



## Industrial Networking Guide for Oil & Gas





# Antaira Worldwide



## About Antaira

**Antaira Technologies** is a leading global developer and manufacturer of high-quality industrial networking and communication product solutions. Since 2005, Antaira has offered a full spectrum of product lines that feature reliable Ethernet infrastructures, extended temperature tolerance, and rugged enclosure designs. Our product lines range from industrial Ethernet switches, industrial wireless devices, Ethernet media converters, and industrial serial communications. Our vast professional experience has allowed us to deploy a wide array of products worldwide in mission-critical applications across various markets, such as, automation, transportation, security, oil and gas, power/utility and medical.

## Mission Statement

As a leader and trusted partner in the industrial device networking field, Antaira is committed to providing quality products and value-added service to its customers and channel partners to create solutions that deliver a worldwide advancement for a wide array of applications.

## Our Commitment

### Customer Service & Technical Support



Antaira's dedicated and competent team takes pride in delivering high-quality and prompt service to our customers. We go one step further when it comes to service. All incoming calls are routed to a live representative who can answer all inquiries quickly, whether it be pre-sales, post-sales or technical services. Antaira's technical support and RMA team have elite industry knowledge to ensure all issues are professionally and thoroughly resolved.

### Satisfaction Guarantee



At Antaira, we strive to meet our customers' needs by going above and beyond industry standards. Every sale is backed by our 45-day satisfaction guarantee. If for any reason our customers are unsatisfied with their experience or their expectations were not met, Antaira will provide a full refund within 45 days of the purchase date. Our friendly customer service representatives are available to help clarify any questions, comments or concerns regarding all transactions.

### 5-Year Warranty



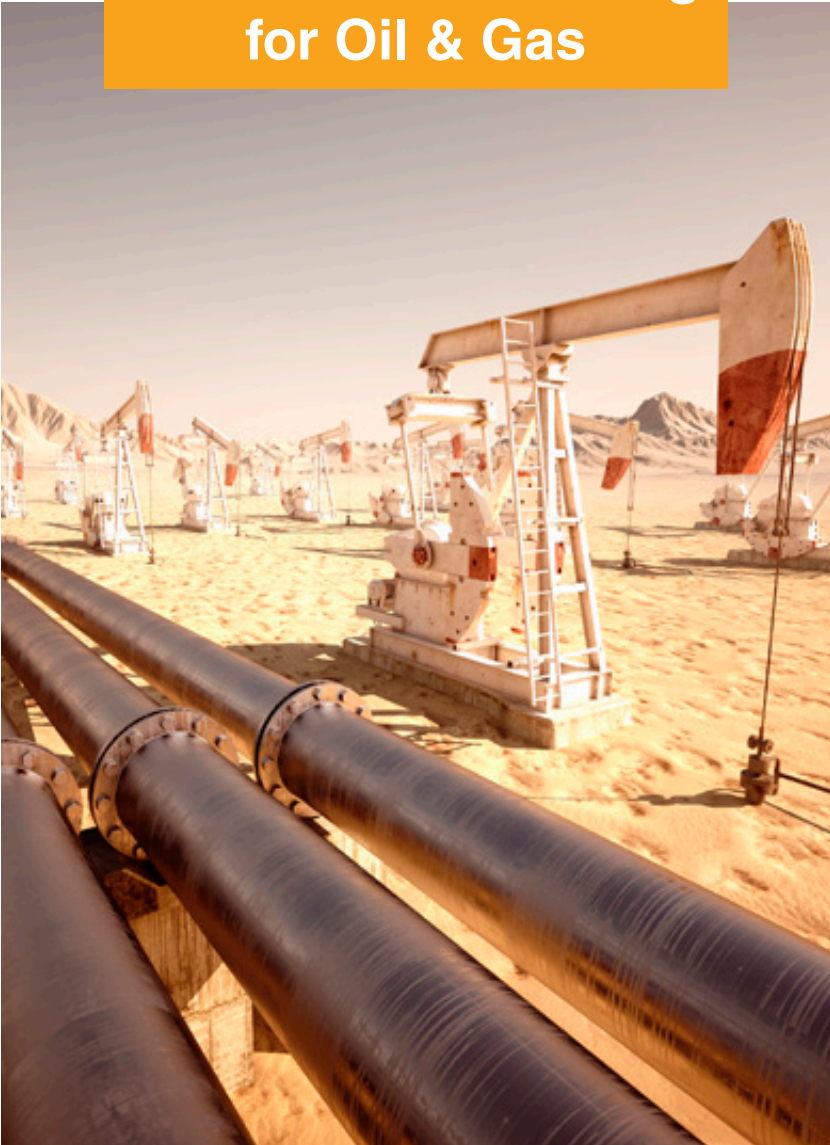
All Antaira products are backed with a warranty of up to five years. We warrant products against defects in material and workmanship for up to five years from the date of purchase. This means that Antaira will happily repair or replace the defective products within warranty, provided the products were installed and used within proper specifications. Antaira is committed and will stand behind all of its products assuring customers will receive the highest quality and most reliable products possible.

### RoHS Directive



Antaira recognizes its environmental responsibility as a manufacturer and is dedicated to preserving the environment for future generations. We make it a priority to ensure that all our products are environmentally friendly. At Antaira, we not only make sure that our products are RoHS 2.0 compliant, but also all of our packing materials used to ship our products are compliant as well.

# Industrial Networking for Oil & Gas



The oil and gas industry makes up the world's largest energy supply. It is considered to be the biggest sector in the world in terms of dollar value, as oil and gas are utilized in everyone's daily lifestyle from operating a vehicle, to heating up a home, and even cooking food. Together, they supply more than 60 percent of the nation's energy.

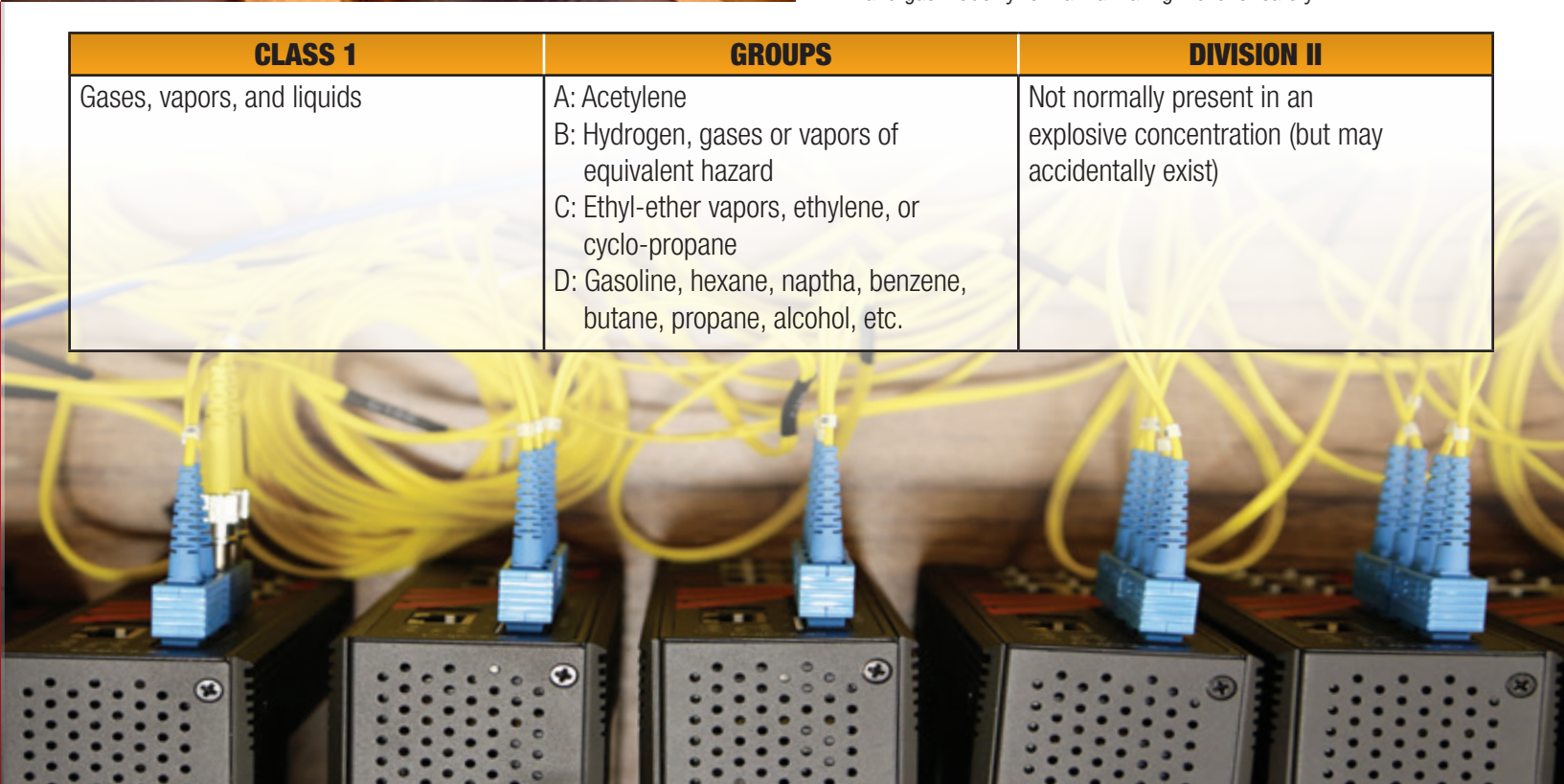
From market research to advancement in drilling, the process for constructing a reliable and efficient way to accurately monitor control systems is critical in the oil and gas industry. Applications that monitor systems for offshore platforms, oil refineries, pipelines, pump jacks, and tank storages undergo demanding environmental conditions and challenges, such as, high vibration and shock, electromagnetic interference, ambient weather conditions, explosive atmospheres, and extreme operating temperatures. Antaira Technologies can provide rugged and reliable products to ensure dangerous applications have a safe and efficient networking system.

## Certification Definition Class I, Division 2

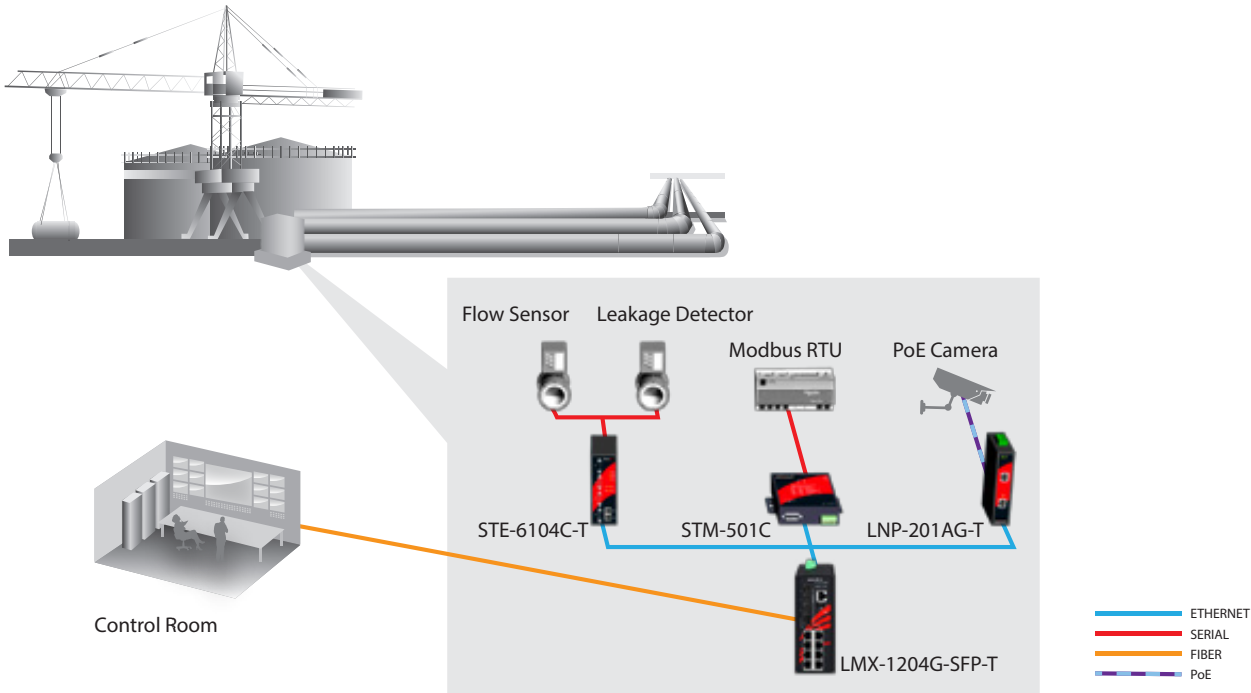
The National Electric Code (NEC) defines hazardous locations as areas where flammable liquids, gases, vapors, combustible dusts, or ignitable fibers/flyings are present in the air in quantities sufficient to produce an explosion or fire. There are three "types" of hazardous locations – Class I (gases, vapors, and liquids), Class II (dusts), and Class III (fibers/flyings). Division II specifies flammable materials are handled, processed, or used in the defined hazardous location, but are not normally present in concentrations high enough to be ignitable but may accidentally exist.

Class I application locations within the oil and gas industry include petroleum refineries, gasoline storages, dispensing areas and utility gas plants. Division II has four groups (A, B, C, D) within it containing different levels of flammability and combustibility of the gases, liquids, or vapors. It is vital that Class I Division II industrial networking devices are used within rugged temperature extreme environments in the oil and gas industry to maintain a high level of safety.

CLASS 1	GROUPS	DIVISION II
Gases, vapors, and liquids	A: Acetylene B: Hydrogen, gases or vapors of equivalent hazard C: Ethyl-ether vapors, ethylene, or cyclo-propane D: Gasoline, hexane, naptha, benzene, butane, propane, alcohol, etc.	Not normally present in an explosive concentration (but may accidentally exist)



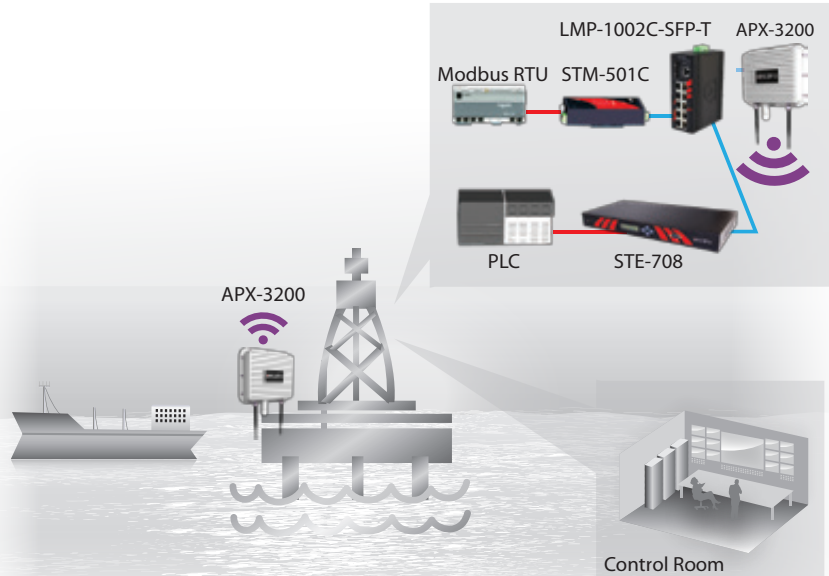




**Application**  
Build a reliable and secure oil pipeline network capable of remote monitoring.

- Application Requirements**
- Provides the capability to remotely monitor, access and control field site equipment, and surveillance systems of an oil pipeline network from a control center
  - Network equipment that is suitable for wide temperature ranges, high humidity, dust and even explosive environments
  - Fiber optics for long distance transmission of data across miles

**Solution**  
**STE-6104C-T:** Provides serial connectivity to the network for multiple serial devices, such as serial sensors/detectors.  
**STM-501C:** Provides a Modbus gateway solution for Modbus RTU/ASCII/485 devices to a Modbus TCP network.  
**LNP-201AG-T:** Provides remote PoE power injection to power IP surveillance cameras and transmit data.  
**LMX-1204G-SFP-T:** Provides a redundant network infrastructure solution for all edge networking devices, high-density port counts and wide Gigabit bandwidths.



**Application**  
Safely monitor and control devices on an offshore platform via a control room.

- Application Requirements**
- Continuous monitoring of devices and the ability to support high bandwidths
  - Wide operating temperature for reliability in harsh environments
  - Wireless link across the oil platform

**Solution**  
**APX-3200:** Eliminate hazardous cables by wirelessly linking a central control room and on-rig devices for data monitoring and transfer with a pair of bridge/router/access point units.  
**STM-501C:** Modbus gateway solution to connect Modbus RTU/ASCII/485 devices to a Modbus TCP network.  
**STE-708:** Provides multiple ports of serial connectivity to bring the PLC and other serial data back to an Ethernet network.  
**LMP-1002C-SFP-T:** Provides a redundant network infrastructure solution for all edge networking devices with a PoE/PoE+ power source to power the APX-3200.

Key Products

**STE-6104C-T**  
Industrial Serial to Ethernet  
Device Server



- 4-port RS232/RS422/RS485, baud rate up to 921 Kbps

**LMX-1204G-SFP-T**  
Industrial Gigabit  
Managed Ethernet Switch



- 8\*10/100/1000TX + 4\*100/1000 gigabit fiber SFP slots

**LNP-201AG-T**  
Industrial Gigabit  
PoE+ Injector



- 10/100/1000 PoE injector
- Power input 24/48 VDC

**STM-501C**  
Modbus TCP to Serial  
RTU/ASCII Gateway



- Supports up to 8 Modbus TCP master to modbus ASCII/RTU/485

**LMP-1002C-SFP-T**  
Industrial PoE/PoE+ Gigabit  
Managed Ethernet Switch



- 10-port full management Ethernet switch w/ 8\*10/100Tx + 2\*100/1000Fx dual rate SFP slots

**STE-708A**  
Industrial Serial to  
Ethernet Device Server



- 8-port RS232/RS422/RS485, baud rate up to 921 Kbp

# Industrial Unmanaged Ethernet Switches



# Industrial Wireless



**IMC-100A Series**  
Industrial Ethernet-Fiber Media Converter with 1-Port 10/100TX to 100FX Fiber



**LNX-500A Series**  
5-Port 10/100TX Unmanaged Ethernet Switches



**LNX-0602 Series**  
4-Port 10/100TX & 2-Port 100FX Fiber Unmanaged Ethernet Switches



**LNX-0702G-SFP Series**  
5-Port 10/100/1000TX & 2-Port 100/1000 Fiber SFP Unmanaged Ethernet Switches



**LNX-0802C-SFP Series**  
6-Port 10/100TX + 2-Gigabit Combo Port (RJ45/SFP) Unmanaged Ethernet Switches



**APN-210N Series**  
Industrial 802.11b/g/n Wireless AP/Client/Bridge



**APN-310N Series**  
Industrial 802.11a/b/g/n Wireless AP/Client/Bridge w/MIMO



**APN-320N Series**  
Industrial Dual Radio 802.11a/b/g/n Wireless AP/Client/Bridge w/MIMO



**APR-3100N Series**  
Industrial 802.11a/b/g/n Wireless AP/VPN/Router



**APX-110N5**  
Outdoor IP67 802.11a/n 5GHz Wireless AP/Client/Bridge w/Built-in19dBi Antenna



**LNX-1002G-SFP Series**  
8-Port 10/100/1000TX & 2-Port 100/1000 SFP Unmanaged Ethernet Switches



**LNX-1202G-SFP Series**  
10-Port 10/100/1000TX & 2-Port 100/1000 Fiber SFP Unmanaged Ethernet Switches



**LNX-1204G-SFP Series**  
8-Port 10/100/1000TX & 4-Port 100/1000 Fiber SFP Unmanaged Ethernet Switches



**LNX-1604G-SFP Series**  
12-Port 10/100/1000TX & 4-Port 100/1000 Fiber SFP Unmanaged Ethernet Switches



**LNX-2602G-SFP Series**  
24-Port 10/100/1000TX + 2-Gigabit Combo Port (RJ45/SFP) Unmanaged Ethernet Switches



**APX-120N5**  
Outdoor IP67 802.11a/n 5GHz Pre-Configured (a Pair) Wireless AP/Client/Bridge w/Built-in19dBi Antenna



**APX-3200**  
Outdoor IP67 802.11b/g/n Wireless AP/Client/Bridge



**APX-5200**  
Outdoor IP67 802.11b/g/n 2.4GHz Wireless AP/Client/Bridge with Dual Gigabit Ethernet Ports



**APX-5500**  
Outdoor IP67 802.11a/n 5GHz Wireless AP/Client/Bridge with Dual Gigabit Ethernet Ports



**APX-5700**  
Outdoor IP67 802.11b/g/n 2.4GHz Wireless AP/Client/Bridge with Dual Gigabit Ethernet Ports

# Industrial Managed Ethernet Switches



# Industrial Serial Connectivity



**LMX-0500 Series**  
5-Port 10/100TX Managed Ethernet Switches



**LMX-0501G-SFP Series**  
4-Port 10/100/1000TX & 1-Port 100/1000 Fiber SFP Managed Ethernet Switches



**LMX-0602 Series**  
4-Port 10/100TX & 2-Port 100FX Fiber Managed Ethernet Switches



**LMX-0800 Series**  
8-Port 10/100TX Managed Ethernet Switches



**LMX-0802 Series**  
6-Port 10/100TX + 2-Port 100FX Fiber Managed Ethernet Switches



**UTS-1110A**  
1-Port RS232 USB to Serial Cable



**STF-401C Series**  
1-Port RS232/422/485 to 100FX Fiber Serial Media Converters



**STF-501C/502C Series**  
1-Port RS232/422/485 to 1 or 2-Port 100FX Fiber Serial Media Converters



**STE-501C**  
1-Port RS232/422/485 to Ethernet Device Server



**STE-502C**  
2-Port RS232/422/485 to Ethernet Device Server



**LMX-1002G-SFP Series**  
8-Port 10/100/1000TX & 2-Port 100/1000 SFP Managed Ethernet Switches



**LMX-1202G-SFP Series**  
10-Port 10/100/1000TX & 2-Port 100/1000 Fiber SFP Managed Ethernet Switches



**LMX-1204G-SFP Series**  
8-Port 10/100/1000TX & 4-Port 100/1000 Fiber SFP Managed Ethernet Switches



**LMX-1604G-SFP Series**  
12-Port 10/100/1000TX & 4-Port 100/1000 Fiber SFP Managed Ethernet Switches



**LNX-1802GN Series**  
16-Port 10/100TX + 2-Gigabit Combo Port (RJ45/SFP) Managed Ethernet Switches



**STE-6104C-T**  
4-Port RS232/422/485 to Ethernet Device Server, with Dual 10/100TX LAN



**STE-708 Series**  
8-Port RS232/422/485 to Ethernet Device Server, with Dual 10/100TX LAN



**STE-716 Series**  
16-Port RS232/422/485 to Ethernet Device Server, with Dual 10/100TX LAN



**STW-611C/612C**  
1 or 2-Port RS232/422/485 to 802.11b/g/n Wireless Device Server, with 3-Way Communication



**STM-501C**  
1-Port RS232/422/485 Modbus Serial/ASCII/RTU to Modbus TCP Gateway





**antaira®**  
making connectivity simple...

► **Headquarters**

Antaira Technologies, LLC.  
3490 E. Miraloma Ave.  
Anaheim, CA 92806 USA  
Toll-Free: 1 (844) 268-2472  
T: 1 (714) 671-9000  
F: 1 (714) 671-9944  
[www.antaira.com](http://www.antaira.com)  
[info@antaira.com](mailto:info@antaira.com)

► **Europe Branch Office**

Antaira Technologies SP. z o.o.  
ul. Czeresniowa 98  
02-456 Warsaw, Poland  
T: +48 22 862 88 81  
F: +48 22 862 88 82  
[www.antaira.eu](http://www.antaira.eu)  
[info@antaira.eu](mailto:info@antaira.eu)

► **Asia Branch Office**

Antaira Technologies Co. Ltd.  
9F-1., No. 43, Fuxing Rd.,  
Xindian Dist., New Taipei City 231, Taiwan  
T: +886-2-2218-9733  
F: +886-2-2218-7391  
[www.antaira.com.tw](http://www.antaira.com.tw)  
[info@antaira.com.tw](mailto:info@antaira.com.tw)