

Updated! Canary Uni-Directional Data Security Diodes

Provide:

- **One-Way, Air-Gapped Data Forwarding** ▪ **Reversed Transmissions Blocked** ▪
- **Auto-Negotiation + Auto-Cross UTP Connection** ▪ **9 – 48 VDC Power Option** ▪
- **"We Deliver Data Assurance and Increased Customer Confidence!"** ▪

Canary Uni-Directional Data Security Diodes help defend against a broad range of external, Cross-Domain and insider cyber threats that can escape common security applications to reveal or corrupt sensitive information & make mission-critical Data Services unavailable.

Protect secure servers and sensitive data from compromise. Data Security Diodes stand guard between domains where un-restricted two-way communications increase the risk of penetration, malicious attack and data loss.

Application1: Canary 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. Simultaneously, they *optically isolate* the data path to stop all return-path transmissions and completely block the reverse transmission of sensitive information.

Application2: Position a Canary Data Security Diode to optically isolate a trusted, information source and *selectively forward* authorized data to weakly protected *insecure* lower domain destinations.

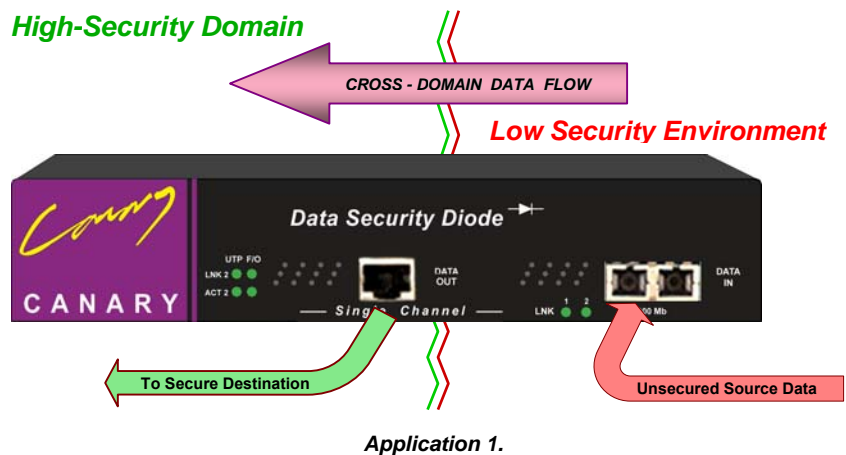
The partitioned data path *shields the* Secure Source from hidden viruses, Trojans, malicious programs or other intrusion attempts and prevents the corruption or unintended release of critical data, or its loss and non-availability.

Local Diode/Host UTP & Fiber connections are nominally full-duplex. However, bi-directional full-duplex traffic is never internally forwarded between Diode input and output ports. Data handling functions including Flow-Control, IP acknowledgement, and error correction are completely disabled.

Optional: **9-48 VDC [-V]** Variable Input-Power & **Conformal Z-Coating [-Z]** for reduced Tin-Whisker effects and Environmental hardening

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. 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 *optically isolated* & protected, one-way data transmission (**Application 1**). Reverse the connection scheme for **Application 2**.

▪ Flexible, Secure Network/Host Configurations:

Low to High: Forward information to a Higher Security domain 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 – Local Connections:

- CF-21USD: One ea: 100BASE-FX & 100BASE-TX *Local* User port *
* 100 Mbps Fiber Port Connector Identification *
* [21 ~ SC-type & 22 ~ ST-type m/m Fiber, 91 ~ SC & 92 ~ ST s/m Fiber]
- GF-55USD: One ea: 1000BASE-SX & 1000BASE-T *Local* User port
1000 Mbps Fiber Port Connector Identification +
+ [55 ~ Multi-mode SX/SC-type Fiber & 31 ~ Single-mode LX/SC-type Fiber]
- CF-21USD-V [VZ] and GF-55USD-V [VZ]: Same as above
- [Z & VZ ~ include **Conformal Z-Coating** for Environmental Hardening and Tin-Whisker resistance]

Networking – Local User UTP/ RJ-45 Connections:

- 100BASE-TX & 1000BASE-T: Auto-negotiation and Auto-crossover enable Half/Full duplex Ethernet Diode Links with *Local* Source Host and *Remote* Destination Host equipment.

Management:

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

Mechanical & Environmental:

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

Networking – Local User Fiber Connections:

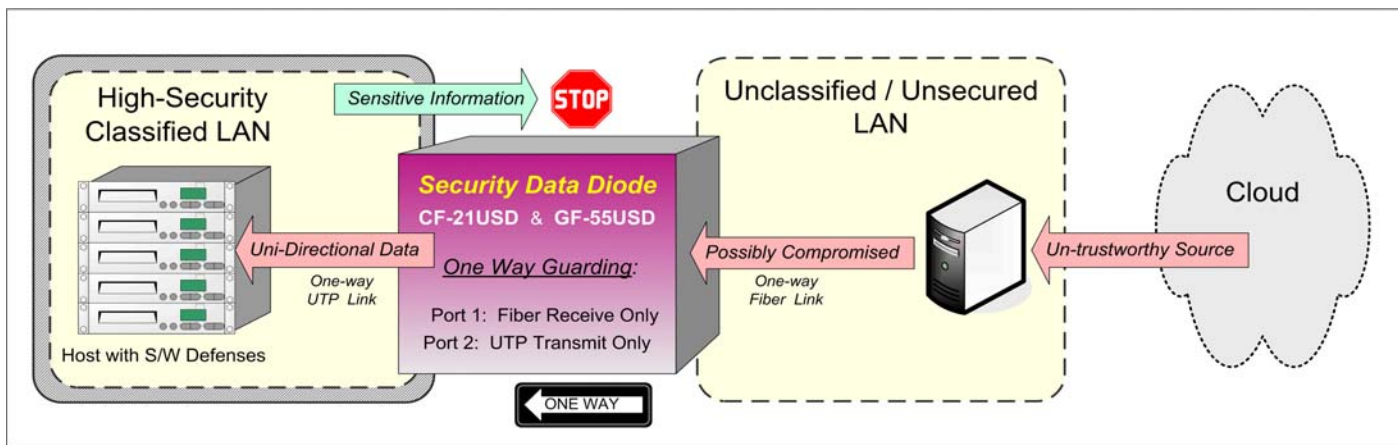
- 100BASE-FX & 1000BASE-SX/LX: Handshaking to auto-configure *Local* Full-duplex links with Source Host equipment. Gigabit Fiber [Auto] Negotiation to Source Host not available.

Please contact Canary for technical details on additional models.



Specifications:

Standards:	IEEE 802.3u IEEE 802.3ab,x IEEE 802.1d IEEE 802.1q IEEE 802.3x RFC 2549	100BASE-TX /FX or; 1000BASE-T/SX/LX Spanning Tree: None VLAN: Limited Functionality Flow Control Not Supported IETF IPoAC & QoS 4-01-99	Power:	Typical: 100 ~ 240 VAC Auto-ranging wall-mount Optional: 9 - 48 VDC input + Terminal Block [-V] [-VZ] versions use external DC Voltage Sources
Throughput:	CF-21USD: 100 Mbps (One-way transmission) GF-55USD: 1000 Mbps (One-way transmission)		9 - 48 VDC:	CF-21USD-V [VZ] & GF-55USD-V [VZ]
Max Distances:	RJ-45/UTP : 100 meters Fiber Optic : 100 Mb: 2 Km, 20, 40, 60, 80 Km 1000 Mb: 500m, 10, 20, 30, 60 Km		Temperature:	Operating: 0° C to 50° C Storage: -20° C to 70° C
Weight:	5.5 lb. (2.5 Kg) (shipping wt.)		Humidity:	Operating: 10% to 80% RH Storage: 5% to 90% RH
			Emissions:	CE Mark EN60950 & EN55022 and FCC Part 15 of Class A
			Safety:	US 21 CFR (J) & EN 60825-1 standards and UL 1950 applications, EN 60950, CE, TUV
			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)



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The Canary Communications QMS
 is Certified to ISO 9001:2015

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