

AFSS

ARES FIRE
SUPPRESSION SYSTEMS



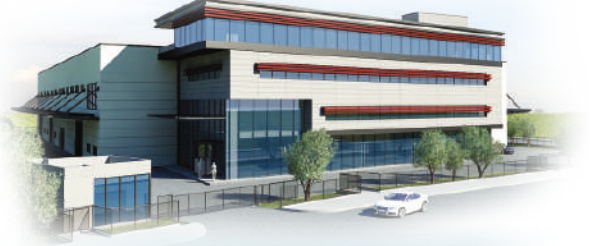
AUSA
National
Partner

www.aresfss.com



• ARES FSS is a Global company that develops and manufactures high-speed detection and suppression systems for protecting human life and other valuable assets. We are located on three different continents with more than six production plants.

• With 156 employees and 80 engineers, our company is dedicated to developing safety and life support systems. Our six plants have a total production area of 110.000 m² and 3 regional offices with engineering and customer support structures. Nero Industries has the capability to finalize a mil-spec product from its own premises with experienced engineering capabilities.



Vision

We know that our products need to be the most reliable parts on a vehicle. In order to do this, we must produce the most technological advanced and safe fire suppression systems available in the market for our partners. This will ensure the safety of the individuals, who are the biggest assets, in the vehicles.

ALICAN OKCUN
CEO

Our Goal

To provide the best life protection systems that the defense industry has to offer, ensuring our clients have confidence of being protected by the best solution in the world. To be the clients first choice because of the reliability of our technology and customer support.



Ares Fire Suppression
System
USA Factory



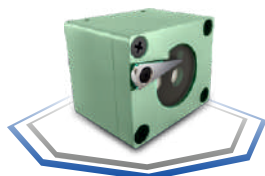
FIRE DETECTION & SUPPRESSION PRODUCTS

DETECTOR PRODUCTS



UV-IR
SENSORS

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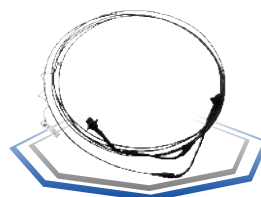
TRIPLE IR (IR3)
SENSORS

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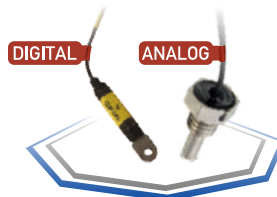
LINEAR HEAT
SENSORS

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CONTINUOUS HEAT
SENSORS

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SPOT HEAT
SENSORS

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CONTROLLER PRODUCTS



ARES IV

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ARES III

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ARES II+

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ARES II / ARES I

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ARES M3

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ARES M2

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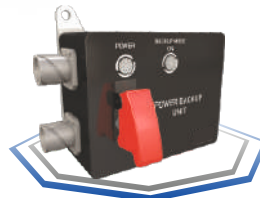
ARES M1

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UV-IR CONTROLLER
DETECTOR

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POWER BACKUP BOX

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MAINTENANCE
SWITCH BOX

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SWITCH BOX

HIGH SPEED HFC-227EA & HFC 236 SUPPRESSION CYLINDERS



CREW FIRE
SUPPRESSION CYLINDER

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ENGINE FIRE
SUPPRESSION CYLINDER

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EXTINGUISHER CYLINDERS



AEROSOL FIRE
EXTINGUISHER
GENERATOR

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HORIZONTAL AFFF LIQUID
FIRE EXTINGUISHER

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During land operations, the most dangerous threats are ATGM's or RPG's. These weapons can destroy a vehicle in seconds. We now have ARES Automatic Fire Suppression Systems that operate 24/7 with smart logic control to provide the fastest and most reliable protection to threats. The UV-IR optical detectors are able to detect fires under three milliseconds and ARES controllers can activate the cylinders under six milliseconds. This allows for the total fire suppression time to be 250 milliseconds.

ARES systems are able to suppress explosions, extinguish Molotov cocktails, and put out tire fires instantly when the vehicle is under threat. All ARES System solutions are able to suppress explosions caused by RPG's, other anti tank missiles (ATM), or any other type of heavy armor piercing ammunitions. Generally, the armor piercing ammunitions ignite the ammunition or hydrocarbon fuels that are inside the vehicle, creating inevitable destruction for the human lives and valuable assets.



SYSTEM ADVANTAGES

Pyrotechnics

The proven pyrotechnics satisfies the maximum confidence at battlefield level for activation even with very low battery level or cold temperatures.

Weight

All equipments are engineered for lower weight. All Extinguisher Cylinders are produced from aluminum materials to advance 40% mass reducing compared to conventional systems.

	PYROTECHNIC DEVICES	SOLENOID
ENERGY POTENTIAL	✓	
SPEED OF INITIATION	✓	
RELIABILITY	✓	✓
SMALL SIZE	✓	
LOW WEIGHT	✓	
LOW COMPLEXITY	✓	
LONG-TERM STORAGE	✓	✓
HIGH/LOW TEMPERATURE	✓	✓
REPETITIVE OPERATION		✓
SHOCK	Comparable	Comparable
COST	Comparable	Comparable

Speed of Detection


Triple IR and UV-IR detectors satisfy the Military Standards of MIL-PRF 62546C and STANAG 4317 false alarm rates which also detection time of 1-3 milliseconds which enables faster suppression time.


Dual Detection

All Triple IR and UV-IR detectors have spot heat sensors which can overcome when fire are started to increase slowly with smoke even if there is no optical detection capability.

HUMAN SAFETY



Explosion detection and fire suppression systems are used by the most developed army and countries to reduce the risk of fire casualties and priceless losses 

 **Ares FSS** we always put human safety top priority. During the suppression of fire or explosion we always strive to make no harm to any human. The gas concentration level and speed of gas dispersion and location of cylinders are always analyzed to ensure the fastest fire suppression time with no harm to humans.

ARES systems is certified with SIL Level 3, which is one of the highest safety level in the vehicle fire suppression market.

CERTIFIED, REGISTERED, INSPECTED ACCORDING TO



FIRE SUPPRESSION SYSTEM CONTROLLER SELECTION

Controller Unit	Zones	Stanag 4317	Max Cylinder	Max Detector	Thermocouple	CANbus	Shutdown Timer
Ares I Controller	1 - 2	√	4	4			
Ares II Controller	1 - 4	√	6	6	2		
Ares II+ Controller	1 - 4	√	12	6	2	√	√
Ares III Controller	1 - 6	√	12	12	4	√	√
Ares IV Controller*	1 - 6		12	12	4	√	√
Ares Manual Controller	1 - 4		4	0			
Ares UV IR Controller Detector	1 - 2	√	4	4 (+1)**	2	√	√
Ares M Controller	1 - 4		4		4	√	√

*ARES IV Controller is only for MIL-PRF 62546C Standart application with small and big fire

** ARES Detector controller is also an UV-IR detector and additional 4 detectors can be connected

BEST PRACTICE SELECTION FOR VEHICLE SYSTEMS

VEHICLE BODY EXTINGUISHER

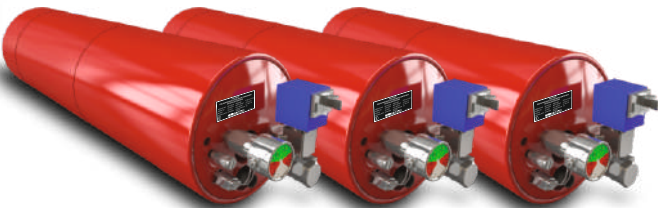
Vehicle body extinguishers are a unique design for best practises gained in the Middle East. The new generation vehicle fleets have the ability to conduct riot control operations, wars, and they might be used as a defence mechanism with their remote control weapon stations Militaries do not want to have different capability of vehicles to engage different scenarios therefore body extinguishers are vital for riot control and wars.



Ares III Controller Unit



Body Nozzle



Body Extinguisher Cylinder

BEST PRACTICE SELECTION FOR VEHICLE SYSTEMS

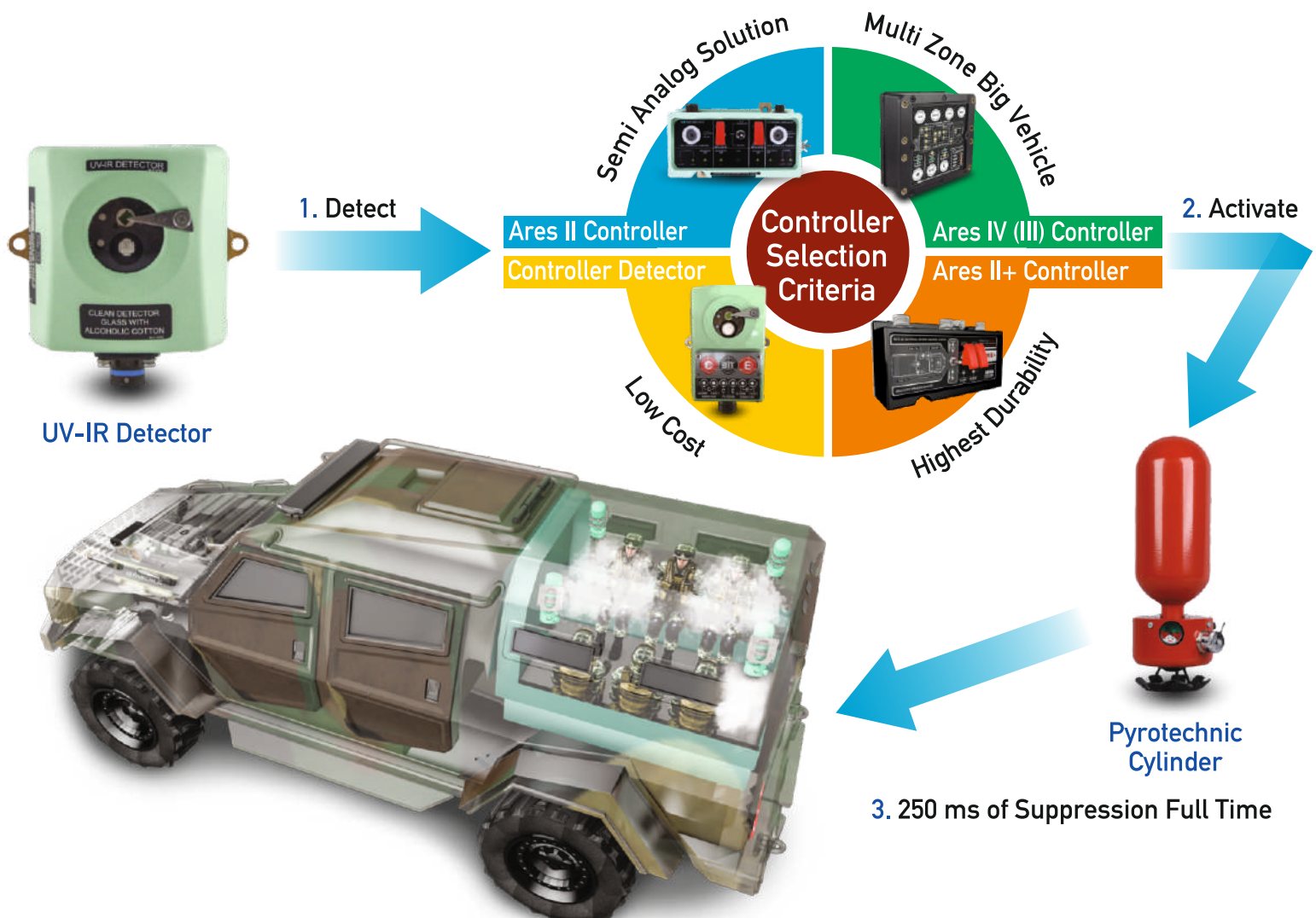
CREW FIRE SUPPRESSION

For Single Shot Crew Fire Suppression

- 2 Cylinders up to 9 m³
- 3 Cylinders up to 12 m³
- 4 cylinders up to 16 m³

For Double Shot Operation Systems, the number of cylinders shall be doubled to perform the best possible suppression system with the highest reliability.

During the activation of cylinders, due to conditions cylinders may not be able to activate well they can be clogged or unplugged but the system is automatically checking for the available cylinders to perform the best suppression at once. When the fire suppression cylinders are activated the cylinders cannot be used again until they are refilled. When the cylinders are used once, the vehicle can not be protected against RPG's anymore, Anti Tank Guided Missile (ATGM), or fire explosions. Therefore the vehicle cylinders shall be changed at logistics depot or factory to regain the fire suppression ability to overcome this problem. Nero installs the second suppression cylinders for double shot operation capability to lower the necessity of logistics for the vehicle life time.



ENGINE FIRE SUPPRESSION

The new and evolved UV-IR Detectors can function as a spot heat detector or a IR or UV Detector individually. The detector is thermally calibrated to overcome the IR blindness and supported with UV to overcome the false alarm conditions in the engine compartment.

ARES FSS suggests the use of the double shot operated system solutions to maintain the best suppression capability. The automatic system may activate the cylinders when the vehicle is at high speeds and the suppression gas might lose its required concentration level to suppress the fire. In this case, a second cylinder is needed to suppress the fire. When the vehicle is not in danger, the fire can be also suppressed manually.



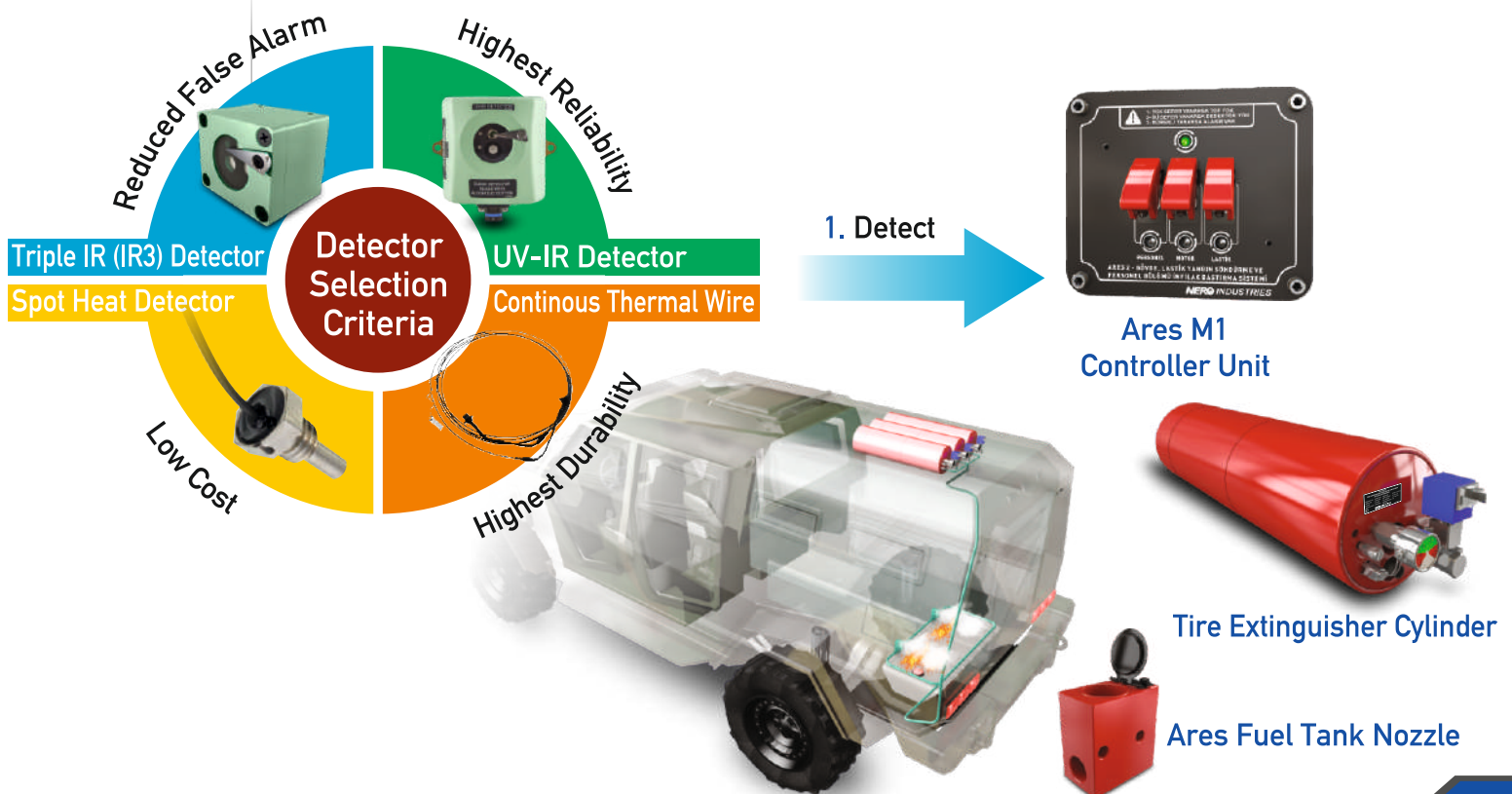
VEHICLE TIRES EXTINGUISHER

It is nearly impossible to extinguish vehicle tire fires without a fire brigade. A military vehicle with high loads and heavy duty operation might catch fire. During the riot control operations, the tires could easily be set on fire by angry mobs. Without the tires the vehicles lose mobility and become easy targets. Tire extinguisher systems are essential to the vehicles overall safety.



FUEL TANK EXTINGUISHER

The new and evolved UV-IR Detectors can function as a spot heat detector, or a IR or UV Detector individually. The detector is thermally calibrated to overcome the IR blindness and supported with UV to overcome the false alarm conditions in the engine compartment.



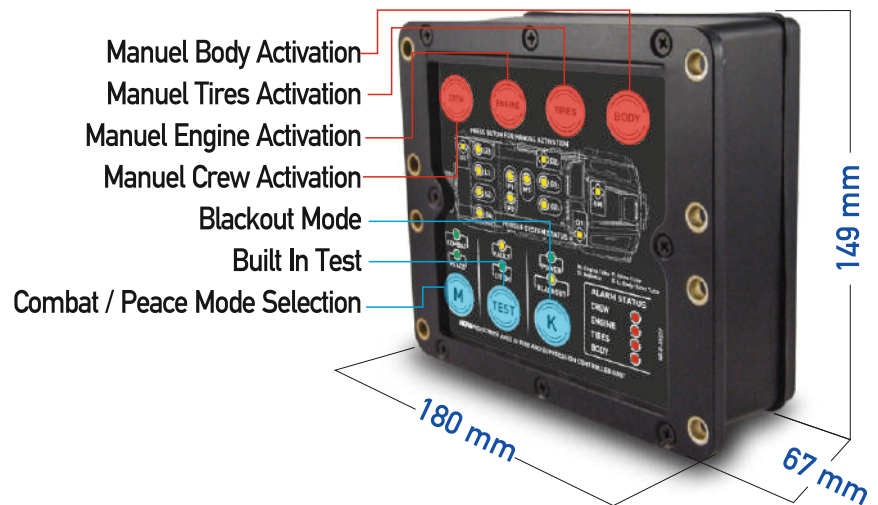
ARES IV CONTROLLER UNIT (MIL PRF 62545)



FEATURES

- High speed response- less than 5 msec
- Alarm logging until next reset
- Automatic and manual Built In Test (BIT)
- Accepts input signals from optical detectors, thermocouples and thermal wire
- CANBUS (J-1939) compatible
- Automatic extinguisher activation
- Integral Direct Manual activation
- Accepts external manual activation inputs
- MTBF minimum 120,000 hours
- Combat / Peace Mode
- Manual activation and output signal for every compartment
- Fault led indication for every cylinder and detectors on vehicle diagram
- Alarm LEDs for every compartment
- Power Supply : 24 VDC nominal (18-32V)
- Power Consumption : 450 mA @ 24 VDC
- Weight : 1900 gr \pm 290 gr (Depends on Config)
- Dimensions WxDxL: 180 \pm 5 x 67 \pm 2 x 149 \pm 5 mm
- MIL-STD-810G ,MIL-STD-461F, MIL-STD-1275E
- UL, CE GOST-R Certification
- IP67 Water and dust ingress protection
- Salt spray test resistance 800 hours

- The 100% Isolated High Level Immunity Multi Compartment Control Box receives detection signals from the engine, crew and other protected compartments and activates the fire extinguishing system.
- DC-DC Galvanically Isolated microprocessor based electronics, enable flexibility to fit the specific system configurations and operating logic. The control panel includes activation and system test and warning signals, manual activation, automatic activation and system test features. Modern CANBUS serial communication port enables connection to vehicles main control system and can be used for maintenance and trouble-shooting.



- 16 Detector (Programmable function)
- 12 Cylinders (Crew (4) Engine (2) Tires (2) Body (4))
- Double shot features (Crew and Engine)
- Manual buttons provide activation independently from electronic system
- datalog can be done with CANBUS.
- DC/DC Isolation for complete system with special circuitry design
- 5 input:
 - Input 1 : Vehicle ignition switch ('NO' contact, switching either to battery (+))
 - Input 2 : Black out input ('NO' contact, switching either to battery (-))
 - Input 3 : Emergency input ('NO' contact, switching either to battery (-))
 - Input 4 : Configurable digital inputs ('NO' contact, switching either to battery (-))
 - Input 5 : Configurable digital inputs ('NO' contact, switching either to battery (-))
- 4 output (250mA 24V DC):
 - Output 1 : Master warning (250mA @ 24VDC)
 - Output 2 : Crew fire alarm (250mA @ 24VDC)
 - Output 3 : Engine fire alarm (250mA @ 24VDC)
 - Output 4 : Crew fan controller (250mA @ 24VDC)

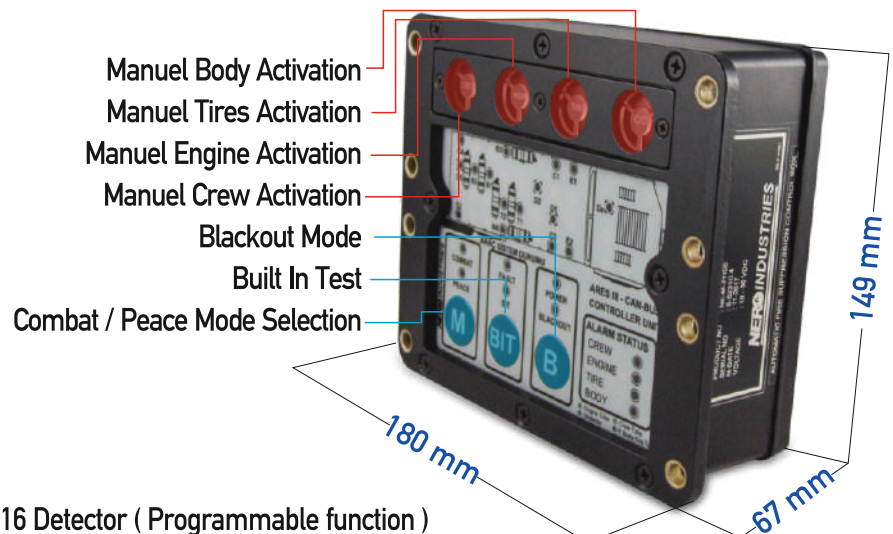
ARES III CONTROLLER UNIT (STANAG 4317)



FEATURES

- High speed response- less than 5 msec
- Alarm logging until next reset
- Automatic and manual Built In Test (BIT)
- Accepts input signals from optical detectors, thermocouples and thermal wire
- CANBUS (J-1939) compatible
- Automatic extinguisher activation
- Integral Direct Manual activation
- Accepts external manual activation inputs
- MTBF minimum 120,000 hours
- Combat / Peace Mode
- Manual activation and output signal for every compartment
- Fault led indication for every cylinder and detectors on vehicle diagram
- Alarm LEDs for every compartment
- Power Supply : 24 VDC nominal (18-32V)
- Power Consumption : 280 mA @ 24 VDC
- Weight : 1900 gr \pm 290 gr (Depends on Config)
- Dimensions WxDxL: 180 \pm 5 x 67 \pm 2 x 149 \pm 5 mm
- MIL-STD-810G, MIL-STD-461F, MIL-STD-1275E
- UL, CE GOST-R Certification
- IP67 Water and dust ingress protection
- Salt spray test resistance 800 hours

- The Multi Compartment Control Box receives detection signals from the engine, crew and other protected compartments and activates the fire extinguishing system.
- Microprocessor based electronics, enable flexibility to fit the specific system configurations and operating logic. The control panel includes indications and warning signals, manual activation, automatic activation, system test features.
- Modern CANBUS serial communication port enables connection to vehicle control system and can be used for maintenance and trouble-shooting.



- 16 Detector (Programmable function)
- 12 Cylinders (Crew (4) Engine (2) Tires (2) Body (4))
- Double shoot features (Crew and Engine)
- Manual buttons provide activation independently from electronic system
- datalog can be done with CANBUS.

5 input

- Input 1 : Vehicle ignition switch ('NO' contact, switching either to battery (+))
- Input 2 : Black out input ('NO' contact, switching either to battery (-))
- Input 3 : Emergency input ('NO' contact, switching either to battery (-))
- Input 4 : Configurable digital inputs ('NO' contact, switching either to battery (-))
- Input 5 : Configurable digital inputs ('NO' contact, switching either to battery (-))

4 output (250mA 24V DC)

- Output 1 : Master warning (250mA @ 24VDC)
- Output 2 : Crew fire alarm (250mA @ 24VDC)
- Output 3 : Engine fire alarm (250mA @ 24VDC)
- Output 4 : Crew fan controller (250mA @ 24VDC)

ARES II+ CONTROLLER UNIT



FEATURES

- Indication and warning signals
- Alarm logging until next reset
- Activates engine, crew, tires and body alarms simultaneously
- High speed response- less than 5 msec
- Automatic and manual Built In Test (BIT)
- 4 crew 2 engine 2 tires 4 body tubes activated
- 6 UV-IR detector and 2 termocouple usable
- Fault led indication for every cylinder and detectors on vehicle diagram
- Accepts input signals from optical detectors, thermocouples and thermal wire
- CANBUS (J-1939) compatible
- Integral Direct Manual activation
- Accepts external manual activation inputs
- MTBF minimum 140,000 hours
- Power Supply : 24 VDC nominal (18-32V)
- Power Consumption : 170 mA @ 24 VDC
- Weight : 1880 gr \pm 200 gr (Depends on Config)
- Dimensions WxDxL: 240,5 \pm 5 x 81 \pm 2 x 153 \pm 5 mm
- MIL-STD-810G ,MIL-STD-461F, MIL-STD-1275E
- UL, CE GOST-R Certification
- IP67 Water and dust ingress protection
- Salt spray test resistance 800 hours

- The Multi Compartment Control Box receives detection signals from the engine, crew and other protected compartments and activates the fire extinguishing system.
- Microprocessor based electronics, enable flexibility to fit the specific system configurations and operating logic. The control panel includes indications and warning signals, manual activation, system test features.
- Modern CANBUS (J-1939) serial communication port enables connection to vehicle control system and can be used for maintenance and trouble-shooting.



Connector J1

Connector 24VDC D38999/24WB98PN	
24V	1
24V	2
GND	3
GND	4
Battery Trig	5
INP1	6

Connector J2

Connector 24VDC D38999/24WB19SA	
Detector Power	A
GND	B
Detector COMM	C-D-E-F
Solenoid	G-K
Pressure	H-J-L-M-N-P
Output 2	R
Input 2	S
CANBUS	T-U-V

Connector J3

Connector 24VDC D38999/24WD19SN	
Detector Power	A
GND	B
Detector COMM	C-D-E-F
Cylinder_Detonator	G-J-L-N-R-T
Cylinder_Pressure	H-K-M-P-S-U
Output	V

8 Detector (programmable function)

12 Cylinders (Crew(4) Engine(2) Tires(2) Body(4))

Double Shoot Features (Crew and Engine)

Manual buttons provide activation independently from electronic system datalog can be done with CANBUS.

2 input

-Input 1 : Vehicle ignition switch ('NO' contact, switching either to battery (+))

-Input 2 : Emergency input ('NO' contact, switching either to battery (-))

2 output (250mA 24V DC)

-Output 1 : Engine Fire Alarm (250mA @ 24VDC)

-Output 2 : Crew Fan Controller (250mA @ 24VDC)

ARES I / II CONTROLLER UNIT



- The Multi Compartment Control Box receives the detection signals from the engine, crew and other protected compartments and activates the fire extinguishing system.
- Microprocessor based electronics, enable flexibility to fit specific system configurations and operating logic. The control panel includes indications and warning signals, manual activation and system test features.

Connector J1

Connector 24VDC
D38999/24WB98PN

24VDC	A-B
GND	C-D
Fan Output	E
Black Out	F

Connector J2

Connector 24VDC
D38999/24WD19SA

Cylinder_detonator	1-A, 2-D
Cylinder GND	1-B, 2-E
Cylinder Pressure	1-C, 2-F

Connector J3

Connector 24VDC
D38999/24WD19SN

24V DC	A
GND	B
COMM	C
Cylinder Out	1-A, 2-D
Cylinder GND	1-B, 2-E
Cylinder Pressure	1-C, 2-F

Connector J1

Connector 24VDC
D38999/24WB98PN

24VDC	A-C
GND	B
Output	D

Connector J2

Connector 24VDC
D38999/24WD19SA

Detector Power	A
Detector GND	B
Alarm	C
Detonator	H-L
GND	J-M
Pressure	K-N-R-S-V-U
Thermocouple	D-F
Thermocouple GND	E-G
Solenoid	T-P

FEATURES

- Indication and warning signals
- Overheat indication for engine compartment
- Activates engine and crew compartments
- High speed response- less than 6 msec
- Automatic and manual Built In Test (BIT)
- Accepts input signals from optical detectors, thermocouples and thermal wire
- Stanag 4317 compatible
- Integral Direct Manual activation
- Accepts external manual activation inputs
- MTBF minimum 140,000 hours
- Power Supply : 24 VDC nominal (18-32V)
- Power Consumption : 170 mA @ 24 VDC
- Weight : 1880 gr \pm 200 gr (Depends on Config)
- Dimensions WxDxL: 240,5 \pm 5 x 81 \pm 2 x 153 \pm 5 mm
- MIL-STD-810G ,MIL-STD-461F, MIL-STD-1275E
- UL, CE GOST-R Certification
- IP67 Water and dust ingress protection
- Salt spray test resistance 800 hours

- 8 Detector (programmable function)
- 12 Cylinders (Crew(4) Engine(2) Tires(2) Body(4))
- Double Shoot Features (Crew and Engine)
- Manual buttons provide activation independently from electronic system
- datalog can be done with Stanag 4317

3 input

- Input 1 : Vehicle ignition switch ('NO' contact, switching either to battery (+))
- Input 2 : Black Out input ('NO' contact, switching either to battery (-))
- Input 3 : Emergency input ('NO' contact, switching either to battery (-))

2 output (250mA 24V DC)

- Output 1 : Engine Fire Alarm (250mA @ 24VDC)
- Output 2 : Crew Fan Controller (250mA @ 24VDC)

ARES M3 CONTROLLER UNIT



- The Multi Compartment Control Box receives detection signals from the engine protected compartments and activates the fire extinguishing system.
- Microprocessor based electronics, enable flexibility to fit specific system configurations and operating logic. The control panel includes indications and warning signals, manual activation, system test features, modern CANBUS (J1939) serial communication port enables connection to vehicle control system and can be used for maintenance and trouble-shooting.

FEATURES

- Indication and warning signals
- Overheat indication for engine compartment
- Activates engine compartment
- High speed response
- Automatic extinguisher activation
- Accepts input signals from optical detectors, thermocouples and thermal wire
- CANBUS (J-1939) compatible
- Integral Direct Manual activation
- Accepts external manual activation inputs
- MTBF minimum 140,000 hours
- Power Supply : 24 VDC nominal (18-32V)
- Power Consumption : 75 mA @ 24 VDC
- Operating Temperature : -40°C to +71°C
- Weight : 620 gr \pm 50 gr (Depends on Config)
- Dimensions WxDxL: 125 \pm 5 x 66 \pm 2 x 80 \pm 5 mm
- MIL-STD-810G, MIL-STD-461F, MIL-STD-1275E
- UL, CE GOST-R Certification
- IP67 Water and dust ingress protection
- Salt spray test resistance 800 hours



Connector J1

Connector 24VDC	D38999/24WD98PN
24VDC	A
GND	B
24V From Main Power Switch	D
Power Signal	E

Connector J2

Connector 24VDC	D38999/24WD19SN
Cylinder_detonator	G-L-N-J-R
Cylinder_GND	H-M-P-K-S
Therma Couple GND	F
Therma Couple Sense	A-B-C-D-E
Spare	D
CANBUS	U-T

5 Detector (programmable function)

4 Cylinders (Engine(4))

Manual buttons provide activation independently from the electronic system datalog can be done with CANBUS.

2 input

-Input 1 : Vehicle ignition switch ('NO' contact, switching either to battery (+))

-Input 2 : Black Out input ('NO' contact, switching either to battery (-))

2 output (250mA 24V DC)

-Output 1 : Engine Fire Alarm (250mA @ 24VDC)

-Output 2 : Configurable digital inputs ('NO' contact, switching either to battery (-))

UV-IR CONTROLLER DETECTOR (STANAG 4317)



FEATURES

- UV/IR Dual-Sensor
- Sensitivity to slow growth fires
- External detectors
- Monitor and activation of up to two compartments
- Immunity to false alarm
- Small / large fire discrimination optional
- Automatic and manual Built-In Test (BIT)
- Indication and warning signals
- Overheat indication for engine compartment
- Activates engine and crew compartments
- High speed response- less than 3 msec
- Automatic extinguisher activation
- Accepts input signal from up to two
- CANBUS (J-1939) compatible
- Accepts external manual activation inputs
- MTBF minimum 150,000 hours
- Power Supply : 24 VDC nominal (18-32V)
- Power Consumption : 65 mA @ 24 VDC
- Operating Temperature : -55°C to +71°C
- Weight : 700 gr \pm 50 gr (Depends on Config)
- Dimensions WxDxL: 96 \pm 0.2 x 58.3 \pm 0.2 x 137.4 \pm 0.5 mm
- MIL-STD-810G, MIL-STD-461F, MIL-STD-1275E
- UL, CE GOST-R Certification
- IP67 Water and dust ingress protection

12.5x12.5 cm Pan Fire 90 cm

30x30 cm Pan Fire 250 cm

50x50 cm Pan Fire 270 cm

- The UV-IR Controller Detector uses advanced technology. It is the most prominent model that can be installed in military tactical and combat vehicles.
- The Detector controller monitors up to 2 compartments which eliminates the need for a separate control box.
- The unit's micro controller ensures reliability and adjustment features to the specific system. Control, set up, maintenance and diagnostics could be applied as a CANBUS (J1939) Option.
- The Detector Controller governs the crew and engine system compartment system components, eliminates the need for a separate control box, reduces cabling, and is cost effective without degrading performance and reliability. This unit is ideal for less than three compartments.



COLOR CODE

RAL3000

RAL6019

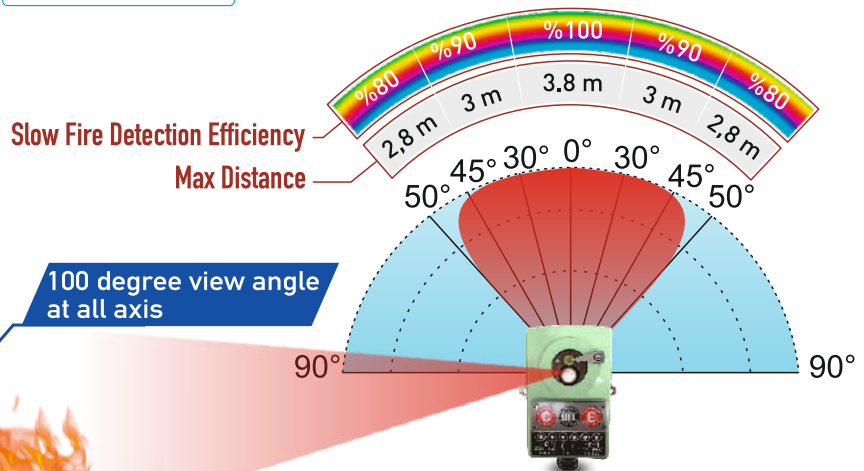
FS 33245

RAL 9010

Output Pin Diagram

Connector 24VDC	D38999/24WC35SN
24VDC	1
Ground	2
Cylinder_detonator	3-5-7-9
Cylinder_Pressure	4-6-8-10
Detector Power	11

Output	12-13
Input	14-15
CANBUS	16-17-18
Detector COMM	19-20-21-22



For Explosion Detection Range Please Contact with Us *

ARES M1 CONTROLLER UNIT

FEATURES

- Indication and warning signals
- Activates up to three cylinders
- Operating Voltage 18-32 VDC
- Operating Temperature : -40°C to +71°C
- Weight : 620 ± 50g
- Dimensions WxDxL: 155±0,2x130±0,2x60±0,5 mm
- IP67 Water and dust ingress protection
- MIL-STD-810G ,MIL-STD-461F, MIL-STD-1275E
- UL, CE GOST-R Certification
- Salt spray test resistance 800 hours



2 input:

- Input 1 : Vehicle ignition switch ('NO' contact, switching either to battery (+))
- Input 2 : Black out input ('NO' contact, switching either to battery (-))"

2 output (250mA 24V DC):

- Output 1 : Engine fire alarm (250mA @ 28VDC)
- Output 2 : Engine fan controller (250mA @ 28VDC)

ARES M2 CONTROLLER UNIT

FEATURES

- Indication and warning signals
- Activates up to three cylinders
- Operating Voltage 18-32 VDC
- Operating Temperature : -40°C to +71°C
- Weight : 620 ± 50g
- Dimensions WxDxL: 155±0,2x130±0,2x130±0,5 mm
- IP67 Water and dust ingress protection
- MIL-STD-810G ,MIL-STD-461F, MIL-STD-1275E
- UL, CE GOST-R Certification
- Salt spray test resistance 800 hours



2 input:

- Input 1 : Vehicle ignition switch ('NO' contact, switching either to battery (+))
- Input 2 : Black out input ('NO' contact, switching either to battery (-))"

2 output (250mA 24V DC):

- Output 1 : Engine fire alarm (250mA @ 28VDC)
- Output 2 : Engine fan controller (250mA @ 28VDC)

EMERGENCY SWITCH

- The Emergency switch enables remote manual activation to the system extinguishers. The emergency switch can activate up to three extinguishers in the crew compartment and the engine compartment extinguishers.
- Manual activation can be performed even when the main controller is disconnected from the system. The remote manual activation switch is directly connected to batteries to enable immediate operation whenever needed.

FEATURES

- Indication and warning signals
- Activates up to three cylinders
- MTBF minimum 100,000 hours
- Operating Voltage 18-32 VDC
- Operating Temperature : -40°C to +70°C
- Weight : 490 ± 50g
- Dimensions WxDxL: 77,8±5 x 77,8±2 x 75±5 mm
- IP67 Water and dust ingress protection
- MIL-STD-810G ,MIL-STD-461F, MIL-STD-1275E
- UL, CE GOST-R Certification
- Salt spray test resistance 800 hours



COLOR CODE

RAL3000	RAL6019
RAL 9010	FS 33245

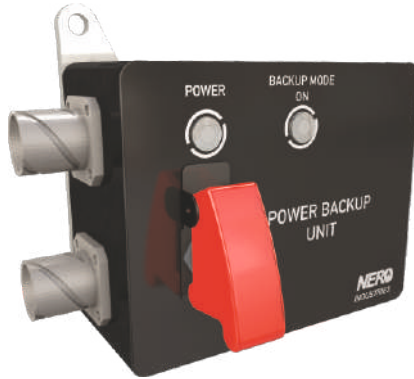
Optimal CARC Color Paint

CARC is easily deodorized after exposure to liquid chemical agents

Output Pin Diagram

Connector 24VDC	MS 3102 14S-6P
VIN 18-32VDC	A
RTN	B
Reserve	C

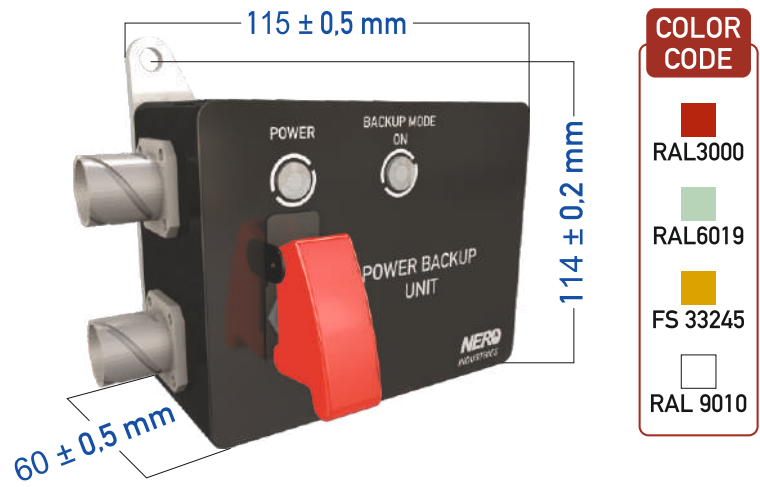
POWER BACKUP BOX



- Power Backup Box is a compact redundancy power box including super capacitors to supply enough power to the fire suppression system for 2-8 hours after the vehicles main power is closed.
- The unit includes a maintenance toggle switch that enables to shut off the power supply to the system for maintenance purposes, such as jump starting, welding, changing the system components in the vehicle.

FEATURES

- 10 min to 3 hour power supply after vehicle main power shut-down acc to system design
- Power back-up in emergency situations
- MTBF minimum 100,000 hours
- Power Supply: 150 mA for at least 2 Hours of operation at room temperature after battery power is disconnected
- Operating Temperature: -40°C to $+71^{\circ}\text{C}$
- Operating Voltage: 18-32 VDC
- Power Consumption 15 mA @24VDC
- Weight : $620 \pm 50\text{g}$
- Dimensions WxDxL: $115 \pm 0,5 \times 60 \pm 0,5 \times 114 \pm 0,2 \text{ mm}$
- Salt spray test resistance 800 hours
- IP67 water and dust ingress protection
- MIL-STD-810G ,MIL-STD-461F, MIL-STD-1275E
- UL, CE GOST-R Certification



Connector J1

Connector 24VDC	
D38999/24WB98PN	
24VDC	A
RTN	B

Connector J2

Connector 24VDC	
D38999/24WD19SA	
24VDC	A
RTN	B

MAINTENANCE SWITCH BOX

The unit includes a maintenance toggle switch that enables to shut off the power supply to the system for maintenance purposes, such as jump starting, welding, changing the system components in the vehicle.



Connector J1

Connector 24VDC	D38999/24WB98PN
24VDC	A
GND	B

FEATURES

- Operating Temperature: -40°C to $+71^{\circ}\text{C}$
- Storage Temperature: -40°C to $+71^{\circ}\text{C}$
- Operating Voltage: 16-32 VDC
- Indication and warning signals
- MTBF minimum 250,000 hours
- Salt spray test resistance 800 hours
- IP67 water and dust ingress protection
- MIL-STD-810G ,MIL-STD-461F, MIL-STD-1275E
- UL, CE GOST-R Certification

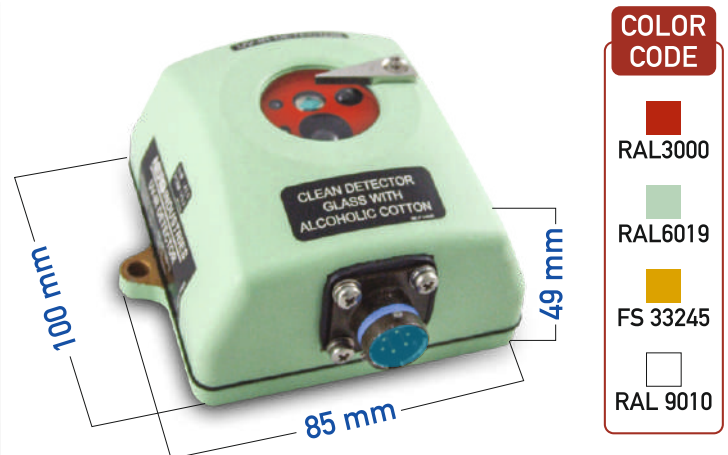
UV-IR OPTICAL DETECTOR (MIL-PRF 62546C)



- The Optical UV/IR Detector has a high speed response and can be installed in the military, tactical and combat vehicles.
- The micro controller based detector, enables the sensitive adjustment reliability and other specifics to the application.
- With added compatibility of the Option, a serial communication port provides outputs to the main controller units of the vehicle.
- Simultaneous radiation detection in the UV and IR ranges of the electromagnetic spectrum (which are characteristic of fire) will come out from the detector as an output signal.
- All other types of radiation sources, that are not identified as fire, will be accepted as a false alarm and not be detected.

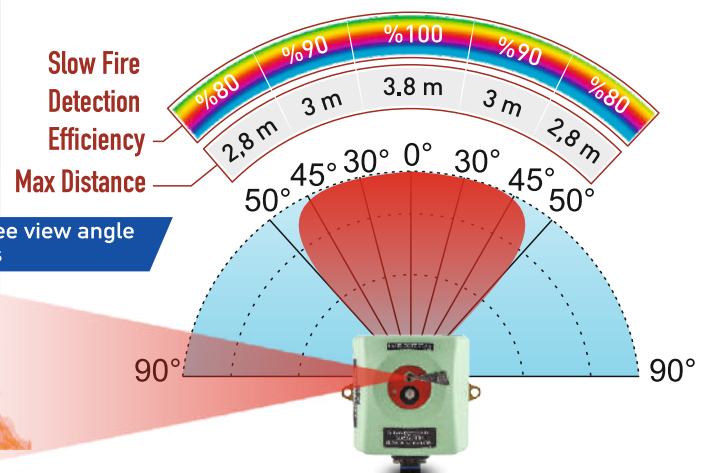
FEATURES

- UV/IR Dual-Sensor
- Thermal Sensor
- High Speed Response - less than 3 msec
- Advanced Software Algorithm
- Thermal Self Calibration
- 140°C Blind Detection
- Senses even slowly growing fire
- Automatic and Manual Built-In Test (BIT)
- Mean Time Between Failure (MTBF) Minimum 150,000 Hours
- Big/Small Fire Alarm Signal Discrimination
- Vibration and Shock resistance
- Salt spray test resistance 800 hours
- 10 years shelf life
- Power Supply : 24 VDC nominal (18-32V)
- Power Consumption : 50 mA @ 24 VDC
- Storage Temperature : -55°C to +150°C
- Operation Temperature : -51°C to +125°C
- Weight : 480 g ± 50g
- Dimensions WxDxL: 85±5 x 49±2 x 100±5 mm
- IP67 Water and dust ingress protection
- MIL-STD 461G Compatible - MIL-STD 810G Compatible
- MIL-STD 1275E Compatible
- UL, CE GOST-R Certification



Output Pin Diagram

Connector 24WDC	MS3474W10-6P
Power	A
GND	B
Detector COMM	C



12.5x12.5 cm Pan Fire 90 cm

30x30 cm Pan Fire 250 cm

50x50 cm Pan Fire 270 cm

For Explosion Detection Range Please Contact with Us *

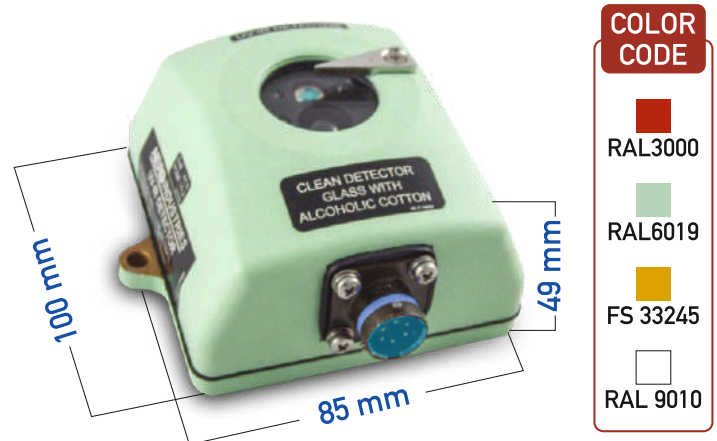
UV-IR OPTICAL DETECTOR (STANAG 4317)



- The Optical UV/IR Detector has a high speed response and can be installed in the military, tactical and combat vehicles.
- The micro controller based detector, enables the sensitive adjustment reliability and other specifics to the application.
- With added compatibility of CANBUS (J1939) Option, a serial communication port provides outputs the main controller units of the vehicle.
- Simultaneous radiation detection in the UV and IR ranges of the electromagnetic spectrum (which are characteristic of fire) will come out from the detector as an output signal.
- All other of radiation sources, that are not identified as fire, will be accepted as a false alarm and not be detected.

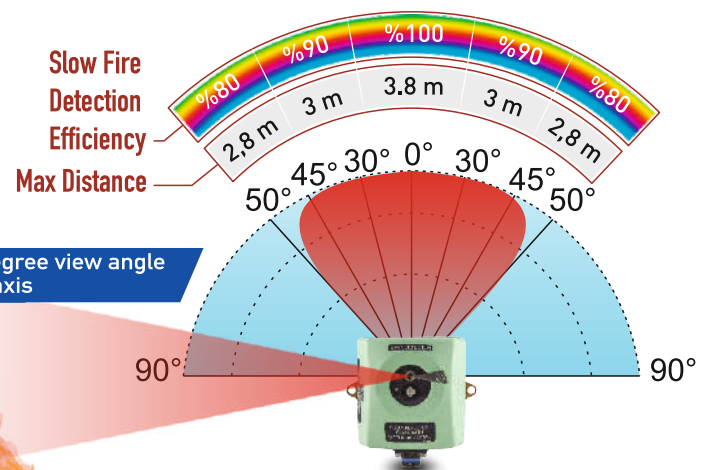
FEATURES

- UV/IR Dual-Sensor
- High Speed Response - less than 3 msec
- Advanced Software Algorithm
- Senses even slowly growing fire
- 140°C Blind Detection
- Immunity to False Alarm according to STANAG 4317
- Discrimination - optional
- Automatic and Manual Built-In Test (BIT)
- CANBUS (J1939) Option
- MTBF Minimum 150,000 Hours
- Large/Small Fire Alarm Signal Discrimination
- Vibration and Shock resistance
- Salt spray test resistance 800 hours
- 10 years shelf life
- Power Supply : 24 VDC nominal (18-32V)
- Power Consumption : 50 mA @ 24 VDC
- Storage Temperature : -55°C to +150°C
- Operation Temperature : -51°C to +125°C
- Weight : 480 g ± 50g
- Dimensions WxDxL: 85±5 x 49±2 x 100±5 mm
- IP67 Water and dust ingress protection
- MIL-STD 461G Certificated - MIL-STD 810G Certificated
- MIL-STD 1275E Certificated - UL, CE GOST-R Certification



Output Pin Diagram

Connector 24WDC	MS3474W10-6P
Power	A
GND	B
Detector COMM	C



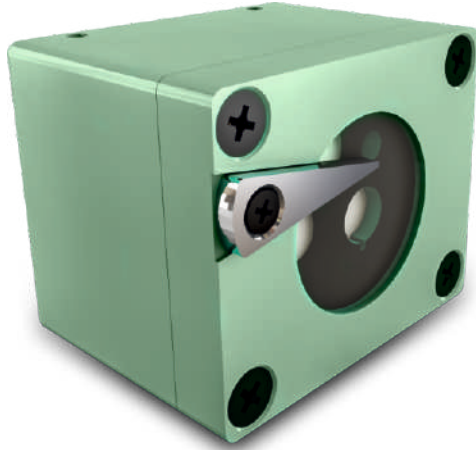
12.5x12.5 cm Pan Fire 90 cm

30x30 cm Pan Fire 250 cm

50x50 cm Pan Fire 270 cm

* For Explosion Detection Range Please Contact with Us

TRIPLE IR (IR3) OPTICAL DETECTOR (MIL-PRF 62546C)



- Triple IR detector with high speed response can be installed in military tactical and combat vehicles.
- The micro controller based detector, enables the sensitive adjustment reliability and other specifics to the application.
- This detector is mainly designed to be used in the engine compartments of military vehicles and for the fire detection of the vehicle exteriors.
- With compatibility of the Option, a serial communication port provides outputs instant the main controller unit of vehicle.
- Simultaneous detection of radiation in the IR ranges of the electromagnetic spectrum (which are characteristic of fire) will

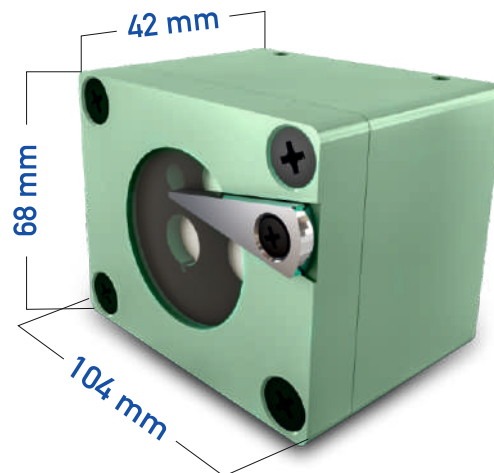
FEATURES

- 3 IR wave lengths
- Response time - less than 3 sec
- Sensitivity to slow growth fires
- Immunity to false alarm
- Automatic and manual Built-In Test (BIT)
- MTBF Minimum 150,000 Hours
- Large/Small Fire Alarm Signal Discrimination
- Vibration and Shock resistance
- Salt spray test resistance 800 hours
- 10 years shelf life
- Power Supply : 24 VDC nominal (18-32V)
- Power Consumption : 50 mA @ 24 VDC
- Storage temperature : -55°C to +125°C
- Operation temperature : -51°C to +125°C
- Weight : 280 g ± 20g
- Dimensions WxDxL: 104±5 x 42±2x 68±5 mm
- IP67 Water and dust ingress protection
- MIL-STD 461G - MIL-STD 810G Compatible
- MIL-STD 1275E Certified
- UL, CE GOST-R Certification

12.5x12.5 cm Pan Fire 90 cm

30x30 cm Pan Fire 250 cm

50x50 cm Pan Fire 270 cm



COLOR CODE

- RAL3000
- RAL6019
- FS 33245
- RAL 9010

Output Pin Diagram (optionally1)

24VDC	A
GND	B
Large fire signal out	C
Small fire signal out	D
Alarm Signal	E

Output Pin Diagram (optionally2)

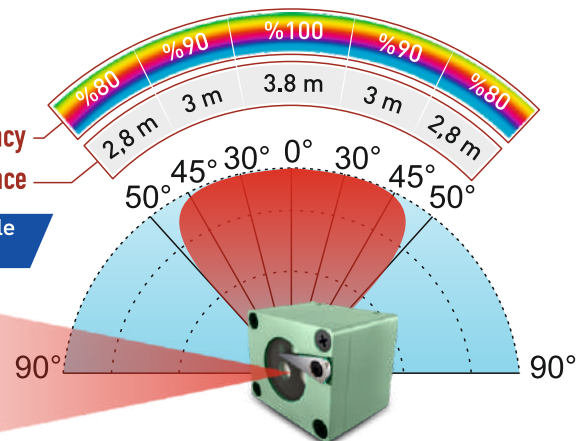
24VDC	A
GND	B
Large fire signal out	C
CANBUS	D-E-F

Slow Fire

Detection Efficiency

Max Distance

100 degree view angle at all axis



For Explosion Detection Range Please Contact with Us *

SPOT HEAT DETECTOR



- Nero Spot Heat Detector is the latest model being installed in tactical and armored vehicles.
- Heat detectors are used in confined areas for detection of fires around engine part of the vehicle.
- The Spot Heat Detector is a thermistor type, enabling temperature adjustment response by the controller part.

FEATURES

- Thermistor Type
- Temperature Set-up by the Controller
- MTBF Minimum 200,000 Hours
- Humidity: Up to 95%
- Easy installation
- Liability to Military Standarts
- Detection Temperature Range: Between $+180^{\circ}\text{C}$ to $+800^{\circ}\text{C}$
- Storage Temperature: Between -45°C to $+180^{\circ}\text{C}$
- Power Consumption: During Activation $5\mu\text{A}$
- IP67 Water and dust ingress protection
- MIL-STD-810G Compatible
- MIL-STD-1184 Compatible
- MIL-STD-461F CE102, CS101, CS114, CS115, CS116 Compatible
- MIL-STD-461F RE102 and RS103 Compatible

ELECTRONIC SPOT HEAT



- Electronic spot heat with Linear Active Thermistor Integrated Circuit (IC) comprise a family of analog temperature sensors that convert temperature to analog voltage.
- Low Cost Low Power Sensor feature enables preset spot heat detection at harsh engine and dirty environments.
- In addition, this electronic spot heat is immune to the effects of parasitic capacitance and can drive large capacitive loads.

FEATURES

- High Temperature : -40°C to $+150^{\circ}\text{C}$
- Operating Voltage : $+16$ to $+32\text{V}$
- Liability to military standarts
- Operating Temperature Range: -55°C to $+150^{\circ}\text{C}$
- Storage Temperature Range : -55°C to $+150^{\circ}\text{C}$
- IP67 Water and dust ingress protection
- MIL-STD 1275E Certified - MIL-STD 810G Certified
- MIL-STD 461G Certified - MIL-STD-1275 compatible
- UL, CE GOST-R Certification



Connector

Power	2
GND	1
Signal	3

LINEAR HEAT SENSORS (SUT-W)



- Continuous Thermal Wire is used in armored vehicles.
- By detecting any sudden increase of the temperature, it activates the fire suppression system to prevent engine damages.
- With easy installation and simple running logic, ensures to activation of the engine compartment tubes, by triggering signal to the control box.
- Continuous thermal wires are used at low budget projects to enable reliable protection with single use acid resistant wire configuration. After each fire detection wires at the engine must be replaced.

FEATURES

- Single Use Preset Temperature Level Sensor
- Wide detection coverage throughout the protected compartment
- High Reliability
- Rigid Design
- Cable Diameter 6 mm
- Bend Radius : 150 mm
- Operating Temperature -55°C to +170°C
- Storage Temperature -55°C to +170°C
- MTBF Minimum 200,000 Hours
- Length -2m to 40 meters
- Preset Alarm Levels : 120 -150 -170 C

CONTINUOUS HEAT SENSOR (INCOCT-W)



- Ares INCOCT Wire enables the maximum protection with complete coverage of the engine or harsh environments in the vehicle.
- The wire can be used during the complete life time of the vehicle without any replacement needed. Thanks to inconel coating and reliable technology it very sensitive to even low match fires.
- The detector wires are completely inside the inconel coating satisfying the premium emi emc and environmental protection with nearly 0 false alarm rates.
- The INCOCT Wire can resist temperatures up to 800°C. No maintenance or calibration required before or after installation.

FEATURES

- Self Restoring (returns to normal after excursions up to 870°C)
- Survival range to 870°C
- K-Type TC components
- Flexible
- Chemically Resistant
- Grounded and armoured to resist electronic interference
- The wire can continue to measure even cut into pieces.
- Operating and Storage Temperature : -55°C to +800°C
- Thickness : 6 mm
- Coating Material: Inconel Cover
- Measurement Type : K type Thermocouple
- Connection : A: Thermocouple 1
- B: Thermocouple 2 - C : Wire Shield
- MIL-STD 810G Tested
- MIL-STD 461G Tested
- MIL-STD 1275E Tested

PYROTECHNIC CYLINDERS (CREW - ENGINE)



- The Extinguisher is specifically designed for Armoured Vehicle Explosion Suppression Systems. The pyrotechnic cylinders are being used to satisfy less than 250 milliseconds of suppression time.
- The extinguisher contains environmental friendly fire suppression agent HFC227EA. The specific design of the cylinder valve enables the rapid valve opening. The agent is dispersed in the engine compartment via piping and nozzles.
- Cylinders are available in various capacities, compatible with either UL, CE, GOST-R standards, include safety devices such as safety relief valve.
- Pyrotechnical Cylinders have advantage being used at even low battery conditions to satisfy the maximum operation reliability.

FEATURES

- High speed response-less than 7 msec
- Visual pressure gauge
- Homogenous 360° agent dispersion
- Fast agent release and distribution
- Pyrotechnical activation
- Harmless to human health
- Refillable with field filling kit
- MTBF minimum 250,000 hours
- Extinguisher Agent : HFC227EA
- Breathing Assistant : Sodium bicarbonate (5% of total extinguishing agent weight).
- Cylinders Capacity : Various sizes between 3 to 6 kg
- Super pressurization : Dry Nitrogen,
- Cylinder Nominal Pressure : 42 Bar
- Operating Temperature : -55°C to +71°C
- Storage Temperature : -55°C to +71°C
- Humidity : Up to 95%
- Weight : 6 kg to 18 kg
- HFC227ea has no adverse effect below %10 concentration level to humans
- Shock and Vibration Tested
- IP67 Water and dust ingress protection
- MIL-STD-810G, MIL-STD-461F, MIL-STD-1275E
- UL, CE GOST-R Certification

EXTINGUISHER SELECTION



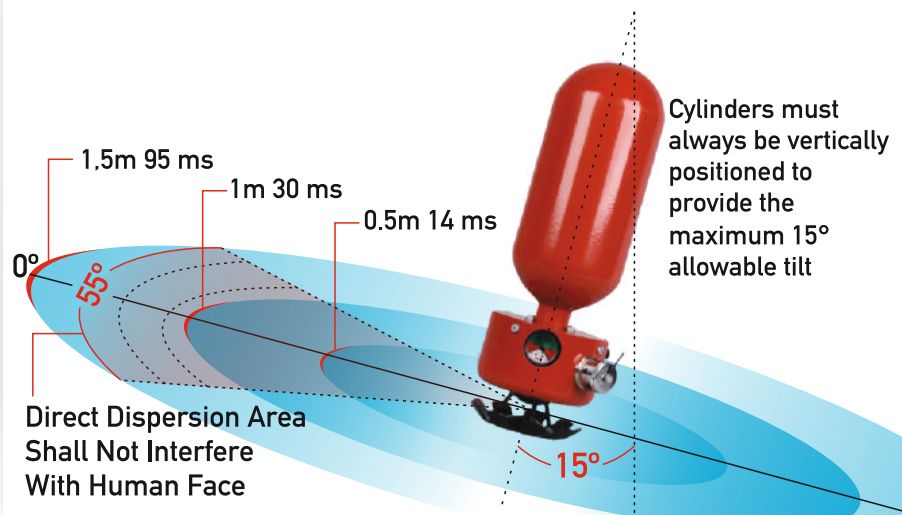
EXTINGUISHER CODES

DS - 3R - C - A

- A** ALUMINUM
- S** STEEL
- C** CREW
- E** ENGINE
- 1** 1.5 LITERS
- 21** 2.0 LITERS TYPE 1
- 22** 2.0 LITERS TYPE 2
- 3** 3.4 LITERS
- 4** 4.5 LITERS
- 6** 6 LITERS
- DS** DOUBLE SHOT
- SS** SINGLE SHOT

COLOR CODE

- RAL3000
- RAL6019
- FS 33245
- RAL 9010



HORIZONTAL CYLINDER (BODY - TIRES - FUEL TANK)



- The Extinguisher is specifically designed for Armored Vehicle Fire Suppression Systems. It is used to extinguish the fire on the body and tires of the vehicle.
- The extinguisher contains environmental friendly fire suppression agent AFFF. The special design of the cylinders valve enables rapid valve opening. The agent is dispersed at the piping and nozzles of vehicle.
- Cylinders are available in various capacities, conform to either UL, CE, GOST-R standards, include safety devices such as safety relief valve.

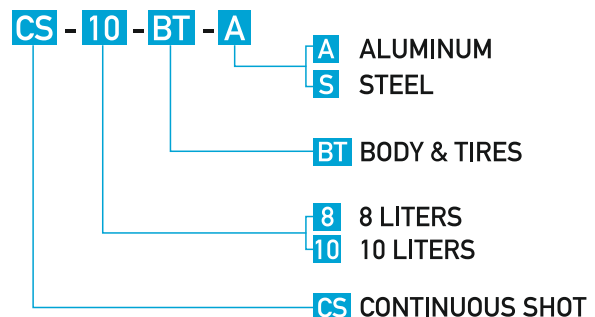
FEATURES

- High speed response-less than 10 msec
- Visual pressure gauge
- Fast agent release and distribution
- Solenoid activation
- Harmless to human health
- Refillable with field filling kit
- MTBF minimum 250,000 hours
- Extinguisher Agent : Liquid AFFF(Biological)
- Cylinders Capacity : Various sizes between 8 to 10 kg
- Super pressurization : Dry Nitrogen.
- Cylinder Nominal Pressure : 45-100 Bar
- Operating Temperature : -32°C to +71°C
- Storage Temperature : -32°C to +71°C
- Humidity : Up to 95%
- Weight : 24-30 kg for 8-10 kg capacity
- Main Battle Tank Gun Fire Shock Tested
- IP67 Water and dust ingress protection
- MIL-STD-810G, MIL-STD-461F, MIL-STD-1275E
- UL, CE GOST-R Certification

EXTINGUISHER SELECTION



EXTINGUISHER CODES



COLOR CODE

 RAL3000
  RAL6019
  FS 33245
  RAL 9010

Optimal CARC Color Paint

CARC is easily deodorized after exposure to liquid chemical agents

AEROSOL FIRE EXTINGUISHER GENERATOR



- ARES FSS, AFEG-200 Aerosol Fire Extinguisher Generator is an environmental friendly Powdered Aerosol (SFE), listed on the EPA Halon Alternatives SNAP list as Powdered Aerosol A, designed for total flood fire suppression applications.
- ARES FSS AFEG-200 Aerosol is designed to extinguish and provide inertization for type A (solid fuel), B (liquid fuel), C (gas fuel) fires and type E (electrical) fires in defined enclosures.
- The extinguishing agent delivered by the system is a powdered aerosol created "in-situ" by a chemical reaction taking place in a non-pressurized container, delivering small dry powder highly effective particles (1-5 microns) floating in inert gases.

FEATURES

- Activation Time : Without significant delay (<20 ms)
- Storage : Cool und dry
- Function Temperature : -40/+4°C to +85/+4°C
- Fire Class : B (limited) and C according to DIN EN2
- Total Weight : ca. 1,13 kg
- Duration Of Aerosol Generation : ca. 5 s
- Volume To Be Protected : Max. 2,0 to 3,0 m³
- Shock and Vibration Tested
- IP67 Water and dust ingress protection
- MIL-STD-810G ,MIL-STD-461F, MIL-STD-1275E
- MIL-STD-1184
- UL, CE GOST-R Certification

AFEG-200



AFEG-300

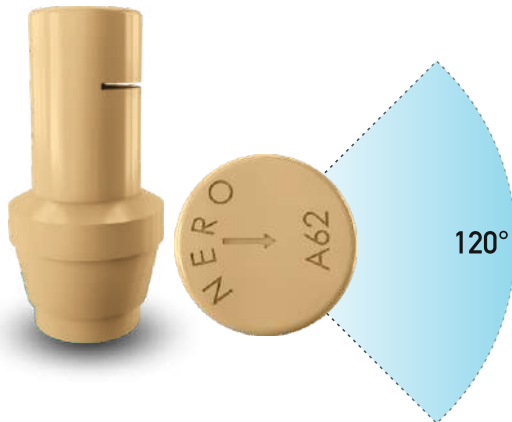


Pin Diagram

- | | |
|-----------|----------------------|
| Connector | : VG95234B1-10SL-4PN |
| 24VDC | : A |
| GND | : B |



NOZZLE (TIRES - BODY COMPARTMENTS)



Extinguisher
Spring Angle

- View angle is 90° - 120°.
- Internal Diameter is 5 mm.
- Rate of Disperse is 50 or 60 liter/minute
- Type of material is 304 stainless or brass
- Durable to corrosion with the options of material
- Easy direction adjustability with symbol arrow on front side
- Weight : 20 g ± 5g

Nozzle Code	Nozzle Name	Orifis (mm)	Extinguisher Spring Angle
NE-P-44706	A51	5	90°
NE-P-44707	A52	5	120°
NE-P-44708	A53	5	150°
NE-P-44709	A54	5	180°
NE-P-44710	A61	6	90°
NE-P-44711	A62	6	120°
NE-P-44712	A63	6	150°
NE-P-44713	A64	6	180°
NE-M-21422	ENGINE NOZZLE ALU	3/8 INC (9,525 mm)	FULL CONE 120°
NE-M-21315	TIRES NOZZLE ALU	3/8 INC (9,525 mm)	FULL CONE 120°

ENGINE NOZZLE (TIRES - COMPARTMENTS)



- The engine nozzle is designed as conical structure in order to provide effective dispersion to the engine compartment.
- It is sealed against dust, oil, mud and rain with the help of the plug.
- Nozzles can be placed every side of the engine compartment with the well designed brackets.
- Engine nozzle is produced with light aluminum 5000 material are resisted against corrosion.
- Weight : 160g ± 20g

DEFLECTOR IS THE KEY PART FOR FIRE SUPPRESSION SYSTEM



- Deflector is the main part of the inflation suppression cylinders providing the 360° dispersion to the entire interior of the vehicle.
- After the activation of the fire extinguishers, fast and effective dispersion of the agent is provided by the deflectors.
- According to the placement of the extinguisher inside the vehicle, its' dispersion direction can be adjusted between up and down.
- Sieved structure of the deflector at the output port of the extinguisher protect the crew against the particles of the extinguishing agent.
- Weight : 390g ± 50g

UV-IR TEST LAMP



- Flame Detector Test Lamp is a specifically designed portable ultraviolet (UV) source and infrared (IR) radiation for testing UV/IR flame detectors.
- The unit emits a wide band of UV radiation which includes the region of 185 to 270 nm and IR radiation which pulsates at a slow rate to simulate the "flicker" in a real fire.
- The howed state-of-the-art electronics module allows the unit to simulate a real flame.
- The test lamp uses a highly specialized lens which allows transmission of the UV and IR radiation.
- The unit has an operating range of 3.3 feet or 1.0 meters from the detector. The Flame Detector Test Lamp is intended for use in military detectors applications.

FEATURES

- Emits UV and IR radiation similar to that produced by a real fire
- Activates UV/IR flame detectors as far as 3 feet or 1.0 meters away
- Highly portable
- Rugged and lightweight aluminum housing
- Momentary On-Off switch to conserve power
- O-ring seals provide moisture resistance
- Available with standard 120W adapters

- Carrying case included
- UV Output : UV-C Spectral Region
- IR Output : Mid-Infrared Spectral Region
- Operating Range : Typically (5-25cm)depend on optics and windows
- Operating Time : 3500 hour IR and 800 hour UV
- Operating Temperature : - 20°C to +70°C
- Operating Humidity : 0-100% RH, Non-Condensing
- Ingress Protection : IP65



FIRE SUPPRESSION EXTINGUISHER SIMULATOR



- Extinguisher : DUD, NORMAL, EMPTY modes
- Double-Shot Test
- Possibility to use with external power supply
- Operating with both battery and 220VAC
- Power Input 12 VDC Adapter
- Military connector connection
- Indicator LEDs
- High Reliability
- Minimum Fire Current Tester
- Weight : 520 g \pm 50g

Fire and Suppression System Test Kit



- 2 Test Lamps
- 4 Fire Extinguisher Simulators
- 2 Adapter 120W for Test Lamps
- 4 Adapter 12W for Fire Extinguisher Simulators
- Carrying Case
- Connection Wiring



STANDARDS & CERTIFICATIONS

 ARES FSS is certified according to

ISO9001 : 2015

ISO14001 : 2008

ISO27001 : 2013

Facility  Security Clearance Certificate

LABORATORY INFRASTRUCTURE

From scratch to final product's complete design, manufacturing, testing according to

MIL-STD 810

MIL-STD 461

MIL-STD 1275E

at ARES FSS 



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AUSA National
Partner