



# WSD-6/TXO and RXO

## Cyber Security Products

- Gigabit Ethernet **Network/Data Diodes** used for secured Single/Uni-Directional data transfers & streaming in Critical Infrastructure and highly secured / sensitive Networks.
- **Single/Uni-Direction** transparent converter/repeater.
- Pure HW, utmost immunity, security, intrusion proof devices.
- Works with any Uni-Directional data transfer application.
- Compatible with standard 1000Base-T (Auto Neg.) and 1000Base-X (force FDX) link partners.
- Local or remote installation over 0-70Km fiber link.
- Fully transparent 3R repeater, supports any frame size.
- Link Verification - Propagation Of No Link (PONL).
- Plug & Play installation and operation.
- Available for Multi/Single Mode fibers with SC or ST connectors.
- Polarity free DC input, 5VDC or wide range 5-60VDC.
- Available for indoor, outdoor/industrial environments.
- Desktop, DIN rail and wall mounting options.



The WSD-6/TXO and WSD-6/RXO are Single/Uni-Directional Gigabit Ethernet “Transmit Only” and “Receive Only” transparent Network/Data Diodes. The WSD-6 provides Uni-Directional 3R (Retiming, Reshaping and Regeneration) conversion/repeating between 1000Base-T copper media and 1000Base-X fiber media in compliance with IEEE802.3ab and IEEE802.3z standards.

Designed and approved for Critical Infrastructure Protection - CIP, the WSD-6/TXO provides fully secured copper to fiber single/uni-directional data transfer whereas the WSD-6/RXO provides fully secured fiber to copper single/uni-directional data transfer. The WSD-6/TXO and RXO are connected over a single fiber optic link, MM or SM upto 70Km and assures complete single/uni-directional diodes protection on both sides of the link.

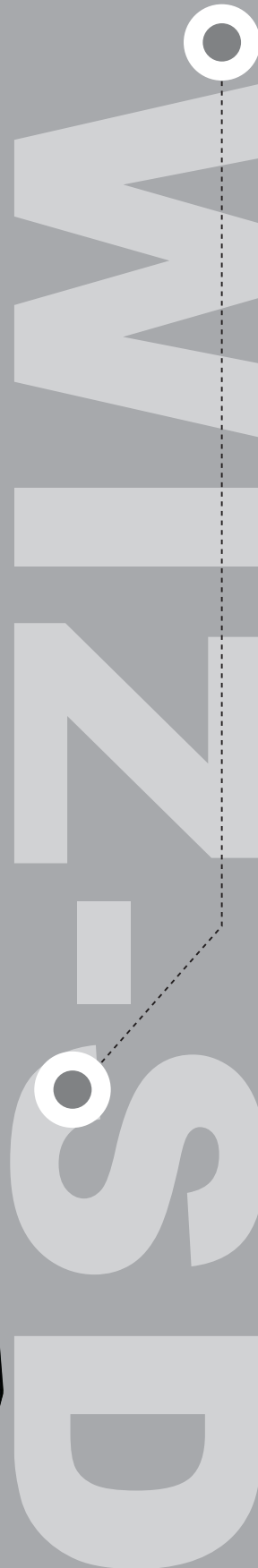
Data transfer and signaling in the opposite direction is completely and individually blocked by both the WSD-6/TXO and RXO internal HW circuitry.

WSD-6/TXO and WSD-6/RXO may also connect to a standard Gigabit converter that supports special forced FDX mode, like the WizLAN WL-62. Such connection enables single/uni-directional data transfer but protects only one side of the network - the WSD-6 diode side respectively.

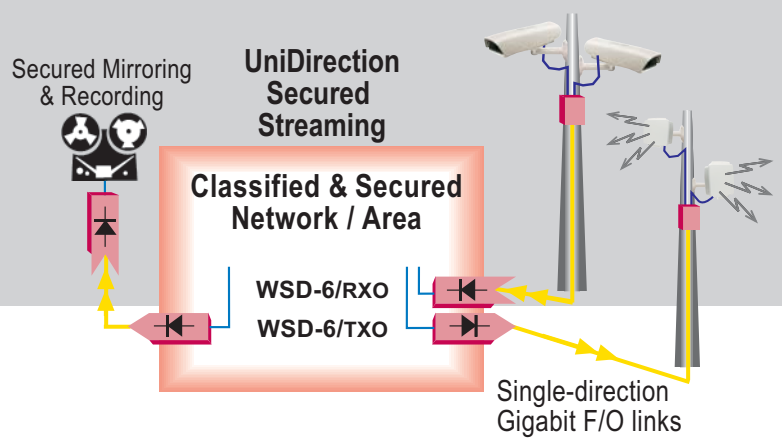
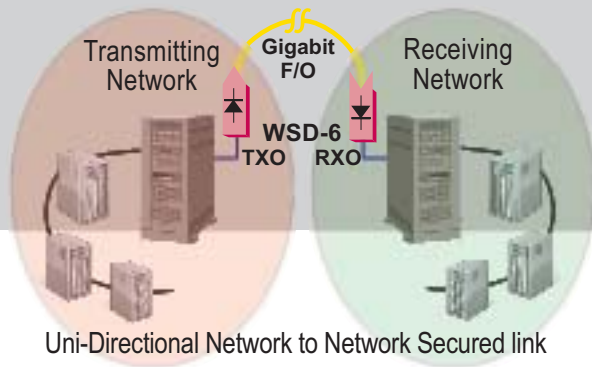
The WSD-6 pure HW implementation provides highest level of Uni-Directional network access security by enabling to separate and isolate between the network access/edge device and the network’s SW applications including those responsible for the uni-directional data transfer/communication. This unique separation provides utmost immunity, security and hacker/intrusion protection.

The WSD-6 provides unique Uni-Directional PONL (Propagation Of No Link) link verification option, copper to fiber (C2F) on the TXO and fiber to copper (F2C) on the RXO. PONL enables the receiving side to verify proper and operational end-to-end connectivity back to the TXO copper link partner (the transmitting network source device).

The WSD-6 are plug & play devices with simple DIP switch configuration and clear LED indications that assures fast & easy installation, operation and maintenance. The units are available for indoor or outdoor/industrial environments for desktop, DIN rail or wall-mount installations.



## Typical Configuration



## Technical Specifications

### WSD-6/TXO & RXO Single/Uni-Directional Gigabit Converter

#### 1000Base-T Copper TP port (RJ45)

1000Base-T, auto-negotiation auto MDI/MDIX and polarity  
100meter (330 ft) distance over CAT5E or above TP cables

#### 1000Base-X Fiber Optic Port

1000Base-X, force full duplex FDX mode  
Dual/single fiber (850nm MM range 220/550m; 1310/1550 nm SM rang 0-70Km)  
Fixed fiber interface: Multimode (MM) 850nm Connectors: SC, ST  
Singlemode (SM) 1310/1550nm Connectors: SC, ST

#### Technology

Physical layer 3R transparent Gigabit repeater (Retiming, Reshaping and Regeneration), supports any frame size.  
Pure HW in-circuit single/uni-direction diode implementation.

#### LED Indicators

POWER - Power "ON" indication  
LINK/ACT - Link/Activity indication, LED per port

#### Setup Options (via DIP switch)

Link Verification: PONL Off / On - F2C (fiber to copper)  
PONL Off / On - C2F (copper to fiber)  
Reset: RESET or NORMAL operation

#### Standard Compliance

IEEE802.3ab 1000Base-T auto-negotiation and auto MDI crossover  
IEEE802.3z 1000Base-X force FDX mode on the fiber port

#### Environment

	Standard	Outdoor/Industrial
Operating Temp (°C):	0 to +45	-20 to +70
Operating Temp (°F):	32 to 113	-4 to 158

Storage: -40 to +85°C (-40 to 185°F)  
Humidity: 10% to 90% non-condensing

#### Safety and Emission

CE, FCC part 15, EN60950

#### Power

DC input (standard): 5VDC, polarity insensitive.  
Wide DC input (wide range): 6 - 60 VDC, polarity insensitive.  
DC power consumption: 4Watt max. .

External switching power adaptor (EPS), supplied with the standard DC model

AC input: 100 - 240 VAC 50/60Hz +5V-  
DC output: 5VDC 2 or 3 Amp. polarity: →

#### Module Dimension

WSD-6

#### Height

94.5mm(3.8")

#### Width

78.5mm(3.1")

#### Depth

27mm(1.06")

### VectorIT Software (optional sold separately)

The software facilitates unidirectional transfer of certain TCP-based protocols as well as raw files over standard Ethernet interface. All data between the two endpoints flows in one direction only, which can be further enforced and secured by the hardware. Currently supports FTP, SMTP, TCP and raw files.  
VectorIT application is installed on dedicated machines, servers or workstations running Windows OS (not supplied) on both networks endpoints.

### Ordering Information

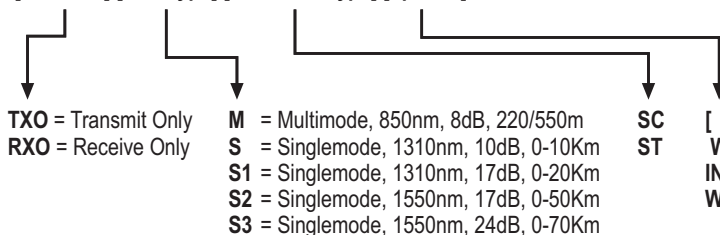
**WSD-6/** / / / / 1000Base-T to 1000Base-X Network/Data Diode [direction], [fiber type], [connector type], [option]

#### Optional

**VectorIT** Unidirectional data transfer SW application, supports certain TCP-based protocols as well as raw files over standard Ethernet interface. Please contact WizLAN for more information.

### Ordering terminology

**WSD-6**[direction]/[fiber type]/[connector type]/[options]



Note: for other fiberoptic distances, interfaces and/or connectors please contact WizLAN representative

Example: **WSD-6/TXO/M/ST** 1000Base-T to 1000Base-X Network/Data Diode, transmit only, (MM, 850nm, 10dB, 0-220/550m, ST). Standard DC input, inc. EPS.

All specifications are subject to change without notice. Neither manufacturer nor seller shall be liable for any loss, damage or injury, direct or consequential, arising from the inability to use the product.



Ltd. P.O. Box 7948, Haifa 31078, Israel e-mail: sales@wizlan.com http://www.wizlan.com Tel: +972-4-857-2199 Fax: +972-4-857-2204

Rev-1.2 12/14