	Image	Descr.	dBA/ 1m	IP	Current	
					normal	alarm
BBL-100 ¹		Beacon	-	IP32C	0,3 mA	5,35 mA
BBR-130		Base siren	90	IP32C	0,26 mA	4,3 mA
BBR-230 ¹²		Siren	100	IP32C	0,33 mA	5 mA
BBQ-130		Base siren/ beacon	90	IP21C	0,26 mA	8,56 mA
BBQ-230 ¹		Siren/ beacon	100	IP32C	0,33 mA	9 mA

¹ IP65 version for outdoor use available

² Approved acc. to EN 54-23

CONNECTING BBR-130 (SOUND) AND BBQ-130 (SOUND/LIGHT) TO AUTROSAFE 4/ AUTROPRIME

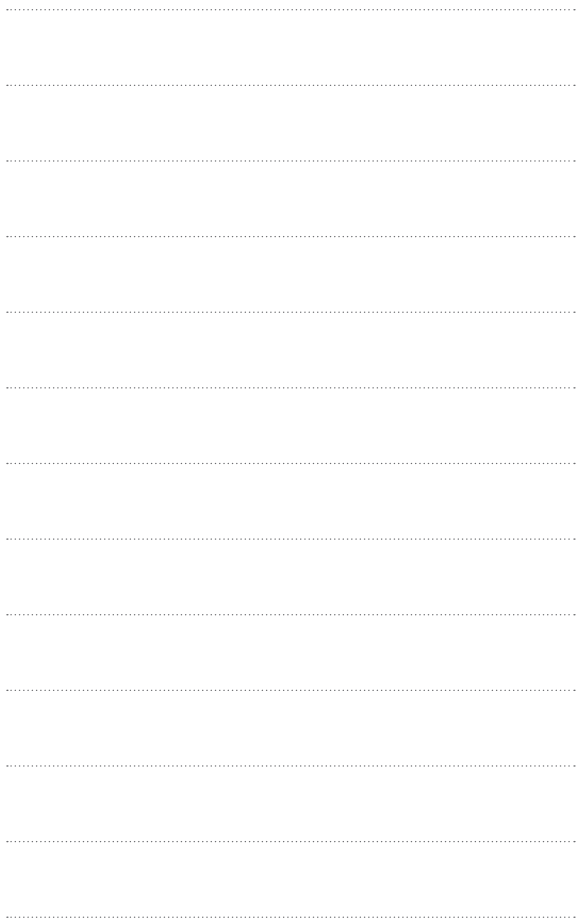


ALARM UNITS ON ALARM OUTPUT

Name	Image	Descr.	EN 54-23	IP	Current	
					normal	alarm
Solista LX ¹		Beacon wall	W-2.4 -7.5	IP33C		10-25 mA
Solista LX		Beacon ceiling	C-3 -7.5	IP33C		10-25 mA
Symphoni LX ²		Base w/ beacon	W-2.4 -7.5	IP21C		15-30 mA
Symphoni LX ¹		Complete sounder/ beacon	W-2.4 -7.5	IP21C		18-28 mA

¹ White version available

² IP65 version for outdoor use available





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.

We are an international company with offices worldwide and our HQ is located in Trondheim, Norway's technology hotspot.



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