

Serial to WiFi / Ethernet Interface

Environments: • Mining • Tunnelling • Oil & Gas • Industrial

Features

- ATEX / IECEx Certification-Intrinsically Safe
- 4 Communication Ports - RS232/422/485 (2 & 4 Wire)
- Serial Modbus Protocol
- Wi-Fi supporting 802.11 a/b/g/n standards (2.4 & 5 GHz)
- Dual Port Switch 10/100Mb LAN (daisy-chain capability)
- LAN to Serial
- Wi-Fi to Serial
- Wi-Fi to LAN
- Wi-Fi, Bluetooth & LAN co-existence
- Modbus/TCP <> Modbus/RTU (or ASCII) Protocol
- Compact dimensions (W: 45 x H: 147 x D: 155 mm)
- Ex ia IIC T4 Ga, [Ex ia Da] III C T135°C (non-mining), Ex ia I Ma (mining)

The module allows existing Intrinsically Safe equipment with an RS485/RS422 or RS232/TTL port to become Ethernet Enabled via either Wi-Fi (WLAN) or a Cat5/6 cable connection into an IS Ethernet Network (LAN). The unit has 4 serial ports, each one supporting either RS485/RS422 or RS232/TTL depending upon the configuration required. There are 2 RJ45 (LAN) ports that support 10/100 IS Ethernet connections - these allow 'daisy-chaining' of units together.

Power (12V DC) is supplied to the module either locally or using Power over Ethernet (PoEx) from the LAN port - this requires the PoEx output to be wired to the Supply Input terminals by the user.

The compact and cost-effective intrinsically safe design makes it the ideal choice for many applications, such as underground mining, tunnelling, oil and gas & other heavy industry.

Electrical connections are made via cage-clamp and/or screw type plug/socket terminals along with a dual RJ45 type connector for the Ethernet LAN ports. Twin SMA Style RF connectors allow one or two antenna to be connected as required, such as the TX2125 stud antenna with cable.



*Antenna not supplied



TX2124 Data Sheet

Specification

Power supplies	12VDC IS Power Supply Input or PoEx™ (Power over IS Ethernet) Typically 12V @ 150mA
Ethernet	Intrinsically Safe 10/100Base-T
Connector	RJ45
Cable length	Up to 100m Cat5e
PoEx	Powered Device

IS Serial Connections

	RS232/422/485
No. of Channels	4
Connector Type	Screw Terminals
Baudrate	1200-230K4 baud
Parity	Even/Odd/None
Data Bits	8
Stop Bits	1

Safety

Certification Code	I M1 Ex ia I Ma II 1G Ex ia IICT4 Ga II (1D) [Ex ia Da] IIICT135°C
Certificate numbers	CML 16ATEX2132X IECEX CML 16.0054X

* See certificates for further information

Environmental

Operating Temperature	-40°C ... +70°C
Storage Temperature	-40°C ... +70°C
Humidity	0...95% RH, non-condensing
Ingress Protection	Select enclosure to suit application, see certificates for information

Mechanical

Width	45mm
Height	147mm
Depth	155mm
Weight	357g
Mounting	Din Rail

LED Indicators

	OFF	FLASH	ON
PWR (Green)	Power Fail	N/A	Power OK
WDG (red/green)	Fault		Fault
WLAN (red/blue)	Idle	Red (config mode) Blue (data)	Red (fault) Blue (connected) Purple (connecting)
TX (green)	Idle	Transmitting Serial Data	N/A
RX (red)	Idle	Receiving Serial Data	Fault – RX data polarity is inverted
STAT (red/green)	N/A	Green – identify module mode	Red (fault) Green (healthy)
RJ45 ACT (yellow]	Ethernet link disconnected	Ethernet link activity	Ethernet link connected
RJ45100 (green)	10Mbps	N/A	100Mbps

Data & Power Terminals

PORT 1234 (CON6+7)

RS485/422/232/TTL Ports

PIN	Function
1 (9)	Tx+/A
2 (10)	Tx-/B
3 (11)	Rx+
4 (12)	Rx-
5 (13)	TX (RS232)
6 (14)	0V
7 (15)	RX (RS232)
8 (16)	0V

LAN (RJ45)

10/100 BASE-T Ethernet

PIN	Function
1	Tx +
2	Tx -
3	Rx +
4	PoEx +12V*
5	PoEx +12V*
6	Rx -
7	PoEx 0V*
8	PoEx 0V*

Screw Terminals (CON5+3)

PIN	Function
1	PoEx +12V
2	NC
3	PoEx 0V
4	Power +12V
5	NC
6	Power 0V

* Note - PoEx only on LAN2 port

Wifi Antenna Connectors (SMA)

SMA Connector	Antenna
Front	Main (2.4 + 5GHz)
Rear	MIMO (2.4GHz)

Ordering Information

TX2124 Serial to WiFi/Ethernet Interface

TX2125.01 Stud Antenna 0.6M cable (2.4 & 5.0 GHz)

TX2125.02 Stud Antenna 1.5M cable (2.4 & 5.0 GHz)

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Trolex Limited

Newby Road, Hazel Grove, Stockport, Cheshire SK7 5DY, United Kingdom
+44 (0)161 483 1435 sales@trolex.com www.trolex.com

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