

# New! Canary Uni-Directional Data Security Diodes

Featuring:

- **One-Way Data Transmission** ▪ **Unauthorized Transmissions Blocked** ▪
- **RJ-45 Auto-Negotiation and Auto-Cross for Simple Host Connections** ▪
- **"We Deliver Increased Confidence and Peace of Mind to the Customer!"** ▪

Place Canary *Uni-Directional*, Data Security Diodes into environments where two-way, bi-directional communications expose secure servers and their sensitive data to the risk of purposeful, malicious attack or inadvertent corruption. *Uni-Directional* Data Security Diodes provide additional data loss protection in the event that malware or hidden executables escape detection and penetrate commonly used network defenses.

**Application 1:** 100 Megabit **CF-21USD** and Gigabit **GF-55USD** Data Security Diodes forward information originating from an *un-secured* open source to a restricted High-Security destination. They simultaneously partition the data path to stop all return-path transmissions and completely block the reverse transmission of sensitive information.

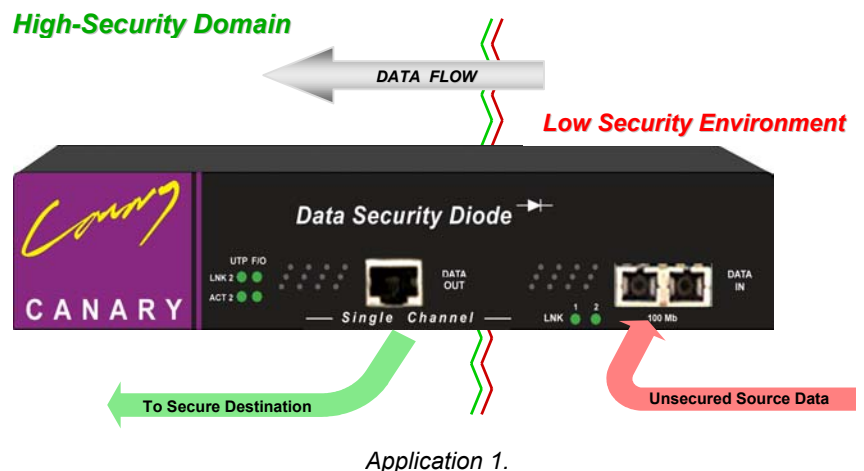
**Application 2:** Position a Canary Data Security Diode to *selectively forward* authorized data originating from a secured, trusted source to weakly protected, *insecure* destinations.

It also blocks the return path to *shield* the secure source from hidden viruses, Trojans, malicious instructions or other intrusion attempts. This prevents the unintended release and exposure of critical data or its loss and corruption (non-availability).

**CF-21USD** and **GF-55USD**, "Data-Out" RJ-45 ports employ *Auto-cross* and *Auto-negotiation* to establish twisted pair links, but only forward one-way data. Even when nominally full-duplex, UTP links are established at Data Diode/Host interfaces, they never physically transmit bi-directional, full-duplex traffic. Full-Duplex data handling functions including Flow-control are completely disabled and no internal or external means are available to restore bi-directional capability.

As another defensive layer for your critical data, Canary Data Security Diodes "*Deliver increased confidence and peace of mind!*"

## CF-21USD & GF-55USD – Fiber to UTP Single-Point Diodes



### ▪ Plug-and-Go Fiber & UTP Connections:

Configure your application to run via UDP and connect the *un-secure* device to the **CF-21USD** or **GF-55USD** Security Diode "Data-In" port; then simply connect the *Security Diode* "Data-Out" port to the Secure Domain Host for protected, one-way data transmission (*Solution 1*). Reverse the connection scheme for *Application 2*.

### ▪ Flexible, Secure Network/Host Configurations:

**Low to High:** Forward information to a Higher Security environment while blocking the un-authorized release of sensitive data in the reverse direction;

**High to Low:** Restrict authorized user access. Maintain System and Data Security, Integrity and Availability while allowing the limited export of selective information to lower security-level destinations.

### ▪ Hardwired Immunity from External Software threats:

Canary **CF-21USD** and **GF-55USD** *Data Security Diodes* execute their key functions in hardware. With tamper-resistant cases, there is no vulnerable software, firmware, memory or buffers that can be exploited to attack and surreptitiously alter or disable Uni-directional operation.

Using UDP or similar protocol over the point-to-point link eliminates the need for normal transmission acknowledgments.

Control physical access to your Canary *Data Security Diodes* and their cable connections to thwart unauthorized access and safely deliver critical data where needed – *Easy, Secure, Information Availability!*

**Canary Communications**

## Main Features:

### Interfaces:

- CF-21USD: One each: 100BASE-TX and 100BASE-FX \*
- GF-55USD: One each 1000BASE-T and 1000BASE-SX/LX\*
- Fiber ports: SC, ST (100 Mbps); SC (1000 Mbps)

### Networking:

- 100BASE-TX & 1000BASE-T: Auto-negotiation and Auto-crossover establish links to Source & Destination equipment. Links may appear to be Full-duplex, however **NO** Full-duplex traffic is transported or propagates bi-directionally.
- \* NOTE: 100 Mbps & 1000 Mbps Ethernet *Links & Data Rates* without bi-directional acknowledgments but optionally with UDP (application) Destination IP Address and Port Number \*

### Management:

- No management reporting or access to internal functions
- No provision for error handling/reporting

### Power:

- 100 ~ 240 VAC Auto-ranging Power input and +5 VDC Power Output

### Mechanical & Environmental:

- Mount Inside, Desktop locations or 19" rack-enclosures
- Two units can be mounted side-by-side on standard 19"-wide shelf (available from Canary)



## Specifications:

<b>Standards:</b>	IEEE 802.3u	100BASE-TX /FX * or;
	IEEE 802.3ab,x	1000BASE-T/SX/LX *
	IEEE 802.1d	Spanning Tree: None
	IEEE 802.1q	VLAN: Limited Functionality
	IEEE 802.3x	Flow Control Not Supported

**Throughput:** 100 Mbps (One-way transmission Max.) or; 1000 Mbps (One-way transmission Max.)

**Max Distances:** RJ-45/UTP : 100 meters

Fiber Optic :  
 100 Mb: 2 Km to 80+ Km & CWDM option  
 1000 Mb: 0.5 Km to 80+ Km & CWDM option

\* See *Data Rates* note above \*

**Temperature:** Operating: 0° C to 50° C  
 Storage: -20° C to 70° C

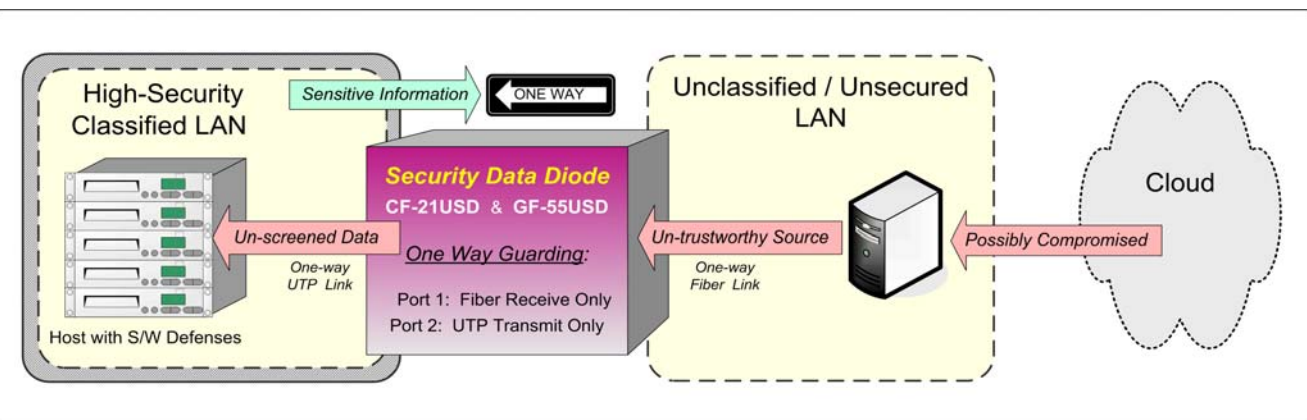
**Humidity:** Operating: 10% to 80% RH  
 Storage: 5% to 90% RH

**Emissions:** FCC Part 15 of Class B & CE: Pending

**Safety:** US 21 CFR (J) & EN 60825-1 standards and UL 1950 applications  
 EN 60950: Pending

**Dimensions:** 5.21 in. x 8.43 in. x 1.64 in. (D x W x H)  
 [12.7 cm x 20.3 cm x 4.4 cm] (D x W x H)

**Weight:** 5.5 lb. (2.5 Kg) (shipping wt.)



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Preliminary Specifications

For more information please visit us at:  
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