

New! Canary Uni-Directional Data Security Diodes

Provide:

- **One-Way, Air-Gapped Data Forwarding** ▪ **Reversed Transmissions Blocked** ▪
- **Multi & Single-mode Links** ▪ **External Loop** ▪ **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.

Application 1: Canary 100Mb **CF-21SD-EL** and Gigabit **GF-55SD-EL** 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.

Application 2: Position a Canary Data Security Diode to optically isolate a secured, trusted, information source and *selectively forward* authorized data to weakly protected *insecure* lower domain destinations.

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

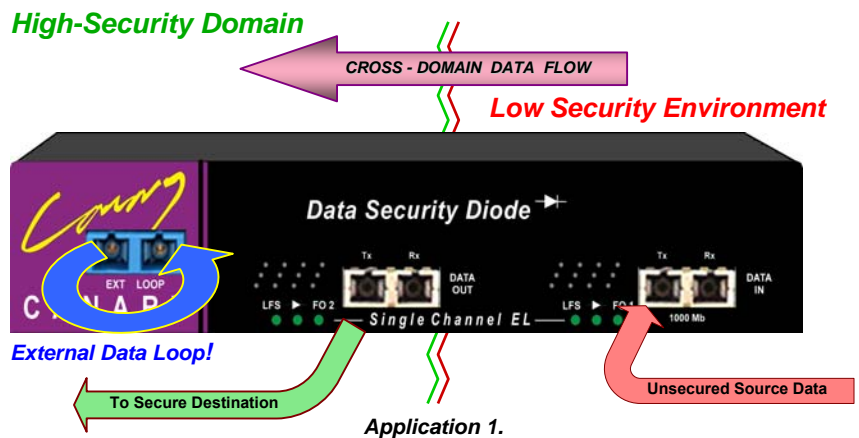
External Data Loop-Path: Test & Verify one-way Diode operation: Remove (one) end of Loop-Back Cable Assembly to sever Data Traffic; or remove Cable Assembly to immediately disable Data Diode function.

Local Diode/Host Fiber/UTP connections are nominally full-duplex. However, bi-directional traffic is not forwarded between input and output ports. Acknowledgements, Flow-Control and error notification are completely disabled.

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

Canary Data Security Diodes *"Deliver increased confidence and peace of mind!"*

CF-21SD-EL & GF-55SD-EL – External Loop Fiber Data Diodes



▪ Plug-and-Go Fiber Connections:

Configure your application to run via UDP. Connect the *un-secure* device to the **CF-21SD-EL** or **GF-55SD-EL** Security Diode "Data-In" port; then simply connect the Security Diode "Data-Out" port to the Secure Domain Host for restricted, optically isolated, 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-21SD-EL** and **GF-55SD-EL** 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 Diode 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-21SD-EL: (Two) 100BASE-FX (Multi-mode) *Local* User ports
- GF-55SD-EL: (Two) 1000BASE-SX (Multi-mode) *Local* User ports
- CF-21SD-ELV [VZ] & GF-55SD-ELV [VZ] Same as above
- [Z & VZ ~ include **Conformal Z-Coating** for Environmental Hardening and Tin-Whisker resistance]
- * Fiber port Connector Identification – 100 Mbps * & 1000 Mbps +
- * [21 ~ SC-type & 22 ~ ST-type m/m Fiber, 91 ~ SC & 92 ~ ST s/m Fiber]
- + [55 ~ SX/SC-type Multi-mode Fiber & 31 ~ LX/SC-Type Single-mode Fiber]

Networking – Local User Connections:

- 100BASE-FX & 1000BASE-SX/LX: Handshaking to auto-configure Full-duplex links with *Local* User Source equipment. Both *Local* User connections operate as Full-duplex, however NO Full-duplex traffic propagates or is internally transported bi-directionally.

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)
- SC & ST Cable Assemblies for Diode Loop-Back Front Panel



Management:

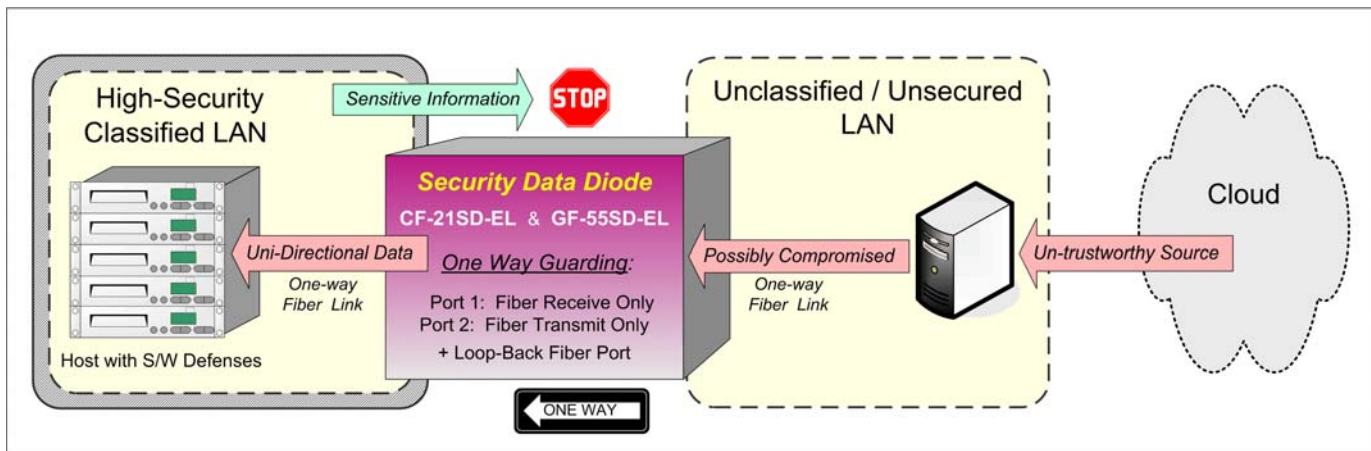
- No management reporting or access to internal functions
- No provision for error handling/reporting

Please contact Canary for technical details on additional models.



Specifications:

Standards:	IEEE 802.3u IEEE 802.3z IEEE 802.1d IEEE 802.1q IEEE 802.3x RFC 2549 NCDSMO	100BASE-FX* or; 1000BASE-SX/LX* Spanning Tree: None VLAN: Limited Functionality Flow Control Not Supported IETF IPoAC & QoS 4-01-99 GF- 55SD NSA Approved List	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-21SD-EL: GF-55SD-EL:	100 Mbps (One-way transmission) 1000 Mbps (One-way transmission)	9 - 48 VDC:	CF-21SD-ELV [VZ] & GF-55SD-ELV [VZ]
Max Distances:	Fiber Optic :	100 Mb: 2 Km, 20, 40, 60, 80 Km 1000 Mb: 500 m, 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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For more information, please visit us at:
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The Canary Communications QMS
 is Certified to ISO 9001:2015

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