



# N-Connex

Harsh Environment Network

**High-Speed Communications /  
Tracking / AMS / Data**



- **Plug n' play high-speed modular network supports all WiFi and Ethernet devices**
- **Install only the modules & services you need**
- **Easy to update / expand**

The Matrix NLT N-Connex network is designed for harsh environments such as underground hardrock mines, tunnels, prep-plants and other heavy industries.

N-Connex is fully compatible with 802.3 and 802.11 Ethernet and WiFi devices for voice, tracking, atmospheric monitoring (AMS), data and video systems.

Matrix is authorized sales and service distributor of NLT N-Connex in the United States, Europe and Africa.

[www.matrixteam.com](http://www.matrixteam.com) 



# N-Connex. High Speed. Highly Connected.

N-Connex (gigabit) uses a NLT mil-spec two-core fiber-optic cable for its high-speed network backbone. The system also works with other fiber combinations. Access to the network is provided by N-Connex Bolt access points and/or PoE ports on the core distribution module. The system is fully 802.11 compatible, so any WiFi or Ethernet client can function over N-Connex.

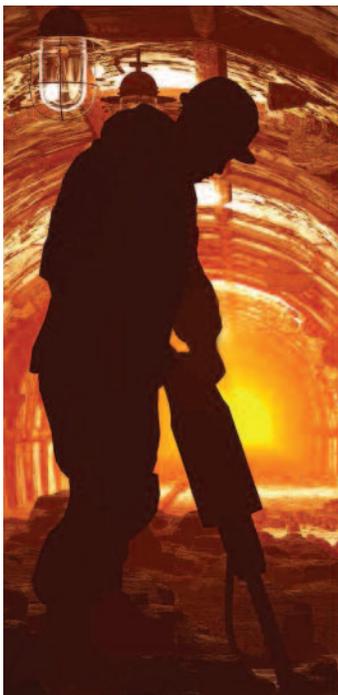
N-Connex's IP67-rated modular system, featuring NLT's proprietary enclosures, is simple to install and maintain, and allows easy network expansion.

The N-Connex modules clip to the custom frame and connect via a Cat5 cable to the main distribution module. All devices support power over ethernet (PoE) connectivity.



**N-Connex is the smart, integrated approach to industrial networking.**

- Voice Communications
- Personnel and Mobile Equipment Tracking
- Atmospheric Monitoring
- Automation Control
- Data Networking
- Video



## NETWORK CONNECTIVITY

N-Connex is fully compatible with 802.3 and 802.11 standards and supports all Ethernet and WiFi devices. NLT's modular solutions can be used over the N-Connex network, including:

- **Voice** – IP radio handsets and VoIP phones provide two-way voice communications.
- **Data** – Network connectivity allows access to intranets and the internet.
- **Video** – Critical areas can be visually monitored throughout your operation without slowing down your data flow.
- **Tracking** – WiFi or RFID people and asset tracking.
- **Monitoring** – Observe ventilation, gas levels, environmental conditions and ground strata changes.
- **PLCs** – Ethernet connectivity fosters a nimble PLC network.



## MODULES OVERVIEW

**Distribution** Provides connectivity to a one-gigabyte fiber backbone via four fiber ports. Also includes eight managed PoE ports.

**Power** Converts 110/240 VAC to 48VDC which is used to power all other modules and remote PoE devices.

**Battery** Provides backup in the event of power failure with digital and analog input/output capability to control and monitor electrical equipment such as pumps or fans.

**Alarm** Siren and strobe combination also acts as an initiating point for emergency evacuation.

**Edge** Stand-alone network switch and access point eliminates the need for fiber, and can be used to provide fiber-free branches on the gigabit system. Edge provides 100mb backbone connectivity.

**Bolt** IP67 access point provides WiFi connectivity throughout the mine, tunnel or industrial facility. The bolt also supports tracking firmware which enables personnel and asset tracking.

**Frame** Customized mounting frame supports all modules and allows easy installation and removal.



Matrix is the safety and productivity technology leader for mining and heavy industrial applications.

Matrix is an ISO-certified manufacturer that specializes in delivering highly reliable, cost-effective fit-for-purpose products that deliver outstanding long-term value to our customers.



## N-Connex SPECIFICATIONS

### STANDARDS

- IEEE 802.3 10Base-T Ethernet
- IEEE 802.3u 100Base-TX fast Ethernet
- IEEE 802.3ab 1000Base-T gigabit Ethernet
- IEEE 802.3z 1000Base-X gigabit Ethernet
- IEEE 802.3x flow control and back pressure

### INTERFACE

- 8 x 10/100/1000 Mbps RJ45 ports
- 4 x 1000/1000 Base SFP slots

### RJ45 PORTS

- Support straight or cross-wired cables
- 10/100/1000 Mbps speed auto-negotiation; full and half-duplex
- 1500 VRMS 1-minute Ethernet isolation

### ODC PORTS

- Support 100FX SFP transceiver
- Support 100/1000BaseT SFP transceiver
- ODC fiber bulkheads
- Typical 8 or 9/125 m for single mode (sm)

### OPERATING MODE

- Store and forward, L2 wire-speed/ non-blocking switching engine

### ENVIRONMENT

- Operating temperature: -20° to +55°
- Humidity: 5% to 95% RH (non-condensing)

### JUMBO FRAMES

- 9K Bytes

### FAST FAILOVER PROTECTION RINGS

- Link loss recovery <20ms
- Single & multipurpose rings supported

### SPANNING TREE PROTOCOL

- IEEE 802.1D STP, IEEE 802.1w RSTP, IEEE 802.1s MSTP

### MAX VLANS

- 256

### LLDP

- IEEE 802.1ab link layer discovery Protocol (LLDP)

### PRIORITY

- IEEE 802.1p QoS

### PoE MANAGEMENT

- Scheduling, power control, PoE PD power consumption

### INPUT VOLTAGE RANGE

- 46-57 VDC

### TOTAL PoE OUTPUT POWER

- 240W

### HOUSING

- IP67 protection

### DIMENSIONS

- 18"(L) x 10.2"(H) x 7.75"(D)

### WEIGHT

- 21.2lbs

### MAC ADDRESSES

- 8K

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