



SAAB

A **CIVIL RESPONSE** TO THE MISSILE MENACE



CAMPS - PREPARING FOR **THE UNEXPECTED**

Safety is a primary concern of every owner and operator of aircraft. But whereas compliance with statutory rules and regulations will enhance most levels of safety and security, there are an increasing number of potential dangers which no amount of legislation can minimise. A prime example is the threat to civil aviation posed by MANPADS (Man Portable Air Defence Systems). Now, thanks to Saab, these can be dealt with. CAMPS (Civil Aircraft Missile Protection System) is an intelligent system solution that can help you counter and combat their attacks - decisively and effectively.

Preparing for the unexpected is a precautionary measure that is given high priority throughout the aviation industry. While by its very nature this is never easy, there are instances in which it presents greater challenges than others. It is an unfortunate, but inescapable reality that MANPADS constitute an ever increasing threat to civil aviation. With tens of thousands of MANPADS being traded on the black market, these lethal, affordable, easy-to-use and difficult to coun-

ter systems are falling into the hands of various non-state actors giving them the ability to instigate attacks. Aircraft are at their most vulnerable to infrared guided missiles when landing or taking-off from airports. No less than 40 attacks to shoot down civilian aircraft targets have been attempted to date and, as MANPADS offer little time or opportunity for counteraction, they are used to deadly effect with a hit probability of over 70%.

The threat posed by MANPADS not only lies in their potential to create havoc and cause heavy levels of injury and fatality, but also the resultant multi-million loss of assets and transport-related revenues with possible knock-on effects on national economies. Saab's Civil Aircraft Missile Protection System (CAMPS) is an effective self protection measure that enables you to significantly reduce and combat this threat, protect your capital assets, and ultimately retain customer confidence. Ensure you are prepared for the unexpected!

A UNIQUE SOLUTION CUSTOMIZED FOR THE CIVIL AVIATION INDUSTRY

A foremost authority in electronic counter-measure technology for over fifty years, Saab is a synonym for systems characterized by reliability, easy integration and outstanding

performance. In keeping with this tradition, Saab has developed a unique system geared specifically to meet the needs and requirements of the civil aviation industry.

CAMPS is the first and only European anti-MANPADS protection system of its kind and ideally suited for protecting civil fixed-wing aircraft from missile attacks within all airspace environments. These include transports for:

- Heads of state
- VIP
- Humanitarian relief aid

Designed with particular emphasis on safety and security, low maintenance requirements as well as minimal installation and operating costs, CAMPS qualifies as a highly cost-effective protection solution to an escalating threat. Saab provides full end-to-end support for your fleet, including a customized system design, installation and full responsibility for all certification procedures. Fully compliant with the Wassenaar Arrangement regulations and with EASA certification completed, CAMPS is excluded from the military products listing thus allowing aircraft with the system installed unrestricted operational freedom within and between different countries.



IN A NUTSHELL

CAMPS comprises four main parts: the MAW-300 Missile Approach Warning system, the Electronic Controller Unit (ECU), the BOA Civil Dispenser System and the CIV-IR Decoys. Incorporating four MAW-300 UV sensors and the MAW controller (within the ECU), the Missile Approach Warning system provides rapid, accurate detection and tracking data of approaching missiles and can even be complemented with an additional sensor to obtain hemispherical coverage. The BOA is an electro-mechanical dispenser using CIV-IR decoys to deceive incoming threats. Manufactured by the Chemring Group (www.chemringcm.com), the decoys consist of a new type of pyrophoric decoy material that burns at a lower temperature than conventional pyrotechnical flares, thus achieving a larger radiating area to attain proper radiation intensity. Placed inside a sealed container, the decoys are opened and activated once dispensed and subjected to sufficient air stream. A simple Control & Display panel mounted in the cockpit is used by the crew to power, arm and test the system. Weighing as little as 35 kg, CAMPS is installed flush to the aircraft skin having a negligible aerodynamic effect.

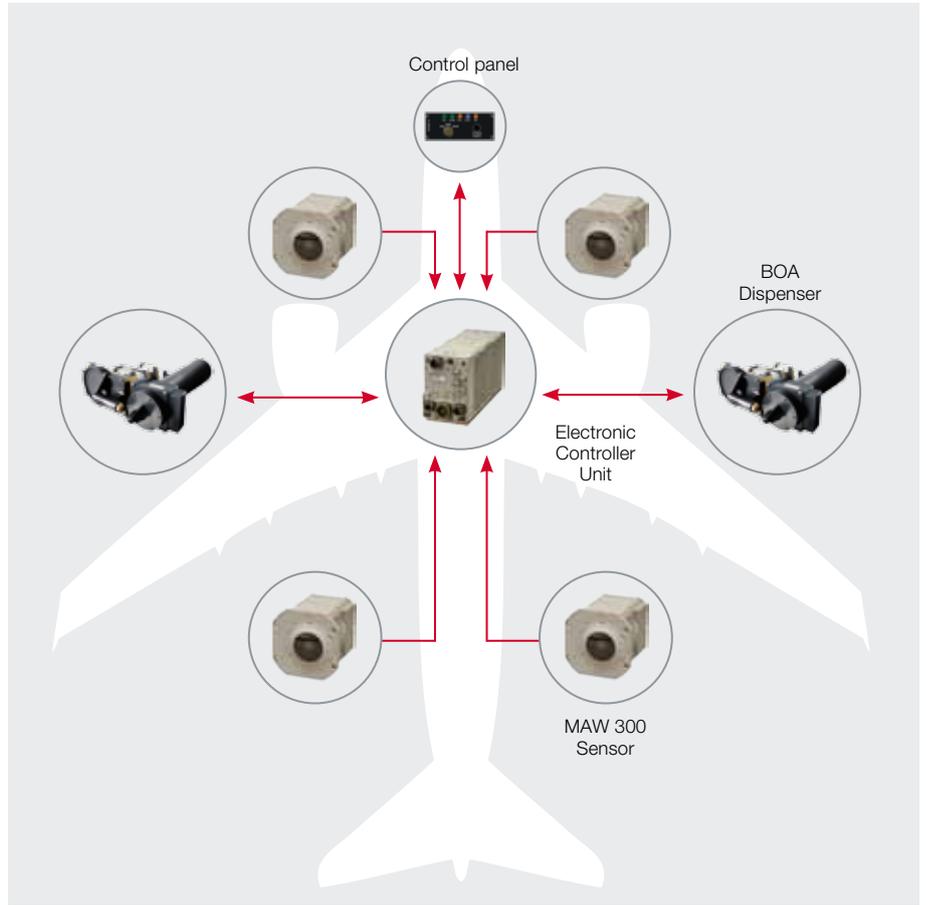
KEY FEATURES:

- Highest level of operational safety assured with protection against MANPADS
- Capacity to track up to eight missiles launched simultaneously
- Safe and affordable maintainability
- Straightforward installation and integration
- Low operating costs
- Highly flexible design enabling customization to individual customers' specific demands
- Compatibility with all aircraft types from business jets to wide bodies, from new builds to retrofits
- Fully compliant with Wassenaar Arrangement regulations
- EASA civil certification (STC) completed

How it works

The concept behind CAMPS is that the MAW sensors detect UV-light emitted from the missile plume and process the data received in the ECU to determine the missile's Angle of Arrival. An optimum time for the dispense command is calculated and relayed by the ECU to the BOA to initiate a dispense sequence predefined by a range of parameters including the number of decoys and time intervals within the sequence. Upon entering the free air stream, the decoy is opened up by aerodynamic forces acting on a built-in opening device. CAMPS further distinguishes itself by virtue of an inherent capacity to track up to eight missiles launched simultaneously. Fully autonomous, CAMPS takes effective action against incoming threats without any interaction from the pilot.

Vulnerability reduction techniques are absolutely essential to ensure the protection and survivability of civil aircraft prone to MANPADS missile threats. By enhancing your MANPADS survivability without affecting the operation or performance of your aircraft, CAMPS constitutes a valuable contribution to this end.



Decoy by Chemring, www.chemringcm.com



Specifications subject to change without notice

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