



AIRGAP 02

AIRGAP 02 IS A HARDWARE DEVICE WHICH CREATES A SECURE INTERFACE FOR BIDIRECTIONAL INFORMATION TRANSFER BETWEEN TWO INFORMATION SYSTEMS, WHILE MAINTAINING THEIR GALVANIC ISOLATION.

AirGap 02 is an entirely new security product which genuinely enables the exchange of information between certified information systems designed to process confidential information and systems or networks which have not been certified. However, this security product also offers much more. It can be used wherever it is necessary to secure the regular or irregular exchange of information between information systems with differing levels of security, either unidirectionally or bidirectionally.

[INFORMATION EXCHANGE IS ESSENTIAL]

Present day operational requirements and user needs are about more than just the comfortable processing of information. They require sufficient amounts of accurate information in the right place at the right time. This is true for most standard information systems, as well as for highly sensitive information systems and certified information systems processing classified information. The security architect is then placed in a situation where an information system must be built with the required level of security, often even at the cost of partial or total isolation from so-called public or untrusted computer networks. At the same time, the demand for the timely, regular exchange of information, some of which is only accessible in untrusted computer networks, must also be addressed. The security risks which could arise as a result of the connection of a secure information system to other systems then require the security architect to seek out other alternative, highly secure solutions.

Limited options for bidirectional data exchange

The implementation of a secure interface to support the unidirectional flow of information leading strictly into a secure information system is already possible using systems other than AirGap 02, such as the well-known implementation method employing "data diodes". However, things get tougher, if a data export from a secure information system or bidirectional exchange of data is required between a secure information system and its environment. Some solutions to this problem exist, but they often require a substantial financial investment (ranging up to hundreds of thousands of Euros). And this is the main problem, i.e. these solutions are unaffordable for most operators. The systems are then based, for example, on the manual exchange of information using removable media (like USB flash drives). Security is then dependent upon the secure information system not being connected to any other information system (it is separated by an air gap, using what is described as the "air gap isolation principle") with the information exchange carried out by a trained, trustworthy person (the so-called transfer operator). At first glance, this would appear to be a very cheap and safe solution, but that is only true, if we are exchanging information every hour or two. The solution is practically impossible to implement, if information has to be exchanged, for example, within one minute of a request being received in a scenario which requires 24/7, 365-day availability.

FEATURES & BENEFITS

- ▶ A hardware device for the galvanic isolation of information systems
- ▶ A secure interface for confidential bidirectional information flow
- ▶ Interfaces providing maximum resistance to inter-network attacks
- ▶ Suitable for inclusion in information systems which process confidential information in accordance with Act no. 412/2005 Coll. of the Czech Republic
- ▶ The information is available 24/7, 365 days a year
- ▶ An affordable design
- ▶ A wide field of application
- ▶ The lifetime can be optimized
- ▶ A design featuring a 19" 1U RACK

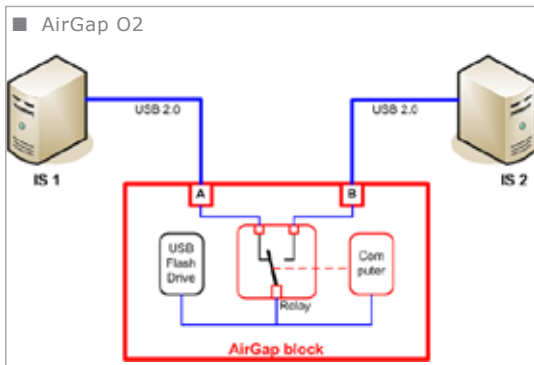


H x W x D:	40 x 485 x 260 mm
Configuration:	2 x AirGap blocks
Interface:	2 x USB 2.0 for each block
Power source:	100-240V, 50-60Hz
Power:	15W
Weight:	3.140 kg
Ambient temperature:	-40 to +85 °C (without condensation, relative humidity: 35-85%)
AC/DC power:	-25 to +60°C, max relative humidity 95% fuse temperature 90 °C
Resistance to vibrations:	10 to 55 Hz, double amplitude 1.5 mm
Impact resistance:	malfunction 100 m/s ² , destruction 1 000 m/s ²
Recommended lifetime:	500,000 switchings
Maximum lifetime:	1,000,000 switchings
Warranty:	2 years (provided the recommended switching number is not exceeded)
Developed and manufactured by:	S.ICZ a.s. (a subsidiary of ICZ a.s.)

[AIRGAP 02]

[AIRGAP 02 PROVIDES GALVANIC ISOLATION]

The principle behind AirGap 02 is protected under a pending patent. The device contains two identical but independent blocks (think of it as two AirGaps in one AirGap 02 device). Each block allows the transfer of information between two computer systems for which galvanic isolation must be maintained. The data is transferred by means of connections to the internal memory units (USB Flash Drives) at the level of electrical signals, while the galvanic separation of both systems is simultaneously secured by means of an air gap.



The switching is electromechanical and it utilizes a special security relay. Electromechanical switching meets the requirements of galvanic and communication isolation. A security relay is connected in order to ensure that there is no possibility of a direct connection between the two computer systems. The relay is controlled by a dedicated computer. The security relay always switches the internal memory unit (USB/Drive) along with the controlling dedicated computer's USB interface. The computer system which is currently in use sends a switch command via the USB interface after completing all the operations with the internal memory unit. This is evaluated by the dedicated computer, which then switches the security relay to the other information system. The total number of switches carried out by each AirGap 02 block is restricted. The ability of the

external computer system to control when a switch occurs allows the product lifetime to be optimized, making it suitable for a wide range of applications.

[THE SECURITY EVALUATION OF THE AIRGAP 02 DEVICE]

The Common Criteria

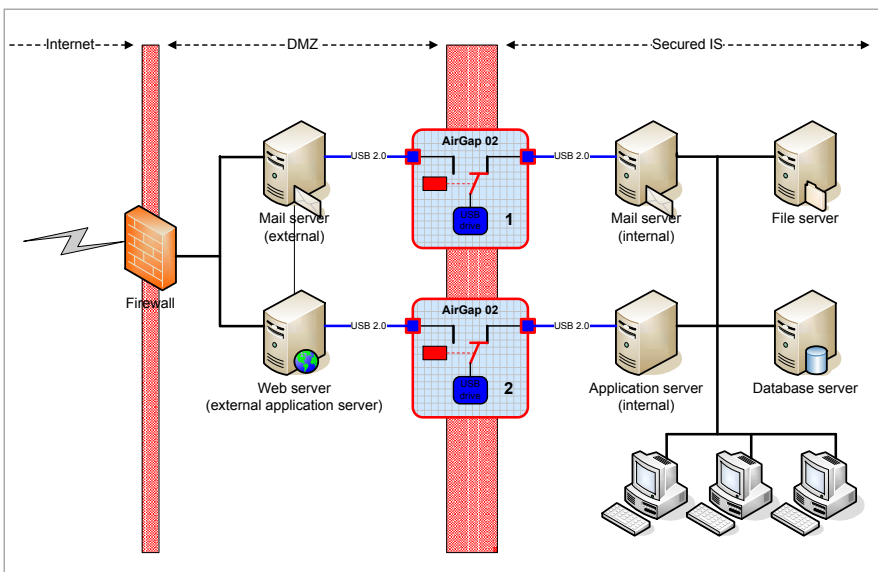
The security device has been developed and documented in accordance with the requirements listed in the Common Criteria for Information Technology Security Evaluation, September 2006, Version 3.1, Revision 1, CCMB-2006-09-001 (hereinafter referred to as the "CC"),

- ▶ Part 1: Introduction and General Model;
- ▶ Part 2: Security Functional Components;
- ▶ Part 3: Security Assurance Components.

and the guarantee requirements have been designated as an EAL4 evaluation guarantee level expanded by ALC_FLR.2 as defined in Section 3 of version 3.1. of the CC. The use of the physical separation of both interconnected systems ensures maximum resistance of the security interface to attacks between the two networks.

The Czech NSA

An evaluation of AirGap 02 by the National Security Agency of the Czech Republic has concluded that the product is not in breach of the principle of galvanic isolation of networks and that it is suitable for inclusion in information systems processing classified information in accordance with Czech Security Act no. 412/2005 Coll. which includes a requirement for the individual assessment of such implementations as part of the information system certification or the standard procedure for the approval of any changes influencing security in already certified information systems.



- Organizations requiring secure information systems (safely isolated from public networks like the internet) which also need to provide for basic communication with external systems using standard mail services and their own internet applications. Complete galvanic isolation of an internally secure information system was achieved with an appropriately set up AirGap 02 device. Even external attackers who have completely taken over servers located in the organization's DMZ will not be able to carry out a network attack on the organization's servers.

COMMERCIAL CONTACT

ICZ a.s. Na hřebenech II 1718/10
140 00 Prague 4

TEL.: +420 222 271 111

FAX: +420 222 271 112

E-MAIL: SIZC@i.cz