

# New! Canary Uni-Directional Data Security Diodes

Featuring:

- **Forward One-Way, Host/IP Source Traffic** ▪ **Unauthorized Transmissions Blocked** ▪
- **Fiber/UTP Input/Output Ports for Bi-directional Host/Proxy IP Communications** ▪
- **"We Deliver Increased Confidence and Peace of Mind to the Customer!"** ▪

Uni-Directional Data Security Diodes provide an additional defense against a broad range of internal/insider or external cyber threats that may escape common security applications and reveal, corrupt, or make mission-critical data and essential services non-available.

Place Canary Uni-Directional Data Security Diodes in environments where un-restricted two-way, bi-directional communications expose secure servers and their sensitive data to malicious attack or inadvertent corruption.

**Application 1:** Data Diode input/output ports provide a channel for Source-Host and Proxy device communication using TCP/IP. The *un-secured source-side* traffic is copied/forwarded to a restricted, High-Security domain using a single Fiber-cable link and second Data Diode. Uni-directional partitioning blocks transmission of sensitive data to the un-secure Source-Host.

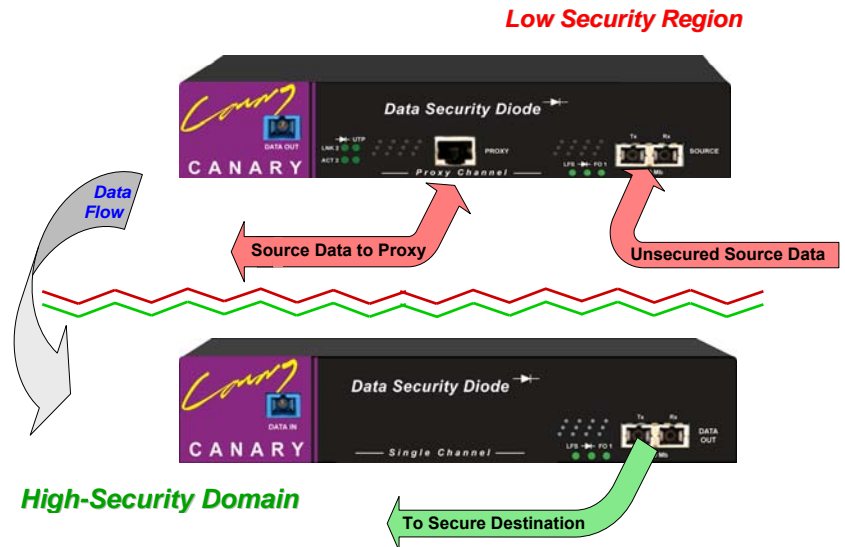
**Application 2:** Position a Data Diode between a Secure Host and its local Proxy as they communicate. One side of the TCP/IP conversation is then copied and forwarded to the second Diode located at an *insecure*, un-trusted target host. All traffic directed to the secure domain and Source Host is blocked.

Security Diodes partition their data paths to *shield* secure source(s) from hidden Trojans and other malicious programs preventing the unintended corruption, release or exposure of sensitive information. (*Application 2.*)

Local Diode/Host connections are nominally full-duplex. However, bi-directional full-duplex traffic is never transmitted between linked Diodes. Data handling functions including IP acknowledgement, Flow-Control and error correction are completely disabled and no internal or external means are available to restore inter-Diode bi-directional capability.

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

## CF-21UPD/ CF-21R & GF-55UPD/ GF-55R Proxy-Channel Data Diodes



Application 1.

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

Connect a pair of *un-secure* Source & Proxy devices to a *CF-21UPD* or *GF-55UPD* transmit-only *Data Security Diode* that copies one side of their TCP/IP conversation to a remote *CF-21R* or *GF-55R* receive-only *Diode*. The receive-only *Diode* forwards the one-sided copy to a Secure Destination host. (*Application 1*) Reverse configuration 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 *Data Security Diodes* execute their key functions in hardware. There is no vulnerable, software, firmware, memory or buffers that can be exploited to attack and surreptitiously alter or disable their function.

Other Diode versions use UDP or similar protocol over a point-to-point link to eliminate the need for normal TCP transmission acknowledgments.

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

**Canary Communications**

## Main Features:

### Interfaces – Inter-Diode Links & Local Connections:

- CF-21UPD: (One) Simplex **Tx** only; SC (m/m) Fiber (100BASE-FX) \*  
(2) Local ports, One each RJ-45 & Duplex (m/m) Fiber
- CF-21R: (One) Simplex **Rx** only; (1) Local Duplex SC Fiber, Tx only
- CF-91UPD: Same as CF-21UPD above; Fiber port SC (s/m) \*
- CF-91R: Same as CF-21R above; all ports SC (s/m) Fiber  
[21 ~ SC-type m/m Fiber connector, 22 ~ ST-type; 91 ~ SC s/m Fiber]
- GF-55UPD: (One) Simplex **Tx** only; SC (m/m) Fiber 1000BASE-SX \*  
(2) Local ports, One each RJ-45 & Duplex (m/m) Fiber
- GF-55R: (1) Simplex **Rx** only; (1) Local Duplex SC/SX Fiber, Tx only
- GF-31UPD: Same as GF-55UPD above; Fiber ports SC/LX (s/m) \*
- GF-31R: Same as GF-55R above; all ports SC/LX (s/m) Fiber  
[55 ~ multi-mode, SC-type Fiber connector, 31 ~ single-mode, SC-type]

Other versions change modes, utilize CWDM or long-reach multiplexed optics for *inter-diode links* between *Transmit-only* and *Receive-only* units

Please contact Canary for technical details on additional models.

### Networking – Local User Connections:

- 100BASE-TX/FX & 1000BASE-T/X: Auto-negotiation and Auto-crossover enable full duplex Ethernet Links with *local*, *Source* & *Proxy* and separately with *remote* Destination equipment. Only *local* Source & Proxy devices exchange TCP/IP traffic acknowledgements.
- \* 100 & 1000 Mbps Ethernet *Inter-Diode Links* do not forward full duplex bi-directional traffic. UDP Destination Address, Port Number & Checksum can be enabled by application \*

### Management: – Local User Connections:

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

### Mechanical & Environmental:

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

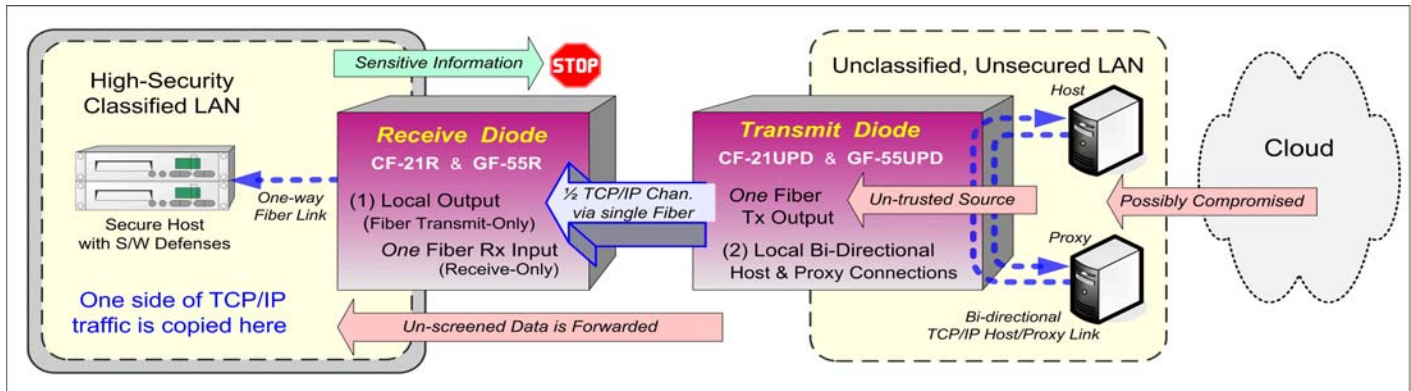


Pending



## Specifications:

<b>Standards:</b>	IEEE 802.3u	100BASE-TX, 100BASE-FX	<b>Power:</b>	100 ~ 240 VAC Auto-ranging wall-mount 9 - 48 VDC input plus Terminal Block option
	IEEE 802.3ab,z	1000BASE-T, 1000BASE-X	<b>Temperature:</b>	Operating: 0° C to 50° C Storage: -20° C to 70° C
	IEEE 802.1d	Spanning Tree: None	<b>Humidity:</b>	Operating: 10% to 80% RH Storage: 5% to 90% RH
	IEEE 802.1q	VLAN: Limited Functionality	<b>Emissions:</b>	FCC Part 15 of Class B & CE: Pending
	IEEE 802.3x	Flow Control Not Supported	<b>Safety:</b>	US 21 CFR (J) & EN 60825-1 standards and UL 1950 applications, EN 60950: Pending
<b>Throughput:</b>	CF-21UPD:	100 Mbps (One-way transmission Max.)	<b>Dimensions:</b>	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)
	GF-55UPD:	1000 Mbps (One-way transmission Max.)	<b>Weight:</b>	5.5 lb. (2.5 Kg) (shipping wt.)
		* (See Note above/right column) *		
<b>Maximum Distances:</b>	RJ-45/UTP:	100 meters		
	Fiber Optic:	100 Mb: 2 Km, 20, 40, 60, 80 Km 1000 Mb: 500 m, 10, 20, 30, 60 Km		



JM 08.13.12

Preliminary Specifications

For more information please visit us at:  
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