



EXSEL ELECTRONICS

CDSD

CROSS DOMAIN SECURITY DEVICE

CONNECTED. PROTECTED.

Exsel Electronics designs and produces fully engineered, documented and supportable electronic defence systems to meet customers' project-specific requirements. The Exsel Electronics facility based at Welshpool, Powys, is Exsel Group's centre of excellence for design, manufacture and testing of software and electronic systems and offers proven expertise in Systems Engineering where reliability, safety and protection are paramount.

CDSD SUMMARY & CAPABILITY

Exsel Electronics is developing a Cross Domain Security Device (CDSD) to meet the particular needs of Land Combat Platforms.

In the context of a Land Combat Platform a CDSD can perform a useful role in safely partitioning low-security networks (e.g. the crew communication system) from high-security networks (e.g. ECM control and mission command information), particularly on Generic Vehicle Architecture (GVA) platforms where everything is connected to a common data infrastructure.

Conventional rack-mounted cross domain guards are entirely unsuitable for the combat platform environment. Our new approach means the CDSD is designed specifically for land platforms.

SUMMARY

With its heritage in Health and Usage Monitoring Systems and ECM control systems, Exsel Electronics understands the environmental and functional needs of Land Combat Vehicular Platforms. There is a need for a network interface that enables seamless data distribution within platforms without compromising platform security policies and domains. A high security solution with low SWaP, that is scalable, GVA-compliant, of very low soldier burden and capable of being applied retrospectively can offer significant advantage in operational capability.



CAPABILITY

By providing a secure means share domains the Exsel CDSD provides a number of benefits to a land platform; timing distribution and synchronisation, reduction of equipment and functional replication, and it can provide a single central point distribution for the configuration (FILL) of programmable devices. The architecture enables the use of multiple CDSDs in parallel which allows, platform capability scaling without system redesign and automated prioritised redundancy for enhanced platform integrity. The FILL architecture is agnostic of the end point provider (e.g. OEM, equipment type, etc.), the type or file structure (e.g. OS, Applications, Parameters, etc.), and thus eliminates the need for bespoke FILL-ers, programmers, and user training.



EMPLOYER RECOGNITION SCHEME
BRONZE AWARD
Proudly supporting those who serve.

A member of
ADS



CDSD SPECIFICATIONS

SPECIFICATIONS	CDSD	OTHER TYPICAL
Power	< 60W	> 1000W
Weight	<7kg	>20kg
Size (w x d) ins: h(U)	8 x 7 : 2	19 x 12 : 2
Based on Firewall Architectures	No	Yes
Land Class EMC	Yes	No
Shock & vibration proof component	Yes	No consideration
Operational Design Thermal Environment	-30 to >70oC	0 to 35oC
Avoids cooling system burden upon installation (removes demand for controlled environment)	Yes	No, requires extrinsic thermal management
GVA compliant, form and electronic interfacing	Yes	No
24/28V Automotive to Def-Stan 61-05	Yes	No, typically 240V
TEMPEST: RED/BLACK rejection for Mobile (value redacted)	Yes, intrinsic, XXdb	No, generally rely on extrinsic means
Multi-Level Zeroise capability	Yes	No
Physical Security Features (e.g. tamper protection and detection, padlock securing capability, penetrative resistant enclosure design, magnetic field immunity, auto-zeroise)	All	Typically none, generally reliant on extrinsic means
Field re-configurable	Yes	No
Fast Boot	Yes	No
QoS message prioritisation inherent	Yes	No
Architecture designed specially to meet land platform application	Yes	No, typically inherited from firewall solutions
Designed for land platform maintainability	Yes	No
Design requirements and specification influenced by GVA, GSA, LOSA COIL, Future ECM, FP, Morpheus, XXX and XXX programmes)	All	Very unlikely



CONNECTED. PROTECTED.