

NANO ALARM & EXTINGUISHING SYSTEM

The NANO system

The NANO fire alarm & extinguishing system is designed and intended to activate a modular electrically activated extinguishing generator or a fixed fire suppression system.

- Versatile
- Compact
- Easy operation
- Easy to program
- Logical system structure
- Dual activation technology
- Suppression at the source
- Input and output monitoring



The NANO system consists of:

NANO Fire & extinguishing panel

NANO Extinguishers Terminal Board

The NANO system has a DNV-CG 0339-2021 type approval with certificate TAA000037H. To obtain this approval, the NANO system design has been extensively tested and approved to the latest EMC requirements and Maritime specific environmental conditions. Where applicable,

the NANO also meets the requirements of the FSS CODE, the International Maritime Code for Fire Safety Systems. The NANO is small/compact and protects locations where a standard fire detection and/or extinguishant release panel is not applicable.



The NANO is designed to act as a stand-alone fire detection & extinguishant release panel for use in systems protecting engine rooms, compartments in vessels, yachts or vehicles, electrical cabinets or rooms, and other areas and equipment where the user should be able to detect and extinguish a fire quickly and effectively.

The NANO fire detection & extinguishing release panel offers an excellent value and performance for all small and compact fixed fire suppression systems.



Our products are constantly being improved; specifications can change without notice.
K&G Groep BV Spoordijkhof 1 Raamsdonk Netherlands

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Enclosure specification

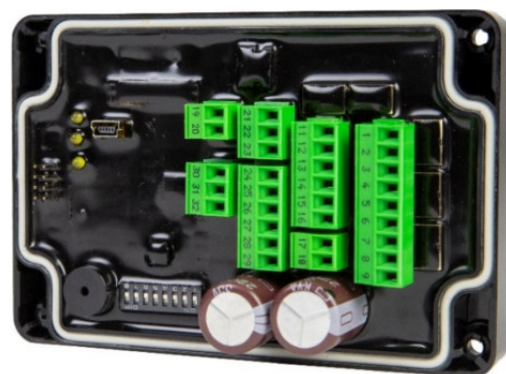
Outer enclosure	: 120 x 80 x 58,5 mm w x h x d
Enclosure color	: black RAL 9005
Enclosure material	: ABS suitable for outdoor
Cable gland holes	: 7 pre-drilled holes

Environment

Ambient temperature range	: -25°C to +55°C
Dust and water rating	: IP65 using glands
Compass safe distance	: minimum 50 mm

Power specification

Input voltage main / backup	: 12/24 VDC +/- 30%
Maximum power usage	: 1 Watt quiescent : 5 Watt in alarm
Maximum contact rate relays	: 30 VDC/1A
Detection zones voltage	: 15Vdc
Fire detector alarm current	: max 60 mA
Sounder / beacon voltage	: 18-22 VDC
Sounder / beacon current	: max 100 mA



Additional Features of the NANO Alarm Panel

- Potted electronics for reliable operation in contaminated environments
- Manual or automatic extinguishing release with single- or dual-zone fire detection logic
- VFC outputs for Fire, Fault and Fan Shutdown
- Fully monitored outputs for extinguishing release and audio/visual alarms
- Two fully monitored detection zones for spot detectors or linear heat detection cable
- Two fully monitored inputs for remote release and extinguishing hold
- Dual manual release buttons to prevent accidental discharge
- Extinguishing hold function to delay agent release
- Programmable extinguishing release delay
- Manual release override for immediate discharge when required
- Event log memory accessible via USB or Modbus RS-485

The NANO fire detection & extinguishant release panel is easily configured using DIP switches, offering the following options:

- **DIP 1** – Overrides the extinguishant release delay when a manual release button is pressed
- **DIP 2** – Disables the release delay when the vessel or vehicle is parked
- **DIP 3** – Selects compatibility with either electrical igniters or solenoid release technology
- **DIP 4** – Enables extinguishant release on a **single-zone** fire alarm instead of **dual-zone** detection
- **DIP 5** – Activates the VFC relay on the first or second fire alarm
- **DIP 6–8** – Sets the extinguishant release delay from **0 to 35 seconds**

Special

In addition the NANO is suitable for protecting engine compartments in mining and off-road vehicles, including shovels, cranes, and loaders. When the vehicle is parked and unattended, any programmed extinguishant release delay should be automatically disabled, as a delay serves no purpose. With **DIP 2** enabled, the programmed release delay is automatically bypassed whenever the vehicle is parked.

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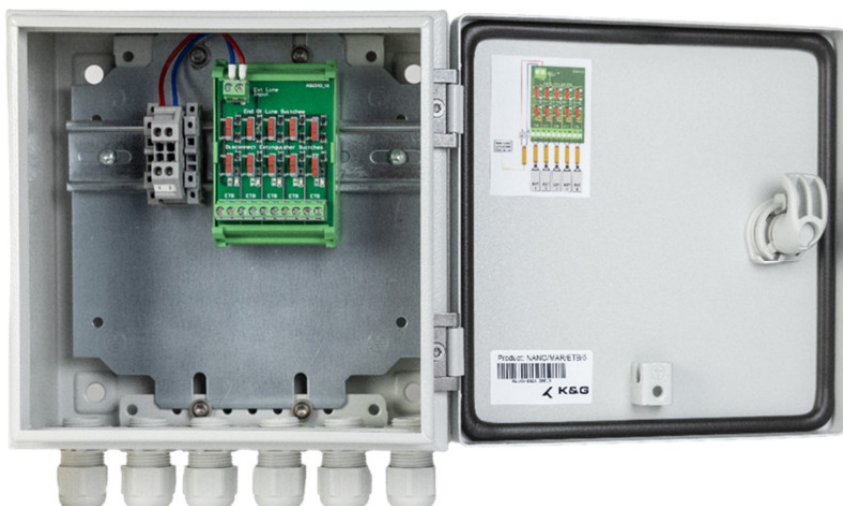
The Extinguishers Terminal Board

The ETB (Extinguishers Terminal Board) is specifically designed for the activation of aerosol extinguishers. The ETB (Extinguishers Terminal Board) is equipped with built-in safety electronics to ensure all extinguisher igniters are activated. Together with an end of line switch, this option makes the system a complete and reliable fire detection and extinguishing release system. The ETB (Extinguishers Terminal Board) unit is available in a built-in 35 mm DIN rail version.

Dimensions (without ETB modules): H × W × D: 120 x 95 x 67 mm

Designed for harsh environments the K&G/ETB5 IP66 enclosure is supplied with an ETB5 module for connecting up to five aerosol generators. It features six cable glands and an integrated terminal connection panel for fast and reliable installation.

Dimensions: H × W × D: 200 x 200 x 120 mm



The most important characteristics of the ETB

- Easy connection by means of push connection
- Minimum core diameter 0.5 mm² (AWG 20)
- Maximum core diameter 1.5 mm² (AWG 16)
- Bypass protection ensures all electrical igniters will ignite, even if one igniter malfunctions or behaves differently (e.g., ignites prematurely) and enters high impedance before other igniters are activated
- The ETB has a switch that activates the end of line monitoring diode at the last igniter
- A second switch is for disconnecting the extinguisher from the system for testing or maintenance, a red TEST LED indicates the activation current is initiated
- The ETB is equipped with reverse polarity protection, which prevents connection errors
- The ETB is equipped with surge protection, reducing the risk of activating an extinguisher in the vicinity of a lightning strike
- ETB dimensions 12,8 x 85 x 34,19 mm w x h x d

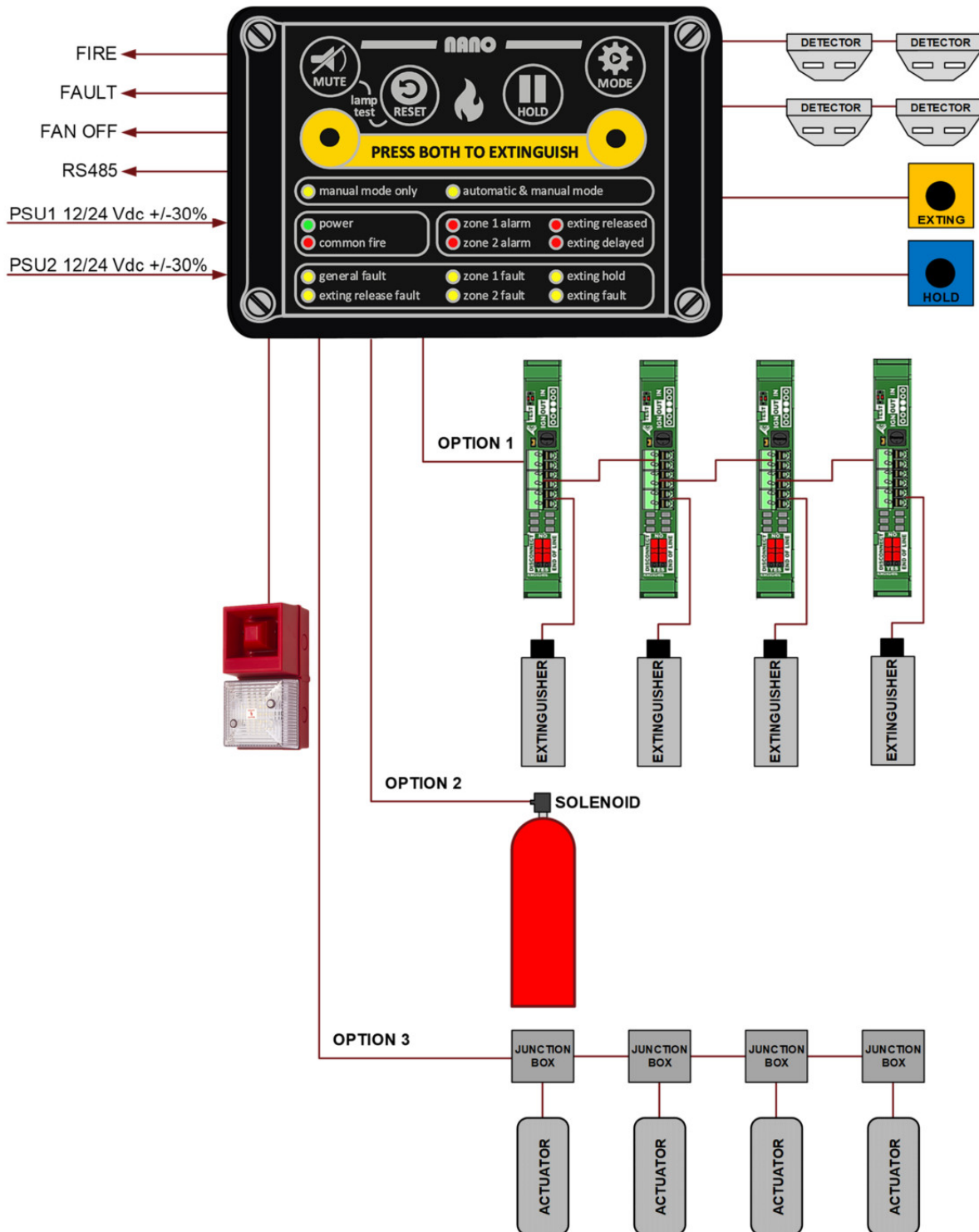


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PRINCIPLE DIAGRAM



This diagram of the working principles of the NANO fire detection & extinguishing system is intended to support this leaflet and is therefore not intended or suitable for technical implementation. For more detailed information, please request the NANO User Manual.