

Canary Communications Single-Point & Multi-Point Data Diode Characteristics

Please use the following information for selecting *Canary Data Security Diode* Data Sheets:

- Data Security, Diode Data Sheets usually combine & present model numbers for similar Fast Ethernet & Gigabit Ethernet Data Diode versions in one document. Some Data Sheets focus on a special application, attribute or data-rate etc..
- Some Data Diode Data Sheets combine both standard and special application Data Security Diode versions and model numbers in one document.
- *Canary Data Security Diodes* are grouped into two physical installation categories:
 1. **Single Point / Single Location:** Diode Functions and user I/O Links (Source Input / Destination Output) are combined within a single device, at one location.
 2. **Multi-Point / Separate Locations:**
 - b. Diodes are deployed as two Fiber-optic Linked & Paired devices with one Security Diode being associated with an un-secured or Low-Security "Low" network and one Diode associated with a High-Security "High" network. and;
 - c. Multi-Point Diodes with associated Input/Output Links are/have divided functions and operations between the paired Fiber-cable linked units. One Multi-Point Diode functions as the [Data-Source] **Receive & Transmit-only** device; and the second Fiber linked Data Diode functions as the **Receive-only & Forwarding device** that presents the data traffic to the Destination end-point(s) [i.e. Data-User].
- A user or integrator that is unable to exactly match network configuration requirements to a specific Canary Data Security Diode, may contact the factory directly for additional Diode versions and other related information. Semi-custom functions are often able to be accommodated by minor design or execution changes.

For more information, please visit us at:
www.canarycom.com
info@canarycom.com

*The Canary Communications QMS
is Certified to ISO 9001:2015*



Single-Point Data Security Diodes

- **Single Location: *Single Point Data Security Diodes* and Port Connector Combinations:**

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Fiber Input [Rx] and Fiber Output [Tx]: 100Mb only (F/O / F/O) 2. Fiber Input [Rx] ** and Fiber Output [Tx]: 1000Mb only (F/O / F/O) 3. Fiber Input [Rx] and Fiber Output [Tx]: 100Mb + 1000Mb (F/O / F/O) 4. Fiber Input same as #3 plus External Loop-Back port (F/O / F/O) 5. Fiber Input [Rx] and UTP Output [Tx]: 100Mb + 1000Mb (F/O / RJ-45) 6. Fiber Input same as #5 plus External Loop-Back port (F/O / RJ-45) 7. UTP Input [Rx] and Fiber Output [Tx] 100Mb + 1000Mb (RJ-45 / F/O) | <ol style="list-style-type: none"> 8. UTP Input same as #7 plus External Loop-Back port (RJ-45 / F/O) 9. **UTP Input [Rx] and UTP Output [Tx] 100Mb + 1000M (RJ-45 / RJ-45) 10. UTP Input same as #9 plus External Loop-Back port (RJ-45 / RJ-45) 11. UTP Input same as #9 plus Conformal Coating & 9-48 VDC (RJ-45 / RJ-45) 12. UTP Gigabit-only Input similar to #9 above + <u>NCDSMO</u> List (RJ-45 / RJ-45) 13. ** Fiber Gigabit-only Input [Rx] & Fiber Output [Tx] plus (F/O / F/O) <u>NCDSMO</u> List Declaration & * SDN Fiber Negotiation versions |
|--|---|
- Many Data Sheets *combine* Model Numbers for both Fast Ethernet and similar Gigabit Ethernet Data Diode versions in one document.
 - Some Data Sheets *combine* Model Numbers for both standard and special application / special purpose Data Diode versions in one document.
 - The First listed connector-type defines Host-to-Diode Data Input connections • (UTP = TP & RJ-45) and (Fiber = Fiber Optic & F/O ~ FO, as found in Diode descriptions)
 - Selected Single-Point Data Security Diode versions are available with a Proxy Port, as special order. Please contact Canary for more information.
 - * **SDN** versions [2] implement Gigabit Fiber-Negotiation [**GFN**] on the Source Host-to-Data Diode, Gig-Fiber [Rx] Data-Input Port *

Single-Point Data Security Diodes (Local Receive-Only to Local Transmit-Only)

PDF Data Sheet	Installation Category	Data-Rates	Data In (Rx)	Data Out (Tx)
1. <i>Fiber Diodes: Single Point FE FO Diode_L_07-20-21C</i> ~ 100Mb Only	Single-Point	100Mb Only	F/O	F/O
2. <i>Fiber Diodes: Single Point GF & GFN-NS Diode_L_07-20-21C.</i> ~ 1000Mb Only + <u>NCDSMO</u> <i>Declaration</i>	Same	1000Mb Only	Same	Same
3. <i>Fiber Diodes: Single Point FO Diode_L_07-20-21C</i> ~ 100Mb + 1000Mb	Single-Point	100Mb + 1000Mb	F/O	F/O
4. <i>Fiber Diodes: Single Point FO + EL Diode_L_07-20-21C</i> + External Loop	Same	Same	Same	Same
5. <i>Fiber to UTP: Single Point FO to UTP Diode_L_07-20-21C</i> ~ 100Mb + 1000Mb	Single-Point	100Mb + 1000Mb	F/O	UTP / RJ-45
6. <i>Fiber to UTP: Single Point FO to UTP + EL Diode_L_07-20-21C</i> + External Loop	Same	Same	Same	Same
7. <i>UTP to Fiber: Single Point UTP to FO Diode_L_07-20-21C</i> ~ 100Mb + 1000Mb	Single-Point	100Mb + 1000Mb	UTP / RJ-45	F/O
8. <i>UTP to Fiber: Single Point UTP to FO + EL Diode_L_07-20-21C</i> + External Loop	Same	Same	Same	Same
9. <i>UTP Diodes: Single Point UTP Diode_L_07-20-21C</i> ~ 100Mb + 1000Mb	Single-Point	100Mb + 1000Mb	UTP / RJ-45	UTP / RJ-45
10. <i>UTP Diodes: Single Point UTP + EL Diode_L_07-20-21C</i> + External Loop	Same	Same	Same	Same
11. <i>UTP Diodes: Single Point UTP VZ GTNS & CT Diode_L_07-20-21C</i> + 9 - 48 VDC Power + Conformal Z-Coating	Single-Point	100Mb + 1000Mb	UTP / RJ-45	UTP / RJ-45
12. <i>UTP Diodes: Single Point UTP GTNS Diode_L_07-20-21C</i> ~ 1000Mb Only + <u>NCDSMO</u> <i>Declaration</i>	Single-Point	1000Mb Only	UTP / RJ-45	UTP / RJ-45

Multi-Point Data Security Diodes (Local *Receive-Only* & *Transmit* via Fiber to Remote *Receive-only* & *Forward* device)

- Multiple Location: *Multi-Point Data Security Diode* pairs (*Transmit-only* Linked to *Receive-only*), offer the following port configurations:

Data Diode Description	Source - Host to Diode Inputs & Fiber Transmit only	Fiber Receive Only & Forward: (One or Two) Destination Outputs
13. <u>Redundant-Channel: Fiber Data + Copy</u>	<i>Transmit only:</i> (One) Fiber Data Input plus Data Copy	<i>Receive only & Forward:</i> (One) Fiber Data + (1) Copy Outputs
14. <u>Dual/Two-Channels [Twin] Fiber Data</u>	<i>Transmit only:</i> (Two) Fiber Data Inputs, (2) F/O Outputs	<i>Receive only & Forward:</i> (Two) Fiber Data Channel Outputs
15. <u>2-Channels Fiber Data & Multiplexed F/O</u>	<i>Transmit only:</i> (2) Fiber Data Inputs, 2-Multiplexed F/O	<i>Receive only & Forward:</i> (Two) Multiplexed F/O to F/O Outputs
16. <u>Two-Channels Mixed Fiber & UTP Data</u>	<i>Transmit only:</i> (Mixed) Fiber Data & UTP Data Inputs	<i>Receive only & Forward:</i> (Mixed) Fiber & UTP Data Outputs
17. <u>Two-Channels: Fiber Data + Proxy Copy</u>	<i>Transmit only:</i> (1) Fiber Data Input, (1) Data + Proxy O/P	<i>Receive only & Forward:</i> (One) Fiber Data & (1) Proxy Output
18. <u>Redundant-Channel: UTP Data + Copy</u>	<i>Transmit only:</i> (One) UTP Data Input plus Data Copy	<i>Receive only & Forward:</i> (One) UTP Data + (1) Copy Outputs
19. <u>Dual/Two-Channels [Twin] UTP Data</u>	<i>Transmit only:</i> (Two) UTP Data Inputs, (2) F/O Outputs	<i>Receive only & Forward:</i> (Two) UTP Data Channel Outputs
20. <u>2-Channels UTP Data & Multiplexed F/O</u>	<i>Transmit only:</i> (2) UTP Data Inputs, 2-Multiplexed F/O	<i>Receive only & Forward:</i> (Two) Multiplexed F/O to UTP Outputs
21. <u>One-Channel: UTP Data or Proxy Copy</u>	<i>Transmit only:</i> (1) UTP Data Input, (1) Data or Proxy O/P	<i>Receive only & Forward:</i> (One) UTP Data & (1) Proxy Output
22. <u>Two-Channel: UTP Data + Proxy Copy</u>	<i>Transmit only:</i> (1) UTP Data Input, (2) Data + Proxy O/P	<i>Receive only & Forward:</i> (One) UTP Data & (2) Data + Proxy OP

- Multi-Point Diode Data Sheets typically present & describe Transmit-Only linked to Receive-Only Data Diode pairs e.g. [Tx unit - Fiber connected to - Rx unit] pairs
- Many Data Sheets *combine* Model Numbers for both Fast Ethernet and similar Gigabit Ethernet Data Diode versions in one document.
- Some Data Sheets *combine* Model Numbers for both standard and special application / special purpose Data Diode versions in one document.
- The First listed connector-type defines Host-to-Diode Data Input connection. • (UTP = TP & RJ-45) and (Fiber = Fiber Optic & F/O ~ FO, as found in Diode descriptions)

* XDN versions [2] implement Gigabit Fiber-Negotiation [GFN] on the Source Host-to-Data Diode, Gig-Fiber [Rx] Data-Input Port *

Multi-Point Data Security Diode Variants (Local *Receive & Transmit-Only* [device] connected via Fiber to Remote *Receive-Only & Forward* [device])

PDF Data Sheet	Installation Category	Redundant Channel	Dual [Twin] Channel	Proxy [Dual] Channel
13. <u>Redundant-Channel F/O:</u> Multi-Point_CF-21RD & GF-55RD Diode_L_07-20-21C ~ 100/1000Mb	Multi-Point	F/O	•	•
14. <u>Dual / Two-Channel F/O:</u> Multi-Point_CF-21TD & GF-55TD Diode_L_07-20-21C ~ 100/1000Mb	Multi-Point	•	F/O	•
15. <u>2-Channel F/O Multiplexed:</u> Multi-Point_CF-21TDM & GF-31TDM Diode_L_07-20-21C ~ Same	Multi-Point	•	F/O + Multiplexed F/O	•
16. <u>2-Channel F/O + UTP Data:</u> Multi-Point_CF-21UTD & GF-55UTD Diode_L_07-20-21C ~ 100/1000Mb	Multi-Point	•	Mixed F/O & UTP	•
17. <u>One-Channel F/O + Proxy:</u> Multi-Point_CF-21UPD & GF-55UPD Diode_L_07-20-21C ~ 100/1000Mb	Multi-Point	•	Mixed F/O & UTP	F/O or UTP
18. <u>Redundant-Channel UTP:</u> Multi-Point_CT-21RD & GT-55RD Diode_L_07-20-21C ~ 100/1000Mb	Multi-Point	UTP	•	•
19. <u>Dual / Two-Channel UTP:</u> Multi-Point_CT-21TD & GT-55TD Diode_L_07-20-21C ~ 100/1000Mb	Multi-Point	•	UTP	•
20. <u>2-Channel UTP Multiplexed:</u> Multi-Point_CT-21TDM & GT-31TDM Diode_L_07-20-21C ~ Same	Multi-Point	•	UTP + Multiplexed F/O	•
21. <u>One-Channel UTP / Proxy:</u> Multi-Point_CT-21PD & GT-55PD Diode_L_07-20-21C ~100/1000Mb	Multi-Point	•	UTP	UTP
22. <u>Two-Channel UTP + Proxy:</u> Multi-Point_CT-21TPD & GT-55TPD Diode_L_07-20-21C ~100/1000Mb	Multi-Point	•	UTP + UTP	UTP

Legacy Multi-Point One-Way Converter Versions (Local *Receive-Only* to Remote *Transmit-Only*)

- **Multiple Location:** Data Sheets for Legacy Uni-Directional [D/DR] Converters (*Transmit-only* Fiber port Linked to *Receive-only* Fiber port, pairs):
- **NOTE:** Legacy *Uni-Directional [D/DR] Converters* are available only to pre-existing (legacy) users

- | | | |
|------------------------------------|--|--|
| 1L. Legacy Fast Ethernet Series | <i>Transmit Only:</i> (One) UTP Data Input to F/O Output, | <i>Receive only & Forward:</i> (One) F/O Input to UTP Output |
| 2L. Legacy Gigabit Ethernet Series | <i>Transmit Only:</i> (One) UTP Data Input to F/O Output, | <i>Receive only & Forward:</i> (One) F/O Input to UTP Output |
| 3L. Legacy Multi-Channel Chassis: | <i>Transmit or Receive Only:</i> (8) One-Way Input/Output Channels | Channel Card Modules: (UTP & F/O Input /Output as above |

Legacy Uni-Directional [D/DR] Converters (*Transmit-only* Linked to *Receive-only* pairs):

PDF Data Sheet	Installation Category	Data In (Rx) Data Out (Tx)	Data In (Rx) Data Out (Tx)
1L. Legacy Standalone: Directional Cnvrtr_Fast E_E: ~ 100 Mb	Legacy Multi-Point	(Rx) UTP - F/O (Tx)	(Rx) F/O - UTP (Tx) .
2L. Legacy Standalone: Directional Cnvrtr_Gig E_G: ~ 1000 Mb	Legacy Multi-Point	(Rx) UTP - F/O (Tx)	(Rx) F/O - UTP (Tx) .
3L. Legacy Multi-Channel D-Chassis: F/O & UTP: ~ 100/1000 Mb CCM-1600D 8-Chan Chas _07-20-21	Legacy Multi-Point & Multi-Card Chassis	(4 - 8) Single-Type or Mixed Combinations of One-Way UTP & F/O: Contact Canary for exact Details, Features & Models	



09/01/22
JM