



SAAB

INTEGRATED **SELF** **PROTECTION** POD



PERFORM YOUR MISSION SAFELY



Over the last few years helicopter missions have increased notably in number and scope, while the proliferation of man portable missiles is constantly adding to the danger of becoming a target during missions. Helicopters need to be equipped with an electronic warfare (EW) solution before they leave base, and the integrated self protection 'Plug on Device' (POD) provided by Saab Avitronics and RUAG Aerospace, is the answer.

Combining Saab Avitronics' outstanding self protection system performance with RUAG Aerospace's system design and integration expertise, the POD allows helicopters to be equipped with a self protection system easily and effectively. The POD is a smaller, smarter and easier to install alternative to the well known CIDAS/IDAS integrated self protection system. It can be used on different helicopter platforms and be installed or removed within minutes, thereby allowing helicopters to be fitted with EW protection on a per mission basis.

Due to the ease of use, the POD is suitable for both the civilian and paramilitary market. The limited effort required for introduction, staff training and daily operation, makes the POD the EW protection system of choice for airborne platforms in sophisticated, diverse and dense threat environments.

The POD is designed to meet the same standards as the airborne platforms it is intended for, and the system can therefore be operated in a wide range of environmental conditions, and can be offered with EASA Civil Aviation Certification.

POD SYSTEM OVERVIEW

The basic POD configuration consists of integrated missile approach warning and countermeasure dispensing functions, and requires a Control Display Panel (CDP) only. The CDP is temporarily or permanently mounted in the cockpit (for example in the cockpit center console), without being integrated with the avionics system of the platform. Since no, or very limited integration and re-qualification is required, the basic POD configuration offers utmost flexibility and a very fast introduction in case of urgent

demand. An added feature of the simplified CDP functionality is the autonomous dispersing of chaff and flares to minimize air crew interaction.

However, the system's modular and flexible architecture specifically allows for tailoring to user requirements. The basic POD can easily be enhanced to include radar and laser warnings, as well as a Threat Display and Control Unit (TDCU), providing the pilot with full control and in-depth information on threats. This enhanced POD configuration hence offers the same functions as the fixed integrated system while requiring only a simple partial integration.

POD EASE OF USE

Approximately 15 minutes is needed for the mounting or removal of a POD. The POD can be used on different platforms requiring platform specific interface-adapters only. The interface between POD and platform is very simple – the basic POD is connected to the platform supply using a power connector for external cable winches or other equipment. Alternatively, the system can be battery powered.

BASIC POD SYSTEM FUNCTIONS

Missile Approach Warning

UV based. Spatial coverage of 360° AZ with 4 sensors.

The Missile Approach Warning function is based on the MAW-300 sensor, which provides warning and direction of approaching missiles by sensing the Ultra Violet (UV) emissions of a burning solid fuel motor plume. The Missile Approach Warning function consists of 4 sensors and a processing card in the Electronic Control Unit (ECU). Each sensor contains a staring electro-optical detector array and has a 110° conical Field of View (FOV). The sensors operate passively in the solar blind UV spectral region.

High direction finding accuracy and spatial discrimination capability contribute to optimal countermeasure deployment and a low false alarm rate. The false alarm rate is reduced by using advanced pattern recognition algorithms and operating at the correct spectral wavelength to distinguish between real threats and possible false alarms. The Missile Approach Warning function additionally exploits inertial information such as attitude of the aircraft in roll, pitch and yaw, altitude above ground and ground speed to track an approaching missile, further enabling it to distinguish between threats and possible false alarms.

Chaff and Flare Dispensing

1x1 or 1x2 NATO standard payloads.

The BOP-L dispensers are controlled via a fully integrated chaff and flare dispenser controller residing in the ECU. This allows for automatic dispensing upon threat declaration. Semi-automatic and manual firing capabilities are also provided.

User-defined dispensing programs/sequences are selected by the system per identified threat. The dispensing techniques can be defined in the threat library and uploaded to the system on the flight line.

The jettison of all payloads is possible in all modes of operation under emergency conditions.

OPTIONAL FUNCTIONS FOR ENHANCED POD SYSTEM

Radar Warning

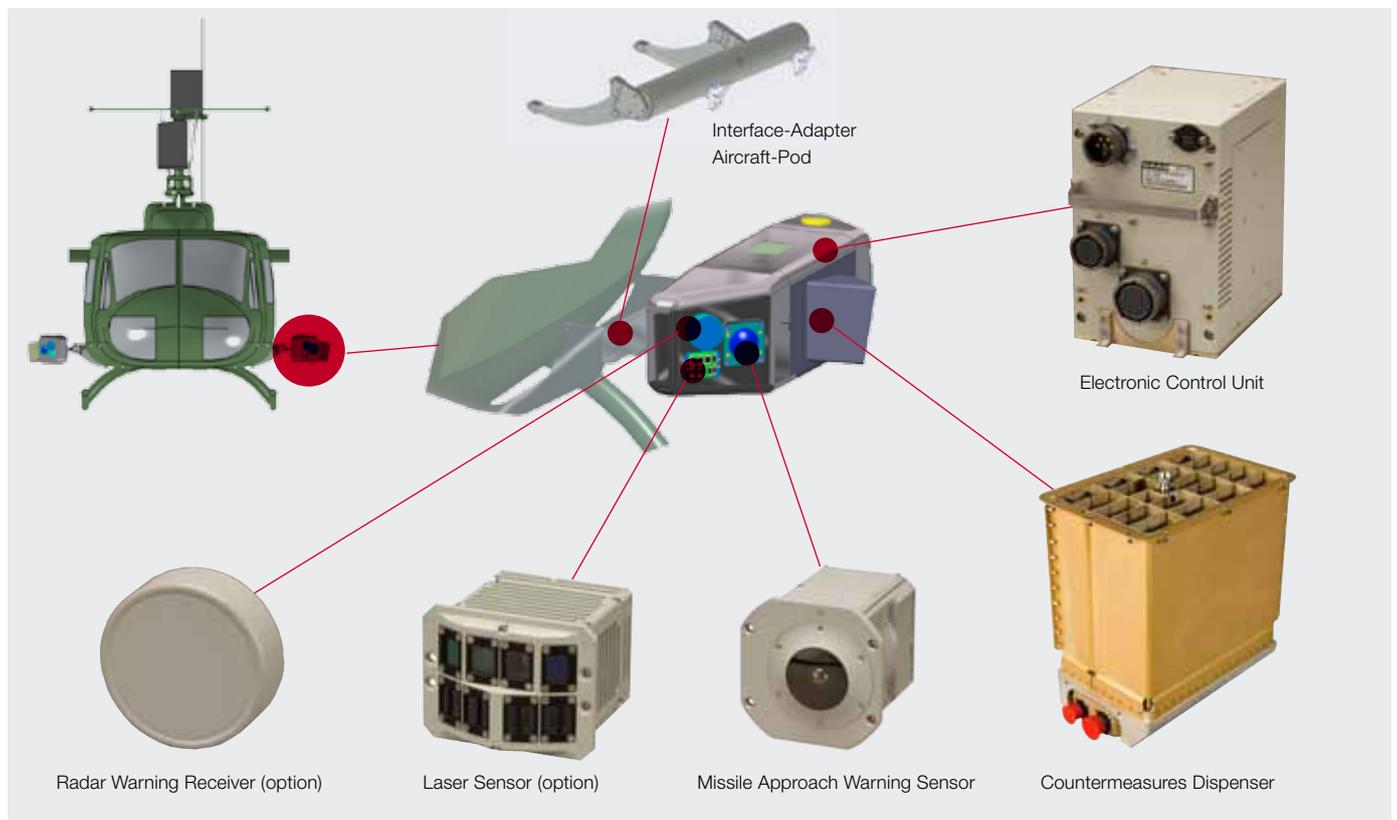
0.7-40 GHz (pulsed), 2-18 GHz (CW).

The Radar Warning function is performed by compact radar warning sensors with front end receivers generating video signals for further analysis and by dedicated processing cards in the ECU. It offers wide band operation, high sensitivity and a high probability of intercept. Radar threats can be defined in the threat library.

Laser Warning

0.85-1.7 μm, threats covered are GaAs, NdYag, Raman Shifted NdYag and Erbium Glass Lasers.

The Laser Warning function is achieved by using four LWS-310 sensors and a processor card in the ECU. It features high sensitivity, excellent threat coverage and exceptional Probability of Intercept (POI) for single- as well as multi-pulse emissions. A unique feature of this system is that it does not only classify laser emissions but can also identify laser emission through a user programmable threat library.



EW DATA MANAGEMENT

The Electronic Ground Support System (EGSS) is a state-of-the-art integrated Electronic Warfare Support System for preparation and analysis of electronic warfare data for Saab Avionics and third party Electronic Warfare Systems. EW library generation and analysis of recorded EW data are performed in an intuitive windows based environment.

EGSS has two main applications, namely EWLib and EWTac.

The EWLib provides the capability to compile and export pre-flight data to the installed system. This includes emitter parameters for known emitters, regions where emitters will be classified as unknown, countermeasure programs and techniques for threats.

The EWTac provides the capability to perform mission debriefing by the analysis of flight event data recordings which includes for example threat warning display info playback, simulation, tracking analysis, flight path analysis and Built-In-Test analysis. As an option, a module called EWTech is also available for the detailed analysis of recorded EW related data.

TEST EQUIPMENT

IDAS/CIDAS is supported by appropriate flight line stimulators for each type of sensor and chaff and flare test blocks for the dispensers. Using missim, our 3-in-1 Flight Line Tester, the integrated self protection POD's threat recognition capability can be tested shortly before the start of the mission. The missim can be programmed with generic or customer specific threats. If the POD is not equipped with a threat warning display, the tests can be performed using a test magazine.

Automated O and I level test equipment is available and can be supplied in accordance with the customer's logistic support requirements.

OUR CUSTOMER BASE

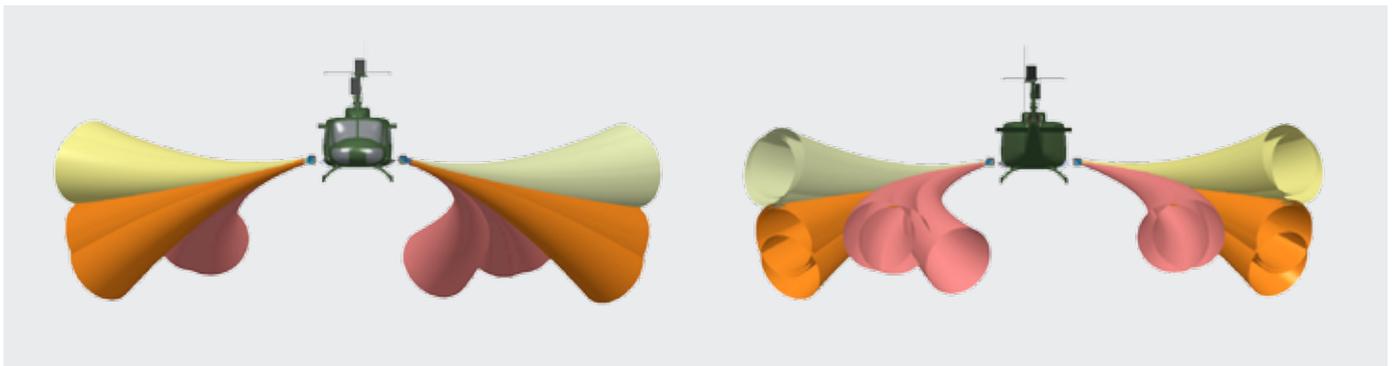
IDAS/CIDAS has a growing customer base in Europe, Africa, the Middle and Far East. Due to its modular design, different sensor types and combinations of sensor types had been installed in a number of aircraft ranging from helicopters to transport aircraft and fighters. Our installations include (Helicopters) Eurocopter Puma/Super Puma/Cougar family; Westland Lynx; Agusta A109; Boeing CH47; NH90; Hindustan Aeronautics ALH; (Transport A/C) C-130 B and H (Fighters) Hawk 100 and SU-30.



missim – one tester for all sensor types.



Sensor coverage simulation



Simulation and analysis of countermeasures dispensing

Specifications subject to change without notice

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