

ECTOCRYPT® Steel

The next step in platform-wide key management of secure assets





The ECTOCRYP® Steel Single Point Fill solution from EADS North America eliminates the need for crypto equipment aboard an airborne platform to be manually re-keyed before every mission. It gives increased flexibility and prolonged out-of-area operation. The mission data can be loaded without the need to power the platform. This solution reduces scramble time and provides the essential management necessary to support network-centric operations.

Modern military aircraft and ground installations require multiple communications systems to enable them to operate in a network-centric environment; these systems include radio, IFF, GPS and data links. The high demands for security require multiple cryptographic protection devices, each of which has different requirements for key variables and fill devices. Key Management has traditionally been a time-consuming and labor-intensive task, often requiring zeroization and re-keying between missions when aircraft are powered down.

Benefits

Faster secure mission preparation

Single Point Fill eliminates the time-consuming need for crypto equipment aboard an airborne platform to be manually re-keyed before every mission. This change results in significant labor savings and a reduction in mission preparation time. ECTOCRYP® Steel provides secure onboard management and storage for current and future key material associated with multiple cryptographic devices without the need for aircraft power. The ability to bulk load through a single port reduces the requirement for multiple fill devices.

Exceptional through-life cost savings

ECTOCRYP® Steel offers the opportunity for significant through-life cost savings due to the reduction in labor overheads. With improvements in responsiveness and reduced keying errors, ECTOCRYP® Steel is a major enhancement for platform-wide management of secure assets.

Reduced keying errors

Single Point Fill improves mission responsiveness, reduces key filling errors and therefore improves mission effectiveness and minimizes running costs.

Increased flexibility for out-of-area operations

By pre-loading and storing multiple mission scenarios, Single Point Fill improves flexibility for out-of-area operations and reduces the reliance on COMSEC custodial staff for aircraft and platform operation.

Technical Details

Key Management

- Loaded keys are held in a securely wrapped condition, enabling aircraft to be powered down
- All key transactions subject to accounting reports
- Control information defines key type, destination End Cryptographic Unit (ECU) and validity as a minimum
- Keys retained until expiry, replacement, zeroize commanded or system-generated zeroize command

Interfaces

- DS-101 – Intelligent fill interface
- DS-102 – Common fill interface
- S354 – Bulk fill interface specification

Cryptography Support

- Other cryptographic suites available on request (e.g., customer-specific/NATO-releasable)

Capacity

- ECU capacity – up to 10 x DS-101, 5 x DS-102 (combined maximum of 12 in total)
- Expansion options available to manage greater numbers of ECUs

Physical Interfaces

- Control interface - avionics MILSTD-1553 data bus (STANAG 3838)
- Power – host-powered 24-29V DC @ 13W (typical)
- Battery – custom internal lithium battery pack

Safety

- Compliant with relevant EEC directives

Certification Features

- UK CESG High-grade COMSEC approved
- Tempest approved
- CE approved

Physical Specifications

- Size envelope: 85”H x 22.5” W x 150” D (max)
- Can be incorporated into a standard 19” rack assembly for ground operation
- Weight 4.2kg
- Operating temperature during flight
 - Min: 40°F (25000 ft)
 - Max: + 158°F (sea level) or + 104°F (40000 ft)
- Ground soak temperature
 - 23.8°F to + 158°F (operating)
 - 38.2°F to + 194°F (non-operating)

Maintenance

- Scheduled maintenance: limited to 9-monthly battery change
- Reliability: >30,000 hrs

Security Features

- Tamper-proof
- Full zeroize function