800i C™ 1500i C™

INSTALLATION MANUAL

EN - Version 1.0

PROTECT 800i C™ / 1500i C™ is designed to protect the most common premises. Private homes and garages, shops and stores, offices, and small and medium-sized warehouses.

The two new Fog Cannons™ are built on the same platform, but one is sized for several cubic meters of fog and can fire for longer than the other. Many of the specifications are otherwise similar.

Item no.: 22069_0001EN

PROTECT® | SECURED IN SECONDS

EN

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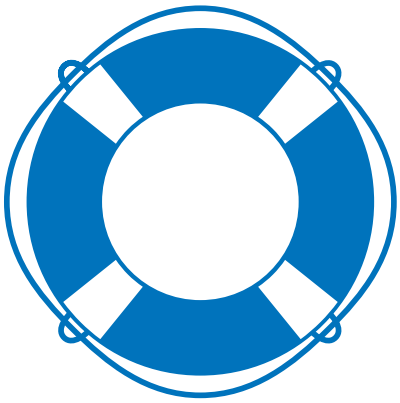
1. Before you begin

1 Start by reading this manual - the included quick guide cannot stand alone.

2 By now you should have completed our installation course. That may be a requirement.
Read more at www.protectglobal.com/e-learning

3 Always use IntelliSuite™ V.2.50.0.0 and IntelliConnector™ for the best, safest and fastest installation with documentation.

4 For technical support, please contact the place where you purchased the Fog Cannon™ machines or find help in this manual.

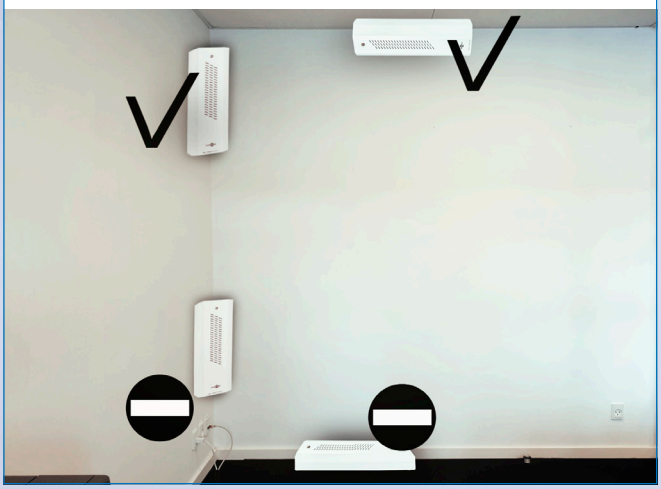


2. Safe instructions and best practice

5 To ensure the best possible coverage the fog needs free passage.

6 The fog machine must be placed to ensure immediate coverage of possible access points.

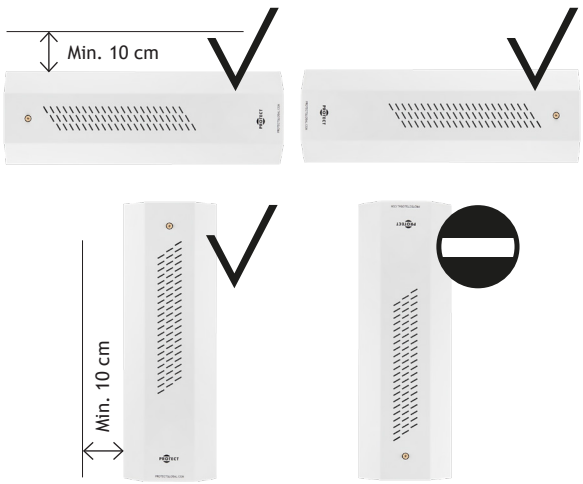
7a Reduce the risk of sabotage by placing the Fog Cannon™ as high as possible. At the same time, proper placement provides the most effective security.



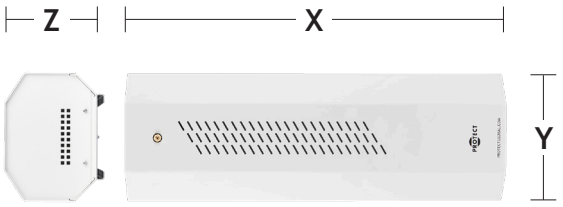
7b Avoid covering escape routes with security fog.

8 Min. installation distance from objects - 2.5 m.

9 For horizontal mounting, place the fog machine as shown in the picture

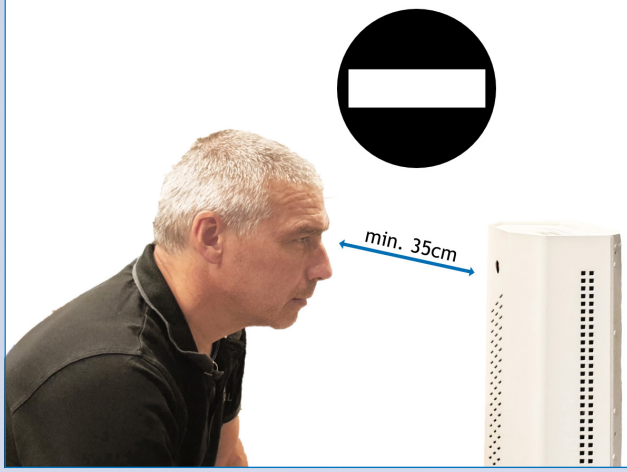


10 Measurements for installation of the fog machine.



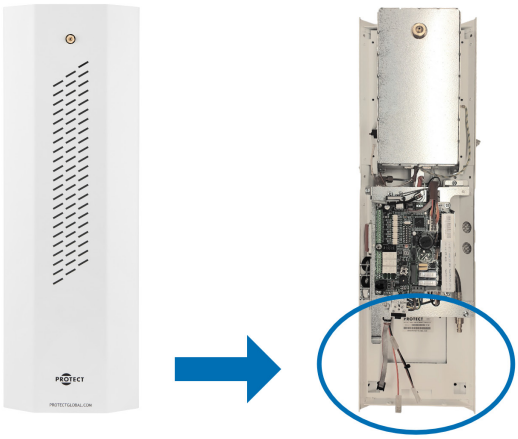
	PROTECT 800i C™	PROTECT 1500i C™
X	650 mm	650 mm
Y	190 mm	190 mm
Z	150 mm	170 mm
KG	13,5	18,5

11 Minimum safety distance is 35 cm for people and objects. Do not look directly into the nozzle at a short distance - risk of scalding!



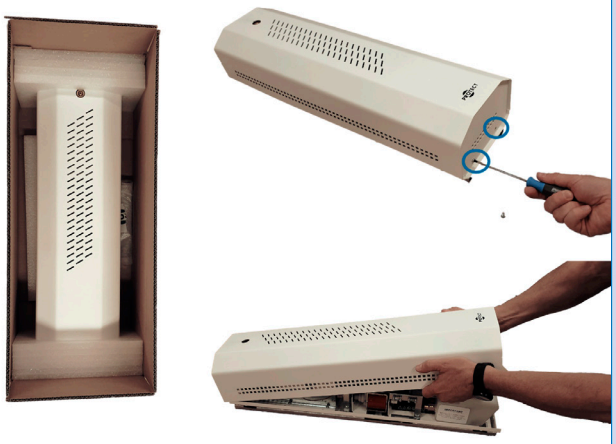
12 **IMPORTANT!** Disconnect power to the machine before removing the metal case.

13 Avoid unintentional fog emission - remove the fluid container during installation and service and/or press the service button.

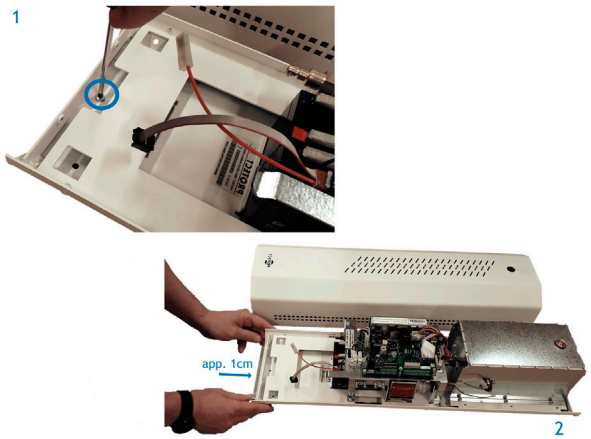


3. Mounting

14 Unpack the Fog Cannon™ from the cardboard box and remove the metal case.



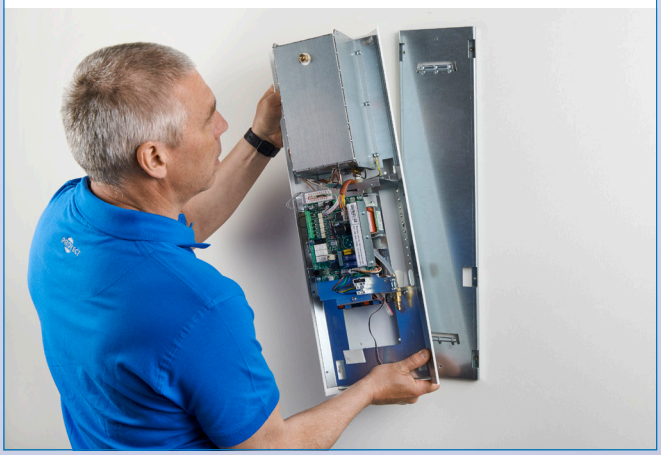
15 Now remove the mounting plate on the Fog Cannon™. Start by disassembling the fluid container.



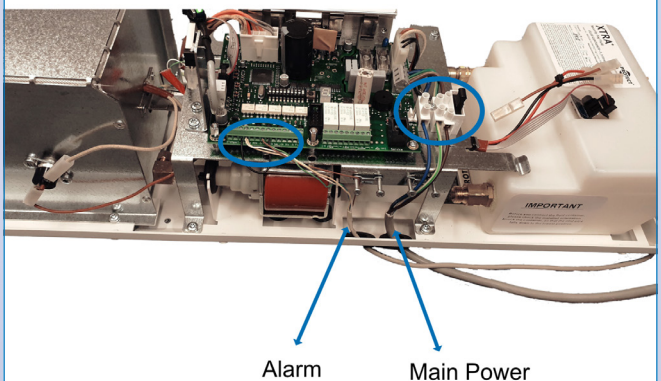
16 Place and fasten the mounting plate to the wall or ceiling with the necessary fastening to the base. Remember to bring the cables from the wall/ ceiling out through the hole in the back of the plate.

17 When mounting in corners, included corner brackets must first be screwed onto the back plate of the machine.

18 Place the Fog Cannon™ on the attached mounting plate. Important! Remember to screw the safety screw back in before you continue working.

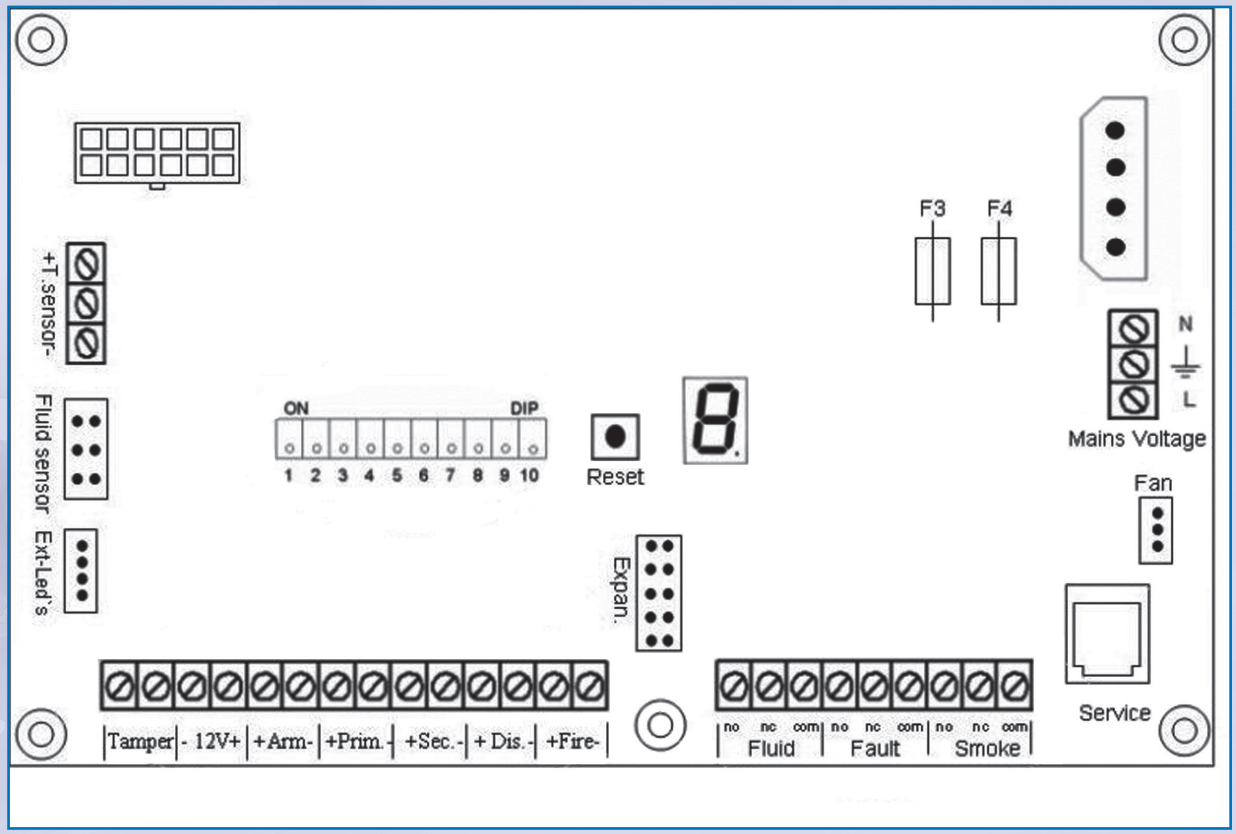


19 Cabling of PROTECT 800i C™ / 1500i C™.
One cable to the alarm system, and the other cable to 115/130/230V power.



4. Connection and settings

Printed circuit board (PCB)



Voltage

PROTECT 800i C™	PROTECT 1500i C™
230 V - 50 Hz	230 V - 50 Hz

Effect

PROTECT 800i C™	PROTECT 1500i C™
1050 W	1350 W

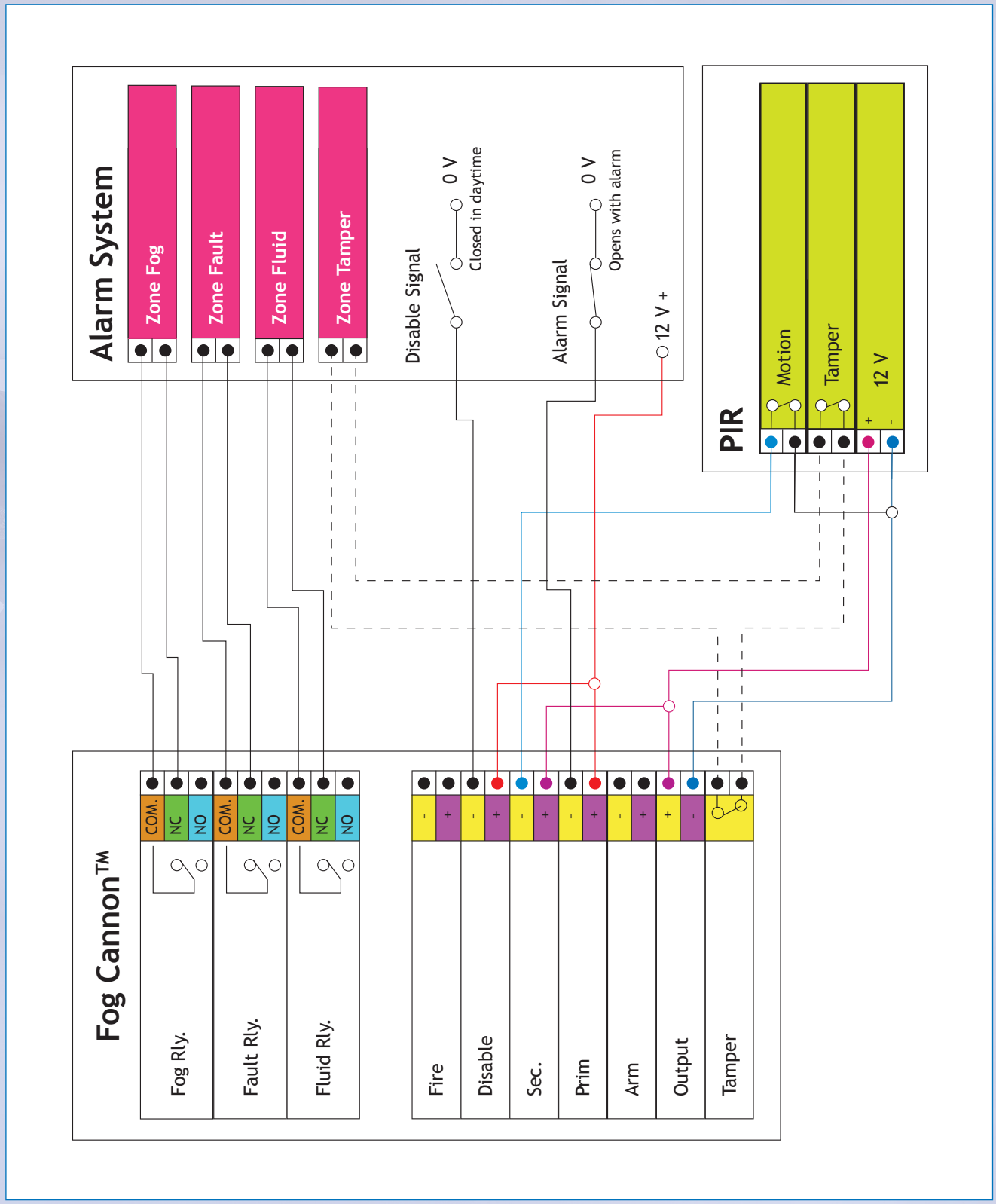
Standby consumption after heating up

PROTECT 800i C™	PROTECT 1500i C™
44 W	56 W

Standby consumption when heat is disabled

PROTECT 800i C™	PROTECT 1500i C™
5-10 W	5-10 W

Connection to alarm panel (typical installation)



Dipswitch

DIP	Function
1	Heat disable ON = The heating element disconnects if disable is activated
2	Fog time
3	Fog time
4	Fog time
5	Arm*
6	Primary*
7	Secondary*
8	Fire-alarm delay **
9	Reserved. Leave in OFF position
10	Error indicator. ON = Beeper connected

* ON = normal open
OFF = normal closed
** ON = delay is active

Inputs

Tamper	Potential-free switches activate (open) when the covers are removed. They can be used in the alarm system's tamper circuit.
12V	Built-in 12V supply system that delivers 0.1A - mainly to supply the secondary circuit, e.g. a PIR sensor.
ARM	Can be activated permanently by selecting an active break signal and by not connecting anything to the terminals.
Primary	The primary trigger signal is normally taken from the alarm system and activated from it in case of a break-in.
Secundary	The secondary trigger signal is normally taken from a verifying sensor such as a room sensor or a door switch.
DIS	The disable function can be used to stop the Fog Cannon™ when it is producing fog. The signal is connected to the alarm, so the Fog Cannon™ is disconnected when the alarm is disconnected.
Fire	Connection of 12 V DC, N/O signal from the fire alarm system. In case of a fire alarm this signal will disconnect the Fog Cannon™ as long as the signal is active. Also, the Fog Cannon™ will activate a sound signal and report an error on the system error relay.

Fog volume

In the tables below the fog volume mentioned is based on the industry standard of security fog. A change in visibility is gained through longer/shorter time with fog (adjustment of the unit), more/less Fog Cannons™ and/or different placing of the unit(s). It's important to perform a test firing of the installation - and not only rely on the calculation of cubic metres.

PROTECT 800i C™				
Dip settings			Fog time	Fog volume
Dip 2	Dip 3	Dip 4		m^3
OFF	OFF	OFF	demo	-
ON	OFF	OFF	20 sec	350
OFF	ON	OFF	40 sec	700
ON	ON	OFF	60 sec	850
OFF	OFF	ON	60 sec + 1 min.	1000
ON	OFF	ON	60 sec + 5 min.	1275
OFF	ON	ON	60 sec + 10 min.	1900

Total time in max. pulse mode = 11 min.: 60 sec. + pulse shots.
Total fog production = 1900 m^3.
Total capacity in the fluid container = 3 complete sequence in pulse mode.

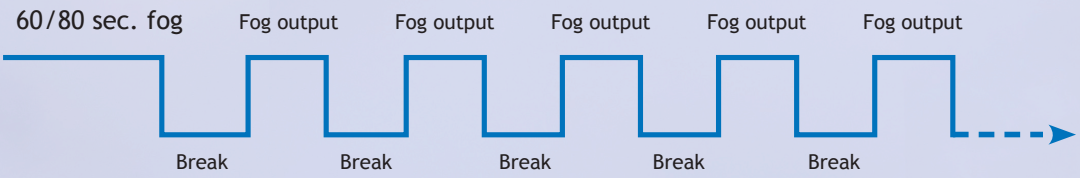
The reduction in visibility at 1m during the tests carried out during the NF&A2P 2 shield certification (EN 50131-8: 2019 and RTC 50131-8) of the 800i C™ is 50 sec. for 150 m^3 and 1136 sec. for maintaining opacity up to 3m.

PROTECT 1500i C™				
Dip settings			Fog time	Fog volume
Dip 2	Dip 3	Dip 4		m^3
OFF	OFF	OFF	demo	-
ON	OFF	OFF	20 sec	425
OFF	ON	OFF	40 sec	850
ON	ON	OFF	60 sec	1350
OFF	OFF	ON	80 sec	1600
ON	OFF	ON	80 sec + 4 min.	1950
OFF	ON	ON	80 sec + 9 min.	2740

Total time in max. pulse mode = 10 min. and 20 sec.: 80 sec. + pulse shots.
Total fog production = 2740 m^3.
Total capacity in the fluid container = 2 complete sequence in pulse mode.

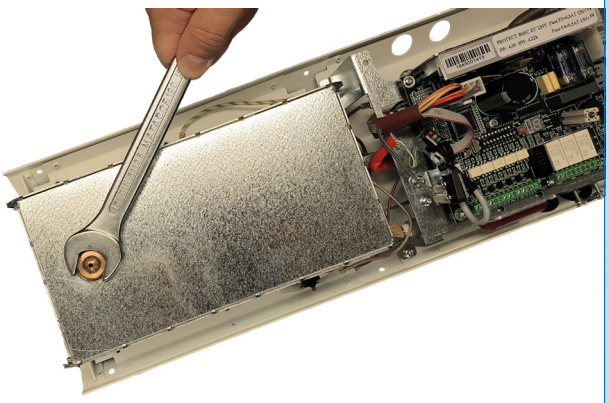
The reduction in visibility to 1m during the tests carried out during the NF&A2P 2 shield certification (EN 50131-8: 2019 and RTC 50131-8) of the 1500i C™ is 36 sec. for 150 m^3 and 3215 sec. for maintaining opacity up to 3m.

Pulse function

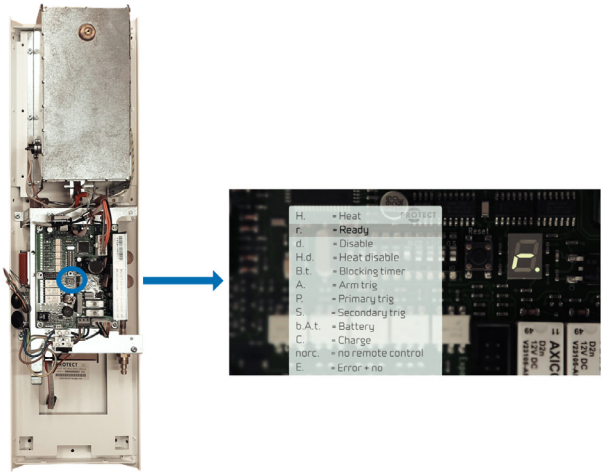


5. Test and hand over

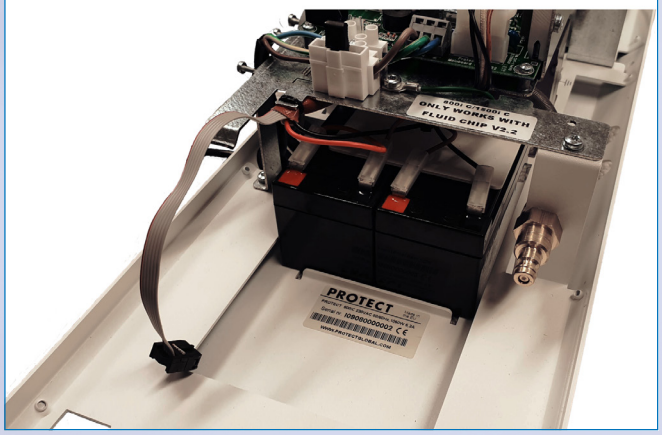
20 Loosen the nozzle with a wrench (17) if changing angle and/or direction of the fog (up to 30°). Fasten again with the same tool.



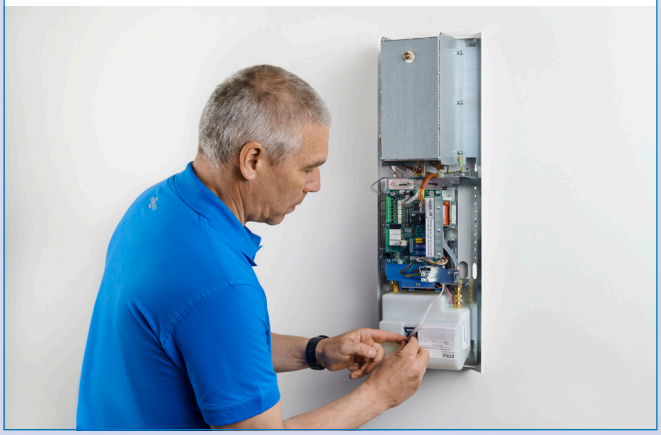
21 Check the control signals before testing.



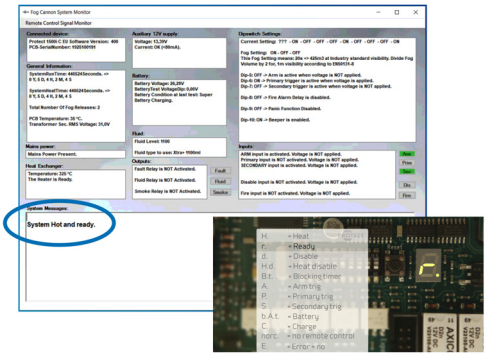
22 Connect the battery. First connect wires and then push the batteries up until they click into place. One battery measures 97 x 43 x 51 mm.



23 Place and connect the fluid container. Also remember the cable for measuring the fluid level.



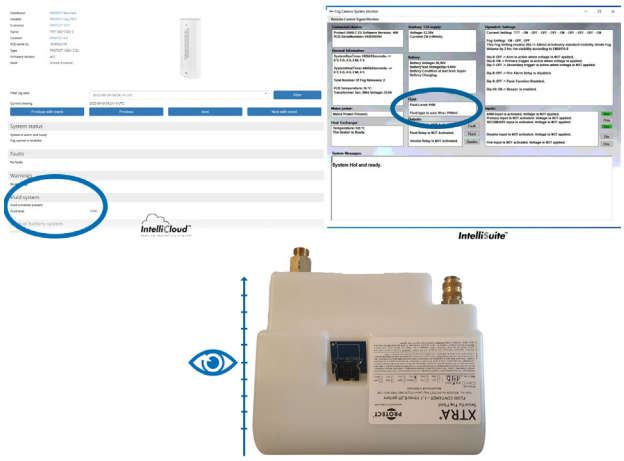
24 Remember to heat the system before testing.



	PROTECT 800i C™	PROTECT 1500i C™
Min.	10-15	15-25

25 Full-scale test: Remember that the test must include the entire alarm installation.

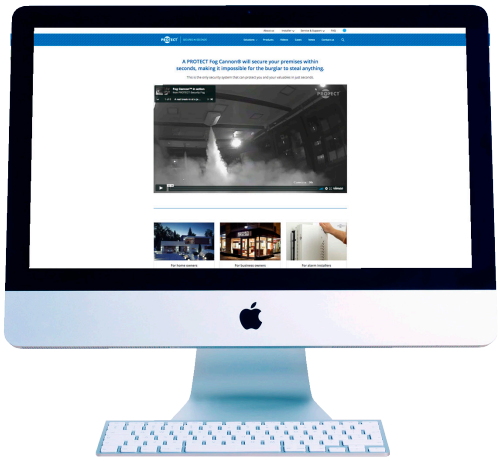
26 Check the fluid level after testing (hand over the fog machine with a full fluid container).



27 Remember to put warning labels on the windows/doors.

28 Before leaving the installation all users must be instructed in how the fog machine works.

29 The users must be informed that further information can be found on **www.protectglobal.com.**



Service agreement

Finally, a contract of service must be made, which should contain an agreement for min. 1 year of service incl. test.

A service agreement with the customer includes the following:

- Visually inspect the fog fluid level.
  Durability: 5 years from production date in unopened packaging. 2 years from date of installation.
  Do not use when discolored!
- Check the loading capability and the age of the batteries.
  If the batteries are more than 2 years old they must be replaced.
- Check if there is any fault indicated on the Fog Cannon™.
- Check that the nozzle is clean of foreign bodies.
- Check if there are any signs of sabotage and check the sabotage switches.
- Check that the verifying sensor is working correctly.
- Make a full-scale-test, where the interaction between all systems is tested (also the fire alarm system if there).

6. Error messages and troubleshooting

In case of error, read the error code on the Fog Cannon's LED display and the error code description below.

We refer to PROTECT IntelliSuite™ V.2.50.0.0, which is a free diagnostic tool used with the PROTECT Intelli-Connector™ cable or with remote access via integrated PROTECT IPCard™.

Learn more at **www.protectglobal.com.**

Fault finding

Fluid	Output activated when there is enough fluid left for one full discharge
Fault	Output activated in case of system error. Error type can be read in the display
Fog	When the Fog Cannon™ produces fog, this output will activate

Fuses

	PROTECT 800i C™	PROTECT 1500i C™
F1 (Incoming Power/High Voltage)	10 AT	10 AT
F3 (Heating rod)	6,3 AT	8 AT
F4 (PCB)	0,5 AT	0,5 AT

External LED status indicator - a service function in disarm status

One Red flash every 10 sec. (E1)	Mains power failure (and no critical failure at the same time)
Three Red flashes every 10 sec (E3)	Fire alarm input activated (and no critical failure at the same time)
Four Red flashes every 10 sec (E4)	Low battery voltage (and no critical failure at the same time). Alarm installer is required!
Constant Red flashing	Serious failure(s) detected. Alarm installer is required!

Error codes

H.	**H**: Heat	P.	**P**: Primary trig	norc.	**norc**: No remote control signal
r.	**r**: ready	S.	**S**: Secondary trig	rd.	Remotely disabled*
d.	**d**: disable	b.A.t.	**bat**: battery	rHd.	**rHd**: Remotely heat disabled*
H.d.	**Hd**: Heat disable	C.	**C**: Charge	rP.	**rP**: Remote primary*
B.t	**Bt**: Blocking timer	E.	**E**: Error + no	rb.	**rb**: Remotely blocked*
A.	**A**: Arm trig		1.234567890	rF.	**rF**: Remote fire alarm*
			1 2 3 4 5 6 8 7 9 0	rPA	**rPA**: Remote panic alarm activated*
		rc.	**rc**: Remotely controlled*		

*Only relevant if Intelli products are installed.

E1: Mains voltage failure - auto-reset.
Check power supply and fuses, transformer connections

E2: Low fluid message - auto-reset.
Install new fluid container. Note: low fluid, does not mean empty, but one full discharge left.

E3: Fire alarm activated - auto-reset.
If there is or has been 12V on FIRE-terminals. Reset fire alarm.

E4: Battery voltage too low - auto-reset.
Batteries need a recharge - or changing. Should an E4 show up without batteries installed, the PCB must be replaced.

E5: Battery charge tried for 24 hours without success.
Change batteries or alternatively try to recharge with an external charger.

E6: Battery failed in load test.
Change batteries.

E7: Temperature on PCB too high.
Check if there is ventilation (fresh air) around the machine.The temperature in the housing might be too high to cool down the PCB. Max. temperature is 70°C.

E8: Temperature on PCB too low.
Temperature in the room and around the Fog Cannon™ is too low. When the machine is cold and PCB temperature lower than 5°C it cannot start up. Possible solution is to heat up the room so that the temperature of the printed circuit board exceeds 5°C.

E9: Temperature on thermal sensor too high (or there is bad connection).
To check the function of the thermal sensor, you must disconnect the sensor, take it out, connect the 2 wires to a voltmeter (must be capable of measuring mV). Try carefully to heat the tip of the sensor with a lighter or similar. It should be possible to measure a voltage of between 10 and 15 mV.
Also check that the sensor is properly connected to the terminals, or alternatively fasten the wires. Green to + and white to center terminal. - terminal is not used.
If the E9 continuously shows up: By cold machine; change PCB - By warm machine; change sensor.

Also check that there is no short circuit from sensor wire running to ground.
Sometimes, after several short test launches in a row, the E9 error can appear. The reason for this may be overheating of the nozzle end. In this case, the machine must cool down before it can fire again.

E10: Temperature on thermal sensor too low (after initial heating).
Check thermal overload fuse on the end of heating element.
There is a reset pin in the middle of the thermal fuse.

Check fuse F3 on the PCB.

If heating failure occurs, you can check the resistance in the heating cartridge.

Switch off the main power.
Pull out the 4-pole plug next to the glass fuses.
Use an Ohm meter and measure between the white and the brown wire.
The resistance shall be approx.:
800i C™: 53 Ohm
1500i C™: 41 Ohm
Note that the values can fluctuate 2-3 Ohm.

Be sure that there is full passage/connection through the thermal overload fuse.

Check thermal sensor: green to + and white to center terminal. - terminal is not used. Check that the connection is OK. Test the sensor by taking out the sensor and its wires. Heat up the tip of the sensor (with a lighter or similar) while a voltmeter is connected. It shall be possible to measure a value of 10-15 mV.

If the machine should be warm, but with an E10 fault telling that it is cold, there may be a loose connection inside the sensor. Then change the sensor.
There may also be an error on PCB. Then change the PCB.

E12: Pump-timeout. The pump has been running for too long. No fluid flow, etc.
Fluid container empty - change container.
Fluid container not connected.
If the machine has not produced fog for a long time (1 year or more) the pump can be blocked.
In this case it can help to knock a little on the end of the pump while it is activated.

E13: The built-in 12 V supply overloaded due to congestion.
Too much extra equipment connected to the 12V supply or there is a short cut in connected equipment. Remove the overload or repair the short cut.
If you cannot wake up the 12 Volt supply after a reset – change the PCB.

E14: Error in load test circuit.
Check the white ceramic resistance (next to the beeper) – it might have lost or broken its connection to the PCB. Repair the soldering or change the PCB.

E17: No fluid container detected.
Install fluid container and the wire. Check on the PCB. Change to a new fluid container.
Replace the PCB.

E18: Wrong fluid container detected.
Replace the fluid container with a correct type.

E19: Fluid level too low to run detected.
Replace the fluid container.

E22: Fluid container empty.
The fluid container has less than one discharge left. Replace the fluid container.

ADDITIONAL INFORMATION:

Battery test

The machine will carry out a regular battery test every 24 hours.

Before installing new batteries, you can make your own battery test either with a professional battery tester – it should show a voltage >12,3V and a capacity >0,8 Ah. Or alternatively use a voltmeter.

Measure the voltage to >12.3V. Connect a 20-21 Watt lamp – this should illuminate bright and clear for a minimum of 10 seconds and the voltage should at the same time not be lower than 11V.

If lower than 11V the capacity is down to “bad conditioned battery” and you will soon get the message E6 (battery failed in load test).

After the test, the voltage shall increase again to more than 12V.

Well-charged and well-conditioned, the battery will have a voltage of 12,5 to 12,8V.

E4, E5 and E6: When installing new batteries
Please be aware that batteries are of lead acid type. This type of battery cannot be stored for more than 3-4 months. When installing a new battery that already has been stored too long you will in many cases get a new “battery error” shortly after. Check that new batteries are well charged and in good condition.

External LEDs

During normal function, the LEDs are only visible when the DIS input is powered 12V or all fog time DIP-switches 2, 3, 4 are in off position.

The green light will flash while heating. When the machine is ready there will be a constant green light.

Yellow light means low fluid, or the flat cable not connected to the fluid container.

Red light is error signal.

Read the error code in IntelliCloud™, with IntelliSuite™ or on the display on the PCB.

Beeper

The beeper will sound when an error occurs or when fluid is low.

The beep frequency does not refer to a specific error.

The beeper makes sounds 1 time/sec. the first minute, after which it sounds 1 time/min.

If there is connection to external equipment, the beeper can be disconnected.

Reset

E1 to E4 and E22 have an automatic reset. Other errors must be manually reset after repair/service.

Alternatively, you can always make a manual reset by pressing the reset button for 4 seconds.

7. Warnings

Spilled fog fluid from dripping or other, which has gathered on the floor underneath the machine, immediately after the system has been activated or in connection with the handling of the fog fluid, must be removed immediately due to the risk of slipping and falling.

Do not swallow the fog liquid and keep it away from children and animals. In case of ingestion of large quantities: Contact a physician immediately. Avoid contact with eyes. In case of contact with eyes, rinse immediately with clean water for min. 15 minutes. If irritation continues, contact a physician. In case of direct contact with skin rinse thoroughly with water and soap.

Avoid prolonged stays in fog filled premises as this can irritate the mucous membrane in the eyes, nose, and throat. The effect is temporary and only occurs in connection with prolonged stays in the dense fog.

Never stick your fingers or other objects behind the grille in front of the nozzle. The nozzle may be hot and touching it may cause burns. Do not look directly into the nozzle.

Flammable or heat-sensitive objects must be placed at least 35 cm from the nozzle.

The Fog Cannon™ must only be cleaned using a damp cloth.

Do not spray the Fog Cannon™ with water.

Air the room for 20 minutes within the first hour of fog activation to avoid condensation.

The installer must ensure that staff who work in the secured premises on a daily basis are informed about the proper rules of precaution when operating the Fog Cannon™.

If the Fog Cannon™ is installed in premises with public access, the staff needs to be instructed in how to guide visitors and show them the way out in case the Fog Cannon™ should fire unintentionally at a time where people have access to the secured premises.

The electrical connections of the Fog Cannon™ must only be handled by certified electrical fitter. The system MUST be connected to earth to meet electrical safety requirements and must only be serviced by instructed personnel. PROTECT™ and our distributors worldwide provide training sessions regarding correct mounting, setting and use of the system.

The system should be fitted with max. 16A fuses.

The device must be connected to the mains supply via a plug or via switch which break all the conducting poles (both live and neutral) in accordance with the wiring rules.

The system must be set correctly to prevent overdosing.

Never install the system without supervision (connection to alarm panel and control centre).

Service/test the system once a year. Servicing/tests must be carried out by an alarm technician.

The system must be placed outside normal reach. The system must not be placed e.g. near the floor where animals or children can reach it.

The system must not be installed in a way which blocks emergency exits or fire escapes when fired.

Place the system with the distance from the nozzle the nearest object or surface being min. 2.5 m.

Secure the system properly.

Make sure that there is sufficient ventilation space around the system (minimum 10 cm). Do not fit the system in a closed cavity space.

Disconnect the mains supply before removing protective covers. Live parts are accessible inside the device, and there may be risk of electrical chock.

The system is produced for use in a dry indoor climate (IP20) and must therefore not be placed outdoors or in damp rooms.

Special precautions must be taken where the fog machines are installed in locations with automatic fire alarm systems and in blocks of flats.

Before installing the fog machines the installer must ensure that this can be done in accordance with relevant national legislation and regional regulations. The installer must inform the authorities, the control centre and security staff of the installation.

Before service on signalling cables, the Fog Cannon™ and connected equipment such as alarms, etc. the Fog Cannon™ must be protected against unintentional firing.

The system must be protected against activation when the secured premises are in normal use.

If the above instructions are not observed, PROTECT A/S shall not be liable for any consequences resulting from such non-observance.

Certain types of thermal paper, thermal labels and certain types of ink used for print on plastic wrappings and plastic bags can be damaged by the fog.

This PROTECT Fog Cannon® is only to be installed and used in the country, from where it is purchased. Local PROTECT™ dealers/installers only service machines purchased in their own countries.

8. Consequences of the use of unauthorized fluid in PROTECT Fog Cannons®

The complete 100% tested and guaranteed performance & no harmful side effects can only be achieved by using approved PROTECT™ fog fluid.

Cancellation of the warranty: The use of unauthorized fluid in a PROTECT Fog Cannon® results in the cancellation of the warranty.

Risk of machine defects: Use of unauthorized fluids can cause damage to heating element, such as rust. Furthermore, there is a high risk of obstruction of the nozzle, which will reduce the release of security fog.

Risk of lack of activation with an alarm signal: If the pump cannot withstand the chemical composition of the unauthorized fluid, the pump may fail causing an absence of fog machine activation in a real-life scenario of alarm activation.

Risk of toxic fumes formation: Unauthorized fluid can become toxic by heating and/or pressure, which can mean a risk to humans, animals, and food.

Risk of condensation (residue): If the molecular composition of the fluid is not correct, its consistency does not adjust to the exit diameter of the nozzle with the consequent risk of condensation and possible damage to electronics, fabrics, furniture, etc.

Low density risk: Unauthorized fluid may have a too low density, which makes it useless as a security system by fog.

9. Warranty terms and exceptions

We generally refer to our general terms of sale and delivery, which are sent together with the order confirmation.

The warranty does not cover fog fluid or batteries (consumables), nor the wear caused by the normal use of the fog machine. The transport costs of the equipment are also excluded from the warranty.

The PROTECT™ security fog fluid has an expiration time of 2 years from the installation of the fluid container in the Fog Cannon™, and 5 years if it has not been installed and has been stored in its original packaging, in a cool, dry place protected from sunlight. Once the expiration date has passed, a replacement is recommended to maintain the properties and density of the security fog.

The warranty will be void if the product has not been installed in accordance with the quick guide provided in the original PROTECT™ packaging and the manual which can be downloaded electronically, or if spare parts or fog fluid not provided by PROTECT™ have been used.

The system must be set correctly to prevent overdosing.

Never install the system without supervision (connection to alarm panel and control center) and service/test the system once a year. Servicing/tests must be carried out by an alarm technician. Failure to do so will result in the warranty being void.

PROTECT™ provides a 60-months' warranty for defects in the products (Xtratus®/Xtratus Flex®: 24 months) calculated from the invoice date on the customer's (the installer's) invoice to its customer, and not more than 66 months from the product being delivered by PROTECT™ to the customer, cf. 3.2. in our delivery terms. Complaints must be made immediately.

PROTECT™ provides a 12-months' warranty on additional equipment, spare parts and repair work.

10. Approvals and certifications

Models 800i C™ and 1500i C™ are NF&A2P 2 shields certified according to the NF324-H58 standard
Certifying organization: AFNOR (www.marque-nf.com) and CNPP (www.cnpp.com).
Applicable standards: EN 50131-8:2019 & RTC 50131-8.
Certificate numbers: 9024000001A0 & 9024000002A0.
Protection index: IP 20.
Mechanical shock protection index: IK08.
Security Grade 2.
Environmental Class II.
Operating temperature (min/max): 5/80 °C.

Organisme certificateur
AFNOR Certification
11, rue Francis de Pressensé
93571 LA PLAINE SAINT-DENIS Cedex
☎ : (33) 1.41.62.80.00
Site Internet : http://www.marque-nf.com

Organisme certificateur
CNPP Cert.
Route de La Chapelle Réanville – CS 22265
27950 LA CHAPELLE LONGUEVILLE
☎ : (33) 2.32.53.63.63
Site Internet : http://www.cnpp.com

MATERIELS DE SECURITE ELECTRONIQUES - DETECTION D'INTRUSION
ELECTRONIC SECURITY EQUIPMENT - INTRUSION DETECTION

CERTIFICAT/CERTIFICATE N° 90240000001A0

PROTECT A/S
HASSELAGER CENTERVEJ 5, st.
DK-8260 VILBY J
DANEMARK

Lieu(x) de fabrication / *For its factory located in*: **000210P2**

est autorisée à apposer les marques NF et A2P sur le produit selon les conditions définies dans le référentiel de certification NF324-H58 (rév. 19) / *Is allowed to affix NF and A2P certification marks on the following product, according to the NF324-H58 (rev 19) certification standard:*

Marque commerciale / *Trade Mark :*	**PROTECT**
Référence commerciale / *Model :*	**PROTECT 800i C**
Type de produit / *Product type :*	**Dispositifs générateurs de brouillard** / *Security fog devices*
Gamme / *Product line :*	**Non Applicable** / *Not Applicable*

Ce certificat atteste / *This certificate attests that* :

- que les produits désignés sont conformes aux normes listées en page(s) suivante(s) et aux spécifications complémentaires qui leurs sont applicables, tel que spécifié dans le référentiel de certification NF 324 – H 58,
  designated products are in compliance with standards listed following page(s) and complementary applicable specifications as described in the NF324-H58 certification standard,
- que le système qualité de la société a été évalué conformément au référentiel de certification NF 324 – H 58
  the quality system has been assessed according to the NF324-H58 certification standard

Caractéristiques certifiées essentielles / *Main certified characteristics*			
Niveau de sécurité *Sécurity level* :	**RTC**	**Type d'alimentation principale** *Prime power source type :*	**230 V**
Liaison *Links* :	**Filaire** *Wire Loops*	**Sécurité contre la fraude** *Tamper security :*	**Ouverture** *Opening*
Classe d'environnement *Environmental class :*	**II**	**Réduction visibilité / maintien** *Reduced visibility / continuation :*	**Oui** *Yes*

La liste des composants associés à ce produit figure en annexe à ce certificat. *The component list for the above-mentioned product can be found in the appendix.*
Ce certificat n'est valable qu'accompagné de son annexe et sous réserve des résultats des contrôles effectués par AFNOR Certification et CNPP cert qui peuvent prendre toute sanction conformément aux règles générales de la marque NF, au référentiel général H0 de la marque A2P et au référentiel de certification NF 324 – H 58. *This certificate is only valid with the attached appendix hereafter and subject to control results performed by AFNOR Certification and CNPP Cert. who can take the appropriate sanction according to the general rules of NF mark, the H0 standard-special regulations for A2P mark and the NF324-H58 certification standard.*

Ce certificat est valable jusqu'au 03/08/2025. ***This certificate is valid until 2025/08/03.***
Il annule et remplace tout certificat antérieur. *This certificate cancels and replaces any previous certificate.*

Date de prise d'effet, le 04/08/2022

Julien NIZRI
Directeur Général d'AFNOR Certification
General Manager of AFNOR Certification

Date de prise d'effet, le 04/08/2022

Christophe BODIN
Directeur CNPP Cert.
Manager of CNPP Cert.

Organisme certificateur
AFNOR Certification
11, rue Francis de Pressensé
93571 LA PLAINE SAINT-DENIS Cedex
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Route de La Chapelle Réanville – CS 22265
27950 LA CHAPELLE LONGUEVILLE
☎ : (33) 2.32.53.63.63
Site Internet : http://www.cnpp.com

MATERIELS DE SECURITE ELECTRONIQUES - DETECTION D'INTRUSION
ELECTRONIC SECURITY EQUIPMENT - INTRUSION DETECTION

CERTIFICAT/CERTIFICATE N° 902400002A0

PROTECT A/S
HASSELAGER CENTERVEJ 5, st.
DK-8260 VILBY J
DANEMARK

Lieu(x) de fabrication / *For its factory located in*: **000210P2**

est autorisée à apposer les marques NF et A2P sur le produit selon les conditions définies dans le référentiel de certification NF324-H58 (rév. 19) / *Is allowed to affix NF and A2P certification marks on the following product, according to the NF324-H58 (rev 19) certification standard:*

Marque commerciale / *Trade Mark :*	**PROTECT**
Référence commerciale / *Model :*	**PROTECT 1500i C**
Type de produit / *Product type :*	**Dispositifs générateurs de brouillard** / *Security fog devices*
Gamme / *Product line :*	**Non Applicable** / *Not Applicable*

Ce certificat atteste / *This certificate attests that* :

- que les produits désignés sont conformes aux normes listées en page(s) suivante(s) et aux spécifications complémentaires qui leurs sont applicables, tel que spécifié dans le référentiel de certification NF 324 – H 58,
  designated products are in compliance with standards listed following page(s) and complementary applicable specifications as described in the NF324-H58 certification standard,
- que le système qualité de la société a été évalué conformément au référentiel de certification NF 324 – H 58
  the quality system has been assessed according to the NF324-H58 certification standard

Caractéristiques certifiées essentielles / *Main certified characteristics*			
Niveau de sécurité *Sécurity level* :	**RTC**	**Type d'alimentation principale** *Prime power source type :*	**230 V**
Liaison *Links* :	**Filaire** *Wire Loops*	**Sécurité contre la fraude** *Tamper security :*	**Ouverture** *Opening*
Classe d'environnement *Environmental class :*	**II**	**Réduction visibilité / maintien** *Reduced visibility / continuation :*	**Oui** *Yes*

La liste des composants associés à ce produit figure en annexe à ce certificat. *The component list for the above-mentioned product can be found in the appendix.*
Ce certificat n'est valable qu'accompagné de son annexe et sous réserve des résultats des contrôles effectués par AFNOR Certification et CNPP cert qui peuvent prendre toute sanction conformément aux règles générales de la marque NF, au référentiel général H0 de la marque A2P et au référentiel de certification NF 324 – H 58. *This certificate is only valid with the attached appendix hereafter and subject to control results performed by AFNOR Certification and CNPP Cert. who can take the appropriate sanction according to the general rules of NF mark, the H0 standard-special regulations for A2P mark and the NF324-H58 certification standard.*

Ce certificat est valable jusqu'au 03/08/2025. ***This certificate is valid until 2025/08/03.***
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Christophe BODIN
Directeur CNPP Cert.
Manager of CNPP Cert.

AFNOR CERTIFICATION ET CNPP Cert. MEMBRES DE L'EFSG

Ce document comporte 2 pages / This document consists of 2 pages (MCP F 10-13 W–04/2022)

PROTECTGLOBAL.COM

PROTECT®
SECURED IN SECONDS

CE

Declaration of Conformity

According to EN50131-8/IEC62642-8 concerning
alarm systems - intrusion and hold up-systems - part 8: Security fog device/systems

Holder:	PROTECT A/S Hasselager Centervej 5 8260 Viby J. Denmark CVR No. 2568 7272
Product	Security fog machine
Type, Model	PROTECT 800i C™, PROTECT 1500i C™
Testing basis	EN 60335-1:2002
Test reports/Test marks	We, PROTECT A/S, Denmark, declare under our sole responsibility that the products PROTECT 800i C™ & PROTECT 1500i C™ (manufactured by PROTECT A/S) have been tested and found in conformity with the following harmonized European standards: EN 60335-1:2002 + A11:2004 + A1:2004 IEC 60335-1:2001 + A1:2004
Conformity	EU Directive information: The products satisfy the provisions for CE marking according to the Low Voltage Directive (LVD) 73/23/EEC and 93/68/EEC.
Date:	9 October 2020

Mr. Heine Michael Andreasen
CEO
PROTECT A/S

PROTECT® | SECURED IN SECONDS

PROTECT A/S · Hasselager Centervej 5 · DK-8260 Viby J · Tel.: (+45) 86 72 18 81 · Fax: (+45) 86 72 18 82 · Mail: info@protectglobal.com

11. APPENDIX – Manual for PROTECT IPCard™

Table of contents:

1. **Introduction to PROTECT IPCard™**
   1.1 Basic networking skills
   1.2 Networking security and safety
2. **Installation and use of PROTECT IntelliSuite™**
3. **Cabling**
4. **Technical data**
5. **Setting up the IPCard™**
   5.1. Network settings
6. **Using IntelliSuite™ for monitoring and controlling the Fog Cannon™**
   6.1 Options with IPCard™
7. **Operational modes of the IPCard™ selectable by dipswitch**
   7.1. Panic function mode

1. Introduction to PROTECT IPCard™

This refers to PROTECT IPCard™ hardware version 1.1 and software version 1.09.
In the 800i C™ and 1500i C™ Fog Cannons™, the IPCard™ is factory-installed.
The IPCard™ in combination with PROTECT IntelliSuite™ adds the following functionality to the Fog Cannon™:

- General networking capability
- Remote real time monitoring of faults, fluid level, battery state, etc.
- Remote full report generation - including event log, settings, state of I/O, etc.
- Remote testing (test shot, relay test, acoustical annunciation)
- Remote reset
- Service Disable functionality (Blocking) by push-button or by remote control
- The level of what is allowed when connecting over network can be specified during installation by setting individual network permissions
- Pump test/priming by push-button
- “Panic” release functionality

The IPCard™ also adds the general possibility of delivering customer specific application solutions with networking capability on request.

1.1 Basic networking skills

Please note that introduction to basic networking skills are beyond the scope of this manual! The installer is assumed to have acquired the necessary skills before attempting to install the IPCard™.

In general, PROTECT™ will not support basic networking problems since networking issues can be very complex and depends on local IT-planning, IT-politics and the way things are done in individual installations.

As a rule of thumb always consult the local network administrator before even considering the installation of networking capable devices.

Such installation usually requires planning, permissions and setting up of local routers and switches in the network and you may not be allowed access to do this yourself.

1.2 Networking security and safety

The communication protocol used between the IPCard™ and IntelliSuite™ is designed for use on secure networks only. Access is controlled by use of a 10-digit password. No form of encryption is used on this specific communication protocol. If communication between the IPCard™ and the computer running IntelliSuite™ is supposed to be routed over insecure networks (e.g. the Internet), then some form of external security measures should be taken.

It is suggested to use e.g. VPN protected communication between the PC and the secure network where the Fog Cannon™ equipped with the IPCard™ is installed.

Commercial routers including VPN capability is readily available on the marked. A cheaper, but more labor intensive way to raise the security level, could be to remotely manage the local router, to only open a communication channel when needed. After finishing the remote monitoring/control of a Fog Cannon™, the communication channel could then again be closed for security.

It should also be considered what specific actions should be permitted when working on a remote connection. Should it for instance be allowed to perform testing and priming of the Fog Cannon™ pump, if this could potentially set of fire alarm systems and be a nuisance to people working in the building.

Network permissions could be set during installation to only allow passive monitoring actions, which would increase the safety level of the installation.

It is also strongly advised to set up the location identification text in the IPCard™ during installation. In this way it will be possible, by using the real time monitoring facility, to ensure that the Fog Cannon™ that you are actually connected to is in fact the Fog Cannon™ you expected to connect to.

2. Installation and use of PROTECT IntelliSuite™

Before you can proceed with the installation of the IPCard™ you will need to install the latest version of IntelliSuite™ (V.2.50.0.0 or newer).

IMPORTANT NOTICE!

IntelliSuite™ versions before 2.40.3 will not support the IPCard™.

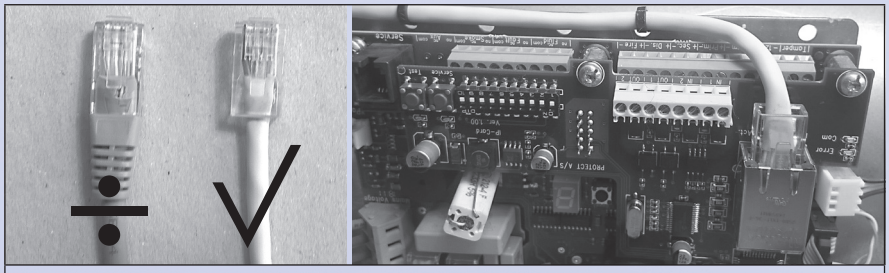
Also, you must acquire an IntelliConnector™ cable for connecting the PC running IntelliSuite™ with the service interface of the Fog Cannon™.

The installation and general use of IntelliSuite™ is beyond the scope of this manual, and only specific issues relevant to the installation and use of the IPCard™ will be dealt with in this manual.

3. Cabling

When installing the network cable, please make sure to use the correct type of RJ45 connector.

Some prefabricated cables come with a strain relief that extends behind the connector. This type of connector (as shown on the left) will not fit inside the cabinet of the PROTECT 800i C™/1500i C™ fog machines since it will conflict with the top cover of the Fog Cannon™. Please use RJ45 connectors as shown to the right.



Route the networking cable as shown in the picture to make sure cable will not conflict with any internal part of the Fog Cannon™. Let the network cable exit the hole in the cabinet used for any other normal signal cable to and from the alarm system.

4. Technical data

Inputs

Type	Optically isolated Bidirectional DC input
Activation level (guaranteed ON)	7 - 30VDC (Max)
Not activated (guaranteed OFF)	0 - 1VDC
Current	2mA@12V, 4mA@24V

Outputs

Type	Optically isolated Bidirectional output
Overload protected solid state relay	
Max rating	120mA continuous / 30VDC (20VAC)
ON resistance	Typical 28 Ohm (Maks. 35 Ohm)

Buttons

Service	Toggles Blocking mode (service mode)
Test	For priming/testing pump at very low flow and for 3 seconds at a time max

LED's on PCB

Green	**Flashing slow:** Not connected - starting up **Constantly on:** Connected to main PCB - Communicating OK **Flashing fast:** Test shot is running
Blue	**Flashing:** Machine is in Blocking mode (service mode)
Yellow	**Flashing:** Indicates network communication with this unit
Red	**Flash:** Confirmation from IntelliCloud™ has been received

Under power up the LED's will flash in an alternating pattern (Blue-Green-Blue .... Blue-Green-Blue ....) for approximately 5-10 seconds, and will then start indicating the states as listed above.

Network adapter

LAN connection Speed	10 MB

LED's on RJ45 network connection

Green	Connected to network
Yellow	Network traffic indicator

Please note that dipswitch settings, on the IPCard™, may be manipulated during normal operation. This will however reset program flow on the IPCard™ back to its initial stage for that particular setting.

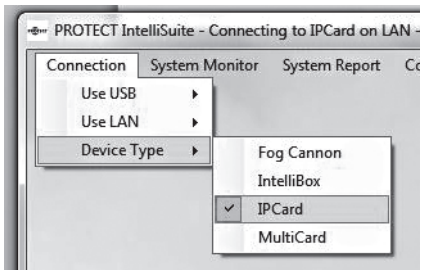
Also, precautions should be taken to prevent unwanted fog release that may be caused by dipswitch manipulation.

5. Setting up the IPCard™

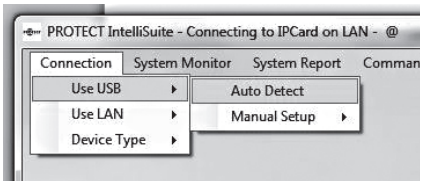
Before the IPCard™ can be used for monitoring and controlling the Fog Cannon™, the IPCard™ must be set up for the specific use.

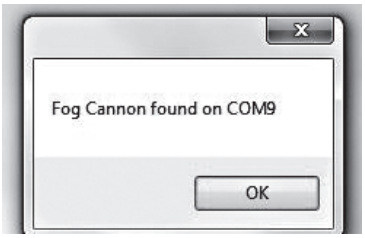
Start up the Fog Cannon™ with the installed IPCard™, connect it to your computer using an IntelliConnector™ cable. Then start up the IntelliSuite™ setup and monitoring program.

1 From the top menu select [Connection], [Device type], **[IPCard™].**

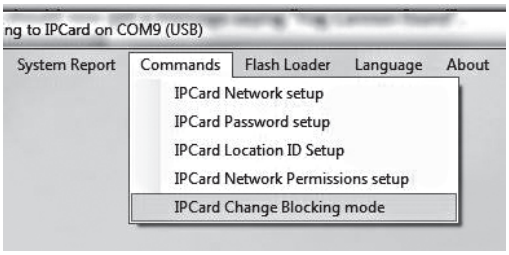


2 Then next from the top menu select [Connection], [Use USB], **[Auto detect].** You should now get a message saying "Fog Cannon™ found...".





3 Then use the top menu **[Commands]** to select different options for things to do on the IPCard™ while connected over the service interface.

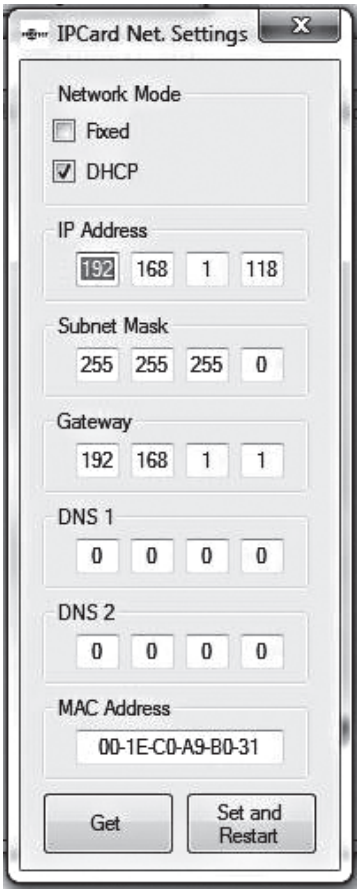


5.1 Network settings

Under the menu item **[IPCard™ Network Setup]** you will be able to setup all basic networking parameters and get information on MAC-address, current IP-address etc.

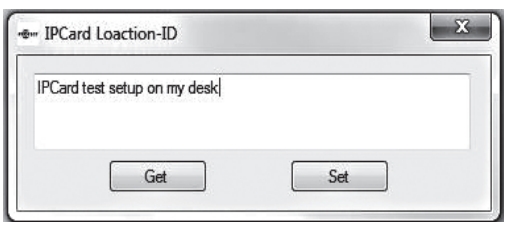
Remember to use the button "Set and restart" to store any changes you make.

4 By default network setting is "DHCP".

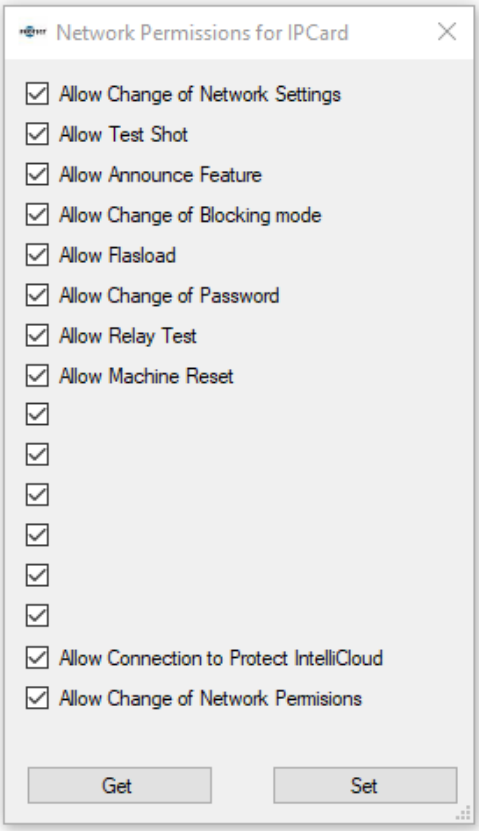


5 In the menu item **[IPCard™ Password setup]** you will be able to view and set a new password, for accessing the Fog Cannon™ over network. Default password is "1234000000".

6 In the menu item **[IPCard™ Location ID setup]** Location ID setup] you can type in a text identifying this particular Fog Cannon™. The Location ID will be visible in the system monitor when remotely monitoring the Fog Cannon™ via IntelliSuite™.



7 In the menu item **[IPCard™ network permissions setup]** you can specify what actions are allowed when operating over network. Remember to use the button **"Set"** to store any changes you make. By default everything is allowed.



6. Using IntelliSuite™ for monitoring and controlling the Fog Cannon™

After correct setup of the IPCard™ you will be able to connect to the Fog Cannon™ over network by using IntelliSuite™.

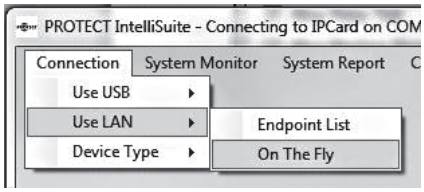
8

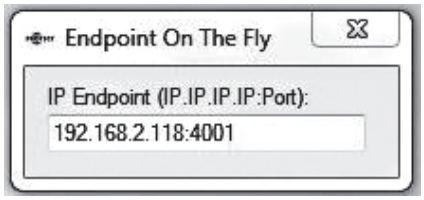
Connect your computer to the network and select [Connection], [Use LAN], **[On The Fly]** to type in the IP-address of the IPCard™ to connect to.

Type in the IP-address followed by Port number, separated by ":" as shown in the picture.

Port number for IntelliSuite™ access is fixed to 4001 when connecting directly to the IPCard™ on the local network.

Port forwarding performed in routers etc. may affect the port number you will have to type in from a remote network.





9

For more convenience you may also try out [Connection], [Use LAN], **[Endpoint Selector].**

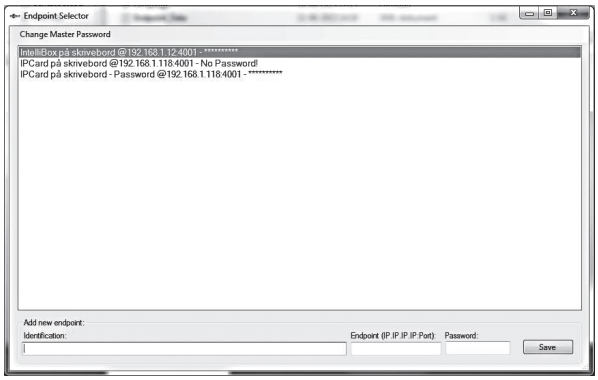
Here you may enter several endpoints with accompanying passwords for later use, and give them an identifying name so they will be easy to use. You may select any given endpoint by double clicking.

You may edit or copy any endpoint in the list by right clicking it and selecting the action you want.

You may also password protect you endpoint list by changing the master password. This will encrypt any information specified in the endpoint list. If you have specified a password to be used, you will be asked to type in your password before gaining access to the endpoint list following any close down of IntelliSuite™.

Please make sure to also safe keep a list of your endpoints somewhere else as a backup.

Do not rely entirely on IntelliSuite™ to store your endpoints for the future.



10

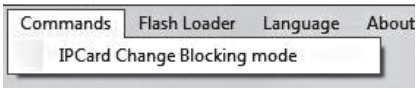
Now that you have selected your endpoint, you may connect to the IPCard™ or Fog Cannon™ connected to it.

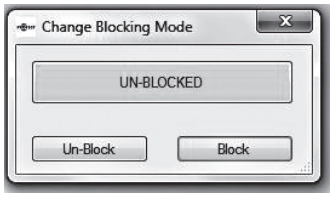
To select IPCard™ options please select [Connection], [Device type], **[IPCard™].**

To select Fog Cannon™ options please select [Connection],[Device type], **[Fog Cannon™].**

In IPCard™ mode you will be able to remotely enable or disable the Blocking facility, to prevent unintentional fog release during service of the alarm system attached to the Fog Cannon™.

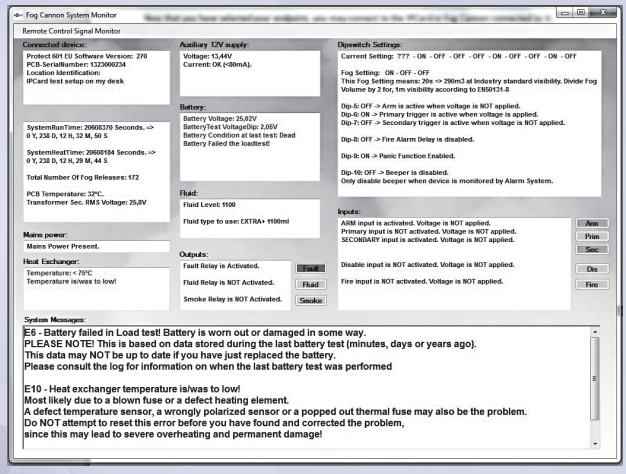
Select from the top menu [Commands], **[IPCard™ Change Blocking Mode]** (Blocking is a feature on the IPCard™, not the Fog Cannon™).





6.1 Options with IPCard™

In **Fog Cannon™ mode** you will be able to utilize several options.



Select from the top menu **[System Monitor]** to get a real time overview of the condition of the Fog Cannon™.

Any relevant information on fault conditions, fluid level, battery condition, Fog Cannon™ settings etc. are available.

Clear text information in the “System messages” window will tell you what may cause any problems.

Select from the top menu **[System Report]** to get a complete and comprehensive text report, including all relevant information possible for identification of any problems present or in the near past.

The report also includes a log of the last 300 events, which normally covers 2-3 months of operation time.

Reports may be saved on your computer as simple text files, and can be e-mailed to relevant personnel for further investigation.

Select from the top menu [Commands], **[Reset Device]** to reset the Fog Cannon™.

Select from the top menu [Commands], **[Test shot]** to perform simple testing and priming of the Fog Cannon™ pump.

Select from the top menu [Commands], **[Announce On/Off]** identifying a specific Fog Cannon™ in the installation by sound and flashing of the LEDs on the front.

Select from the top menu [Commands], **[Relay Test]** to test the connection between the Fog Cannon™ and the alarm system by briefly changing the state of signaling output relays one by one.

This list of IntelliSuite™ features is not a complete list, and the options and functionality will change over time, as software evolves, so please check regularly for updated of the IntelliSuite™ software and stay in contact with your local PROTECT™ distributor for up to date information.

7. Operational modes of the IPCard™ selectable by dipswitch

7.1. Panic function mode

Software requirements Fog Cannon™: Software version 4.00 or higher.
Software requirements IPCard™: Software version 1.09 or higher.
Device requirements: This program will run on any type of PROTECT Fog Cannon®.

Dipswitch settings

1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0

Inputs functionality

IN-1	Panic button functionality (normally open)
IN-2	Disable signal (this Disable input allows Panic to work - will not turn off heat), (normally open)

Outputs functionality

OUT-1	Panic release active
OUT-2	No function in this program mode

The Panic function is a special feature allowing two different uses for the same Fog Cannon™ in the same installation:

- It allows normal protection triggered by the alarm system during periods when the alarm system is set
- It allows the use of the Fog Cannon™ as a personal attack protection systemduring the normal day hours.

For the Panic Release function to work, the following conditions must be met:

- **The Disable input on the Fog Cannon™ main board must be inactive**
  - Use the Disable input on the IPCard™ instead since this input will not influence the Panic signal
- **The Fire Alarm input on the Fog Cannon main board must be inactive**
  - The Fire Alarm input IS DESIGNED TO STOP AND BLOCK ALL FOG immediately
  - This is a mandatory function demanded by national and local fire authorities, when used in premises monitored by fire alarm systems, and hence may not and cannot be overruled
  - **If service disable functionality is requested, for servicing attached alarm system, please use the Service button on the IPCard™, or the remote Blocking over network instead. It was designed specifically with this purpose in mind**
- **Dipswitch 9 on the Fog Cannon™ mainboard must be set to ON to enable Panic functionality**

PROTECT A/S is the world's largest supplier and the only producer of fog machines in Scandinavia.
PROTECT™ is represented worldwide in 50 countries.
Learn more on protectglobal.com

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