



ExActTitan



**Re-thinking
fire protection**

Fire Protection System for Military Vehicles



ExAct Titan Fire Protection System

An integrated system protecting the crew and the vehicle



Control unit

The ExAct Titan Control Unit coordinates and controls the operation of the components and communicates with vehicle systems.

A built-in UPS ensures power supply to the fire detection and fire extinguishing equipment during power failures.



Flame detector

The ultra-fast, intelligent ExAct Titan Flame Detector detects both flaming fires and explosions.

Explosive fires and armour penetrations are detected in less than 3ms.



Alarm unit

The ExAct Titan Alarm Unit provides the crew with the necessary alarm and emergency functions.

The device includes an alarm beacon, a sounder, a manual release button, and an emergency light (optional).



'System operation is based on intelligent analysis of physical phenomena and situation-specific data.'

'The components are connected to the control unit in a loop form through an addressable CAN bus. Even if the cable loop is hit by a fragment, the system will continue to operate.'

'The fault-tolerant distributed architecture differentiates ExAct Titan from other fire protection systems currently available.'

'ExAct Titan uses human and eco-friendly fire extinguishing agents, enabling the crew to stay in the vehicle even when the extinguishant is released.'

'ExAct Titan system provides effective protection against all fire threats. At the same time, its modular structure offers cost savings through logistics, maintenance and training.'

'An effective fire protection system may cost less than 1% of the vehicle's total purchasing cost, but can protect it for its entire lifecycle.'



User interface unit

The ExAct Titan User Interface Unit informs the user of system status and provides a means to control system operation.

The graphical user interface displays context-sensitive information and options.



Heat profile detector

The uniquely designed ExAct Titan Heat Profile Detector senses abnormally high temperature rises caused by fires.

The component is ideal for the early detection of fires in confined spaces, such as engine compartments.



Extinguishing cylinder

The ExAct Titan Extinguishing Cylinder provides fast and reliable suppression of fires.

An explosive fire in the crew compartment is suppressed in even less than 120ms.

SYSTEM PERFORMANCE

| | |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of zones | 0 to 4 detection zones 0 to 4 extinguishing zones up to 4 separate discharges per zone |
| Maximum number of components | 32 |
| Explosion detection | Response time less than 3ms <ul style="list-style-type: none"> • fuel tank explosions • armour penetrations by anti-tank ammunition |
| Fire detection | Response time a few seconds <ul style="list-style-type: none"> • slow-growth fires |
| Explosion suppression | Developing explosion suppressed in even less than 120ms |
| Fire extinguishing | Slow-growth fire extinguished in a few seconds Discharge time can be extended to maintain the agent concentration (e.g. engine compartment fires) |

FEATURES

Innovative CAN bus technology

- The ExAct Titan fire protection system uses advanced, military-specific CAN technology.
- CAN bus technology ensures fast and reliable communication between system components.
- As a result, the system is always up to date and capable of immediate response.

Modular and integrated design

- The system is modular in design, consisting of standardized, addressable components.
- The same components can be used in different applications.
- ExAct Titan integrates with vehicle systems.
- The system responds to changes in vehicle operation and adapts its operation accordingly.

Total protection

- ExAct Titan detects and suppresses all fires, whether slowly growing or instantaneous, small or large.
- The system detects and suppresses fuel tank explosions and armour penetrations in milliseconds, and slow-growth fires in a couple of seconds.
- The system prevents pressure build-up and temperature rise.

BENEFITS

Excellent protection

- Fast and efficient operation: ultra-fast fire detection and suppression
- System reliability: reliable operation, high false alarm immunity
- Providing the correct level of protection according to vehicle role and tasks

Cost-effectiveness

- An inexpensive way to increase the safety of the crew and the vehicle.
- Components feature superior MTBF and MTTR figures.
- Long system service life and short service downtime

Small number of different components

- The components can be upgraded and reused if requirements change.
- Fewer components minimize the need for spare parts and training.

Flexibility

- ExAct Titan fire protection system can be customized for a variety of different applications.
- The system protects 1 to 4 separate compartments in one vehicle.
- System configuration can be modified as requirements change over time.

Ease of use

- The operation of the system is fully automated.
- The system is safe and easy to use and requires minimal servicing.



OUR REFERENCES

- Patria AMV
- Patria AMV AMOS
- Patria XA-203
- Patria XA-202
- Patria XA-188
- Leopard 2 special vehicles
- ASRAD-R missile system platforms
- Command and control containers



Mikro-Pulssi Oy
Kaskimäenkatu 1
FI-33900 Tampere, Finland

Tel: +358 3 3122 1400

E-mail: info@mikro-pulssi.fi
firstname.lastname@mikro-pulssi.fi

www.mikro-pulssi.fi
www.exact-titan.com