# New! Canary Uni-Directional Data Security Diodes

*Featuring:*

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

*Canary Uni-Directional* Data Security Diodes defend against a broad range of external, Cross-Domain and insider cyber threats that can escape 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 100Mb ***CT-U21SD-EL*** and Gigabit ***GT-U55SD-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.

***Application2:*** 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 or other intrusion attempts and prevents the corruption or unintended release of critical data or its loss and non-availability.

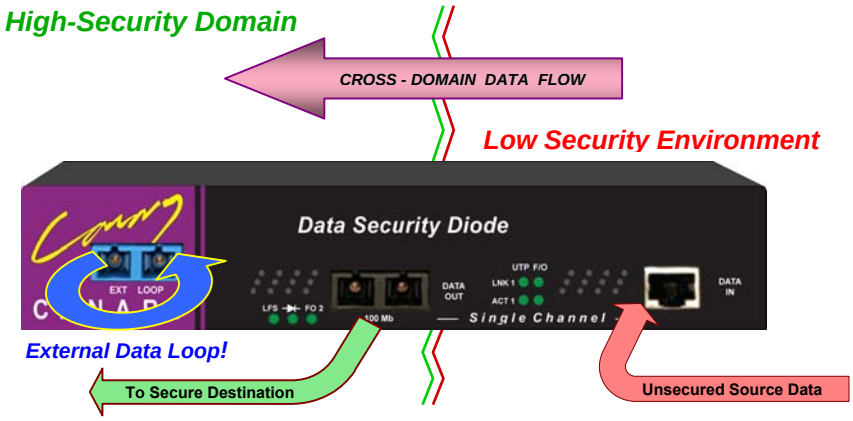
***External Loop-Path:*** Test & Verify one-way Diode operation: Remove one end of Loop-Back Cable Assembly to test Traffic isolation, or remove Cable Assembly to completely block & disable all Data forwarding functions.

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 easily "*Deliver increased confidence and peace of mind!"*

## *CT-U21SD-EL & GT-U55SD-EL –*
## *UTP-to-Fiber Single-Point Diodes*




***Application 1.***

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

Configure your application to run via UDP. Connect the *un-secure* device to the *CT-U21SD-EL or GT-U55SD-EL* 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 *CT-U21SD-EL* and *GT-U55SD-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 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:

- CT-U21SD-EL: One each: 100BASE-TX & 100BASE-FX User Port
- GT-U55SD-EL: One each: 1000BASE-T & 1000BASE-SX User Port
- CT-U21SD-ELV [VZ] & GT-U55SD-ELV [VZ] Same as above
- [**Z &VZ** ~ include **Conformal Z-Coating** for environmental hardening and reduced Tin-Whisker effects]

* Fiber Port Connector Identification – 100 Mbps & 1000 Mbps:

[21 ~ SC-type & 22 ~ ST-type m/m Fiber, 91 ~ SC & 92 ~ ST-type s/m Fiber]

[55 ~ multi-mode SX/ SC-type Fiber and 31 ~ single-mode LX/ SC-type]

### Networking – Local User Connections:

- 100BASE-TX & 1000BASE-T: Auto-negotiation and Auto-crossover enable half/full duplex Ethernet Diode Links with *remote* Destination Host equipment.
- 100BASE-FX & 1000BASE-SX/LX: Handshaking to auto-configure *Local* full-duplex links with Source-Host equipment. Gigabit Fiber [Auto] Negotiation is not available.

### 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)
- 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

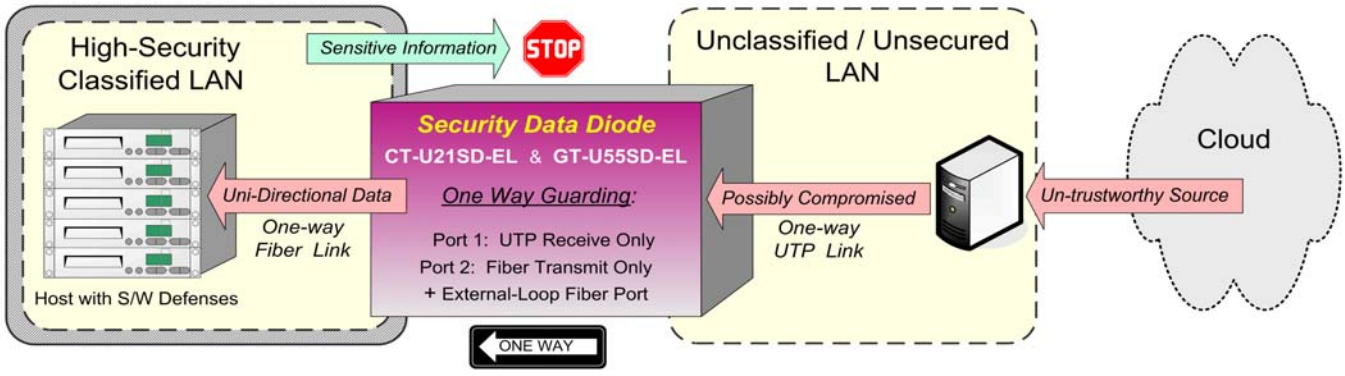
*Please contact Canary for technical details on additional models.*

FCC Class A  CE Approval

## *Specifications:*

| | | |
|---|---|---|
| **Standards:** | 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 |
| | RFC 2549 | IETF IPoAC & QoS 4-01-99 |
| **Throughput:** | CT-U21SD-EL: | 100 Mbps (One-way transmission) |
| | GT-U55SD-EL: | 1000 Mbps (One-way transmission) |
| **Max Distances:** | RJ-45/UTP : | 100 meters |
| | Fiber Optic : | 100 Mb: 2 Km, 20, 40, 60, 80 Km<br>1000 Mb: 500m, 10, 20, 30, 60 Km |
| **Weight:** | 5.5 lb. (2.5 Kg) | (Shipping Wt.) |

| | |
|---|---|
| **Power:** | Typical 100 ~ 240 VAC Auto-ranging wall-mount<br>**Optional:** 9 - 48 VDC input + Terminal Block (-**V**)<br>(-**VZ**) versions use external DCV Sources |
| **9 – 48 VDC:** | **CT-U21SD-ELV [VZ]** & **GT-U55SD-ELV [VZ]** |
| **Temperature:** | Operating: 0º C to 50º C<br>Storage: -20º C to 70º C |
| **Humidity:** | Operating: 10% to 80% RH<br>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)<br>[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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